UPPER COLUMBIA RIVER

Final Beach Sediment Study Field Sampling and Data Summary Report

Prepared for

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CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

CAS	Columbia Analytical Services
CCV	continuing calibration verification
DGPS	differential global positioning system
EPA	U.S. Environmental Protection Agency
ESI	Environmental Standards, Inc.
FSP	field sampling plan
FSR	field summary report
GIS	geographic information system
GPS	global positioning system
Gravity	Gravity Consulting LLC
Integral	Integral Consulting Inc.
IVBA	*in vitro* bioaccessibility assay
LCS/LCSD	laboratory control sample/laboratory control sample duplicate
LOD	level of detection
LOQ	level of quantitation
MDL	method detection limit
MRL	method reporting limit
MS/MSD	matrix spike/matrix spike duplicate
NAD83	North American Datum of 1983
PAH	polycyclic aromatic hydrocarbon
PBDE	polybrominated diphenyl ether
PCB	polychlorinated biphenyl
PCDD	polychlorinated dibenzo-*p*-dioxin
PCDF	polychlorinated dibenzofuran
PRG	preliminary remediation goal
QA/QC	quality assurance and quality control
QAPP	quality assurance project plan
RI/FS	remedial investigation and feasibility study
RPD	relative percent difference
SGS	SGS Environmental Service, Inc.
SOP	standard operating procedure
SSOP	site-specific operating procedure
SVOC	semivolatile organic compound

TAL	target analyte list
TAI	Teck American Incorporated
TEF	toxic equivalency factor
TEQ	toxic equivalent
TOC	total organic carbon
UCR	Upper Columbia River
UTM	universal transverse mercator
VCP	Voluntary Cleanup Program
WGS 84	World Geodetic System of 1984
WHO	World Health Organization

UNITS OF MEASURE

cm	centimeter(s)
°C	degree Celsius
ft.	foot/feet
g	gram(s)
gal	gallon(s)
in.	inch(es)
L	liter(s)
m	meter(s)
mg/kg	milligram(s) per kilogram
mL	milliliter
mm	millimeter(s)
pg/g	pictogram(s) per gram
µg/kg	microgram(s) per kilogram
µg/L	microgram(s) per liter
µm	micron(s)
oz.	ounce(s)
qt.	quart(s)

1 INTRODUCTION

This Beach Sediment Study Field Sampling and Data Summary Report (field summary report, or FSR) summarizes three rounds of beach sediment field sampling activities performed from September 8 through 11, 2009, April 27 through 30, 2010, and April 22 through May 5, 2011, along the Upper Columbia River (UCR). The primary objective of the beach sediment study was to collect additional sediment data that will allow characterization of potential risks to humans and ecological receptors as part of the remedial investigation and feasibility study (RI/FS) for the UCR Site. As described in the quality assurance project plan (QAPP; Integral et al. 2009), the full beach sediment study targeted a total of 34 beach areas (Figure 1-1). The beach sediment study represents one of the RI/FS tasks being conducted by Teck American Incorporated (TAI) for the site.

Elevated water levels during the sampling window, as outlined within the QAPP (Integral et al. 2009), limited the number of beaches that could be sampled in 2009 and 2010. As a result, the overall beach sampling effort was extended over three sampling periods between 2009 and 2011. This FSR presents validated analytical data for beaches for all three sampling periods. This FSR also presents observations from the 2010 reconnaissance activity that helped identify and target suitable fine-grained substrate for the beaches sampled in 2010 and 2011.

During the September 2009 beach sediment study field event, sampling of beach sediment at Black Sand Beach and Upper Columbia R.V. Park was completed in accordance with QAPP study objectives. A field reconnaissance of all remaining beaches to be sampled at the site after this first sampling event was performed from March 15 through 18, 2010, to refine the sampling areas (i.e., polygons) comprising fine-grained sediments at each beach. Based on results of the reconnaissance, modifications to the field sampling scheme were made for sampling conducted in 2010 and 2011. These modifications are outlined in Amendment No. 1 of the March 2009 Beach Sediment QAPP (Integral and Parametrix 2010), which focused the 2010 sampling effort on the collection of fine-grained sediment at five beaches. The five beaches where sediment sampling was completed were 1) Dalles Orchard, 2) China Bend, 3) Summer Island, 4) Barnaby Island Campground, and 5) Northport. In 2011, the remaining 26 beaches were sampled as identified and approved per the February 2011 QAPP Amendment No. 2 (Integral and Parametrix 2011).

The remaining sections of this document describe the field collection, sampling procedures used during the September 2009, April 2010, and April/May 2011 beach sediment sampling events and associated analytical results. Section 2 provides the chronology of sampling activities. Section 3 describes the field sampling methods, quality assurance and quality control (QA/QC) samples, and modifications from the field sampling plan (FSP) and QAPP. Section 4 presents results of the validation assessment by analyte group. Section 5 presents validated results from the three beach sampling events, and Section 6 summarizes the completion of the project objectives as outlined in the QAPP (Integral et al. 2009). Cited references are listed in Section 7. Supporting information is provided in nine appendices:

- Appendix A. 2010 Beach Reconnaissance Summary of Visual Observations
- Appendix B. Field Notebooks
- Appendix C. Beach Surface Sediment Description Forms
- Appendix D. Beach Core Description Forms
- Appendix E. Beach Surface Sediment Photographs
- Appendix F. Beach Sediment Core Photographs
- Appendix G. Chain of Custody Forms
- Appendix H. Site-Specific Standard Operating Procedure—Beach Sediment Sampling at Upper Columbia River
- Appendix I. July 19, 2011, Signed Deviation/Corrective Action Report Form on Lead Analysis.

2 CHRONOLOGY OF BEACH SEDIMENT SAMPLING

Surface and subsurface sediment samples were collected on September 9 and 10, 2009, from two beaches of the UCR: Black Sand Beach (Figure 2-1) and the Upper Columbia R.V. Park (Figure 2-2). Surface and subsurface samples were collected on April 27 through 30, 2010, from five beaches of the UCR: Northport (Figure 2-3), Dalles Orchard (Figure 2-4), China Bend (Figure 2-5), Summer Island (Figure 2-6), and the Barnaby Island Campground (Figure 2-7). Finally, surface and subsurface sediment samples were collected from the remaining 26 beaches on April 22 through May 5, 2011 (Figures 2-8 to 2-33). The following sections provide summaries of these three field sampling events.

2.1 SEPTEMBER 2009 FIELD EVENT

The September 2009 beach field event targeted five beaches located within the uppermost reach of the UCR: Black Sand Beach, Upper Columbia R.V. Park, Northport Beach, Onion Creek, and Dalles Orchard. Sampling of beach sediment in accordance with QAPP study objectives was accomplished at the Black Sand Beach and the Upper Columbia R.V. Park. At Northport Beach, Onion Creek, and Dalles Orchard, conditions encountered during this field event were unfavorable to the collection of surface and subsurface sediment samples that met the objectives of the QAPP. Specifically, substrate issues (i.e., cobble and bedrock) as well as submerged target sampling stations were encountered, rendering the availability and/or accessibility of fine-grained beach sediment at these beaches inadequate for conducting sample collection per the study design. Based on discussions with onsite U.S. Environmental Protection Agency (EPA) field personnel, it was mutually agreed to cease collection of sediment samples at these three beaches during this field event. In addition, and at the direction of EPA, two beaches (Onion Creek and Snag Cove) were not sampled because of the presence of bedrock.

At Black Sand Beach and the Upper Columbia R.V. Park, surface sediment samples (i.e., 0 to 6 in. [0 to 15 cm]) were collected from 60 discrete locations randomly distributed throughout the beach between the water's edge and the maximum elevation for those beaches. Per the QAPP, 60 discrete samples were randomly composited into 5 samples (i.e., 12 randomly assigned sampling locations were composited into a single surface sediment sample) and sent to the analytical laboratory for further processing and analysis.

In addition, five randomly assigned subsurface sediment cores were also collected from each beach and samples were collected from the following depth intervals (i.e., 0 to 6 in. [0 to 15 cm], 6 to 18 in. [15 to 45 cm], and 18 to 30 in. [45 to 75 cm]). Discrete homogenized sediment samples were collected at the above-mentioned depth intervals and analyzed for metals (i.e., 5 cores × 3 depth intervals = 15 discrete subsurface sediment samples). In addition, a composite sediment sample for each depth interval was collected from the five cores

(i.e., 3 subsurface sediment composite samples per beach) and sent to the analytical laboratory for further processing and analysis (e.g., organics).

In general, field conditions were favorable for the collection of both surface and subsurface sediment samples for 2009 sampling activities. Occasionally, and as illustrated in Figures 2-1 and 2-2, rejection of sampling target locations occurred because of several factors such as the presence of surface vegetation (i.e., indicative of soils), cobbled or submerged target areas, and, in the case of sediment core sampling, refusal at any depth other than full target length. In other words, if sample refusal at a primary core sediment sampling location was encountered at any target depth interval (e.g., 0 to 15 cm, 15 to 45 cm, and 45 to 75 cm), the specific core was rejected in its entirety. Consistent with the QAPP, if a sediment core sample was rejected, a randomly assigned, reserved, alternative sampling target location was used until a sample was collected successfully from all three depth intervals. The same sample collection criterion was used for surface sediment samples. That is, if a surface sediment sample was rejected, randomly assigned, reserved, alternative sampling target locations were used until a surface sediment sample was collected successfully.

Details of the beach sediment sampling design and sampling procedures are described in Section 3. A key to beach codes assigned to all UCR beaches sampled can be found in Table 2-1.

2.2 MARCH 2010 FIELD RECONNAISSANCE

As stated previously, a field reconnaissance was performed from March 15 through 18, 2010, of all remaining beaches to be sampled at the site after the first sampling event in 2009, to refine the sampling areas (i.e., polygon) encompassing fine-grained sediments. Based on field findings of the reconnaissance, modifications to the overall field sampling scheme were made and are outlined in Amendment No. 1 of the March 2009 Beach Sediment QAPP (Integral and Parametrix 2010).

Appendix A to this report contains the reconnaissance maps for beaches that were sampled during 2010 and 2011 sampling events, including the new "Swimming Hole" beach area (added at EPA's request and direction under QAPP Amendment No. 2 [Integral and Parametrix 2011]) and the AA Campground II beach, which was incorrectly mapped in the original map folio. The map set shows the original beach sampling areas (i.e., polygons and sample grids) according to the QAPP and also shows the results from the 2010 reconnaissance, including site photographs. Based on information collected during the reconnaissance, an amendment (i.e., QAPP Amendment No. 1) was generated and submitted to EPA for review and approval.

2.3 APRIL 2010 FIELD EVENT

The April 2010 beach sediment study field event targeted two beaches located within the uppermost reach of the UCR (Northport Beach and Dalles Orchard) and three beaches located below the uppermost reach of the UCR (Summer Island, Barnaby Island Campground, and China Bend). Sampling of beach sediment in accordance with QAPP study objectives was accomplished at all five beaches.

Consistent with Amendment No. 1 (Integral and Parametrix 2010), the sampling design for surface sediment samples at Dalles Orchard and Northport Beach, was modified from the 5 composites of 12 samples per composite (5×12 design) to a 3 composites of 12 samples per composite (3×12 design). Surface sediments from Summer Island, Barnaby Island Campground, and China Bend were collected per the 5×12 design. It should also be noted that the sampling areas (i.e., polygons) at China Bend, Summer Island, and Barnaby Island Campground were refined to encompass fine-grained sediments (refer to Figures A-1, A-2, and A-3, respectively of the QAPP, Amendment No. 1 [Integral and Parametrix 2010]). A key to beach codes assigned to all UCR beaches sampled can be found in Table 2-1.

In addition, five randomly assigned subsurface sediment cores were collected from each beach at specified depth intervals (i.e., 0 to 6 in. [0 to 15 cm], 6 to 18 in. [15 to 45 cm], and 18 to 30 in. [45 to 75 cm]). The exception was at China Bend where, consistent with the QAPP (Integral et al. 2009), no cores were collected due to cultural considerations. As outlined within the QAPP, discrete homogenized sediment core samples were collected from each of the aforementioned depth intervals; and a core composite sample for each depth interval was also collected per beach.

In general, field sampling conditions for the 2010 sampling event were similar to the 2009 event. On occasion, and as illustrated in Figures 2-3 through 2-7, rejection of sampling target locations occurred because of several factors such as the presence of surface vegetation (i.e., indicative of soils), cobbled or submerged target areas, and, in the case of sediment core sampling, refusal at any depth other than full target length. In other words, if sample refusal at a primary core sediment sampling location was encountered at any target depth interval (e.g., 0 to 15 cm, 15 to 45 cm, and 45 to 75 cm), the targeted core location was rejected in its entirety. Consistent with the QAPP, if a sediment core sample was rejected, a randomly assigned, reserved alternative sampling target location was used until a sample was collected successfully from all three depth intervals. The same sample collection criterion was used for surface sediment samples. That is, if a surface sediment sample was rejected, randomly assigned, reserved, alternative sampling target locations were used until a surface sediment sample was collected successfully.

2.4 APRIL/MAY 2011 FIELD EVENT

The April/May 2011 beach sediment study field event targeted the remaining 26 beaches located throughout the UCR from the Swimming Hole to Crescent Bay. Sampling of beach sediment in

accordance with the March 2009 QAPP study objectives was accomplished at all 26 beaches (Figures 2-8 to 2-33). At the request of EPA and under its direction, the Swimming Hole Beach was incorporated into the sampling plan under the March 2009 QAPP Amendment No. 2 (Integral and Parametrix 2011**)** for the 2011 sampling event.

Based on sampling design modifications of the March 2009 QAPP Amendment No. 2 (Integral and Parametrix 2011), the number of samples per composite was reduced for the Kamloops Island, Crescent Bay and Swimming Hole beaches (Figures 2-11, 2-32, and 2-33). That is, 5 composites of 12 samples per composite (5×12 design) were reduced to 5 composites of 7 samples per composite (5×7 design). At the remaining 23 beaches, surface sediment samples (i.e., 0 to 6 in.; 0 to 15 cm) were collected from 60 discrete locations randomly distributed throughout each beach between the water's edge and the maximum elevation for that beach. Per the March 2009 QAPP, the 60 subsamples were randomly composited into 5 samples (i.e., 12 randomly assigned sampling locations were composited into a single surface sediment sample) and sent to the analytical laboratory for further processing and analysis. A key to beach codes assigned to all UCR beaches sampled can be found in Table 2-1.

In addition, at each beach location, five randomly assigned subsurface sediment cores were collected as described in Section 2.1 and sent to the analytical laboratory for further processing and analysis. Specifically, five core samples were collected per beach, and each core was divided into three depth intervals (i.e., 0 to 6 in. [0 to 15 cm], 6 to 18 in. [15 to 45 cm], and 18 to 30 in. [45 to 75 cm]). As outlined within the QAPP, discrete homogenized sediment core samples were collected from each of the aforementioned depth intervals at each beach; and a core composite sample for each depth interval was also collected per beach.

Consistent with 2009 and 2010 beach sampling activities, and as illustrated in Figure 2-8 through 2-33, rejection of sampling target locations (surface and cores) occurred because of several factors such as the presence of surface vegetation (i.e., indicative of soils), cobbled or submerged target areas, and, in the case of sediment core sampling, refusal at any depth other than full target length. In other words, if sample refusal at a primary core sediment sampling location was encountered at any target depth interval, the targeted core location was rejected in its entirety. Consistent with the QAPP, if a sediment core sample was rejected, a randomly assigned, reserved alternative sampling target location was used until a sample was collected successfully from all three depth intervals. The same sample collection criterion was used for surface sediment samples. That is, if a surface sediment sample was rejected, randomly assigned, reserved, alternative sampling target locations were used until a surface sediment sample was collected successfully.

The immediate time frame of interest for the collection of beach sediments was dictated by the ease of sediment sample collection, with water levels in the lower portions of the UCR controlled largely by the Coulee Dam. Figure 2-34 summarizes reservoir water elevations at Coulee Dam during the time periods when field events occurred. For illustration purposes and where possible,

approximate water levels encountered during sampling activities are depicted on Figures 2-1 to 2-33. Where possible, these data were supplemented with actual on-site global positioning system (GPS) measurements. Where actual field GPS data were not available, the approximate water elevations during the sampling period were obtained from the U.S. Department of Interior database website for the Grand Coulee Dam, WA (Hydromet station GCL; http://www.usbr.gov/pn-bin/arcread.pl).

3 FIELD SAMPLING PROCEDURES

The following sections describe procedures and methods used during the beach sediment sampling events of September 2009, April 2010, and April–May 2011, including navigation and station positioning, sampling procedures, record keeping, sample handling, storage, and field QC procedures. Locations sampled during the three sampling events are shown on Figures 2-1 through 2-33, and are listed in Tables 3-1 through 3-3, which include station positioning changes and rationale relative to the FSP. Tables 3-4 through 3-6 list the stations, collection and processing dates, analyses for all samples, QA/QC samples (i.e., split samples and sampling equipment rinsates), and relevant footnotes regarding sampling. Tables 3-7 through 3-9 summarize the numbers and types of samples submitted for various analyses.

Two separate sampling crews consisting of a boat team and a land-based van and truck team were deployed to collect sediments from beaches easily accessible either by boat or by van and truck for all three sampling events. Gravity Consulting LLC (Gravity), Snoqualmie, Washington, provided several sampling vessels for the beach sediment sampling program.

In 2009, Gravity provided the 32-ft. (9.7-m) R/V *Wallowa*, a diesel jet boat equipped with a hydraulic winch and a telescoping boom mounted mid-deck at the bow for deploying equipment through the boat's forward bow door and a large cabin equipped with a computer-integrated differential GPS (DGPS) and Trimble Terrasync™ navigation system. The boat was used to carry the sampling crew to Dalles Orchard and Onion Creek. Black Sand beach, Upper Columbia River R.V. Park beach and Northport beach were accessed by van and truck for sampling. Only Black Sand beach and Upper Columbia River R.V. Park beach were sampled.

In 2010, Gravity provided a 30-ft (9.1-m) R/V *Palouse* and a 24-ft (7.3-m) R/V *Clearwater.* Both vessels were jet boats equipped with a computer-integrated DGPS and Nobeltec® navigation system. The vessels were used to carry the sampling crew to four beaches of the UCR: Dalles Orchard, China Bend, Summer Island, and the Barnaby Island Campground. Northport Beach was accessed by van and truck.

In 2011, the 34-ft R/V *Selkirk,* 32-ft (9.7-m) R/V *Elwah*, and the 18-ft (5.5-m) R/V *Rogue* were used to carry the sampling crew to 13 designated beaches with easy access by boat for sampling. The R/V *Selkirk* and R/V *Elwah* are jet boats equipped with a computer-integrated DGPS and Nobeltec® navigation system. The remaining 13 beaches were accessed by land and collected by a second sampling crew transported by van and truck.

3.1 NAVIGATION AND FLAGGING SAMPLING STATION POSITIONS

Navigation and flagging of sampling station positions were performed by Integral Consulting Inc. (Integral) using handheld Trimble GeoExplorer® 2008 XH DGPS units with H-Star technology and a Trimble Yuma tablet computer connected via Bluetooth™ to a Trimble ProXH receiver

(Yuma unit only used in 2010). All units were equipped with TerraSync (version 4.02) navigation software, and had the capability of real-time subfoot (≤12 in. [≤30 cm]) GPS accuracy. The Trimble GPS receiver downloaded the station position to the integrated navigation software package (i.e., TerraSync). The GPS receiver displayed and transmitted data to the computer in World Geodetic System of 1984 (WGS 84) geographic coordinates (latitude/longitude). The integrated navigation system displayed the navigator's position relative to a target sampling location in plan-view on a video screen. The screen display and numeric navigation data, including range and bearing to the target sampling location, assisted the navigator in approaching and placing a flag at a station position within 1- to 2-ft [0.3- to 0.7-m] accuracy. All coordinates recorded in the field were sent to the geographic information system (GIS) team for differential correction and map production. Coordinates for all sampling stations in Tables 3-1 through 3-3 are displayed in both WGS 84 and horizontal datum: North American Datum of 1983 (NAD83), universal transverse Mercator (UTM) Zone 11, meters.

In 2009 and 2010, the navigator, equipped with the GPS unit, a site map with all target locations, and a set number of flags for all surface and subsurface sediment target sites, navigated to a target sampling station location and placed a flag on the ground (Appendix H, Site-Specific Standard Operating Procedure [SSOP]).

The navigator started at one end of the beach by marking each sampling site with a flag containing the site-specific location number and a color matching the site-specific composite ID. For example, each surface sediment composite sample was assigned a color-coded flag (e.g., composites A, B, and C were assigned the colored flags red, white, and striped red and white, respectively). Each surface sediment composite sample location was numbered 1 through 12. The navigator carried 5 different color-coded sets of 12 flags (i.e., a total of 60 flags) in a quiver and placed each flag at the corresponding target site. In a similar manner, 5 triangular flags, labeled A through E, were used to mark the individual core locations for collection of subsurface sediments. An additional waterproof label was placed on the flag containing the sample station ID (e.g., CB-174).

In 2011, each of the three beach sampling teams was equipped with a handheld Trimble GeoExplorer® 2008 XH DGPS for navigation. Navigation to each sampling station was conducted concurrently with sampling. This modification in navigational procedure as originally stated in the SSOP (Appendix H) improved sampling efficiency, reduced sampling time, and did not deviate from the original FSP. That is, the sampling crew navigated to each randomly assigned sampling station without the need of a separate navigator who would place flags at each sampling station prior to sending each sampling crew to its respective sampling stations.

If the navigator or oversight person determined that the target location was not suitable for sampling (i.e., too many cobbles, sediment limited by bedrock, or too much vegetation), a randomly assigned reserved station, already loaded in the GPS, was selected from the table of

previously randomly assigned points. The navigator noted in the field notebook the target location and a brief explanation for why that target location was rejected (Tables 3-1 through 3–3).

3.2 SEDIMENT SAMPLING COLLECTION PROCEDURES

Two methods of sediment collection were used during the beach sediment sampling:

- Surface sediment samples were collected using a stainless steel spoon and stainless steel bowl
- Subsurface sediment samples were collected in polycarbonate Lexan® core tubes using an electric impact corer.

Beach sediment sample collection and processing procedures followed guidelines specified in the SSOP[1] (Appendix H), QAPP (Integral et al. 2009), QAPP Amendment No. 1 (Integral and Parametrix 2010) and QAPP Amendment No. 2 (Integral and Parametrix 2011). Modifications from the FSP are discussed in Section 3.11.

3.2.1 Surface Sediment

Prior to sample collection, a staging area was set up for sample processing, field sampling equipment setup, and equipment decontamination.

Surface sediment sampling teams navigated to target sample locations with the help of a handheld GPS unit as described for each sampling event in Section 3.1 and began sampling sediments along the beach. Sampling proceeded from one end of the beach to the other for a given composite by digging a hole using a large decontaminated stainless steel spoon to a depth of 6 in. (15 cm) below ground surface at each flagged site. Two spoonfuls of sediment were collected from the entire depth of each hole and placed into a large decontaminated stainless steel pot, until all samples were collected for that composite. Each pot was covered with a clean aluminum foil cover or clean stainless steel lid marked with the composite color code and composite number. A photograph of each sampling station was taken and the sediment physical characteristics recorded on field forms (Appendices C and E). In general, five surface sediment composites were sampled at target beaches. As noted in Sections 2.1, 2.3, and 2.4, a few exceptions to the sample compositing scheme where sample composite numbers were reduced were attributed to poor fine sediment availability and small sampling areas at certain beaches as described in Amendments No. 1 and No. 2 of the March 2009 QAPP. For a beach containing five composite samples, the final surface sediment composites were identified as letters A through E for each beach. For example, surface sediment composite #3 at Flat Creek Beach was labeled as SD-FCC,

[1] This SSOP was produced after the approval of the Beach Sediment QAPP and FSP in response to EPA's requests for further clarification on lines of communication and specific field procedures. This SSOP is presented here as a standalone document in Appendix H.

where SD = sediment, FC = Flat Creek Beach, and C = composite #3. See the sample identification scheme in Tables 3-4 through 3-6 for all station IDs.

At each beach, the sampler examined the area and avoided sampling from areas where foot traffic had been observed. Notes on sediment characterization were made according to standard operating procedure (SOP) SD-13 of the FSP and were recorded on the beach surface sediment description forms (Appendix C).

Because all sediment samples were dried at the analytical laboratory and sieved to <2 mm to generate at least 4 oz. (111 g) of dry surface sediment for all analyses, a factor of 2 was added to the original sample volume estimate and a larger volume of sediment was collected to fulfill all analytical dry weight requirements. For each beach sediment composite sample, approximately 104 oz. (3.25 qt. [3.1 L]) of sediment was collected in accordance with the analytical requirements provided in the QAPP and as determined in Field Procedure 3.5 of the SSOP (Appendix H of this document).

In September 2009, a total of 11 surface beach sediment sample composites, including one split sample were collected. Samples submitted for chemical and/or physical analyses are listed in Table 3-4. Table 3-7 summarizes the numbers and types of samples submitted for various analyses.

In April 2010, a total of 24 surface beach sediment sample composites (including three split samples) and three equipment rinsate blanks were collected. Samples submitted for chemical and/or physical analyses are listed in Table 3-5. Table 3-8 summarizes the numbers and types of samples submitted for various analyses.

In April and May 2011, a total of 130 surface beach sediment sample composites, 13 split samples, and 13 equipment rinsate blanks were collected. Samples submitted for chemical and/or physical analyses are listed in Table 3-6. Table 3-9 summarizes the numbers and types of samples submitted for various analyses.

3.2.2 Subsurface Sediment

Subsurface sediment collection followed procedures outlined in SOP SD-08 and SOP SL-06 of the FSP. Subsurface cores were collected using polycarbonate Lexan® core tubes attached to a portable electric impact corer. A portable generator was placed as far away as possible and downwind from the sampling site with care not to rest the generator over an area where the surface sediment sampling team was to collect samples.

As outlined within the QAPP and its amendments, with the exception of China Bend where core samples were not collected, a maximum of five cores to a total depth of 30 in. (75 cm) were collected at each beach. Each core was sectioned into three depth intervals (i.e., 0 to 6 in. [0 to 15 cm], 6 to 18 in. [15 to 45 cm], and 18 to 30 in. [45 to 75 cm]). Consistent with Field Procedure 4.3

of the SSOP (Appendix H of this document) of the QAPP, individual cores were sequentially designated using a letter (i.e., A through E); with depth intervals being numerically designated "1" through "3" with "1" equating to the 0 to 6 in. [0 to 15 cm] depth interval etc. If a split sample was collected at the same location and depth, a "-1" and "-2" were added to the end of each station ID.

Consistent with the QAPP and its amendments, discrete subsurface sediment samples were collected from each core at the above-mentioned depth intervals and submitted for target analyte list (TAL) metals analyses. In addition and following the collection of the aforementioned discrete samples, depth-specific composite[2] samples were collected at each beach and submitted for analyses per the QAPP. Therefore, in addition to the discrete samples (i.e., a maximum of 15 per beach), three composite subsurface sediment samples per beach were also collected and submitted for analysis.

For beaches sampled in 2009, a combined total of 31 individual subsurface sediment samples were collected and submitted for TAL metal analysis. Samples corresponded to each of three depth intervals from five cores per beach in addition to one split sample (see Table 3-4). In addition, at each beach, core samples corresponding to each depth interval were composited, resulting in three composites at Black Sand Beach and four composites at the Upper Columbia R.V. Park, where a split sample was collected.

For four of the beaches sampled in 2010, a combined total of 62 individual subsurface sediment samples (including two split samples) were collected and submitted for TAL metal analysis (see Table 3-5). In addition, at each beach[3], core samples corresponding to each depth interval were composited, resulting in three composites each at Northport Beach and Barnaby Island Campground, and four composites each at Summer Island and Dalles Orchard, where split samples were collected.

For beaches sampled in 2011, a combined total of 389 individual subsurface sediment samples, 14 split samples, and 13 equipment rinsate blanks were collected and submitted for TAL metal analysis (see Table 3-6). In addition, at each beach, core samples corresponding to each depth interval were composited, resulting in 78 composites and 13 composite split samples. Sample CR-LYE did not contain a 45 to 75 cm section due to the inability to extract a core at this depth caused by the presence of large rocks.

[2] Composite samples were needed as outlined within the QAPP to address sample mass requirements for analyses such as grain size.

[3] As noted in Section 2.3 herein, based on consultation with EPA and other interested parties during development of the FSP subsurface core sample collection was eliminated at China Bend, refer to the FSP presented in Appendix A of the QAPP (Integral et al. 2009).

Samples submitted for chemical and/or physical analyses are listed in Tables 3-4 through 3-6. Tables 3-7 through 3-9 summarize the numbers and types of samples submitted for various analyses.

3.3 SAMPLE HANDLING AND PROCESSING

The following procedures were followed to handle and process beach sediment samples.

3.3.1 Surface Sediment

Once the beach was cleared for sampling by the cultural resources team, surface sediment sampling followed the procedures in SOP SL-5 of the FSP (Appendix A of the QAPP) and Field Procedure 3 of the SSOP (Appendix H of this document). Surface sediment description forms are located in Appendix C. After sediment was placed in the stainless steel bowl from each subsampling location, a photograph of each sampling location was taken (Appendix E) and sediment physical characteristics logged on the form (Appendix C). After all individual samples were collected and thoroughly homogenized at the staging area, the composited sediment was placed into an 8 oz. (250 mL) glass jar for grain size analysis and a 16 oz. (500 mL) glass jar for archival at the analytical laboratory. Jars were sealed, labeled, inserted inside resealable plastic bags, wrapped in bubble wrap, and placed in a cooler with wet ice. The remaining volume of the composited sample was placed inside a large (19 × 19 in. [48 × 48 cm]) Teflon™ bag (Welch Fluorocarbon, Dover, New Hampshire), sealed with three elastic bands, labeled on the outside, placed inside a larger polyethylene resealable plastic bag, and stored in a cooler with wet ice. Contents of the Teflon™ bag were sent to the analytical laboratory for sieving and further subsampling for chemical analyses.

3.3.2 Subsurface Sediment

Once the Lexan® cores described in Section 3.2.2 were collected, the team carried the cores back to the staging area for sample processing. Lexan® cores were placed on a decontaminated table lined with clean aluminum foil, and the sediment was extruded by gently tapping the outside of the core with a hammer until the contents of the core slowly slid out onto the foil. Logging of sediment cores was done following procedures outlined in SOP SD-12 in the FSP. Completed core description forms are located in Appendix D. A photograph was also taken for each core depth interval (Appendix F).

After the core was described and depth sections measured and marked, sediment from each section was subsampled into stainless steel bowls, homogenized, and sample jars were filled for TAL metals analyses. Jars were sealed, labeled, inserted inside resealable plastic bags, wrapped in bubble wrap, and placed in a cooler with wet ice.

The remaining volume of a composited sample from each core-specific depth interval was placed in a larger stainless steel bowl containing the homogenized remainders of all other cores from that beach and that respective depth interval. Contents were thoroughly homogenized and then transferred to a large (19 × 19 in. [48 × 48 cm]) Teflon™ bag (Welch Fluorocarbon, Dover, New Hampshire), sealed with three elastic bands, labeled on the outside, placed inside a larger polyethylene resealable plastic bag, and stored in a cooler with wet ice. At the recommendation of Columbia Analytical Services (CAS) project manager, sediments were placed in large Teflon™ bags prior to sieving the sediment samples at the laboratory. Chain-of-custody forms were filled out as samples were collected in the field (Appendix G). Contents of the Teflon™ bag were sent to the analytical laboratory for sieving and further subsampling for chemical analyses as described in the QAPP.

In 2009, a total of three subsurface sediment composites (one for each depth interval) were collected at each beach (Black Sand Beach, Upper Columbia R.V. Park, and one split sample).

In 2010, a total of three subsurface sediment composites (one for each depth interval) were collected at Northport Beach and Barnaby Island Campground, and four subsurface sediment composites were collected at Summer Island and Dalles Orchard, where a split sample was collected from each.

In 2011, a total of 78 subsurface sediment composite samples and 13 split samples (one for each depth interval) were collected from the 26 beaches sampled.

3.4 LABORATORY SAMPLE HANDLING AND PROCESSING

Sediment samples were submitted to CAS for processing and analysis. With the exception of grain size analyses which was performed on the bulk field sample, all other analyses were performed on sediments sieved to <2 mm by CAS using plastic sieves in accordance with the QAPP and its amendments (Integral et al. 2009). Consistent with the QAPP, a surface sediment composite from each beach was randomly selected and further sieved into the following four fractions: <2 mm to 250 μm, <250 μm to 125 μm, <125 μm to 63 μm, and <63 μm. Analyses for metals and *in vitro* bioaccessibility assays (IVBAs) were conducted on each of these finer fractions. A summary of the associated analyses conducted on each sample is presented in Tables 3-4 through 3-6.

In addition and as outlined within the QAPP and its amendments, upon completing the above-mentioned sample handling and processing (e.g., sieving), CAS as outlined within the QAPP distributed aliquots of sieved sediments to additional laboratories for specialized analyses (e.g., radionuclides), and split-samples in support of EPA's Quality Assurance/Quality Control program. As illustrated within Tables 3-4 through 3-6 the additional analyses and sample aliquot distribution were as follows:

- Pace Analytical conducted radionuclide analyses.
- EPA received a split of at least one sieved sample per beach.
- Core composites with total organic carbon (TOC) results greater than 1 percent were submitted to SGS Environmental Service, Inc. (SGS) for analysis of polychlorinated biphenyl (PCB) congeners, dioxin/furan congeners, and polybrominated diphenyl ethers (PBDEs). Table 3-10 presents TOC results for sediment core composite samples.

In accordance with Section A4.2.2 of QAPP Amendment No. 2, CAS was also required to include an additional step of preparing laboratory equipment rinsate blanks to assess potential contamination introduced by the sieving process. Aliquots of deionized water were passed through each sieve and analyzed for the same parameters as the associated sample.

In September 2013 EPA requested that TAI re-analyze sediment archived from the following beaches, sampled in in 2011 in accordance with the QAPP (see Section 2.4 above): 1) Bossburg Flat, 2) Evans Campground, 3) Swimming Hole, 4) Flat Creek, and 5) Lyons Island. Sediments were re-analyzed in accordance with the DQO Memorandum (USEPA 2013) with the goal to re-analyze sediment collected from the aforementioned five beaches, and verify that results based on estimated means are comparable to results based on measurements of sediment sieved to <250 μm; the particle size range of interest. Sediments from the beaches sampled in 2009 and 2010 were discarded with EPA permission; therefore, the reanalysis was performed on the five beaches with highest mean lead values from those beaches sampled in 2011. Although beaches were selected based on lead concentration, all samples were also analyzed for arsenic.

CAS laboratory performed the following on the above mentioned archived samples:

- Re-analyzed samples sieved to <250 μm for lead and arsenic
- Relative bioavailability for lead was measured by analyzing a single composite sample from each of the five beaches, composed of equal mass from the five sieved (to <250 μm) samples from each individual beach, by IVBA.

Results from the reanalysis were incorporated in Table 3-9.

3.5 SAMPLE IDENTIFICATION SCHEME

Sample identification numbers for each target location are discussed in Section 3.2.1 and 3.2.2 herein, and are summarized in Tables 3-4 through 3-6.

3.6 EQUIPMENT DECONTAMINATION PROCEDURES

Decontamination procedures for all non-dedicated (reusable) sampling equipment (e.g., bowls, spoons) followed procedures outlined in the FSP:

- Rinse with site water
- Wash with brush and Alconox®
- Double rinse with distilled water
- Rinse with deionized water.

Decontamination of stainless steel bowls and utensils was performed before sampling and between each composite sample. Sample handling equipment also was wrapped in aluminum foil following the deionized water rinse. To minimize sample contamination, gloves were replaced before and after handling each sample composite. Rinse waters were disposed of above the riparian zone near at the junction between soil and beach sediment.

Station-dedicated Lexan® core tubes were washed in an Alconox® solution bath, and tube interiors scrubbed with a plastic brush.

3.7 FIELD QUALITY ASSURANCE/QUALITY CONTROL

QA/QC samples collected during these beach sediment sampling events are described below. Numbers of QC samples collected per chemical parameter group are listed in Tables 3-7 through 3-9. Any modifications from the field QA/QC outlined in the FSP are presented in Section 3.11.

3.7.1 Field Replicates

Field replicates are co-located samples collected in an identical manner. The collection of field replicates was not specified in the QAPP and its amendments and as such, not conducted for any of the sampling events.

3.7.2 Field Splits

Field splits are multiple aliquots taken from a fully homogenized sample. Field split samples were collected and analyzed at all beaches. For approximately half of the beaches, the field split was collected from the surface sediment samples, and for the remaining beaches, the field split was collected from the subsurface sediment samples. When field splits were collected from a subsurface sediment sample, a split of both the individual sediment sample from the specific core depth interval and also from the specific depth interval of a core composite sample were generated. Consistent with the QAPP and its amendments, one field split sample per beach was collected. The numbers of field split samples collected per sampling event are presented in Tables 3-7 through 3-9. EPA also obtained and analyzed one split per beach following sieving at the laboratory; refer to Tables 3-4 through 3-6 for a summary of EPA splits.

3.7.3 Rinsate, Temperature, and Field Trip Blanks

Rinsate blanks, consisting of sampling equipment rinsates, were generated for all chemical parameter groups at a frequency of one rinsate blank per beach. Rinsate blanks represent the two types of sampling equipment used (i.e., stainless steel spoons and bowls for surface sediment sampling and Lexan® tubing for subsurface sediment core sampling). Tables 3-4 through 3-6 indicate which type of sample each blank represents. Chemical analyses for all rinsate samples and the number of rinsate blank samples are shown in Tables 3-7 through 3-9.

One temperature blank was prepared and submitted with each cooler shipped to the analytical laboratory. The temperature blank consisted of a sample jar containing deionized water that was packed into the cooler in the same manner as the rest of the samples and labeled "temp blank." No samples were analyzed for volatile organic compounds; therefore, no field trip blanks were collected for the sampling events.

3.7.4 Fieldwork Oversight

Beach sediment sampling fieldwork was overseen by EPA, the Confederated Tribes of the Colville Reservation, the Spokane Tribe of Indians, and the U.S. National Park Service.

EPA Project Coordinator, Monica Tonel, and Human Health Risk Assessment Lead, Marc Stifelman, were observers for all three sampling events and participated in discussions with the sampling field crew related to the suitability of sampling locations rendered unusable due to factors such as the existence of large boulders, rocks, or rooted vegetation cover at each beach and concurring on the use of alternate sample locations.

CH2M Hill, Inc. (EPA's subcontractor) staff members, Marcella Caldwell (formerly Marcella Ripich), and Michelle Zaehring followed the two sampling teams as observers (in 2009 and 2010) and maintained a record of field notes on all sampling aspects, such as navigation and flagging of sampling stations, decontamination of sampling equipment, sample collection, sample processing, sample record keeping, and sample shipping. In 2011, in addition to Marcella Caldwell, Huckleberry Palmer, Heather Rectenwald, and Nicole Badon were also observers. Field oversight results are summarized in separate technical reports for each field season.

Cultural resources specialist Cheryl Pouley, from the Confederated Tribes of the Colville Reservation, accompanied the surface and subsurface sampling crew in 2009 and 2010, and determined if the flagged locations were free of any cultural resources and acceptable for sediment collection. In 2009, Ms. Pouley took pictures of the sampling stations before and after sample collection, recorded additional measurements of the subsample excavations, transcribed notes on sediment matrix, and recorded bearings between sample locations. In 2010, Ms. Pouley provided the same oversight but declined to take photos, measurements, and bearings at each location. A cultural resources specialist from the Spokane Tribe of Indians was not present in 2009 and 2010. In 2011, Eric Oosahwee-Voss and Brian Monaghan served as the cultural resources

specialists from the Confederated Tribes of the Colville Reservation and Brea Franco, the tribal archaeologist, served as the cultural resources specialist for the Spokane Tribe of Indians.

The U.S. National Park Service also sent cultural resource observers. In 2009, Camille Mather was present and took pictures of the sampling stations before and after sample collection, recorded additional measurements of the subsample excavations, transcribed notes on sediment matrix, and recorded bearings between sample locations. In 2010, Lauren Riser and Laura McCullough represented the U.S. National Park Service and provided similar oversight to 2009, but declined to take photos, measurements, and bearings at each location. In 2011, Lauren Riser and James Retzer were observers for the U.S. National Park Service.

In 2011, cultural resources specialists were aided by URS Corporation cultural resource staff Kathy Black, Gerald W. Doty, Sarah McDaniel, and Michelle Stegner.

The cultural resources specialists were responsible for determining the presence or absence of cultural resources within each sampling location at the time of study and ensuring adherence to the Cultural Resources Coordination Plan (Integral et al. 2009). Results of the cultural resources observations for the beach sediment study are summarized in separate technical reports for each field season. Jason Jones was contracted to compile and report the results of cultural resources monitoring for the 2009 and 2010 field seasons (Jones 2010a,b). URS Corporation was contracted to provide the cultural resources summary report for the 2011 field sampling activities (McDaniel and Stegner 2011). Distribution of these reports is restricted to RI/FS cultural resources consulting parties, as overseen by EPA, due to the inclusion of confidential cultural resource location information.

3.8 SAMPLE STORAGE, TRANSPORT, AND CUSTODY

As described in Sections 3.3.1 and 3.3.2, filled sample jars and Teflon bags were stored in coolers with wet ice in the field before being shipped to the analytical laboratory. Glass jars were packed to prevent breakage and separated in the shipping container by bubble wrap or similar shock-absorbent material. Teflon bags were placed in 2-gal (7.6 L), resealable plastic bags and placed inside coolers between bubble-wrapped glass jars. Wet ice in sealed plastic bags was then placed in the shipping cooler to maintain a temperature of approximately 4°C.

Coolers were clearly labeled for positive identification. A chain-of-custody form was placed into a resealable plastic bag and taped on the inside lid of the cooler (Appendix G). A temperature blank was added to each cooler. Each cooler was sealed with two custody seals. Coolers were transported to a FedEx facility in Colville to be shipped overnight to CAS in Kelso, Washington.

3.9 FIELD DOCUMENTATION

All field activities and observations were noted in a bound field logbook and/or on individual field and sample description/log forms during fieldwork. Information recorded included personnel, date, time, station designation, sampler, types of samples collected, and general observations. Any changes that occurred in the field (e.g., personnel, responsibilities, modifications from the FSP) and the reasons for these changes were also documented.

A sample jar matrix table (see Table 1-1 in the SSOP, Appendix H) was produced prior to sampling and completed following sampling operations at each beach. The checklist included station designations, types of samples to be collected, and whether blind field splits or additional sample volumes for laboratory quality control analyses were collected.

Field notebooks, field surface sediment description forms, core description forms, and associated field documentation were completed for all beaches. Field documentation is presented in Appendices B through F.

3.10 WASTE DISPOSAL

Any excess sediment remaining after processing each beach in the field was disposed where the beach meets the uplands soils (e.g., vegetation line).

All disposable materials used in sample processing were placed in heavyweight garbage bags and deposited in a dumpster for disposal at a solid waste landfill. Phosphate-free, detergent-bearing, liquid wastes from decontamination of the sampling equipment were disposed where the beach meets the uplands soils (e.g., vegetation line). No waste solvent rinses were generated during this sampling event.

3.11 FIELD MODIFICATIONS FROM THE BEACH SEDIMENT FSP AND QAPP

This section discusses the beach sediment sampling modifications from the FSP and QAPP.

3.11.1 Station Positioning Modifications

Station locations were recorded for newly assigned alternate locations only. Onsite station locations were not recorded for target or reserve locations. Locations for target and reserve samples were preprogrammed into the GPS unit and were used to guide the field crew to each location within 2 ft. (0.6 m) of the target.

The FSP stated in Section 2.2.3 (page 2-5) that for surface sediment sampling locations only, if subsequent alternate stations continued to be unsuitable for sampling and a non-random

alternate was apparent to the navigator, then this non-random station would be marked with a unique flag and the field team leader would inspect the proposed, non-random alternate sampling location and determine if it was suitable for sample collection.

In 2009, this procedure was modified in the field at the Upper Columbia R.V. Park when it was determined that a large area of the beach was occupied with large stones and unsuitable for sampling. This issue was discussed by phone between TAI, Integral, and EPA and they agreed that target sites located in the large stones area be relocated to the remaining area of the beach where samples could be collected. Because a significant number (48 percent) of targeted sampling sites were unavailable, and available reserved sampling stations were not sufficient to replace rejected target stations, additional alternate sampling station locations were identified within the remaining sampling area. These alternates represented 28 percent of the total stations sampled at this beach. A table of random numbers was generated in Microsoft Excel® for the remaining 200 unassigned sampling sites in the sampling grid. Sequential random numbers were used to place 17 alternate stations on available unassigned sites within the approved sampling area by counting all sites starting from the upstream end of the beach. This change in procedure was discussed onsite with Marc Stifelman (EPA), who verbally concurred with the sampling modifications, and onsite cultural observers Camille Mather and Brenda Covington of the National Park Services, who inspected all sampling locations and accepted them all without reservations.

In 2010, this procedure was modified at Barnaby Island Campground, Northport Beach, and China Bend. Two alternate locations were used for two subsurface core locations at Barnaby Island Campground (cores D and E) due to the presence of thick canary grass or cobble at target core and reserve locations. One alternate location was used for one subsurface core location at Northport Beach (core E) due to surface cobble or core refusal before penetrating to target depth. These issues were discussed with the field oversight personnel, and they agreed with the rationale for choosing alternate locations and the method with which those locations were chosen. Alternate locations were selected based on their lack of vegetation and cobble, and their distance from locations where subsurface samples had already been collected. GPS coordinates for alternate locations were recorded in the field logbook by the navigator and approved by Marc Stifelman (EPA) or Monica Tonel (EPA) depending on who was overseeing the work at the time.

At China Bend, after having already collected 12 samples for Composite A, the field crew noted that Composite A had been assigned 13 sampling stations instead of 12, as determined in the QAPP and FSP. The issue was presented to Joss Moore (Integral) and Monica Tonel (EPA), and they both agreed that collecting 13 samples would change the sample composition and that it would not be comparable to other composited samples on the same beach. Therefore, they agreed that the 13th target station located on the inner channel between the gravel berm and the northern shoreline of the Columbia River would be dropped (see Figure 2-5, surface rejected by mismatched location).

On April 25, 2011, at Bossburg Flat Beach, sampling personnel misread a label, transposing two numbers, and inadvertently placed a single surface sediment sample collected at BF-325 into Composite D instead of Composite B, as assigned. The sample collected at BF-235 was the sample that should have been placed into Composite D. To maintain the same number of 12 sediment samples per composite, the sample from BF-235 was not collected (Appendix C). A sample at BF-325 was collected for Composite B as planned.

3.11.2 Sample Labeling Modifications

A detailed explanation on how final sediment composite samples are labeled is provided in a revised version of the SSOP (Appendix H).

In 2009, 17 alternate sampling locations were created using the procedure described in Section 3.11.1 and were labeled as RV-flag number. That is, RV = Upper Columbia R.V. Park, and the flag number was related to each flag for each surface sediment composite remaining to be completed. Table 3-1 shows these sampling sites as alternate samples.

In 2010, three alternate sampling locations were created using the procedure described in Section 3.11.1. At Northport Beach, a new alternate core location was chosen and labeled as NP-E (Table 3-2). At Barnaby Island Campground, two new alternate core locations were labeled as BC-D and BC-E (Table 3-2). Surface sediment sampling Station BC-2749 at Barnaby Island Campground was accidentally sampled twice for two different composites (Table 3-2). Figure 2-7 shows that Composite A (sample A12) and Composite B (sample B12) contain surface sediments from the same location.

In 2011, there were no modifications in sample labeling.

3.11.3 Sample Handling Modifications

All sample handling requirements were met, with the following modifications.

Modifications for 2010

- Jars from the rinsate blank collected for Northport Beach core sampling equipment (sample SN-0074 collected at 13:25) were not placed on ice overnight, and were at room temperature in a cooler when discovered the next morning. Ice was immediately added to the cooler containing this sample the next morning; because the sample jars were at ambient temperature for less than 24 hours, the data quality should not be compromised.
- Teflon™ sample bags for the first interval core composite (0 to 6 in.; CR-DS1) and the field split of the second interval core composite (6 to 18 in.; CR-DS2-2) from Dalles Orchard broke during shipment. In addition, the resealable plastic bags containing the

Teflon™ bags leaked, allowing water from the cooler to mix with the sediment, and thus compromise the sample quality. After consultation with TAI, it was decided that the sediment from the Teflon™ bags from both samples above would not be used for analysis, and instead sediment from the jars designated for grain size analysis and archive from each sample would be sieved. Enough material was recovered from these jars that all chemical analyses were able to be completed. Grain size was not determined on either sample; however, the grain size for sample CR-DS1 should be well represented by the additional three surface composite samples. The grain size analysis was determined on CR-DS2-1, the split sample of CR-DS2-2, so the grain size data were not significantly affected.

- Core samples at each beach were collected at five different and randomly selected locations. Three depth intervals (0 to 6 in. [0 to 15 cm], 6 to 18 in. [15 to 45 cm], and 18 to 30 in. [45 to 75 cm]) were collected from each core—except for Summer Island, where the three depth intervals were collected at 0 to 10 in. (0 to 25 cm), 10 to 20 in. (25 to 51 cm), and 20 to 30 in. (51 cm to 76 cm) for all five cores. This was an error in core sectioning made by the field crew. As a result of this deviation the top surface sample was approximately 4 in. (10 cm) deeper than the target goal; while the two lower depth intervals were 2 in. (5 cm) shorter than the target depth profiles. Based on the data quality objectives of the QAPP, and comparisons with surface sediment composite data of the same beach, the deviation in sediment depth intervals at Summer Island are not anticipated to adversely affect data quality.
- The following corrections needed to be made to the chain-of-custody forms after the samples arrived at the laboratory:
  - Sample SN-0123 (a surface sediment equipment rinsate blank from China Bend) was added
  - Grain size, total sulfides, and percent moisture were added for SN-0094, SN−0096, and SN-0097
  - Uranium-238 and radium-226 analyses were added for SN-0074.

Based on the modifications/deviations mentioned above, no impact on the completed work is anticipated and no corrective actions are necessary. Data quality is not expected to be adversely affected by the above-listed modifications.

Modifications for 2011

- Samples listed below were delayed during shipment by FedEx at Memphis, Tennessee, due to a thunderstorm, and the samples arrived at the laboratory with a temperature outside the QAPP control limits of 4±2°C, at 7.9°C (Attachment 1 to Appendix G). Analyses were performed on these samples as planned.

Date	Time	Station ID	Sample	Outlier
4/23/2011	13:45	SD-FCB-2	SN-0253	
4/23/2011	13:45	SD-WBD	SN-0279	
4/23/2011	14:35	CR-WB1	SN-0297	
4/23/2011	14:40	CR-WB2-1	SN-0298	
4/24/2011	12:00	SD-KLA	SN-0327	
4/24/2011	12:45	SD-KLB	SN-0328	
4/24/2011	11:50	SD-KLC	SN-0329	
4/24/2011	13:45	SD-KLD	SN-0330	Received samples with temperature blank at 7.9°C. Delayed by FedEx in Memphis due to thunderstorms.
4/24/2011	11:20	CR-KLB1	SN-0336	
4/24/2011	11:45	CR-KLC2	SN-0340	
4/24/2011	12:50	CR-KLD3	SN-0344	
4/24/2011	13:45	CR-KL2	SN-0349	
4/24/2011	13:45	CR-KL2	SN-0349	
4/24/2011	13:50	CR-KL3-1	SN-0350	
4/24/2011	13:50	CR-KL3-1	SN-0350	
4/24/2011	13:55	CR-KL3-2	SN-0351	

- Because preliminary laboratory results indicated a TOC value of greater than 1 percent for sample CR-EV1-1 (SN-0246), from Evans Campground Beach, it was (consistent with the QAPP) analyzed for PCB congeners, dioxins/furans, and PBDEs. As illustrated within Table 3-10 however, the final TOC result for CR-EV1-1 (SN-0246) was 0.98 percent and should not have been analyzed for the above-listed organics.

Based on the modifications/deviations mentioned above, no impact on the completed work is anticipated and no corrective actions are necessary. Data quality is not expected to be adversely affected by the above-listed modifications.

3.11.4 Quality Assurance/Quality Control Deviation/Modifications

All QA/QC requirements for the samples were met, with the following deviation/modifications:

- At the recommendation of CAS project manager, sediments were placed in large Teflon™ bags prior to sieving the sediment samples at the laboratory (see Section 3.3.2). The Teflon™ bags were not included in Table B-1 of the March 2009 QAPP. Once the sediments were sieved at the laboratory, each size fraction was stored in jars according to the specifications in Table B-1 of the QAPP.
- Equipment rinsate blanks were not collected for pH and total sulfide analyses in 2009, 2010, or 2011. The QAPP calls for equipment rinsate blanks to be collected for all chemical parameter groups indicated in Table A-4—metals, radionuclides, Aroclors, pesticides, polycyclic aromatic hydrocarbons (PAHs), semivolatile organic compounds (SVOCs), PCB congeners, dioxins/furans, and PBDEs. Equipment rinsate

blanks are not applicable for grain size distribution and percent moisture analyses as these analyses are conducted on solid matrices only and the analyses cannot be conducted on aqueous samples, and equipment rinsate blanks are generally not collected for other conventional parameters. Table A-4 of the QAPP does not indicate that equipment rinsate blanks would be collected for any conventional parameter. Equipment rinsate blanks were collected for the TOC analyses; however, it is highly unlikely that the sampling equipment would contribute to sample pH or total sulfide concentrations, and, therefore, equipment rinsate blanks were not collected for these parameters.

- Lexan® core tubes used for subsurface sampling were included in generating the rinsate blank for Summer Island in 2010; however, sample jars for organic analyses were not filled for this rinsate blank.

The QAPP (Integral et al. 2009) states that nondetect values will be reported at the method reporting limit (MRL); however, nondetect values were reported by the laboratory at the method detection limit (MDL) for all three sampling events.

The QAPP (Integral et al. 2009) lists alternate methods of analyses for lead, arsenic, and selenium based on initial method results as follows:

- Lead was to be analyzed by EPA Method 6020 if it was not detected at the MRL by EPA Method 6010
- Arsenic was to be analyzed by EPA Method 7062 if it was not detected at the MRL by EPA Method 6020
- Selenium was to be analyzed by EPA Method 7742 if it was not detected at the MRL by EPA Method 6020.

The MRLs for lead using EPA Method 6010 and arsenic and selenium using EPA Method 6020 are significantly lower than the analyte-specific residential risk-based concentrations. For these reasons, QAPP Amendment No. 2 specified that lead was to be analyzed only using EPA Method 6010 and arsenic and selenium were to be analyzed using only EPA Method 6020 for the samples collected in 2011. Analyses for arsenic and selenium in the 2011 samples were completed per QAPP Amendment No. 2; however, analyses for lead were conducted according to the 2009 QAPP, and lead was analyzed by EPA Method 6020 when not detected at the MRL by EPA Method 6010. Documentation of this deviation is presented in Appendix I.

Based on the modifications/deviations mentioned above, no impact on the completed work was anticipated and no corrective action was necessary. Data quality is not expected to be adversely affected by the actions taken above.

4 VALIDATION ASSESSMENT

Environmental Standards Inc. (ESI) of Valley Forge, PA, performed the independent quality assurance and data validation review of the 2009, 2010, and 2011 beach sediment data. The review was performed in accordance with requirements specified in the Beach Sediment Study QAPP (Integral et al. 2009), Amendment No. 1 (Integral and Parametrix 2010) and Amendment No. 2 (Integral and Parametrix 2011) to the QAPP for the 2009 Beach Sediment Study, and the following guidance:

- Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use (EPA-540-R08-008) (USEPA 2009)
- U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (EPA/540/R-99/008) (USEPA 1999)
- U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (EPA/540/R-04-004) (USEPA 2004)
- U.S. EPA Region 10 SOP for the Validation of Method 1668 Toxic, Dioxin-like PCB Data (USEPA 1995)
- U.S. EPA Region 10 SOP for the Validation of Polychlorinated Dibenzodioxin (PCDD) and Polychlorinated Dibenzofuran (PCDF) Data (USEPA 1996).

Data were examined to determine usability of the analytical results and compliance relative to requirements specified above and the analytical methods. In addition, deliverables were evaluated for completeness and accuracy. Qualifier codes are placed next to results in the data tables to enable the data user to quickly assess the qualitative and/or quantitative reliability of any result based on the criteria evaluated. EPA's QA/QC chemist reviewed the draft data and data validation reports. Issues were resolved and EPA approved the data for public use on January 27, 2011, and October 31, 2011, for the 2009/2010 data and 2011 data, respectively. Data validation reports (ESI 2009a-f, 2010 a-h, 2011a-ab) are available on the "Downloads" page of the project database (http://teck-ucr.exponent.com). The following sections summarize results of the validation.

4.1 OVERALL DATA QUALITY

Most of the data are usable (i.e., > 99 percent), with the qualifications presented in the validation reports and included in the project database. Only usable data are included in this data summary report, although all data (including rejected results) are in the project database. Data qualifiers were assigned to the data by the laboratory and data validators to signify when data were out of calibration range (i.e., below or above levels of quantification), where contaminated blanks compromised data interpretability, or if matrix spikes, internal standards, or other quality control

metrics were exceeded. Tables 4-1 through 4-3 summarize the number of samples with each type of data qualifier, by analyte. Information regarding how data qualifiers should be used is presented within the Draft UCR RI/FS Data Management Plan Amendment No. 1 (TAI 2010).

Of particular interest are data flagged with a "J" qualifier by the validators and therefore considered to be "estimated" concentrations. Data could be so qualified due to one or more of the following reasons: improper storage; holding time exceedance; contaminated blank; issues with instrument calibration; matrix interference; duplicate variance; serial dilution imprecision; or low recovery from internal standards. The sections below list the analytes that were qualified for each of these reasons, but do not quantify how many were in each category; moreover, one sample may have been "J" qualified for more than one reason. The total number of "J" qualified (i.e., estimated) samples for each analyte in each year are shown in Tables 4-1 through 4-3. Field split samples are counted separately from parent samples in the tables.

4.1.1 2009 Beach Sediment Data

Results of the validation found that most of the data are usable with the qualifications presented in the validation reports and Table 4-1. Of all the analyses, a total of eight data points were rejected. They were as follows:

- Results for PBDE-128, PBDE-183, PBDE-184, PBDE-190, PBDE-191, PBDE-203, PBDE-206, and PBDE-209 in rinsate blank SDBL-902C was qualified as unusable. These analytes were not recovered in the associated ongoing precision and recovery standard analysis.

Table 4-4 presents details of the rejected data and the associated laboratory data package, or sample delivery group number. In addition, all laboratory reports, data, and validation reports associated with rejected results can be found in the project database (http://teck-ucr.exponent.com).

4.1.2 2010 Beach Sediment Data

Results of the validation found that all of the data are usable with the qualifications presented in the validation reports and Table 4-2.

4.1.3 2011 Beach Sediment Data

Results of the validation found that most of the data are usable with the qualifications presented in the validation reports and Table 4-3. Results from reanalysis of sediment collected from five beaches sampled in 2011 (see Section 3. 4 above) were included in Table 4-3. Of all the analyses, a total of 47 data points were rejected as follows:

- Results for 2,4-dimethylphenol; 3,3'-dichlorobenzidine; and/or 4-chloroaniline in 21 sediments, 12 rinsate blanks, and one laboratory blank were qualified as unusable due to very low laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries.

Table 4-5 presents details of the rejected data and the associated laboratory data package, or sample delivery group number. In addition, all laboratory reports, data, and validation reports associated with rejected results can be found in the project database (http://teck-ucr.exponent.com).

4.2 SAMPLE TRANSPORT AND HOLDING TIMES

The validity of the analytical data was evaluated with regard to sample preservation conditions and time in shipment.

As noted in Section 3.11.3 sixteen samples from the 2011 sampling event were delayed in shipment and arrived at the laboratory with a temperature outside specified control limits of 4±2°C (i.e., recorded at 7.9°C). Despite this minor temperature exceedance, it is not anticipated that this will adversely affect data usability as analyses are largely associated with metals.

4.2.1 Equipment Rinse Blanks

Results for PAH compounds, organochloride pesticide compounds, PCB compounds, PBDE compounds, and/or inorganic analytes in several samples were qualified as "not-detected" due to their presence at similar concentrations in the associated equipment and/or field blanks.

4.2.2 Laboratory Holding Times

Results for PAH compounds, organochlorine pesticide compounds, PCB compounds, and/or pH in several samples were qualified as estimated due to exceeding total allowable holding times specified in Table B-1 of the QAPP.

Results of reanalysis of sediment collected from five beaches sampled in 2011 (see Section 3.4 above) were qualified as estimated (i.e., "J" flagged by the validator) because analyses were performed more than six months from the date of sample collection.

4.3 INORGANICS

All inorganic analyses were conducted by CAS in Kelso, WA, and Pace Analytical in Greensburg, PA. Overall, the data reviewed are usable with the qualifications presented in the validation

reports and database. Numbers and percentages of qualified samples varied by year and are shown in the following tables:

- Table 4-1. 2009 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples
- Table 4-2. 2010 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples
- Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

4.3.1 Calibration

Results were qualified as estimated due to out-of-criteria reporting limit standard recoveries (i.e., "J" flagged by the laboratory) for aluminum, antimony, beryllium, cadmium, calcium, chromium, cobalt, iron, magnesium, potassium, vanadium, and/or thallium.

4.3.2 Blanks

Results for antimony, cadmium, mercury, selenium, silver, thallium, and/or bioaccessible arsenic in several samples were qualified as "not-detected" due to the presence of these analytes at similar concentrations in the associated laboratory blanks.

Results for antimony and/or bioaccessible arsenic in several samples were qualified as estimated due to significant negative instrument bias in the associated laboratory blanks.

4.3.3 Matrix Spikes

Results for antimony, barium, calcium, lead, magnesium, manganese, potassium, total sulfide, and/or TOC in several samples were qualified as estimated due to out-of-criteria matrix spike/matrix spike duplicate (MS/MSD) recoveries.

Results for total sulfide and/or TOC in several samples were qualified as estimated due to high MS/MSD relative percent differences (RPDs).

4.3.4 Laboratory Control Samples

Results for selenium, total sulfide, and/or TOC in several samples were qualified as estimated due to out-of-criteria LCS/LCSD recoveries.

4.3.5 Laboratory and Field Duplicates

Results for aluminum, antimony, arsenic, beryllium, cadmium, calcium, chromium, cobalt, copper, lead, manganese, mercury, nickel, silver, sodium, thallium, uranium, zinc, bioaccessible arsenic, bioaccessible lead, total sulfide, TOC, and/or total solids in several samples were qualified as estimated due to laboratory and/or field duplicate imprecision.

Results for grain size parameters in several samples were qualified as estimated due to field duplicate imprecision.

4.3.6 Interference Check Samples

Results for beryllium, cobalt, copper, and/or sodium in several samples were qualified as estimated due to inductively-coupled plasma interference.

4.3.7 Serial Dilutions

Results for antimony, arsenic, barium, copper, cadmium, calcium, iron, lead, magnesium, manganese, mercury, nickel, thallium, silver, sodium, vanadium, uranium, zinc, and/or bioaccessible arsenic in several samples were qualified as estimated due to serial dilution imprecision.

4.3.8 Internal Standards

Results for arsenic, cadmium, and/or selenium in several samples were qualified as estimated due to low internal standard recoveries.

4.4 POLYCHLORINATED DIBENZO-*P*-DIOXINS/POLYCHLORINATED DIBENZOFURANS, POLYCHLORINATED BIPHENYLS, AND POLYBROMINATED DIPHENYLETHERS

Analysis of samples for PCDDs/ PCDFs, PCBs, and PBDEs was conducted by SGS in Wilmington, NC. Overall, the data reviewed are usable with the qualifications presented in the validation reports and database. Numbers and percentages of qualified samples varied by year and are shown in the following tables:

- Table 4-1. 2009 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples
- Table 4-2. 2010 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

- Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

4.4.1 Calibration

Results for Aroclor-1254, Aroclor-1260, Aroclor-1262, and/or PCB-209 in several samples were qualified as estimated due to high continuing calibration verification (CCV) standard percent differences.

4.4.2 Blanks

Results for 2,3,7,8-TCDF; 2,3,7,8-TCDD; 1,2,3,7,8-PeCDF; 2,3,4,7,8-PeCDF; 1,2,3,4,7,8-HxCDF; 1,2,3,6,7,8-HpCDF; 1,2,3,4,6,7,8-HpCDD; 1,2,3,4,7,8,9-HpCDF; OCDD; and/or 1,2,3,4,7,8-HxCDF in several samples were qualified as "not-detected" due to the presence of these compounds at similar concentrations in the associated laboratory blanks.

Results for PCB-1, PCB-2, PCB-3, PCB-4, PCB-6, PCB-8, PCB-10, PCB-11, PCB-15, PCB-16, PCB-18/30, PCB-20/28, PCB-21/33, PCB-22, PCB-26/29, PCB-27, PCB-31, PCB-32, PCB-35, PCB-37, PCB-40/71, PCB-42, PCB-44/47/65, PCB-49/69, PCB-50/53, PCB-56, PCB-61/70/74/76, PCB-64, PCB-66, PCB-90/101/113, and/or PCB-95 in several samples were qualified as "not-detected" due to the presence of these analytes at similar concentrations in the associated laboratory blanks.

Results of PBDE-28/33, PBDE-47, PBDE-85, PBDE-99, PBDE-100, and/or PBDE-209 in several samples were qualified as "not-detected" due to the presence of these analytes at similar concentrations in the associated laboratory blanks.

4.4.3 Co-elution

An evaluation of the chromatograms associated with the PCDD/PCDF, PCB, and PBDE analyses showed acceptable peak resolution and no co-elution issues.

4.4.4 Surrogate Recovery

Results for 1,2,3,4,7,8-HxCDD in a few samples were qualified as estimated due to low extraction standard recoveries.

4.4.5 Matrix Spikes

The result for PCB-118 in one sample was qualified as estimated due to high MS/MSD recoveries and a high RPD.

Results for PBDE-47, PBDE-99, PBDE-203, and/or PBDE-206 in several samples were qualified as estimated due to out-of-criteria MS/MSD recoveries and high RPDs.

4.4.6 Ongoing Precision and Recovery

Results for PBDE-47, PBDE-99, PBDE-133, and/or PBDE-206 in several samples were qualified as estimated due to high RPDs in the associated ongoing precision and recovery analyses.

4.4.7 Field Duplicates

Results for PBDE-47, PBDE-66, PBDE-85, PBDE-99, PBDE-100, PBDE-138/166, PBDE-153, PBDE-154, PBDE-195, PBDE-196, PBDE-197/200, PBDE-198/199, PBDE-201, PBDE-202, PBDE-203, PBDE-205, PBDE-206, PBDE-207, PBDE-208, and/or PBDE-209 in several samples were qualified as estimated due to field duplicate imprecision.

4.5 ORGANOCHLORINE PESTICIDE COMPOUNDS

Analysis of samples for organochlorine pesticide compounds was conducted by CAS in Kelso, WA. Overall, the data reviewed are usable with the qualifications presented in the validation reports and database. Numbers and percentages of qualified samples varied by year and are shown in the following tables:

- Table 4-1. 2009 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples
- Table 4-2. 2010 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples
- Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

4.5.1 Calibration

Results for *cis*-nonachlor and/or *trans*-nonachlor in a few samples were qualified as estimated due to high standard percent differences in the associated CCV standard analyses.

Results for hexachlorobutadiene and/or hexachlorocyclopentadiene in several samples were qualified as estimated due to high standard percent differences in the associated second-source calibration standard and CCV standard analyses.

4.5.2 Blanks

Results for *gamma*-BHC in two samples were qualified as "not-detected" due to its presence at a similar concentration in an associated laboratory blank.

4.5.3 Surrogates

All organochlorine pesticide surrogate recoveries were within acceptance limits.

4.5.4 Matrix Spikes

Results for 2,4′-DDE; 2,4′-DDD; 2,4′-DDT; and/or *cis*-nonachlor in several samples were qualified as estimated due to out-of-criteria MS/MSD recoveries.

4.5.5 Laboratory Control Samples and Standard Reference Material

Results for 4,4′-DDD; 2,4′-DDE; 4,4′-DDT; and/or oxychlordane in several samples were qualified as estimated due to low LCS/LCSD recoveries.

Results for alpha-BHC in a few samples were qualified as estimated due to low standard reference material recoveries.

4.6 POLYCYCLIC AROMATIC HYDROCARBON COMPOUNDS

Analysis of samples for PAH compounds was conducted by CAS in Kelso, WA. Overall, the data reviewed are usable with the qualifications presented in the validation reports and database. Numbers and percentages of qualified samples varied by year and are shown in the following tables:

- Table 4-1. 2009 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples
- Table 4-2. 2010 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples
- Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

4.6.1 Calibration

Instrument stability was demonstrated for the PAH analyses, and all initial and continuing calibration results were within acceptance limits.

4.6.2 Blanks

Results for naphthalene in several samples were qualified as "not-detected" due to its presence at similar concentrations in the associated laboratory blanks.

4.6.3 Surrogates

Results for pyrene, naphthalene, and/or 2-methylnaphthalene in several samples were qualified as estimated due to the high surrogate recoveries.

4.6.4 Matrix Spikes

Results for acenaphthylene, indeno(1,2,3-cd)pyrene, and/or dibenzo(a,h)anthracene in several samples were qualified as estimated due to out-of-criteria MS/MSD recoveries.

4.6.5 Laboratory Control Samples and Standard Reference Material

Results for 2-methylnaphthalene, chrysene, dibenz(a,h)anthracene, naphthalene, and/or benz(a)anthracene in several samples were qualified as estimated due to out-of-criteria LCS/LCSD recoveries.

Results for anthracene and/or benzo(k)fluoranthene in several samples were qualified as estimated due to out-of-criteria standard reference material recoveries.

4.7 SEMIVOLATILE ORGANIC COMPOUNDS

Analysis of samples for PAH compounds was conducted by CAS in Kelso, WA. Overall, the data reviewed are usable with the qualifications presented in the validation reports and database. Numbers and percentages of qualified samples varied by year and are shown in the following tables:

- Table 4-1. 2009 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples
- Table 4-2. 2010 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples
- Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

4.7.1 Calibration

Results for phenol in several samples were qualified as estimated due to high initial calibration relative standard deviations.

Results for bis(2-chloroisopropyl)ether, caprolactam, and/or nitrophenol in several samples were qualified as estimated due to high CCV standard percent differences.

4.7.2 Blanks

Results for acetophenone, dimethylphthalate, phenol, and/or bis(2-ethylhexyl) phthalate in several samples were qualified as "not-detected" due to the presence of these compounds at similar concentrations in the associated laboratory blanks.

4.7.3 Surrogates

All semivolatile organic surrogate recoveries were within acceptance limits.

4.7.4 Matrix Spikes

Results for 4-chloro-3-methylphenol; 1,4-dichlorobenzene; 2-chlorophenol; hexachlorobutadiene; phenol; N-nitrosodi-n-propylamine; 1,2,4-trichlorobenzene; and/or pentachlorophenol in several samples were qualified as estimated due to out-of-criteria MS/MSD recoveries.

4.7.5 Laboratory Control Samples

Results for 4-chloroaniline; 3,3'-dichlorobenzidine; 1,3-dichlorobenzene; 1,4-dichlorobenzene; 1,2-dichlorobenzene; benzyl alcohol; hexachloroethane; hexachlorbenzene; hexachlorocyclopentadiene; benzoic acid; 1,2,4-trichlorobenzene; 2,4-dinitrophenol; 2-methyl-4,6-dinitrophenol; 4-nitrophenol; bis(2-chloroisopropyl)ether; 2-methylphenol; benzoic acid; caprolactam; and/or pentachlorophenol in several samples were qualified due to low LCS/LCSD recoveries.

4.7.6 Field Duplicates

Results for diethylphthalate in several samples were qualified as estimated due to field duplicate imprecision.

5 RESULTS

This section presents results of usable analytical data for the 2009, 2010, and 2011 beach sediment samples in each chemical class. Electronic copies of the 2009, 2010, and 2011 datasets used to develop the figures and summary tables in this section are included on a disk attached to this report. To facilitate these discussions, Tables 5-1 through 5-3 provide statistical summaries (e.g., number of detected values, minimum, mean, and maximum values) of chemical of interest concentrations from surface and subsurface samples. Analytical concentrations are plotted by analyte for each beach; see Figures 5-1 through 5-77. In addition, results for grain size analysis, pH, TOC, total solids, and total sulfides are plotted in Figures 5-78 to 5-82. For informational purposes, preliminary remediation goals (PRGs) as presented within the QAPP have, when available, also been illustrated in Figures 5-1 through 5-77. For each analyte where PRGs were available, the lower of the residential (Smucker 2004) or recreational (USEPA 2006) PRG was plotted. The plots are organized by analyte, with concentration on the *y*-axis and beach by reach on the *x*-axis. Data are plotted as a function of depth and particle size fraction, including the bulk sediment concentration. Table 5-3 and Figures 5-3, 5-12 and 5-25 have been updated to include results from reanalysis of sediment collected from five beaches sampled in 2011 (see Section 3. 4 above).

It should be noted that a year after completing Black Sand Beach sediment sampling activities TAI completed a voluntary independent interim action under the Washington State Department of Ecology Voluntary Cleanup Program (VCP). As a result, analytical data for Black Sand Beach presented herein are no longer applicable. For details of the voluntary interim action readers are encouraged to review information accessible from Ecology's website[4] (Ecology 2010, 2011, 2012). The purpose of the interim action was to remove granulated slag from the beach, while not adversely impacting the adjacent river or cultural resources known to exist in the area. Once materials were removed off-site, final grades were designed and constructed using imported fill-materials to allow for continued beach access and function. Analytical data for the imported fill material (i.e., sand) can be accessed from Ecology's website.

5.1 METHODS FOR SUMMATION OF TOTAL PCBS AND TEQS

It should be noted that all summations for total PCBs, PCB toxic equivalent (TEQs), and dioxin and furan TEQs presented herein were reported directly by the organic analytical laboratory (SGS), per their standard practice and procedures. Therefore, summations presented herein are not intended to be used in the risk assessments, but rather represent a summary of the data as directly provided by the analytical laboratory.

[4] https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036

Total PCBs were calculated as the sum of the concentration of 10 PCB homolog groups (e.g., monochlorobiphenyls, bichlorobiphenyls, trichlorobiphenyls). Concentrations of each PCB homolog group represent the sum of detected concentrations for each PCB congener from that homolog group (e.g., monochlorobiphenyls equals the sum of detections for PCB-1, PCB-2, and PCB-3). Undetected congeners were treated as zero by the analytical laboratory for this calculation.

PCB TEQs and dioxin and furan TEQs were calculated by two methods of substitution by the laboratory. The first method was to treat (substitute) undetected analytes as zero; while the second method was to treat (substitute) undetected analytes as one-half (½) the detection limit. Upon completing the aforementioned substitutions, the analytical laboratory determined and reported concentrations by multiplying values by the World Health Organization [WHO] 2005 toxic equivalency factors [TEFs] (Van den Berg et al. 2006).

5.2 EVALUATION OF TARGET DETECTION LIMITS

Results reported as non-detects for conventional parameters, metals and metalloids, pesticides, SVOCs, PAHs, dioxins/furans, PCBs as Aroclors, and PBDEs (see Table 5-4 for a summary of analytical methods) were compared to 10 times the target MDL, and are summarized within Tables 5-5a through 5-5h herein. Target MDLs for IVBA analyses were not available nor identified in the QAPP.

5.2.1 Conventional Parameters

Target MDLs and MRLs for conventional parameters are shown in Table 5-5a, along with the minimum and maximum MDLs for undetected results. Table 5-5a was updated to include results from reanalysis of sediment collected from five beaches sampled in 2011 (see Section 3. 4 above). For all analyses of conventional parameters where there were undetected results the achieved MDLs were at or below the target MDLs, or no more than 10 times the target MDLs.

5.2.2 Metals and Metalloids

Target MDLs and MRLs for metals and metalloids are shown in Table 5-5b, along with the minimum and maximum MDLs for undetected results. Table 5-5b was updated to include results from reanalysis of sediment collected from five beaches sampled in 2011 (see Section 3. 4 above). The MDLs for undetected results were generally less than 10 times the target MDLs, with the following exceptions:

- Fourteen MDLs for cadmium in the 2011 beach sediments were greater than 10 times the target MDL of 0.007 mg/kg. The maximum MDL of 0.089 mg/kg is however less than the residential PRG as identified within the QAPP for cadmium of 37 mg/kg.

- Eighty one MDLs for silver in the 2011 beach sediments were greater than 10 times the target MDL of 0.003 mg/kg. The maximum MDL of 0.073 mg/kg is however lower than the residential PRG as identified within the QAPP for silver of 390 mg/kg.
- Fifty four MDLs for thallium were greater than the target MDL of 0.002 mg/kg. The maximum MDL of 0.101 mg/kg is less than the residential PRG as identified within the QAPP for thallium of 5.2 mg/kg.

As the achieved MDLs for metals analyses with undetected results are all at least an order of magnitude lower than the above-mentioned PRGs, it is not anticipated that these elevated results will adversely affect data usability.

5.2.3 Pesticides

Target MDLs and MRLs for pesticides are shown in Table 5-5c, along with the minimum and maximum MDLs for undetected results. The MDLs for undetected results were generally less than 10 times the target MDLs, with the following exceptions:

- Two MDLs for 4,4'-DDD in the 2011 beach sediments were greater than 10 times the target MDL of 0.073 µg/kg.
- One MDL for 2,4'-DDE in the 2011 beach sediments was greater than 10 times the target MDL of 0.046 µg/kg.
- Twenty seven MDLs for 4,4'-DDE in the 2011 beach sediments were greater than 10 times the target MDL of 0.027 µg/kg.
- Fourteen MDLs for alpha-chlordane in the 2011 beach sediments were greater than 10 times the target MDL of 0.031 µg/kg.
- Seven MDLs for oxychlordane in the 2011 beach sediments were greater than 10 times the target MDL of 0.061 µg/kg.
- Two MDLs for endosulfan sulfate 2011 beach sediments were greater than 10 times the target MDL of 0.058 µg/kg.
- Two MDLs for methoxychlor in the 2011 beach sediments were greater than 10 times the target MDL of 0.075 µg/kg. The maximum MDL of 1 µg/kg is less than the residential PRG of 310,000 µg/kg for methoxychlor as identified within the QAPP.
- One MDL for toxaphene in 2011 beach sediments was greater than 10 times the target MDL of 3.4 µg/kg. This MDL of 50 µg/kg is less than the residential PRG of 440 µg/kg for toxaphene as identified within the QAPP.

As the achieved MDLs for pesticide compounds with undetected results are all at least an order of magnitude lower than the PRGs, or no PRG is established, it is not anticipated that these elevated results will adversely affect data usability.

5.2.4 Semivolatile Organic Compounds

Target MDLs and MRLs for SVOCs are shown in Table 5-5d, along with the minimum and maximum MDLs for undetected results. The MDLs for the undetected results were generally less than 10 times the target MDLs, with the following exceptions:

- Two MDLs for bis(2-ethylhexyl)phthalate in the 2009 beach sediments were greater than 10 times the target MDL of 7 μg/kg. The maximum MDL of 250 μg/kg is less than the residential PRG of 35,000 μg/kg for bis(2-ethylhexyl)phthalate as identified within the QAPP.
- Four MDLs for di-n-octylphthalate in the 2010 beach sediments were greater than 10 times the target MDL of 1.7 μg/kg. The maximum MDL of 67 μg/kg is less than the residential PRG of 2,400,000 μg/kg for di-n-octylphthalate as identified within the QAPP (by reference to Smucker 2004 on page A-4).

As the achieved MDLs for SVOC analyses with undetected results are all at least an order of magnitude lower than the PRGs, it is not anticipated that these elevated results will adversely affect data usability.

5.2.5 Polycyclic Aromatic Hydrocarbons

Target MDLs and MRLs for PAHs are shown in Table 5-5e, along with the minimum and maximum MDLs for undetected results. The MDLs for all undetected results were less than 10 times the target MDLs.

5.2.6 Dioxins and Furans

Target MDLs and MRLs for dioxins and furans are shown in Table 5-5f, along with the minimum and maximum MDLs for undetected results. With the exception of 2,3,7,8-tetrachlorodibenzofuran, MDLs for all congeners were greater than 10 times the MDL in at least one of the three sampling events. In addition, the target MDLs for dioxins and furans are all greater than residential (Smucker 2004) PRGs; for informational purposes, PRGs as presented within the QAPP (either by reference to Smucker [2004] on page A-4 or presented in Table A-7 [USEPA 2006]) were, when available, illustrated in Figures 5-1 through 5-77. For each analyte where PRGs were available, the lower of the residential (Smucker 2004) or recreational (USEPA 2006) PRG was plotted. For this reason, dioxin and furan data represent an uncertainty and risk assessors should be aware of this uncertainty.

5.2.7 Polychlorinated Biphenyls

Target MDLs and MRLs for pesticides are shown in Table 5-5g, along with the minimum and maximum MDLs for undetected results. The MDLs for all undetected results were less than 10 times the target MDLs.

5.2.8 Polybrominated Diphenyl Ethers

The target MDLs and MRLs for PBDEs are shown in Table 5-5h, along with the minimum and maximum MDLs for undetected results. The MDLs for all undetected results were less than 10 times the target MDLs.

6 CONCLUSION

The primary objective of the UCR beach sediment study was to collect additional sediment data that will allow characterization of potential risks to humans and ecological receptors from exposure to beach sediments. As described in the QAPP (Integral et al. 2009), the full beach sediment study targeted a total of 34 beach areas (Figure 1-1). This report documents the methods used to sample beach sediments on the UCR in 2009, 2010, and 2011. This sampling and analysis program was conducted in accordance with the objectives described in the project QAPP and amendments (Integral et al. 2009; Integral and Parametrix 2010, 2011) and the Data Quality Objectives Memorandum for reanalysis of beach sediment from Bossburg Flat, Evans Campground, Swimming Hole, Flat Creek and Lyons Island (USEPA 2013).

7 REFERENCES

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ESI. 2011k. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on April 26 and 28, 2011, sample delivery group K1103678. Prepared for Teck American Incorporated. July 21, 2011. Environmental Standards, Inc., Valley Forge, PA.

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ESI. 2011n. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on April 27, 2011 and on May 4, 2011, sample delivery group K1103800. Prepared for Teck American Incorporated. July 8, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011o. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on April 28, 2011 and on May 4 and 5, 2011, sample delivery groups K1103802 and K1103804. Prepared for Teck American Incorporated. July 18, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011p. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on April 29, 2011 and on May 2, 2011, sample delivery group K1103890. Prepared for Teck American Incorporated. July 13, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011q. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on April 29, 2011 and May 4, 9, and 10, 2011, sample delivery groups K1103869, K1103870, and K1103871. Prepared for Teck American Incorporated. July 21, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011r. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on April 30, 2011 and on May 1, 2011, sample delivery group K1103874. Prepared for Teck American Incorporated. July 18, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011s. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on April 30, 2011 and on May 6, 2011, sample delivery group K1103862. Prepared for Teck American Incorporated. July 8, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011t. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on May 1 and 6, 2011, sample delivery groups K1103864 and K1103867. Prepared for Teck American Incorporated. July 30, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011u. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on May 2, 3, 5, and 6, 2011, sample delivery groups K1103972 and K1103976. Prepared for Teck American Incorporated. July 8, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011v. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on May 2, 3, and 4, 2011, sample delivery group K1003987. Prepared for Teck American Incorporated. July 13, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011w Quality assurance review of the Upper Columbia River beach sediment study, samples collected on May 2, and 10, 2011, sample delivery groups K1103989 and K1103990. Prepared for Teck American Incorporated. July 18, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011x. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on May 3 and 11, 2011, sample delivery groups K1103991 and K1103992. Prepared for Teck American Incorporated. July 18, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011y. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on May 4, 5, 9, and 10, 2011, sample delivery groups K1104073 and K1104074. Prepared for Teck American Incorporated. July 19, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011z. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on May 4, 5, and 11, 2011, sample delivery groups K1104076 and K1104085. Prepared for Teck American Incorporated. July 15, 2011. Environmental Standards, Inc., Valley Forge, PA.

ESI. 2011aa. Quality assurance review of the Upper Columbia River beach sediment study, samples collected on May 4 and 11, 2011, sample delivery groups K1104082 and K1104084. Prepared for Teck American Incorporated. July 21, 2011. Environmental Standards, Inc., Valley Forge, PA.

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FIGURES

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U.S. - Canada Border

745
Black Sand Beach
Upper Columbia R.V. Park
Swimming Hole Beach
Reach 1
Northport Beach
730
Onion Creek
Dalles Orchard
Flat Creek
China Bend
Reach 2
Bossburg Flat
Snag Cove
712
Evans Campground/Beach
Summer Island
Kamloops Island
Reach 3
Welty Bay
Kettle Falls Marina
700
Lyons Island
Colville River
Colville Flats
Bradbury Beach
Barnaby Island Campground
Reach 4a
676
AA Campground #2
Nez Perce Creek
Hunters
Reach 4b
Wilmont Creek
Mitchell Point
Naborlee
Enterprise
McGuire's
597
Crescent Bay
Swawilla Basin
Spring Canyon
Reach 6
Jones Bay
617
Whitestone Campground
640
Reach 5
Seven Bays
Mouth of Hawk Creek

Beaches Sampled in 2009
Beaches Sampled in 2010
Beaches Rejected for Lack of Fine Sediment
Beaches Sampled in 2011
River Reach Delineations (USGS)

integral consulting inc.

Km 0 5 10
Miles 0 5 10
N

Figure 1-1. **Beach Sampling Areas**

Upper Columbia River, WA

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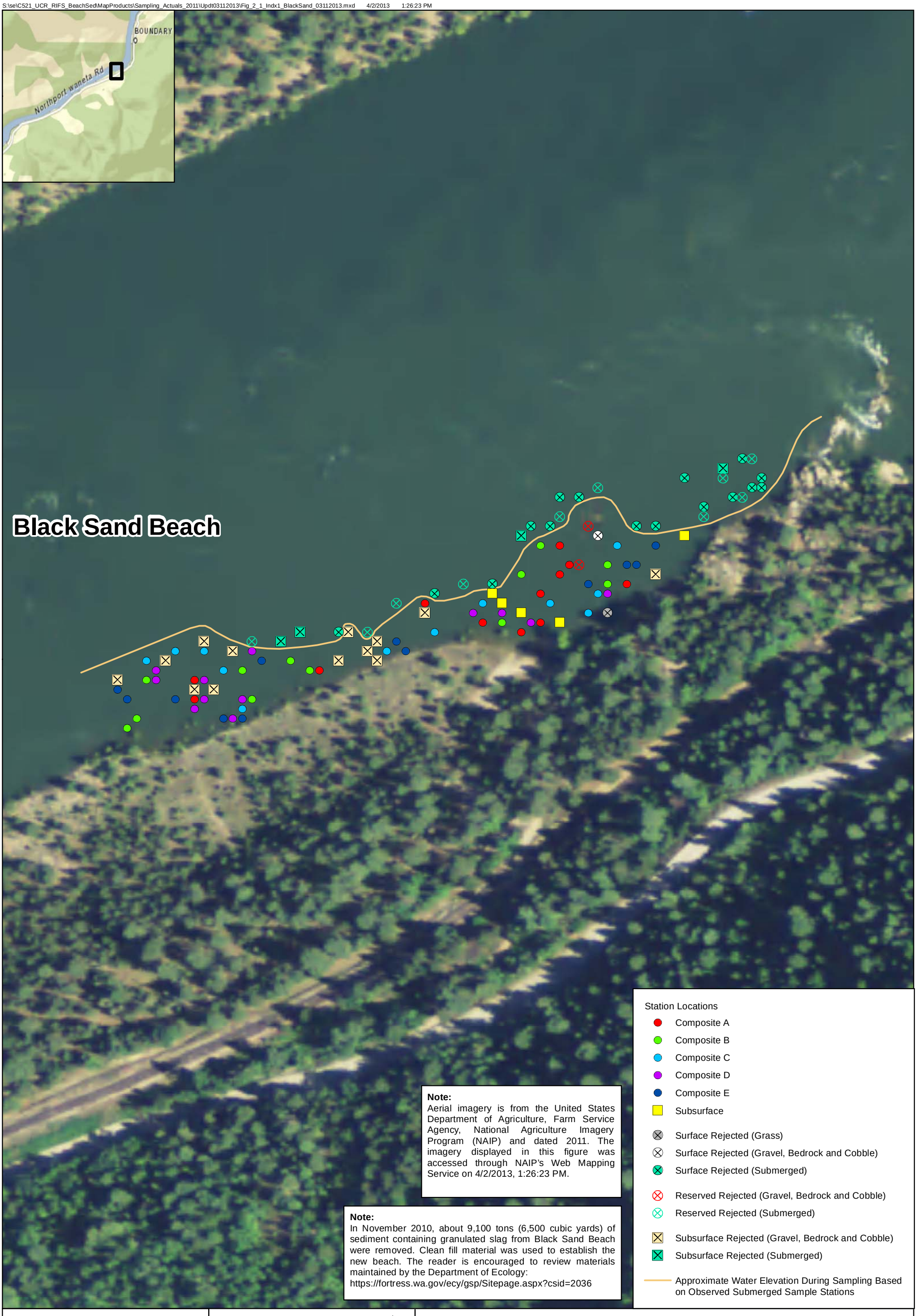


integral consulting inc.

Meters
0 25 50

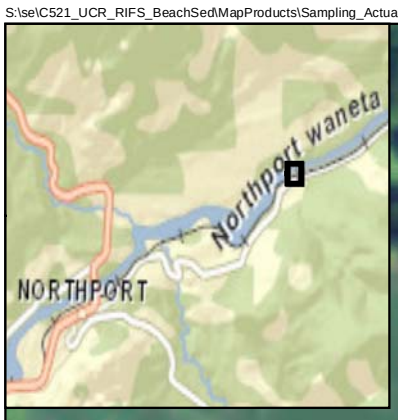
Feet
0 100 200

N

Figure 2-1. **Black Sand Beach - Actual 2009 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_2_Indx0_UCRRVpark_03112013.mxd 4/2/2013 2:13:42 PM



Upper Columbia River R.V. Park

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Reserved Rejected (Grass)
- Reserved Rejected (Culvert)
- Reserved Rejected (Gravel, Bedrock and Cobble)
- Reserved Rejected (Submerged)
- Surface Rejected (Grass)
- Surface Rejected (Gravel, Bedrock and Cobble)
- Surface Rejected (Submerged)
- Subsurface Rejected (Gravel, Bedrock and Cobble)
- Subsurface Rejected (Submerged)
- Culvert
- Approximate Water Elevation During Sampling Based on Observed Submerged Sample Stations

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 2:13:42 PM.

integral consulting inc.

Meters
0 25 50

Feet
0 50 100

N

Figure 2-2. **Upper Columbia River R.V. Park - Actual 2009 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_3_Indx2_Northport_03112013.mxd 4/2/2013 1:28:44 PM

Northport Beach

Sample Locations
- Composite A
- Composite B
- Composite C
- Subsurface
- Surface Rejected (Cobble)
- Surface Rejected (Disturbed Area)
- Subsurface Rejected (Cobble)
- Subsurface Rejected (Disturbed Area)
- Approximate Water Elevation Recorded with GPS During Sampling
- Approximate Water Elevation During Sampling Bathymetry Elevation (NOAA 1949 Survey)
- Disturbed Area
- Fill Area

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 1:28:44 PM.

integral consulting inc.

Meters
0 5 10

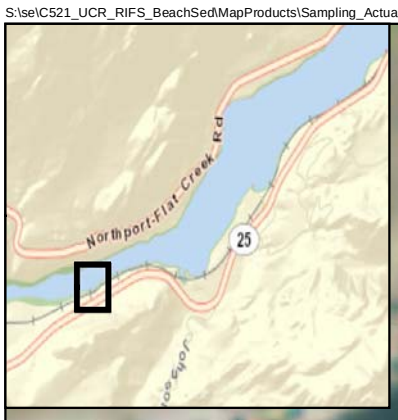
Feet
0 50 100

N

Figure 2-3. **Northport Beach – Actual 2010 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_4_Indx3_DallesOrchard_03112013.mxd 4/2/2013 1:30:25 PM



Dalles Orchard

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 1:30:25 PM.

Sample Locations
- Composite A
- Composite B
- Composite C
- Subsurface

Approximate Water Elevation Recorded with GPS During Sampling

integral consulting inc.

Meters
0 5 10

Feet
0 50 100

N

Figure 2-4. **Dalles Orchard – Actual 2010 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_5_Indx5_ChinaBend_03112013.mxd 4/2/2013 1:33:33 PM

China Bend

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Surface Rejected (Mismatched Location)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 1:33:33 PM.

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

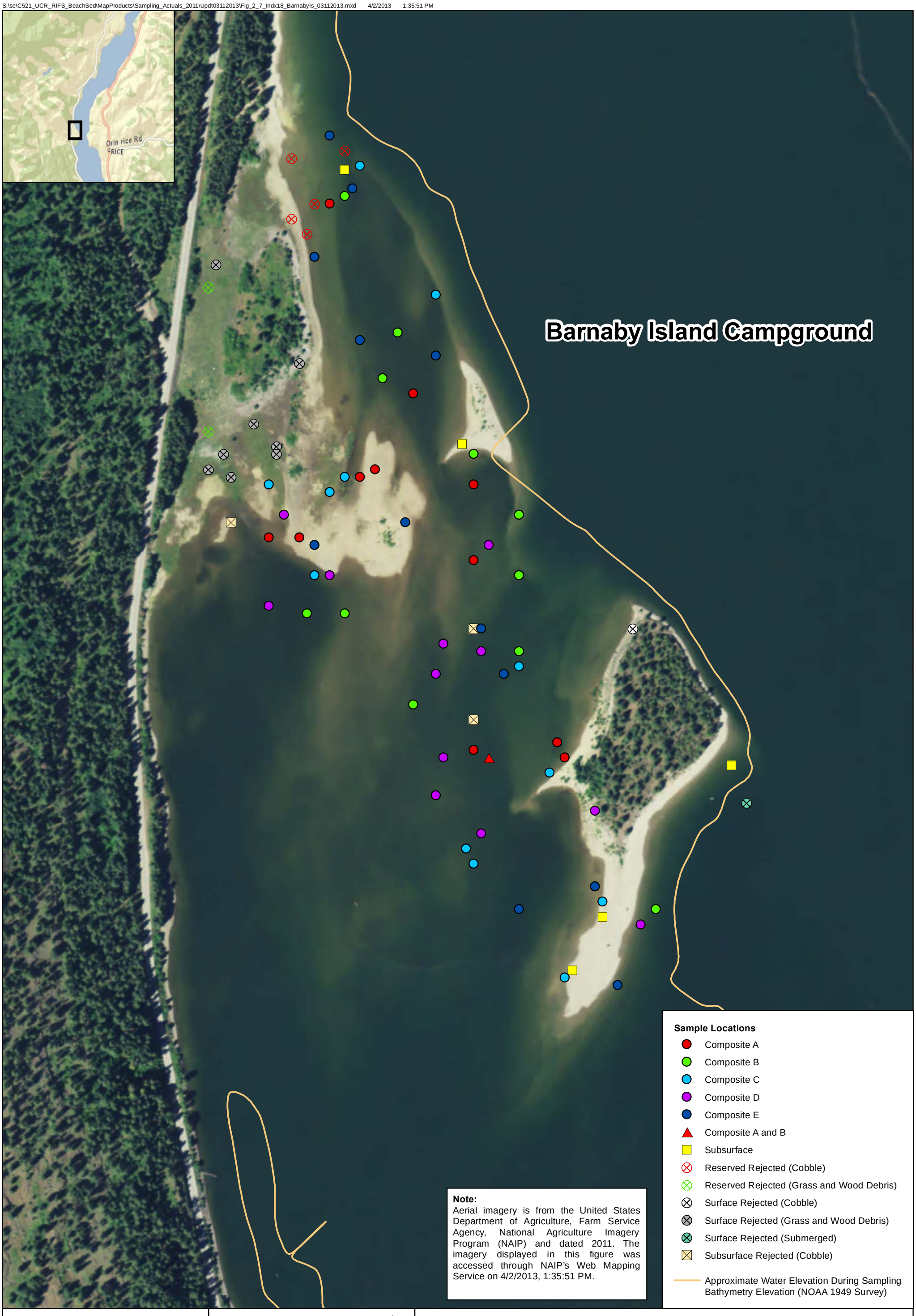
Figure 2-5. **China Bend – Actual 2010 Beach Sediment Sampling Stations**

Upper Columbia River, WA

Figure 2-6. **Summer Island – Actual 2010 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_7_Indx18_BarnabyIs_03112013.mxd 4/2/2013 1:35:51 PM



integral consulting inc.

Figure 2-7. **Barnaby Island Campground – Actual 2010 Beach Sediment Sampling Stations**

Upper Columbia River, WA

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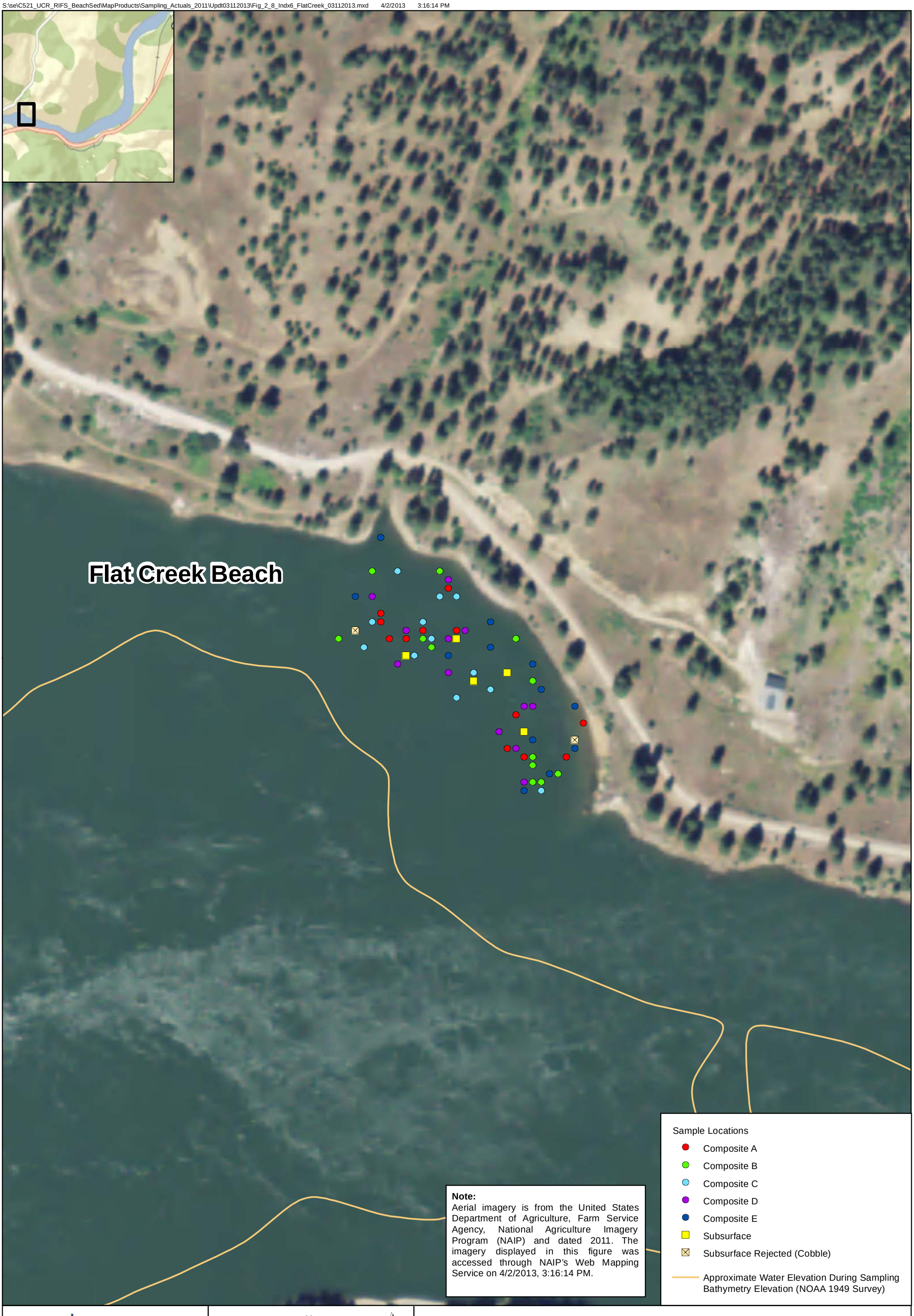

integral consulting inc.

Figure 2-8. **Flat Creek Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

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Bossburg Flat Beach

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 1:38:56 PM.

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Surface Rejected (Cobble)
- Surface Rejected (Slope)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

integral consulting inc.

0 25 50 Meters

0 50 100 Feet

N

Figure 2-9. **Bossburg Flat Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_10_Indx9_EvansCamp_03112013.mxd 4/2/2013 1:40:36 PM

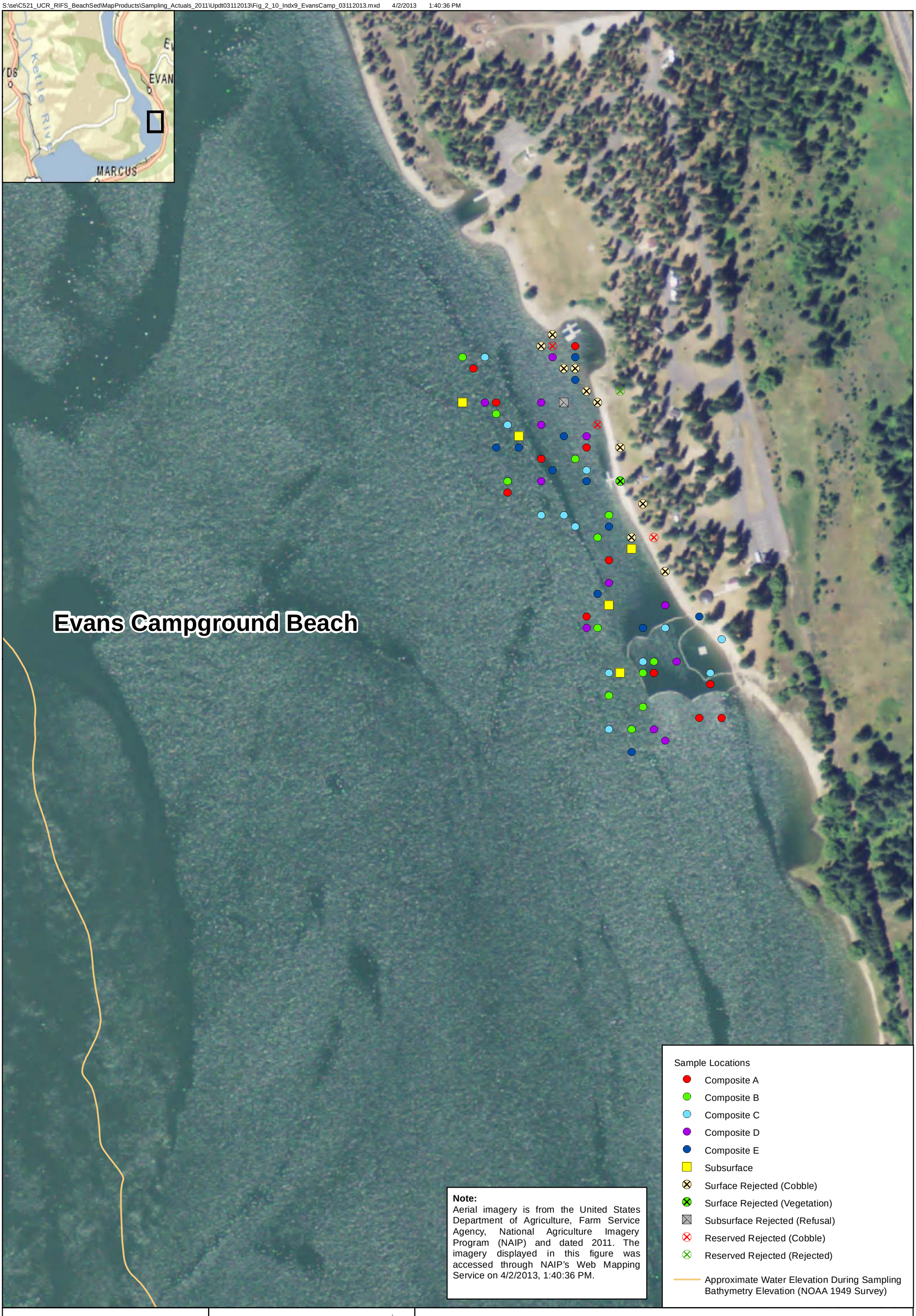
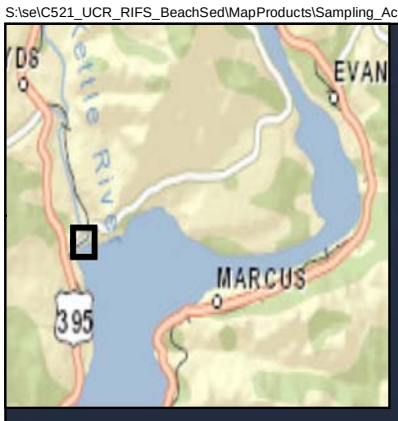


Figure 2-10. **Evans Campground Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_11_Indx11_Kamloops_03112013.mxd 4/2/2013 1:42:13 PM



Kamloops Island Beach

Note:
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Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Subsurface Rejected (Refusal)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

integral consulting inc.

Meters
0 25 50

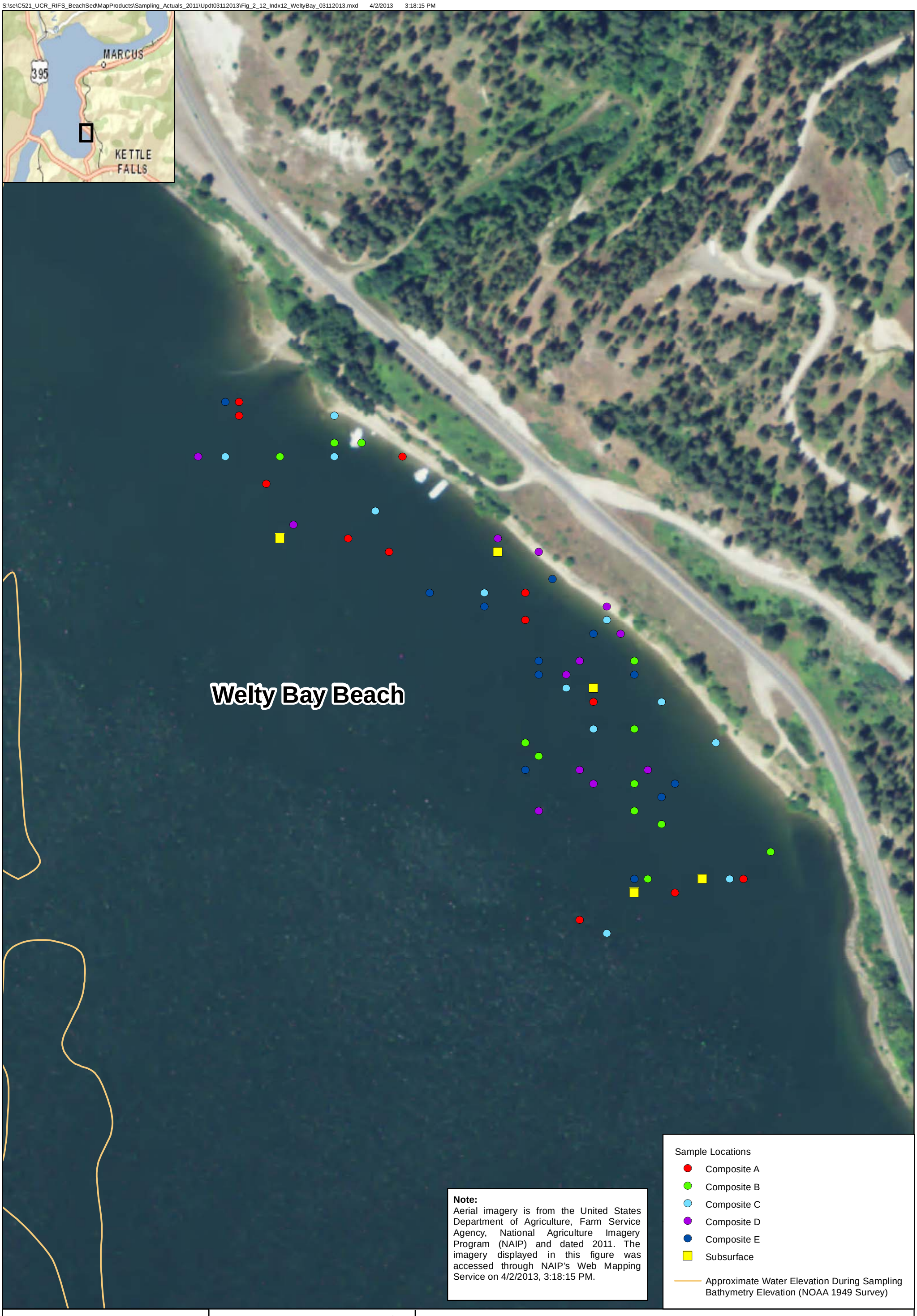
Feet
0 50 100

N

Figure 2-11. **Kamloops Island Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_12_Indx12_WeltyBay_03112013.mxd 4/2/2013 3:18:15 PM



integral consulting inc.

Figure 2-12. **Welty Bay Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_13_Indx13_KettleFallsMarina_03112013.mxd 4/2/2013 3:20:02 PM

Kettle Falls Marina Beach

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Subsurface Rejected (Refusal)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 3:20:02 PM.

integral consulting inc.

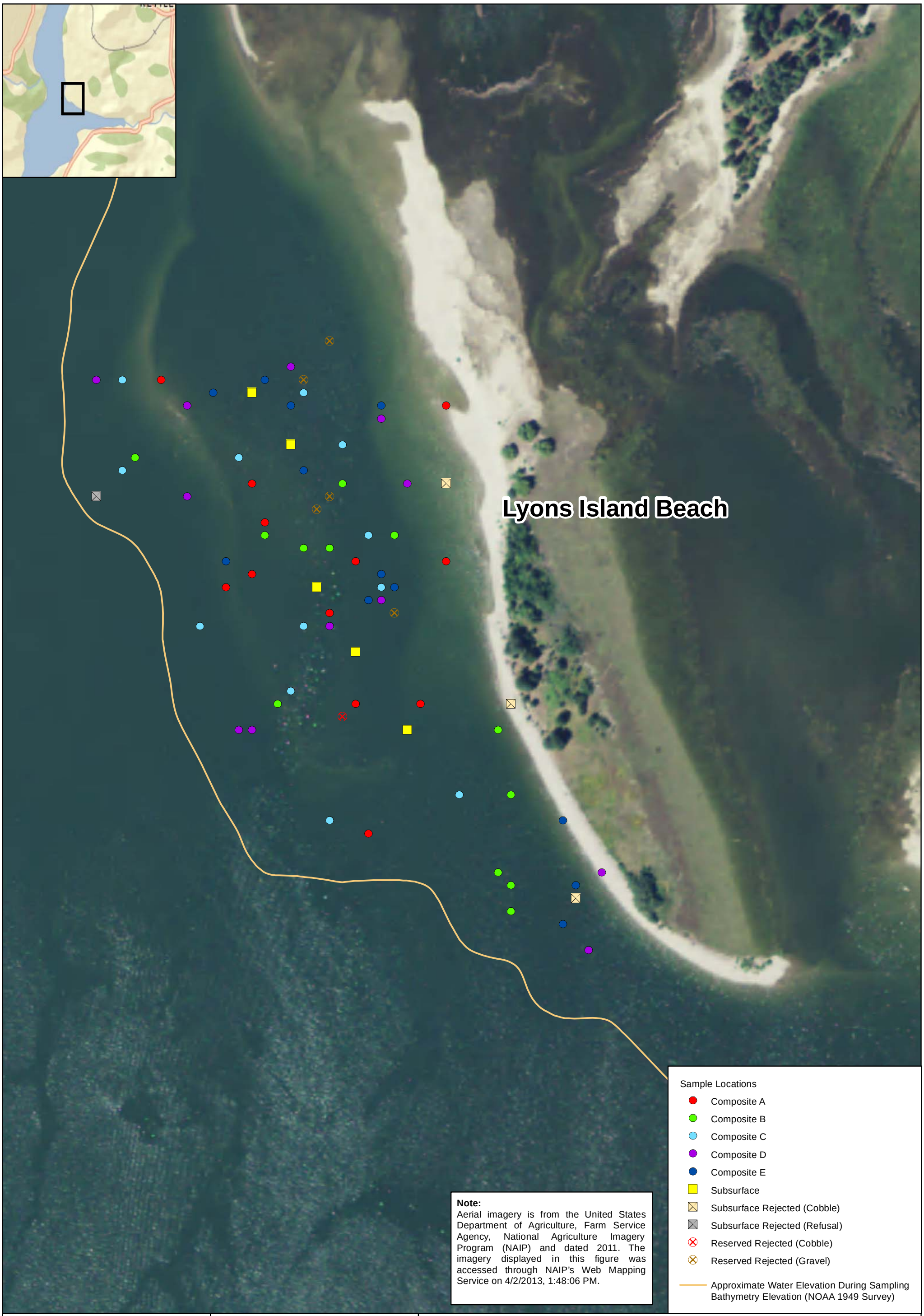
Meters
0 25 50

Feet
0 50 100

N

Figure 2-13. **Kettle Falls Marina Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

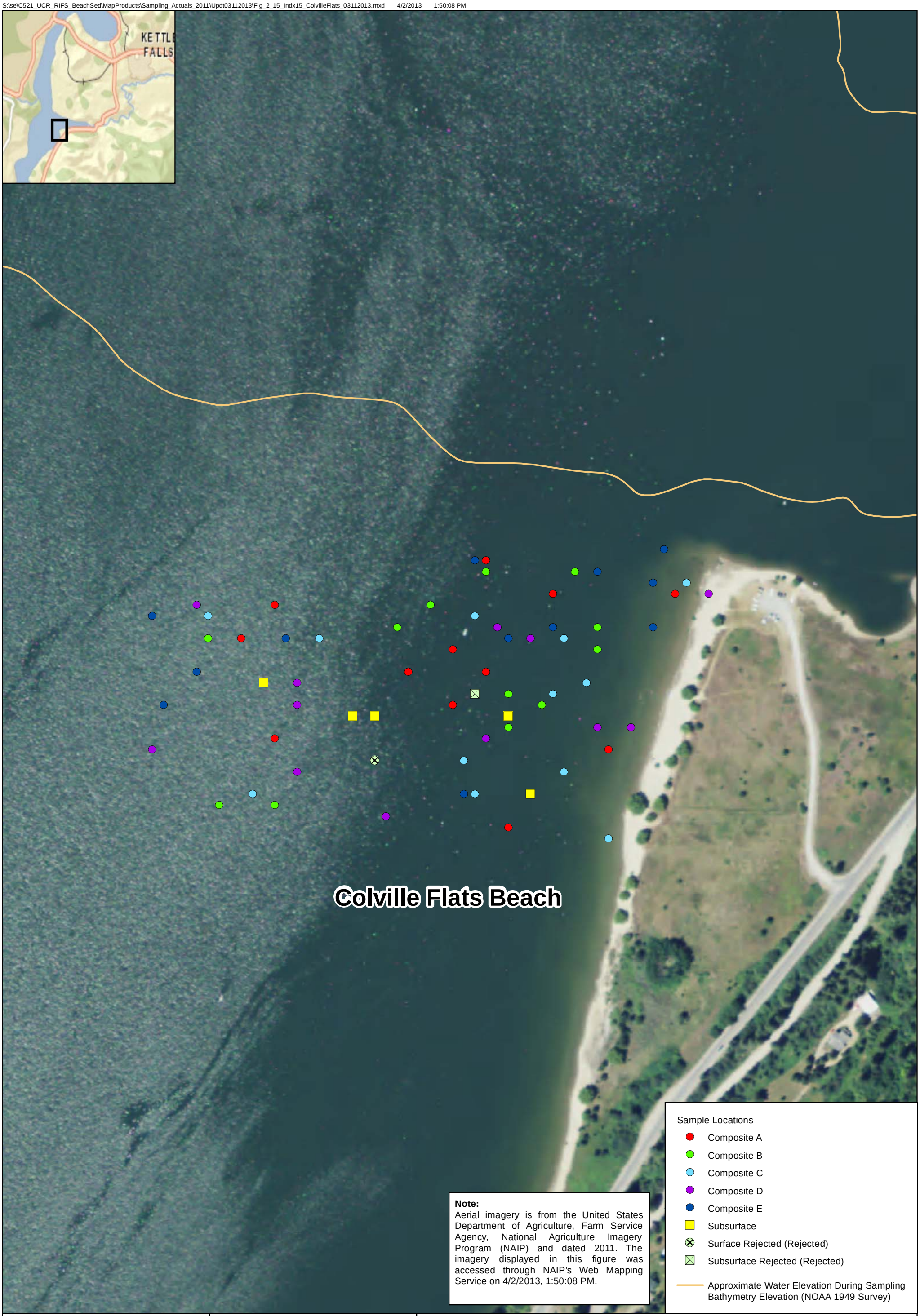


integral consulting inc.

Figure 2-14. **Lyons Island Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_15_Indx15_ColvilleFlats_03112013.mxd 4/2/2013 1:50:08 PM



integral consulting inc.

Figure 2-15. **Colville Flats Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_16_Indx16_ColvilleRiver_03112013.mxd 4/2/2013 1:52:06 PM

Colville River Beach

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 1:52:06 PM.

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Surface Rejected (Cobble)
- Surface Rejected (Refusal)
- Surface Rejected (Rejected)
- Subsurface Rejected (Cobble)
- Subsurface Rejected (Refusal)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

integral consulting inc.

Meters
0 25 50

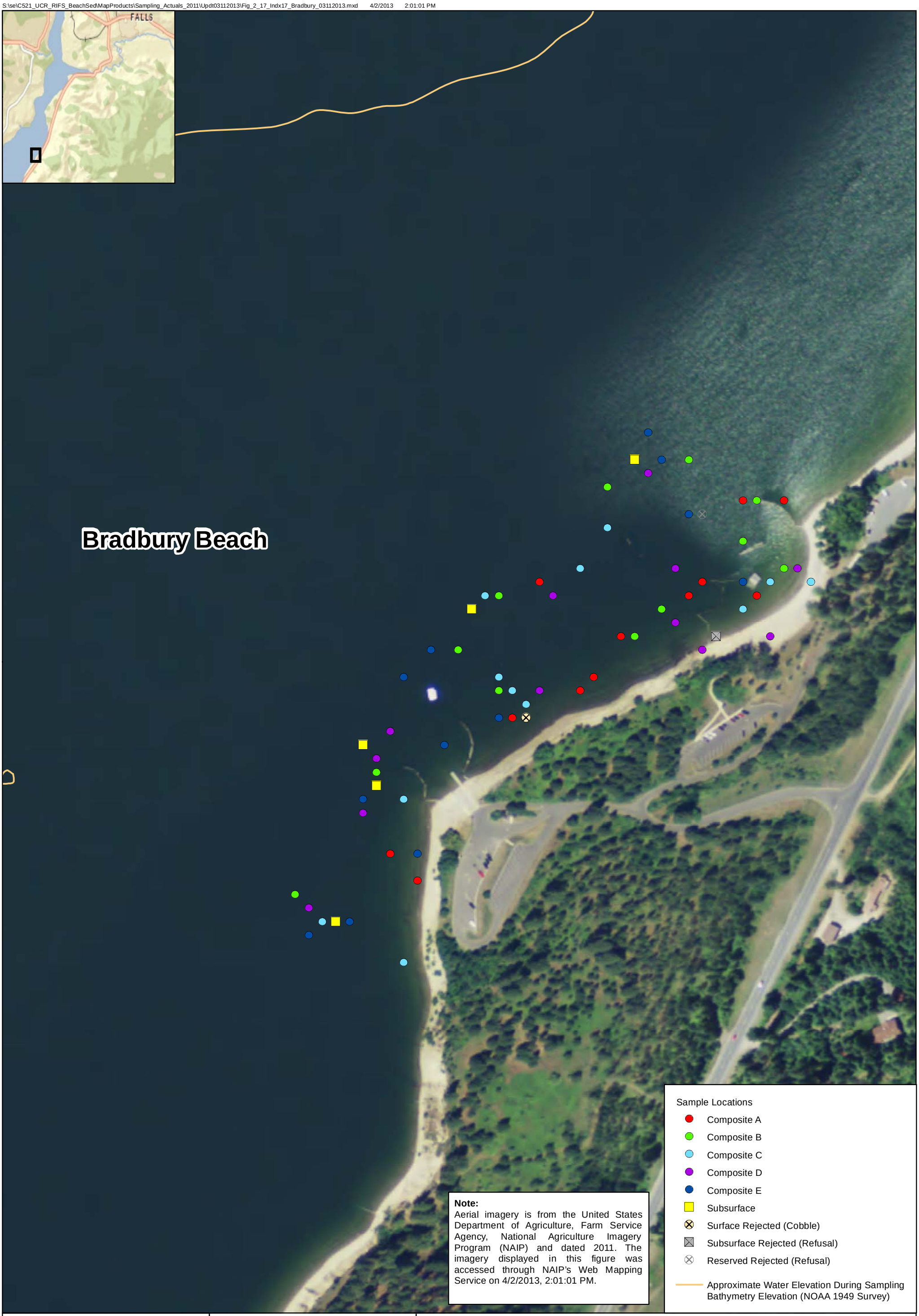
Feet
0 50 100

N

Figure 2-16. **Colville River Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_17_Indx17_Bradbury_03112013.mxd 4/2/2013 2:01:01 PM



integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure 2-17. **Bradbury Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_18_Indx19_AACampground_03112013.mxd 4/2/2013 3:29:43 PM

integral consulting inc.

Figure 2-18. **AA Campground 2 Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_19_Indx20_NezPerce_03112013.mxd 4/2/2013 2:05:00 PM

Nez Perce Creek Beach

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 2:05:00 PM.

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Subsurface Rejected (Refusal)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

integral consulting inc.

Meters
0 25 50

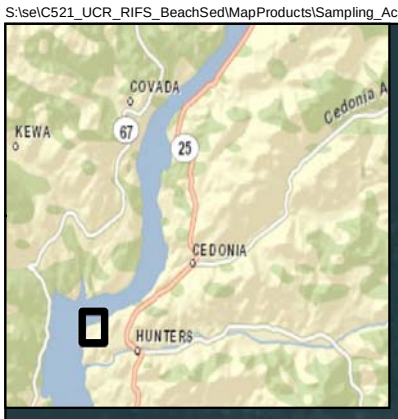
Feet
0 50 100

N

Figure 2-19. **Nez Perce Creek Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_20_Indx21_Hunters_03112013.mxd 4/2/2013 2:17:16 PM



Hunters Beach

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 2:17:16 PM.

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Surface Rejected (Boat Ramp)
- Surface Rejected (Refusal)
- Subsurface Rejected (Refusal)
- Reserved Rejected (Refusal)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

integral consulting inc.

Meters
0 50 100

Feet
0 205 410

N

Figure 2-20. **Hunters Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_21_Indx22_Naborlee_03112013.mxd 4/2/2013 2:19:36 PM

Naborlee Beach

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Surface Rejected (Vegetation and Cobble)
- Subsurface Rejected (Gravel)
- Subsurface Rejected (Rock)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 2:19:36 PM.

integral consulting inc.

Meters
0 25 50

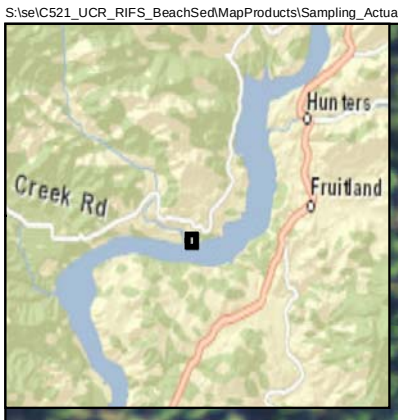
Feet
0 50 100

N

Figure 2-21. **Naborlee Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_22_Indx23_WilmontCreek_03112013.mxd 4/2/2013 2:22:47 PM



Wilmont Creek Beach

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Surface Rejected (Vegetation)
- Subsurface Rejected (Cobble)
- Subsurface Rejected (Refusal)
- Approximate Water Elevation During Sampling
- Bathymetry Elevation (NOAA 1949 Survey)

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 2:22:47 PM.

integral consulting inc.

Meters
0 25 50

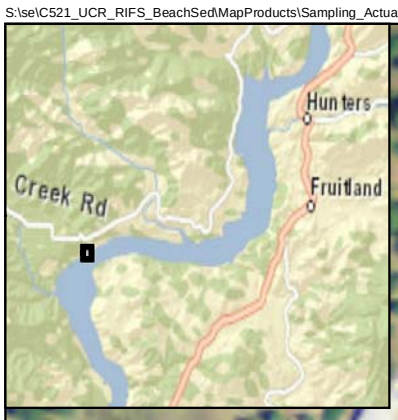
Feet
0 50 100

N

Figure 2-22. **Wilmont Creek Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_23_Indx24_MitchellPoint_03112013.mxd 4/2/2013 3:10:10 PM



Mitchell Point Beach

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 3:10:10 PM.

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Subsurface Rejected (Cobble)
- Reserved Rejected (Refusal)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

integral consulting inc.

Meters
0 25 50

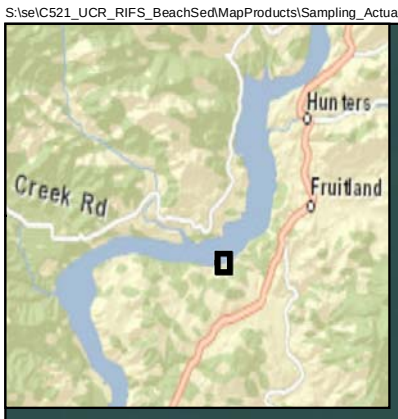
Feet
0 50 100

N

Figure 2-23. **Mitchell Point Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_24_Indx25_Enterprise_03112013.mxd 4/2/2013 2:25:57 PM



Enterprise Beach

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 2:25:57 PM.

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Surface Rejected (Vegetation)
- Surface Rejected (Vegetation and Boulders)
- Subsurface Rejected (Refusal)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

integral consulting inc.

Meters
0 25 50

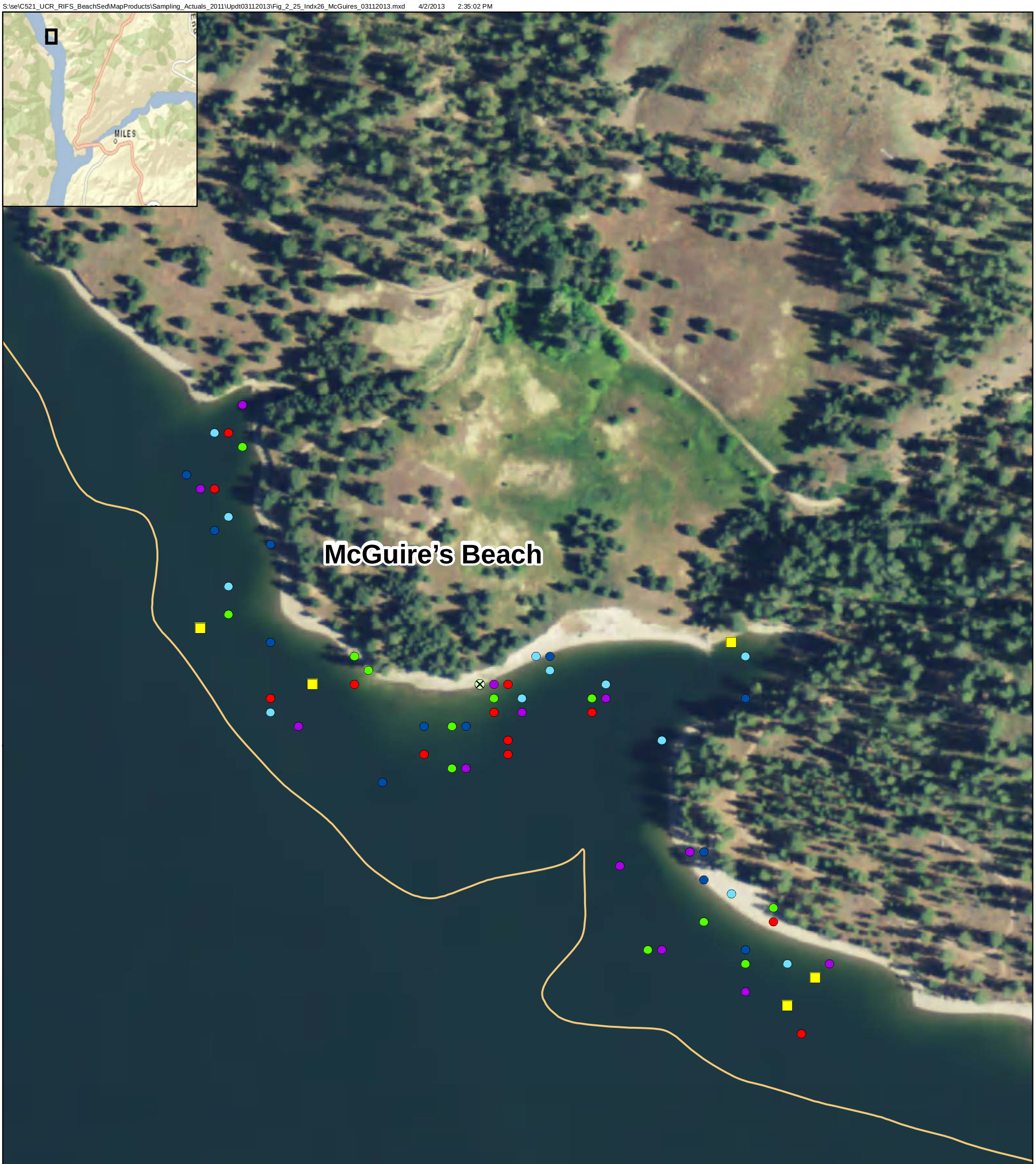
Feet
0 50 100

N

Figure 2-24. **Enterprise Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_25_Indx26_McGuires_03112013.mxd 4/2/2013 2:35:02 PM



integral consulting inc.

Figure 2-25. **McGuire's Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

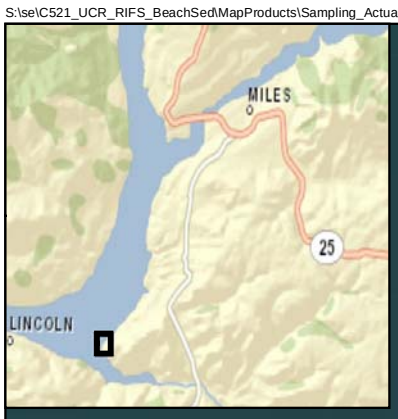
S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_26_Indx27_SevenBays_03112013.mxd 4/2/2013 2:37:11 PM

integral consulting inc.

Figure 2-26. **Seven Bays Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_27_Indx28_HawkCreek_03112013.mxd 4/2/2013 2:39:15 PM



Mouth of Hawk Creek Beach

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 2:39:15 PM.

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Surface Rejected (Cobble and Boulders)
- Surface Rejected (Slope)
- Subsurface Rejected (Slope)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

integral consulting inc.

Meters
0 25 50

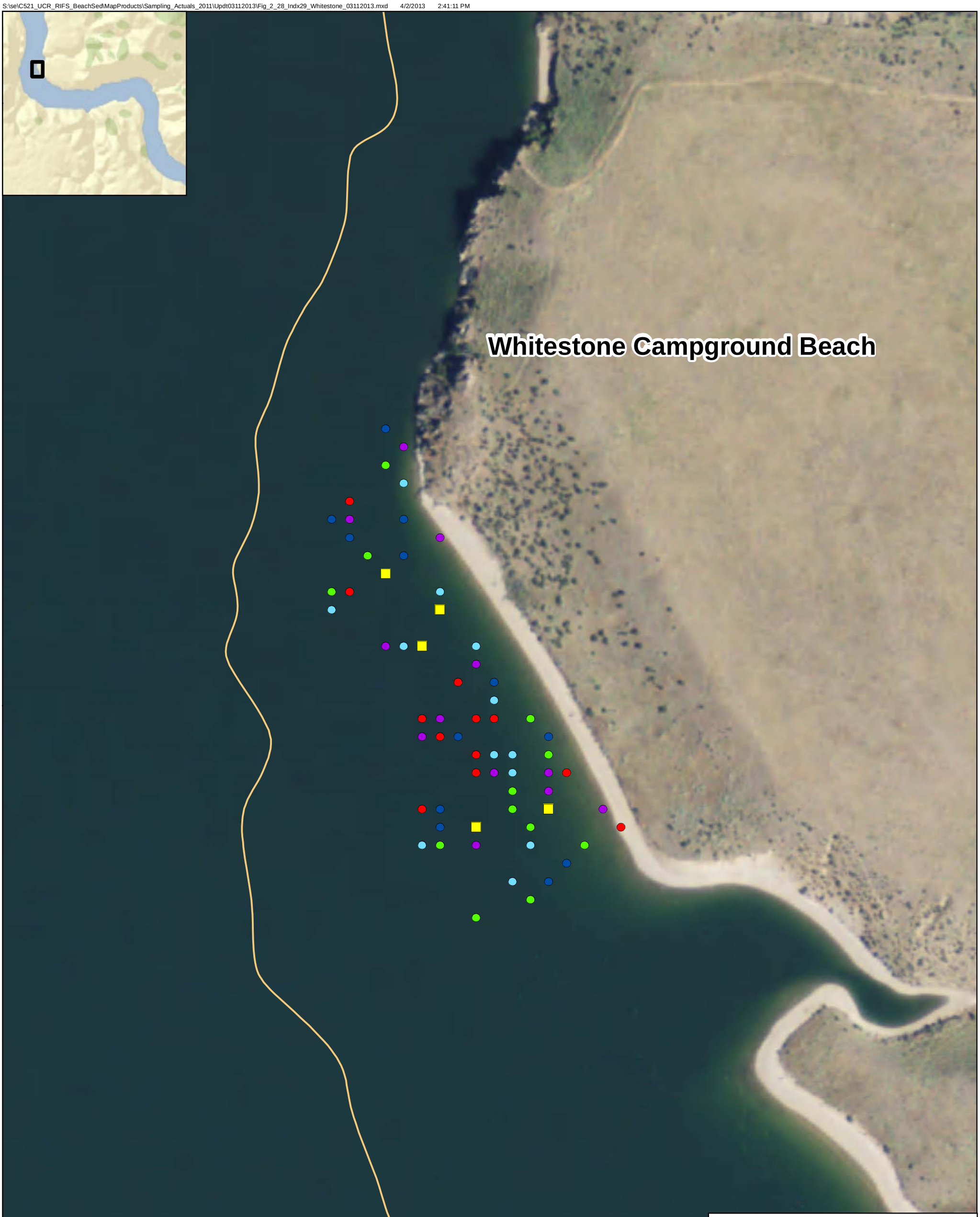
Feet
0 50 100

N

Figure 2-27. **Mouth of Hawk Creek Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_28_Indx29_Whitestone_03112013.mxd 4/2/2013 2:41:11 PM



integral consulting inc.

Figure 2-28. **Whitestone Campground Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_29_Indx30_JonesBay_03112013.mxd 4/2/2013 2:43:14 PM

integral consulting inc.

Meters
0 25 50

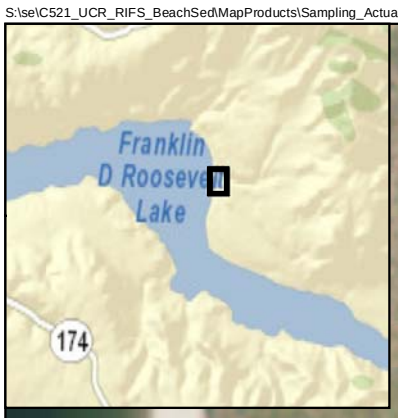
Feet
0 50 100

N

Figure 2-29. **Jones Bay Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_30_Indx31_SwawillaBasin_03112013.mxd 4/2/2013 2:45:32 PM



Swawilla Basin Beach

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 2:45:32 PM.

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Surface Rejected (Cobble)
- Subsurface Rejected (Refusal)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

integral consulting inc.

Meters
0 25 50

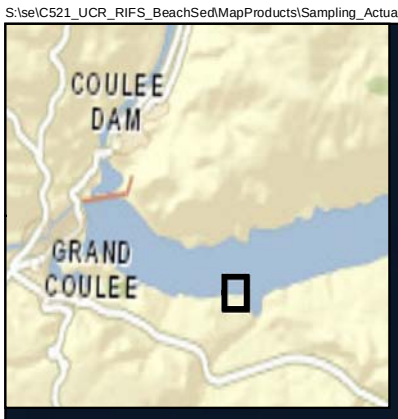
Feet
0 50 100

N

Figure 2-30. **Swawilla Basin Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_31_Indx32_SpringCanyon_03112013.mxd 4/2/2013 2:47:33 PM



Spring Canyon Beach

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Surface Rejected (Refusal)
- Surface Rejected (Rejected)
- Surface Rejected (Vegetation)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

Note:
Aerial imagery is from the United States Department of Agriculture, Farm Service Agency, National Agriculture Imagery Program (NAIP) and dated 2011. The imagery displayed in this figure was accessed through NAIP's Web Mapping Service on 4/2/2013, 2:47:33 PM.

integral consulting inc.

Meters
0 25 50

Feet
0 50 100

N

Figure 2-31. **Spring Canyon Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\se\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_32_Indx33_CrescentBay_03112013.mxd 4/2/2013 2:49:35 PM

integral consulting inc.

Figure 2-32. **Crescent Bay Beach - Actual 2011 Beach Sediment Sampling Stations**

Upper Columbia River, WA

S:\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt03112013\Fig_2_33_SwimHole_04172013.mxd 4/17/2013 2:34:14 PM

Note:
Aerial imagery is from ESRI World Imagery.
Imagery was aquired on 7/7/2011.

Sample Locations
- Composite A
- Composite B
- Composite C
- Composite D
- Composite E
- Subsurface
- Surface Rejected (Bedrock)
- Surface Rejected (Submerged)
- Subsurface Rejected (Refusal)
- Reserved Rejected (Refusal)

Approximate Water Elevation During Sampling
Bathymetry Elevation (NOAA 1949 Survey)

Swimming Hole Beach

1288 ft

1288 ft

integral consulting inc.

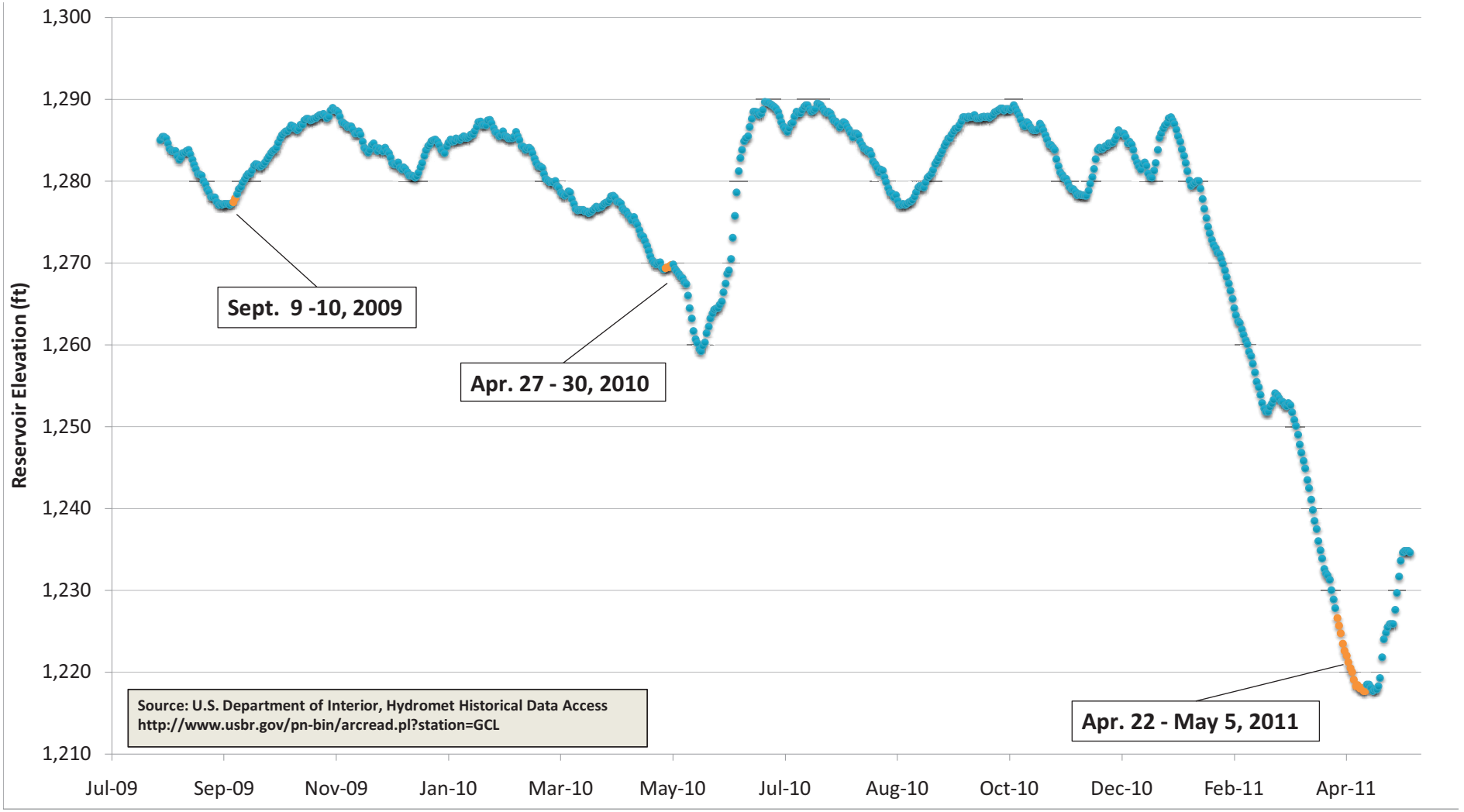
Meters
0 5 10

Feet
0 50 100

N

Figure 2-33. **Swimming Hole Beach - Actual 2011 Beach Sediment Sampling Stations**

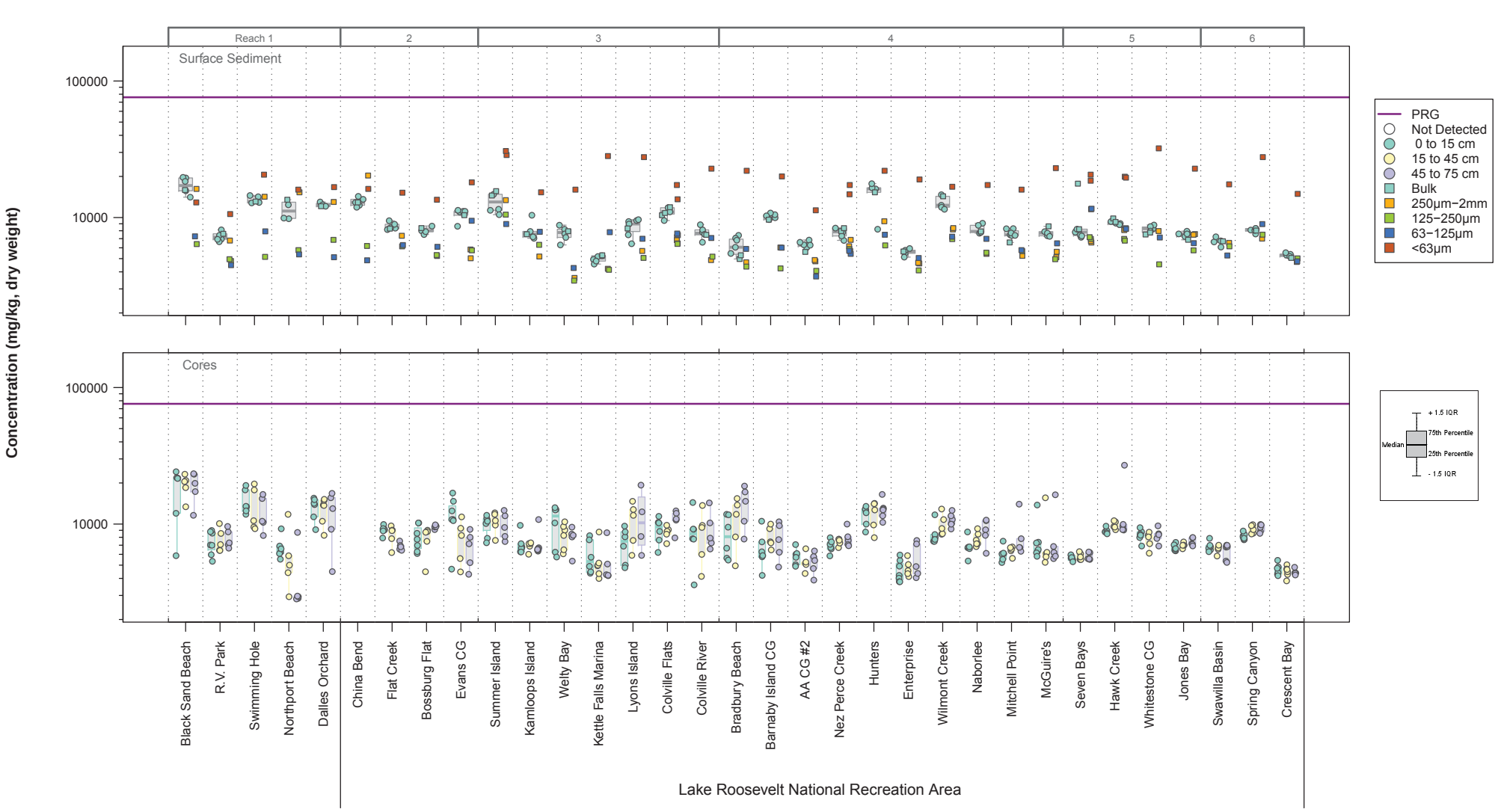
Upper Columbia River, WA



integral consulting inc.

Figure 2-34. **Water Elevation at Grand Coulee Dam Reservoir, 2009, 2010, and 2011 Sampling Events**

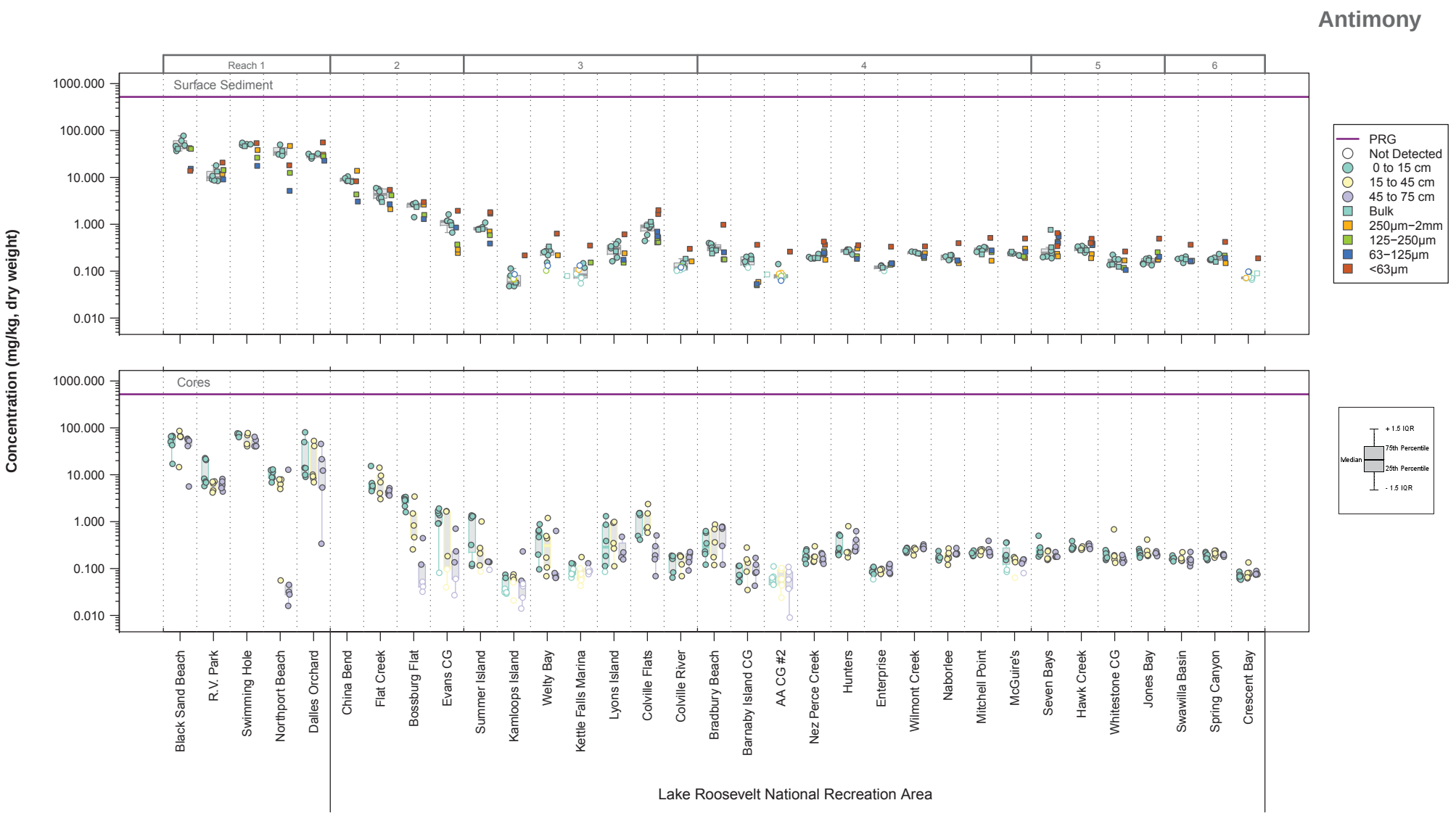
Upper Columbia River, WA



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

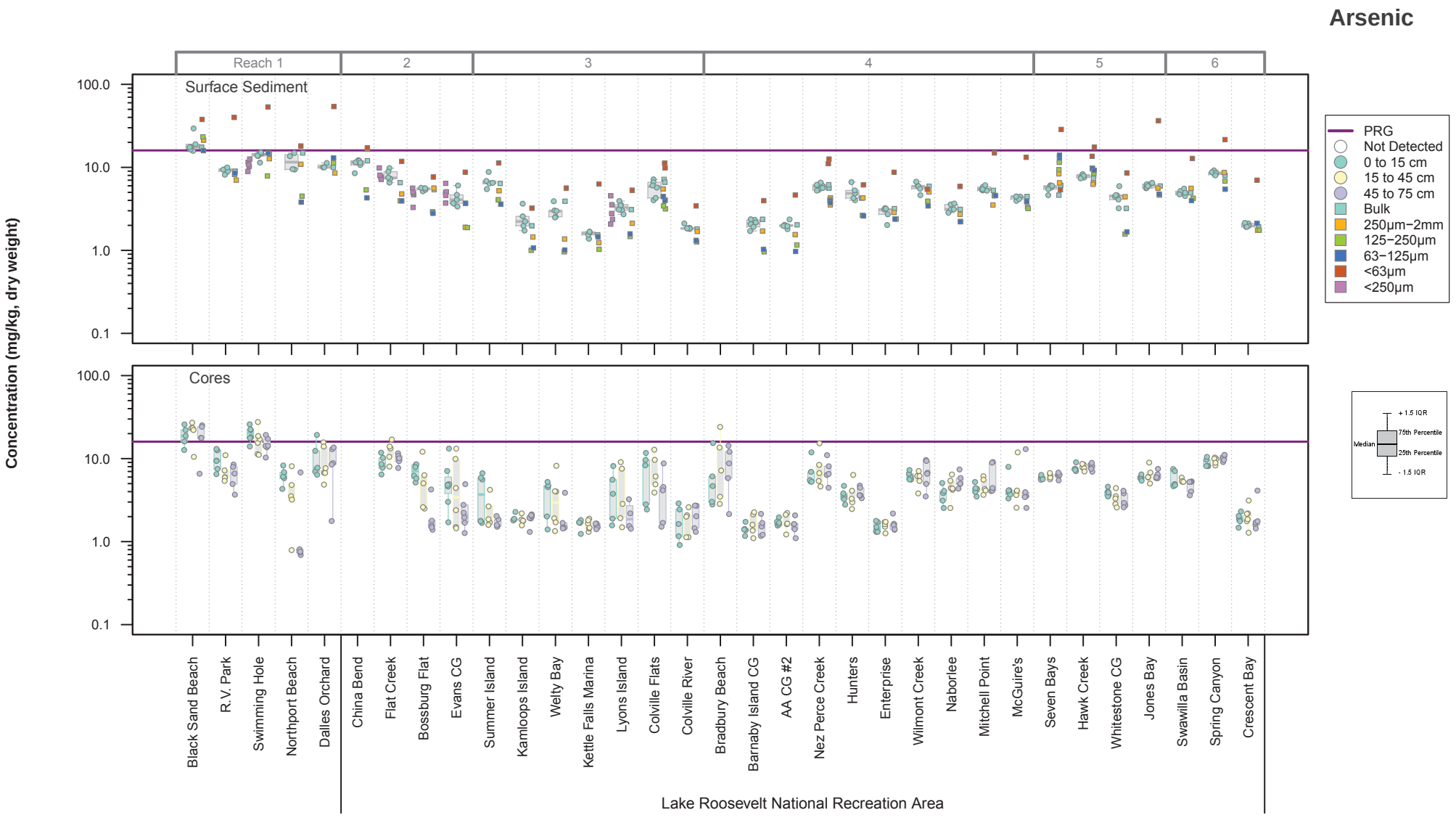
Figure 5−1
Concentrations of Aluminum in UCR Beach Sediment.



Notes:
PRG is the Recreational PRG developed for UCR beaches by EPA Region 10 (USEPA 2006).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−2
Concentrations of Antimony in UCR Beach Sediment.

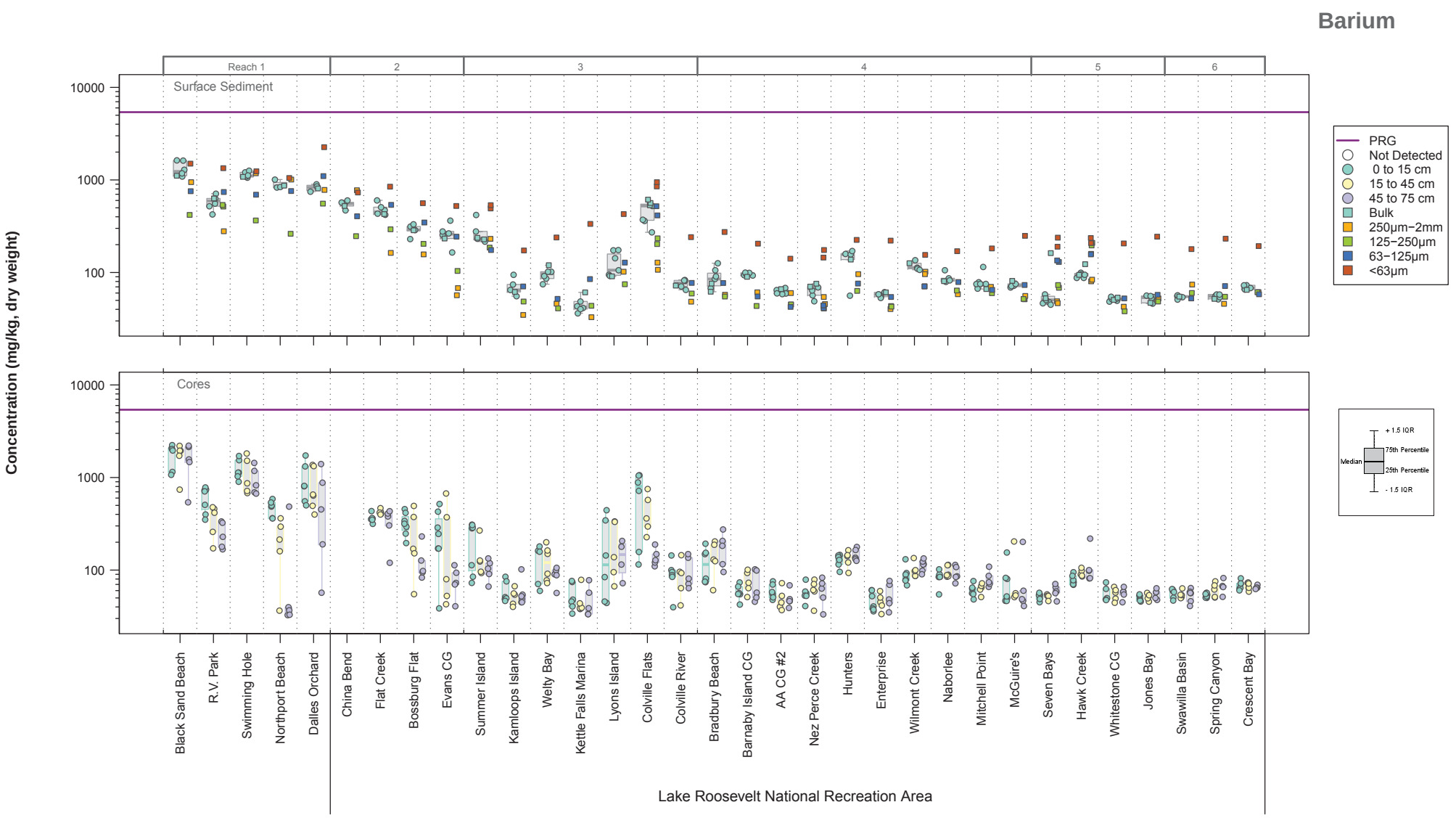


Notes:

PRG is the Recreational PRG developed for UCR beaches by EPA Region 10 (USEPA 2006.)

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

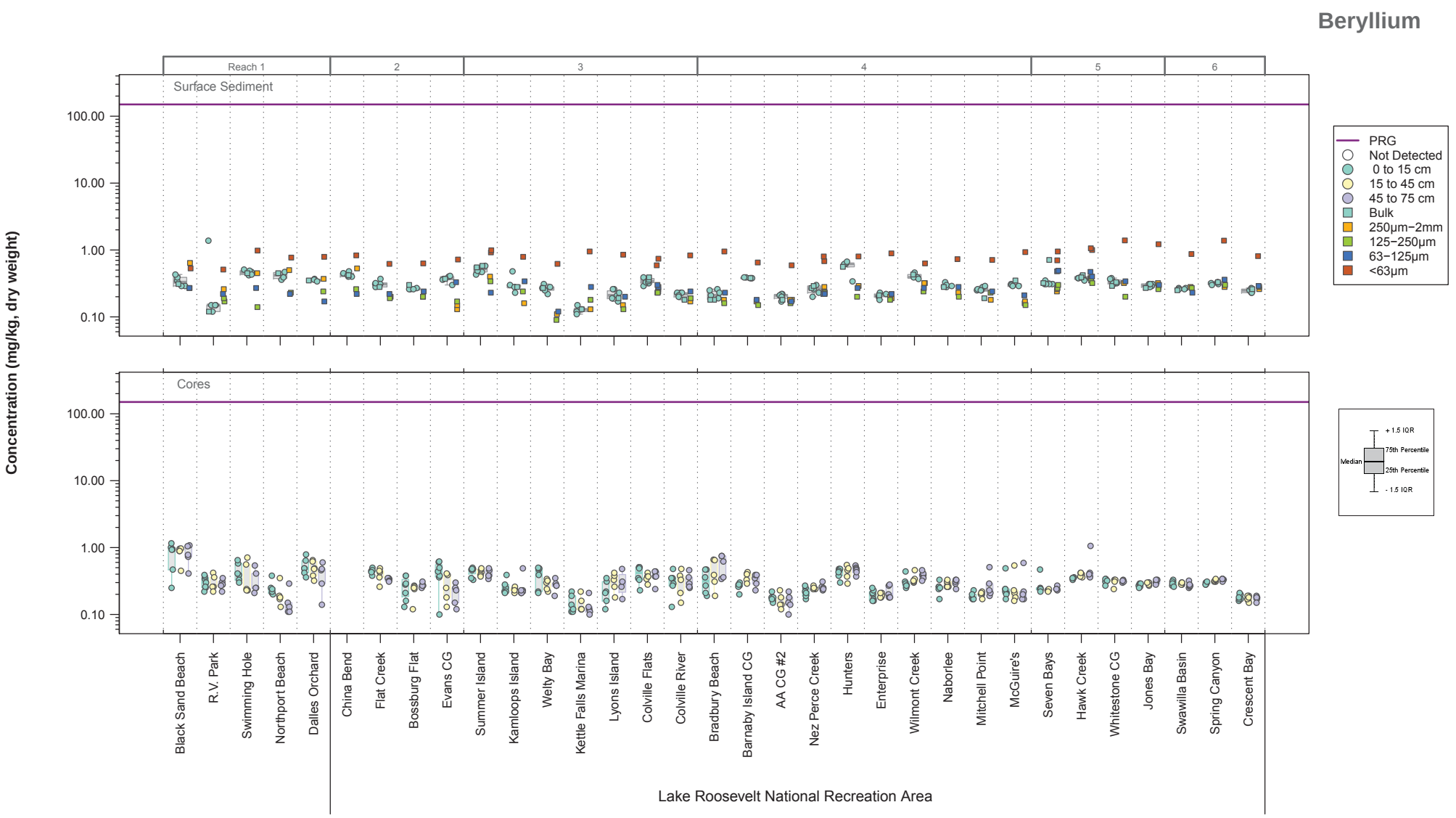
Figure 5−3
Concentrations of Arsenic in UCR Beach Sediment



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

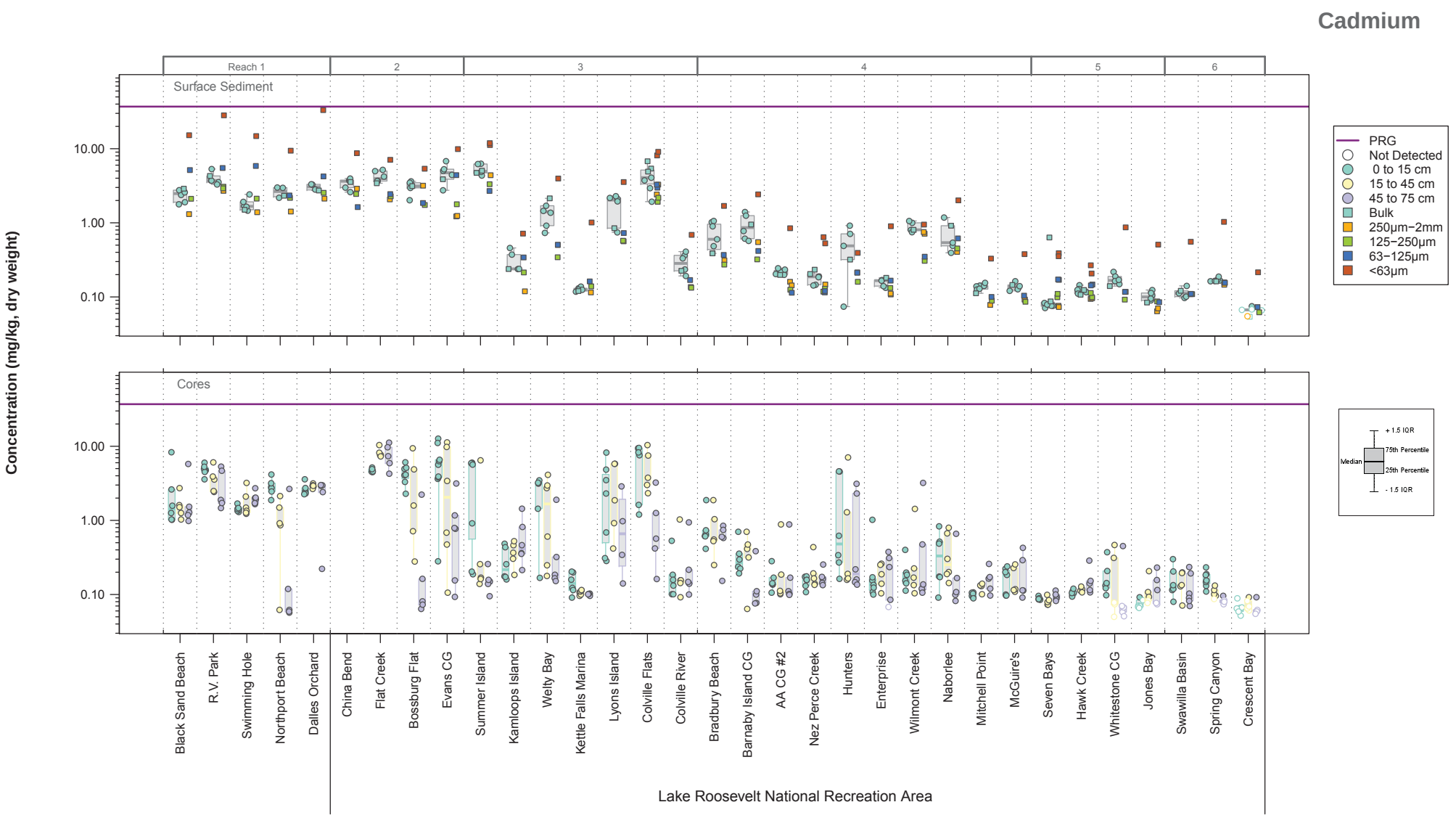
Figure 5−4
Concentrations of Barium in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

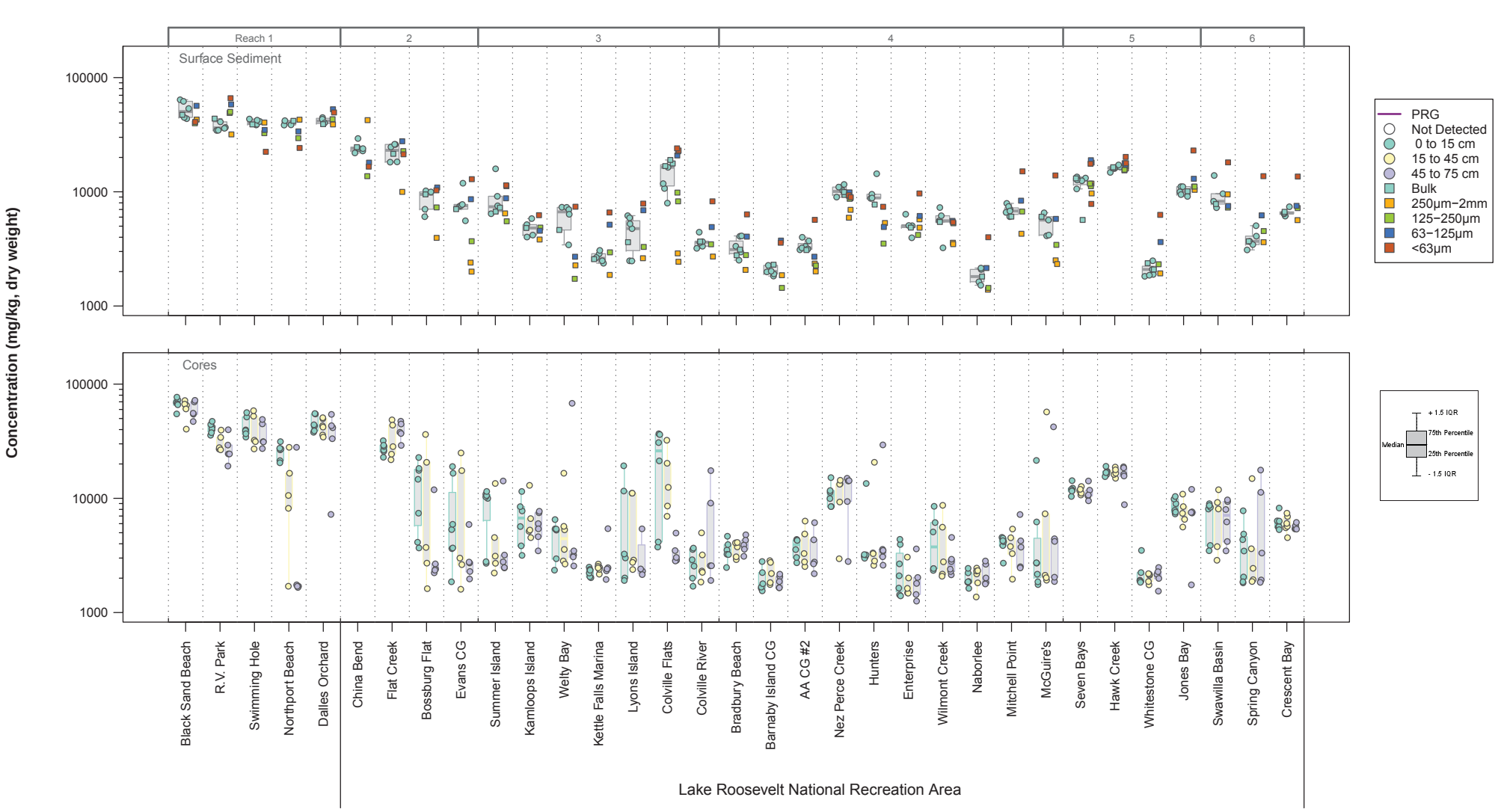
Figure 5−5
Concentrations of Beryllium in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

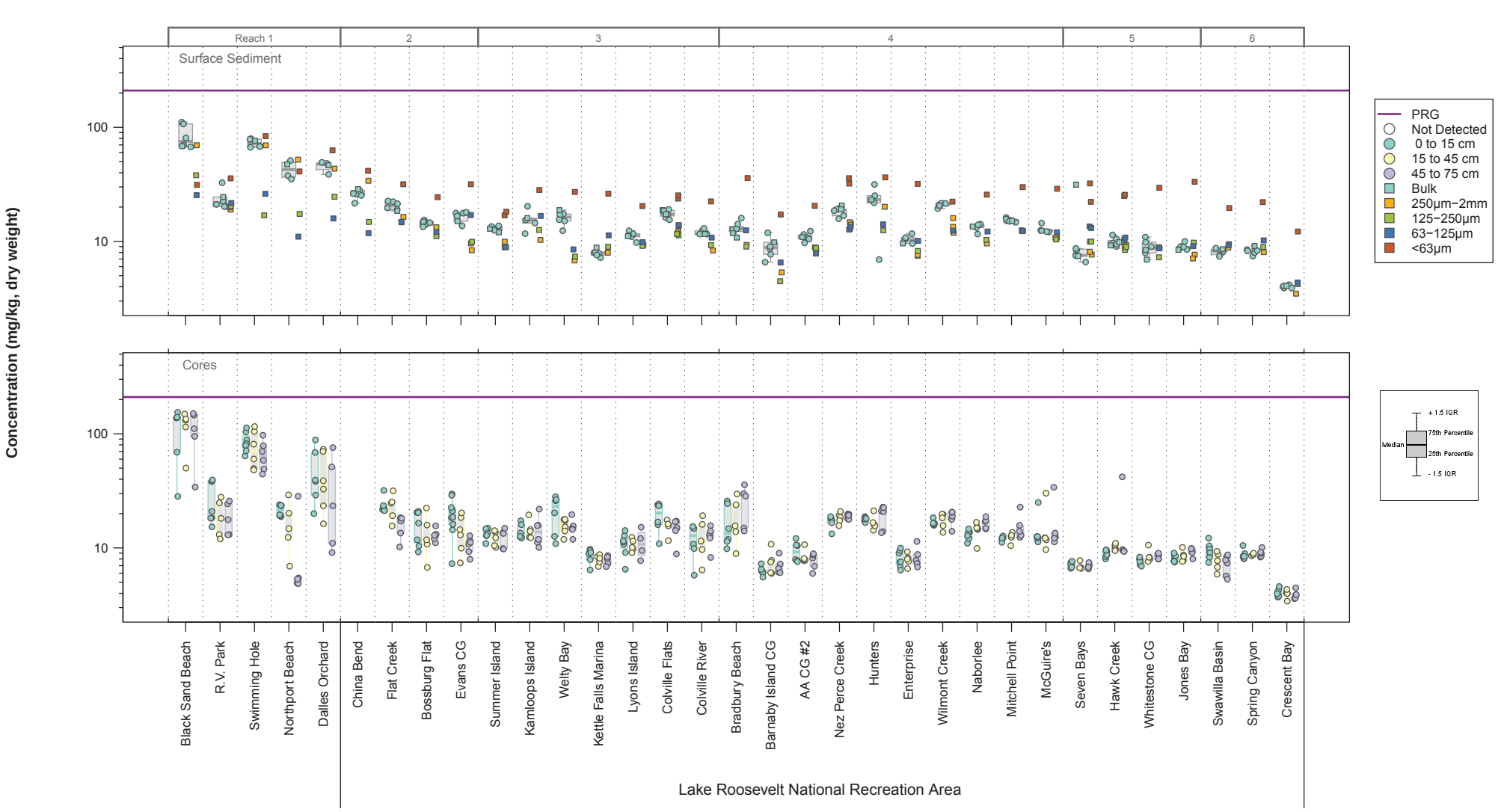
Figure 5−6
Concentrations of Cadmium in UCR Beach Sediment.



Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−7
Concentrations of Calcium in UCR Beach Sediment.

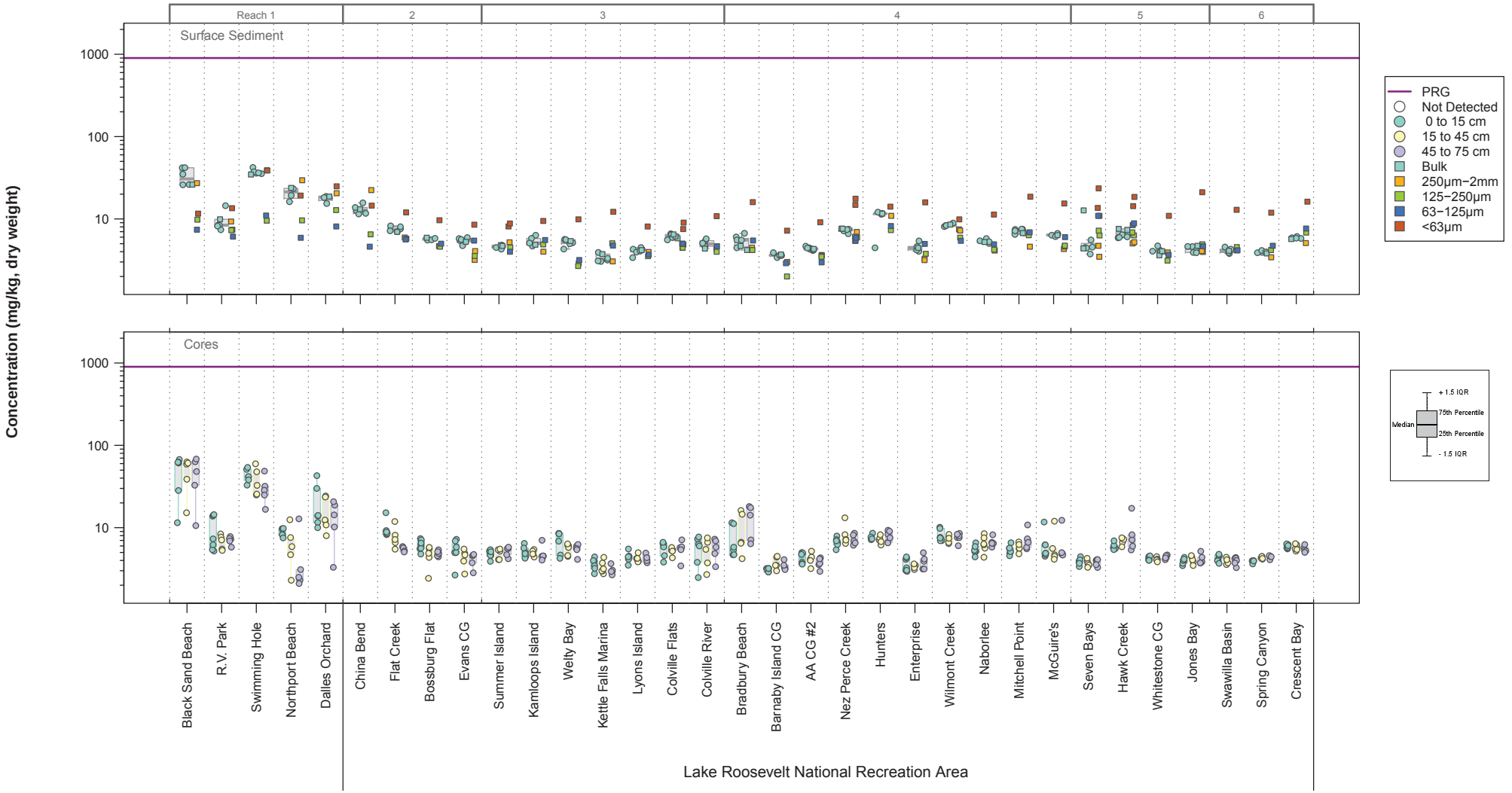


Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−8
Concentrations of Chromium in UCR Beach Sediment.

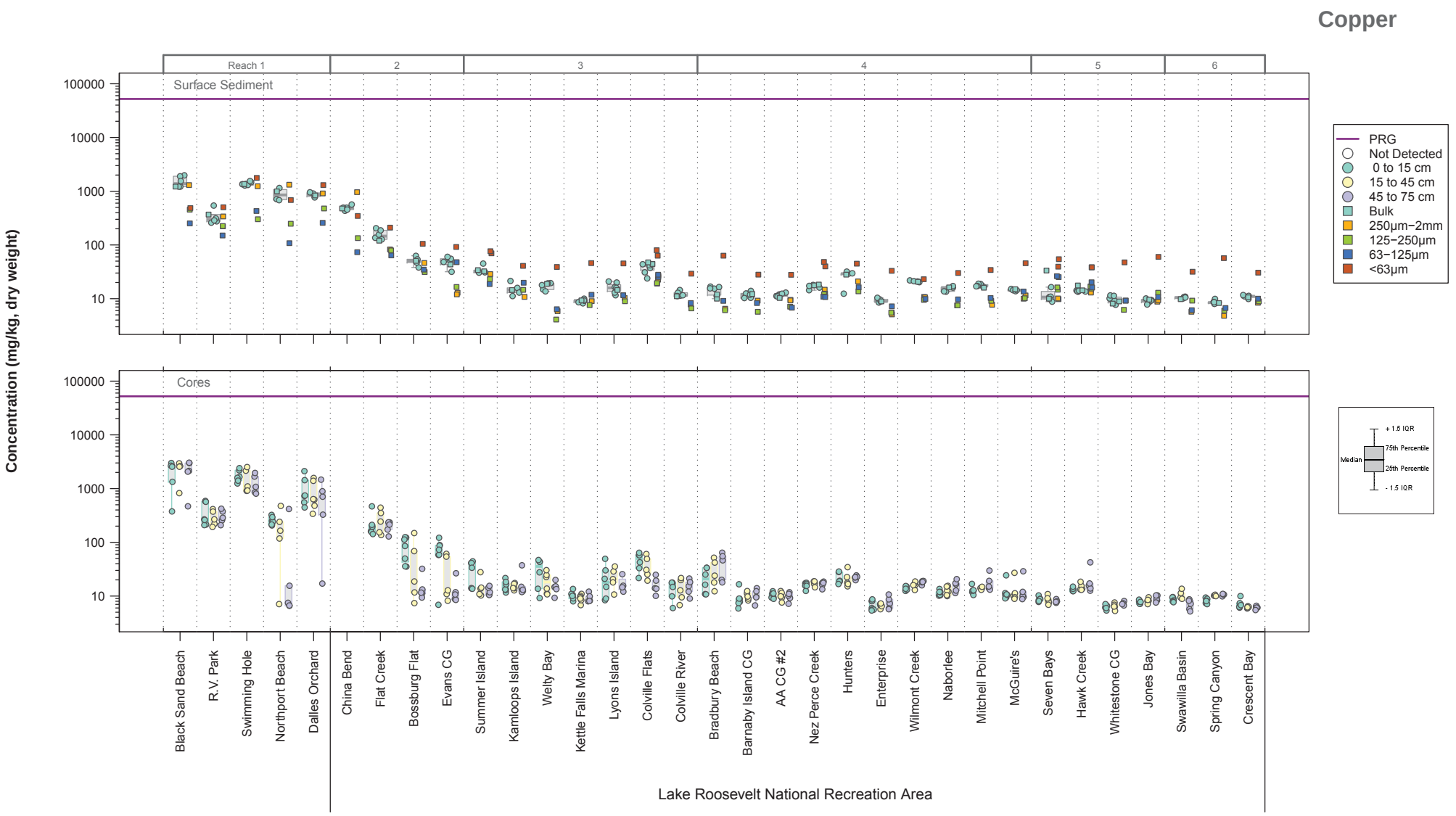
Cobalt



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

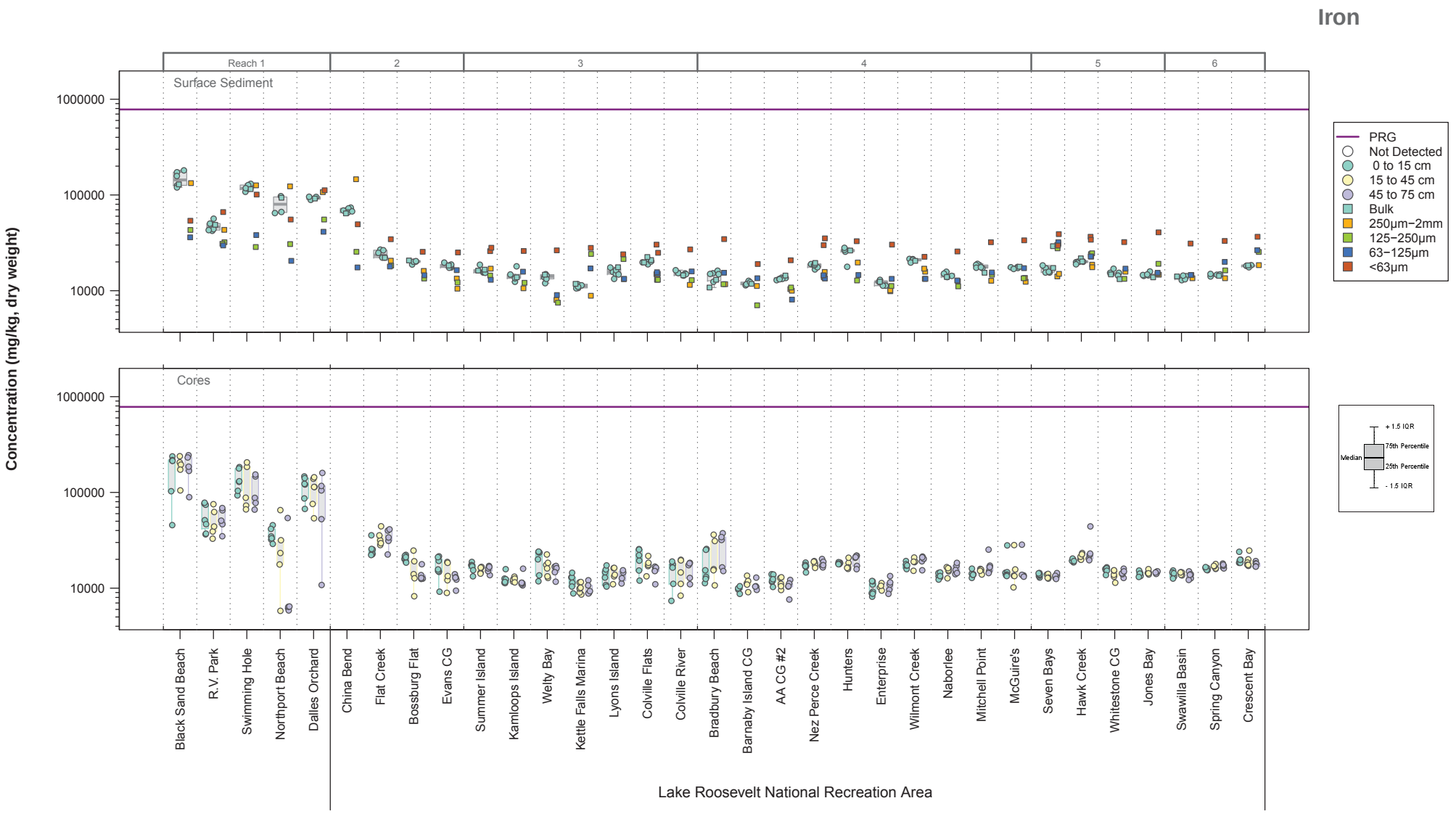
Figure 5−9
Concentrations of Cobalt in UCR Beach Sediment.



Notes:
PRG is the Recreational PRG developed for UCR beaches by EPA Region 10 (USEPA 2006).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

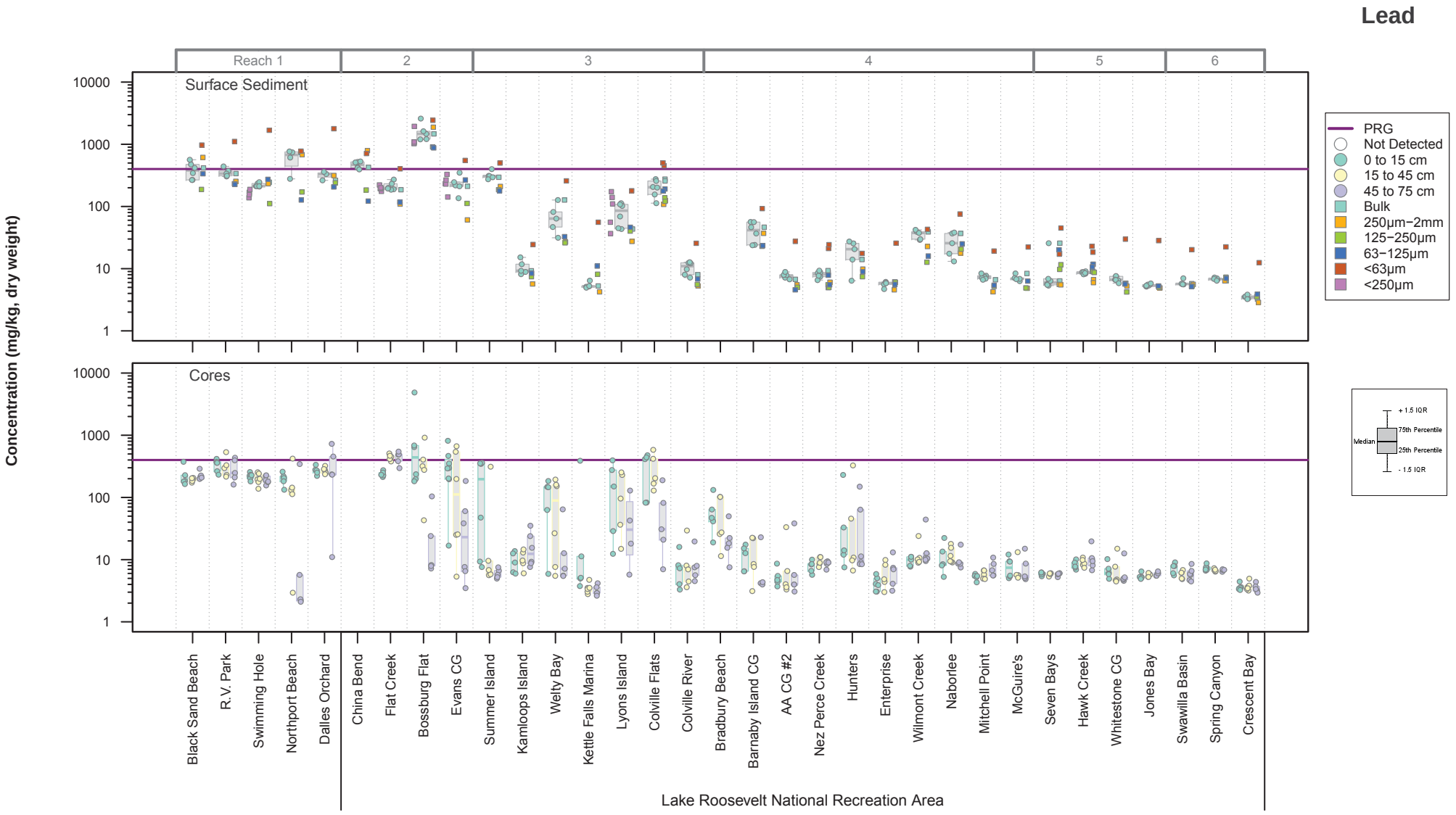
Figure 5−10
Concentrations of Copper in UCR Beach Sediment.



Notes:
PRG is the Recreational PRG developed for UCR beaches by EPA Region 10 (USEPA 2006).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−11
Concentrations of Iron in UCR Beach Sediment.

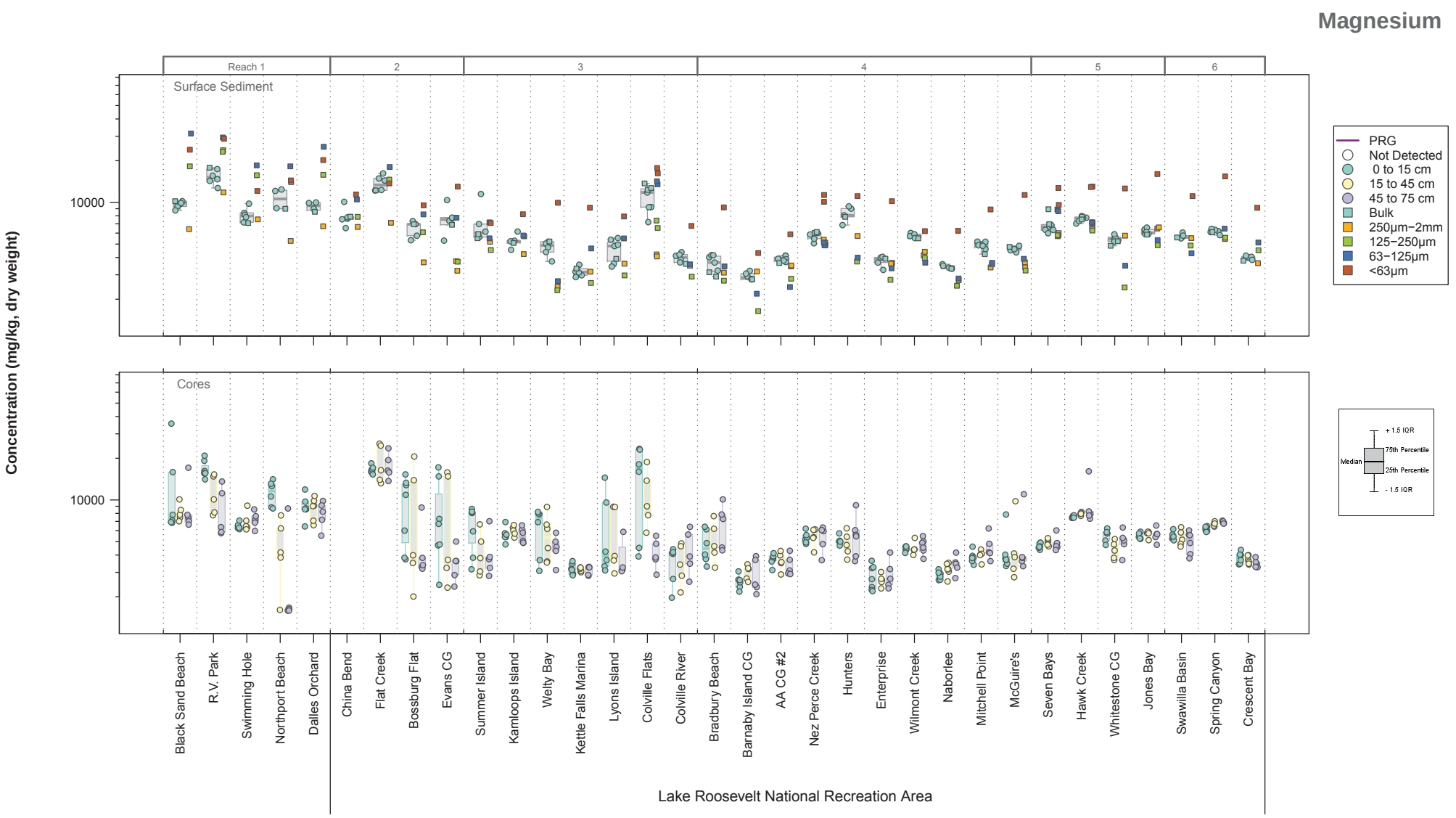


Notes:

PRG is the Recreational PRG developed for UCR beaches by EPA Region 10 (USEPA 2006.)

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−12
Concentrations of Lead in UCR Beach Sediment.

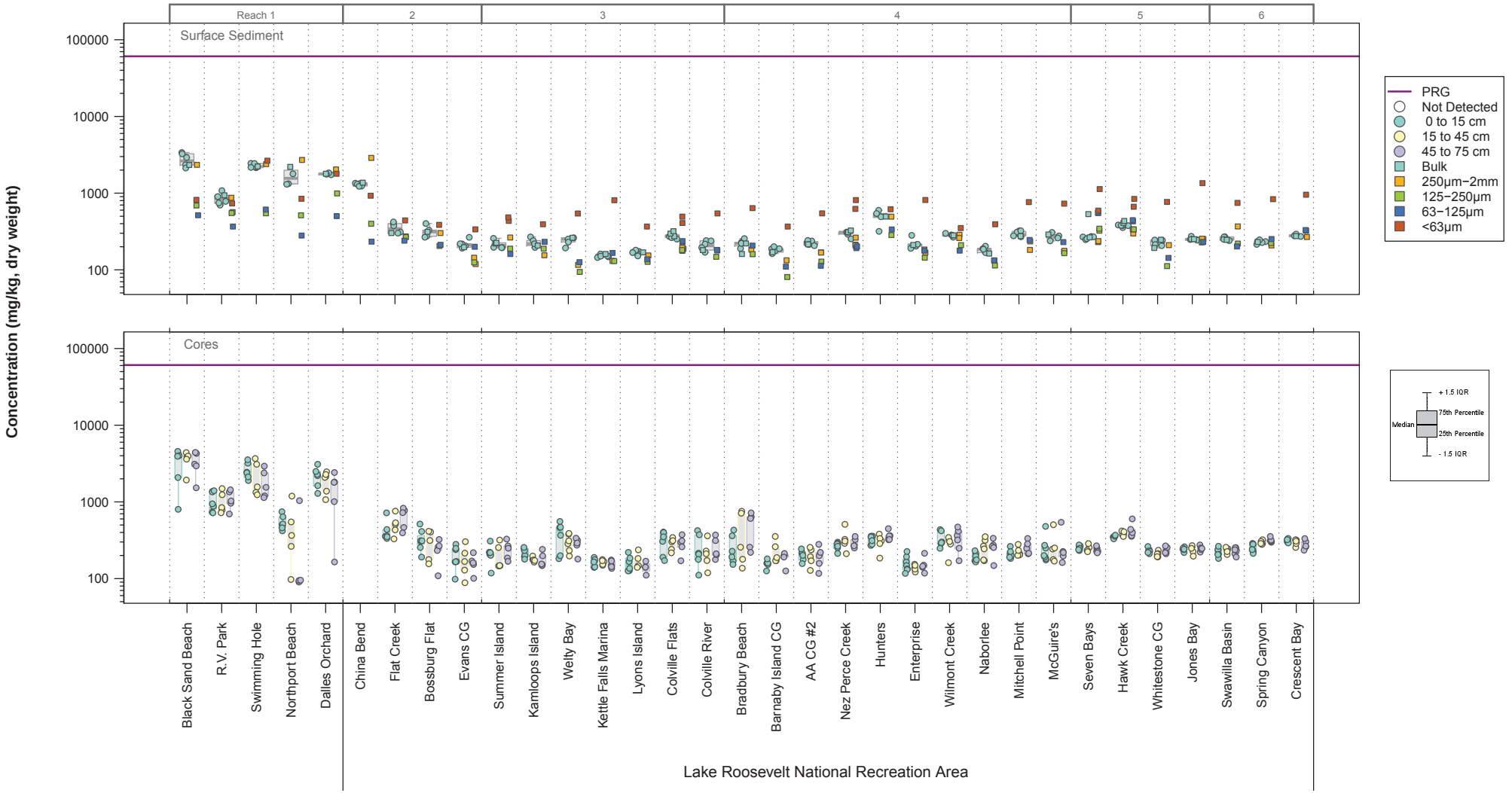


Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−13
Concentrations of Magnesium in UCR Beach Sediment.

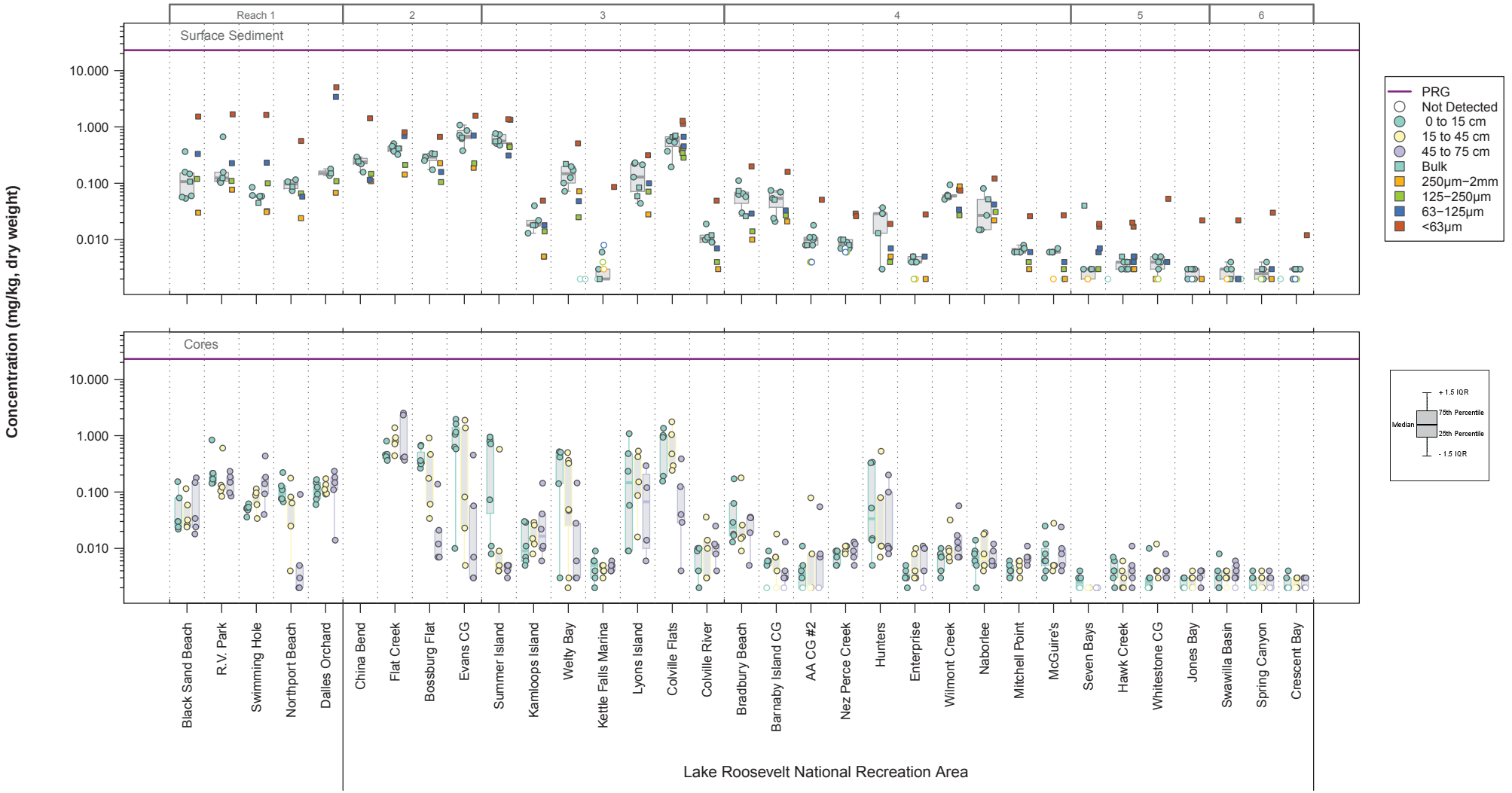
Manganese



Notes:
PRG is the Recreational PRG developed for UCR beaches by EPA Region 10 (USEPA 2006).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

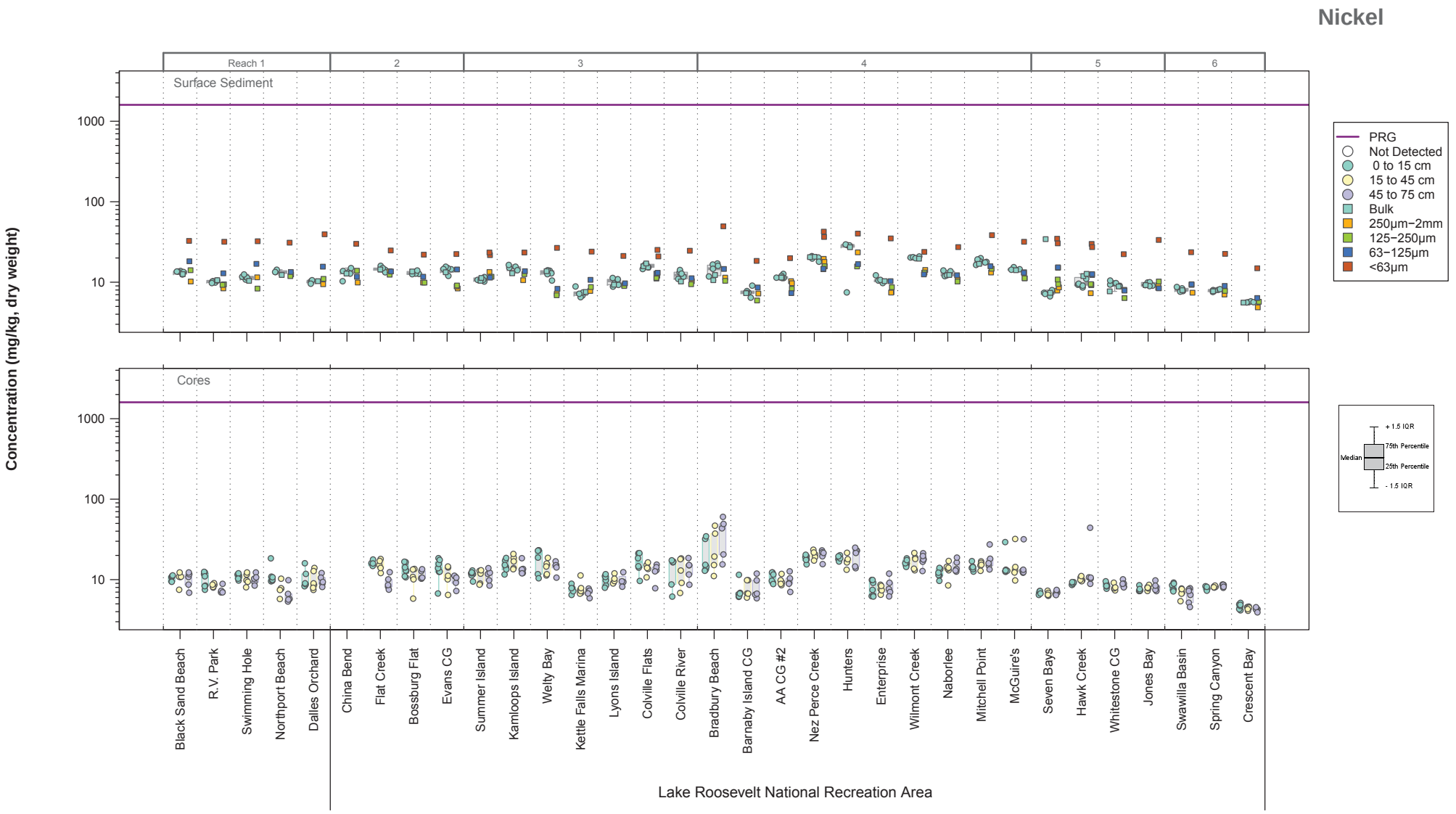
Figure 5−14
Concentrations of Manganese in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

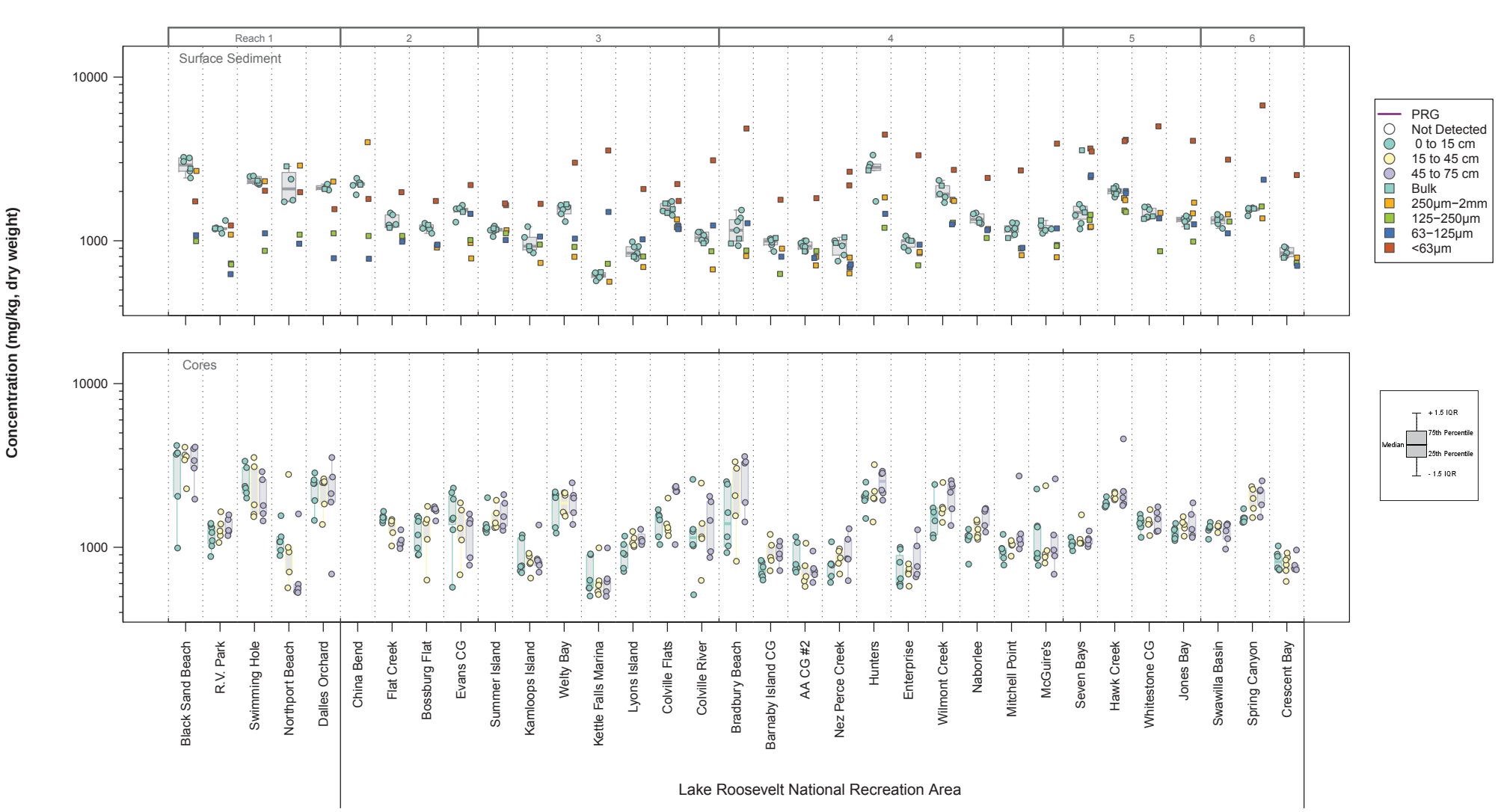
Figure 5−15
Concentrations of Mercury in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

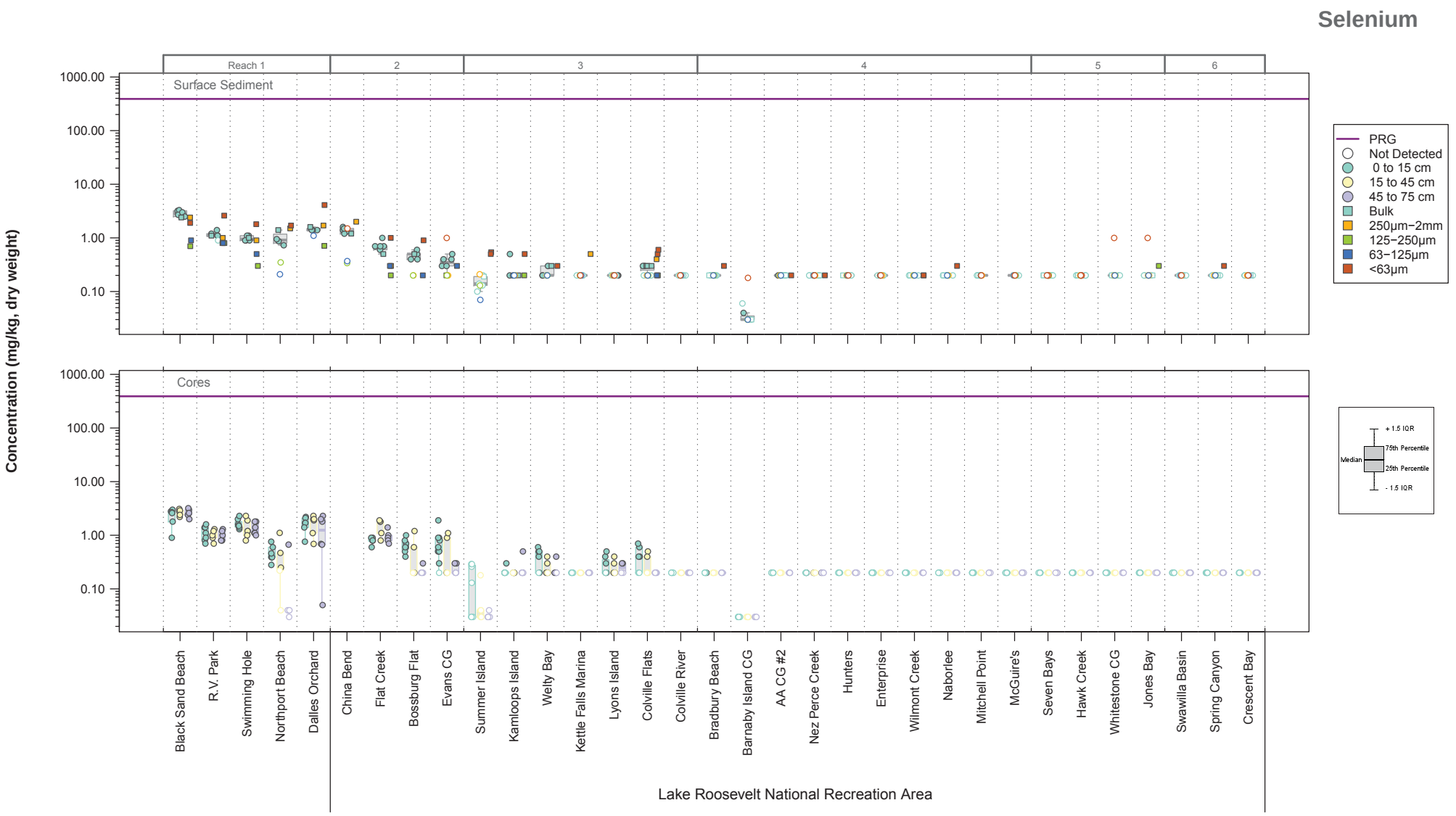
Figure 5−16
Concentrations of Nickel in UCR Beach Sediment.



Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−17
Concentrations of Potassium in UCR Beach Sediment.

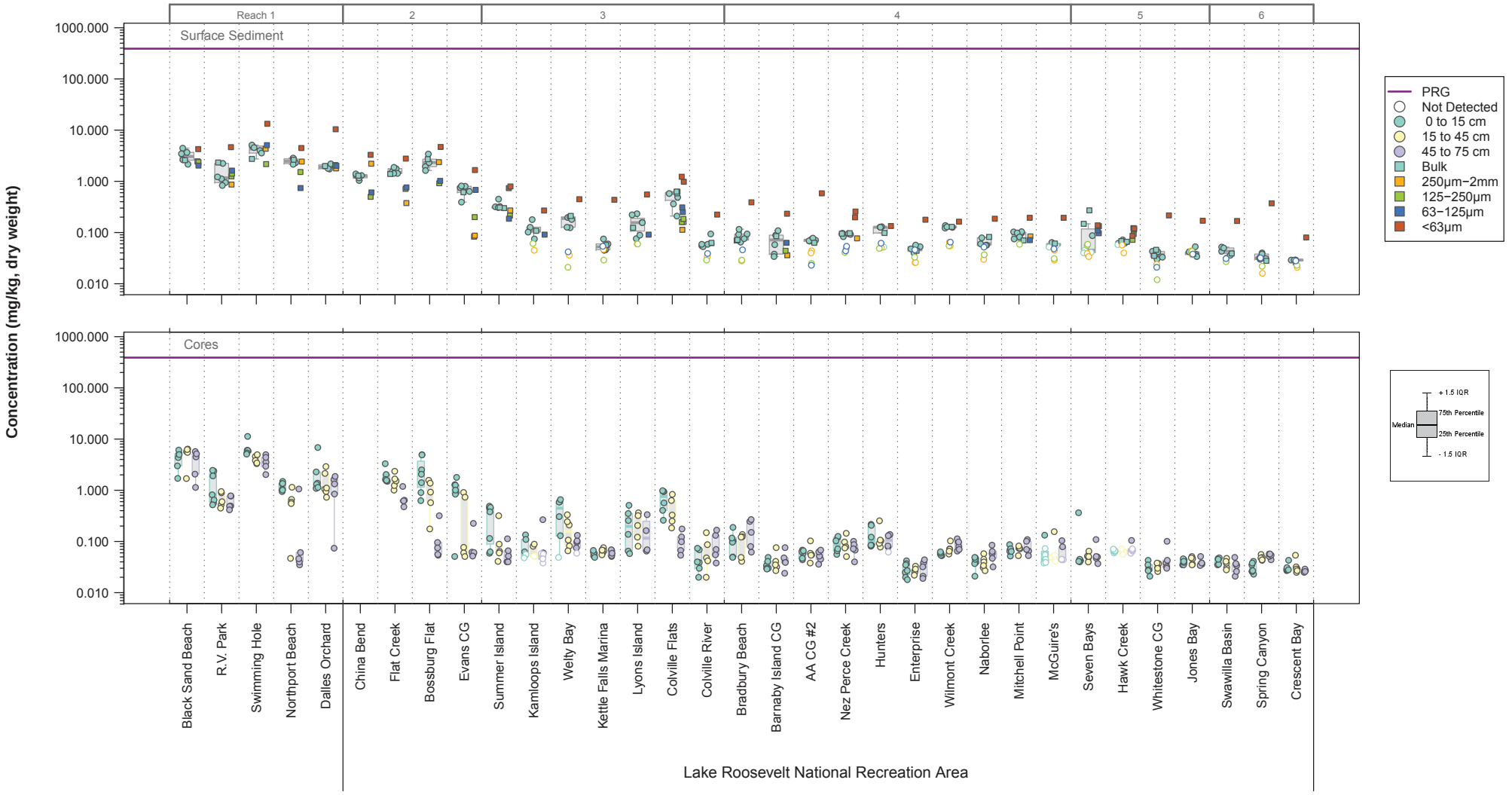


Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−18
Concentrations of Selenium in UCR Beach Sediment.

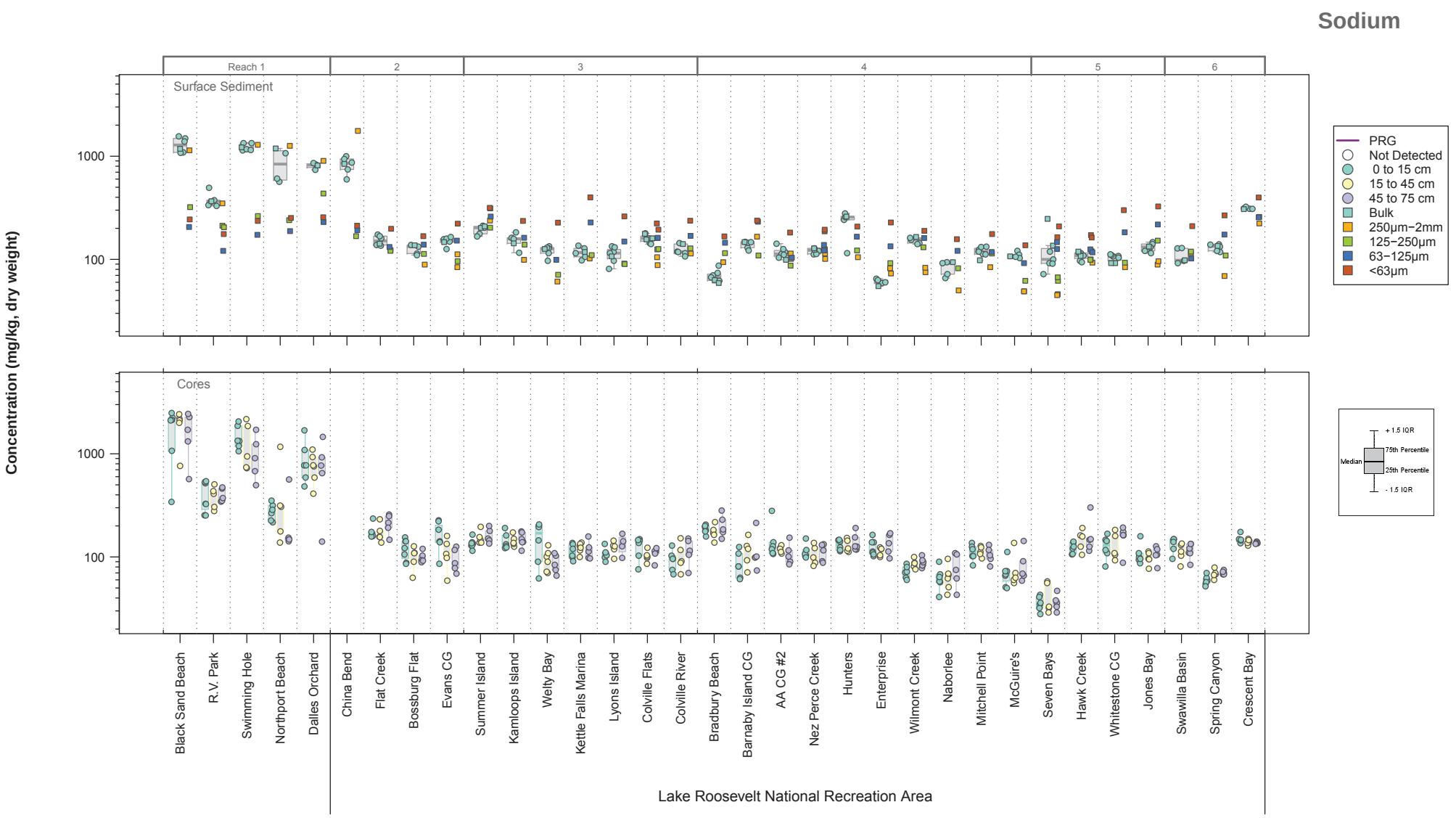
Silver



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

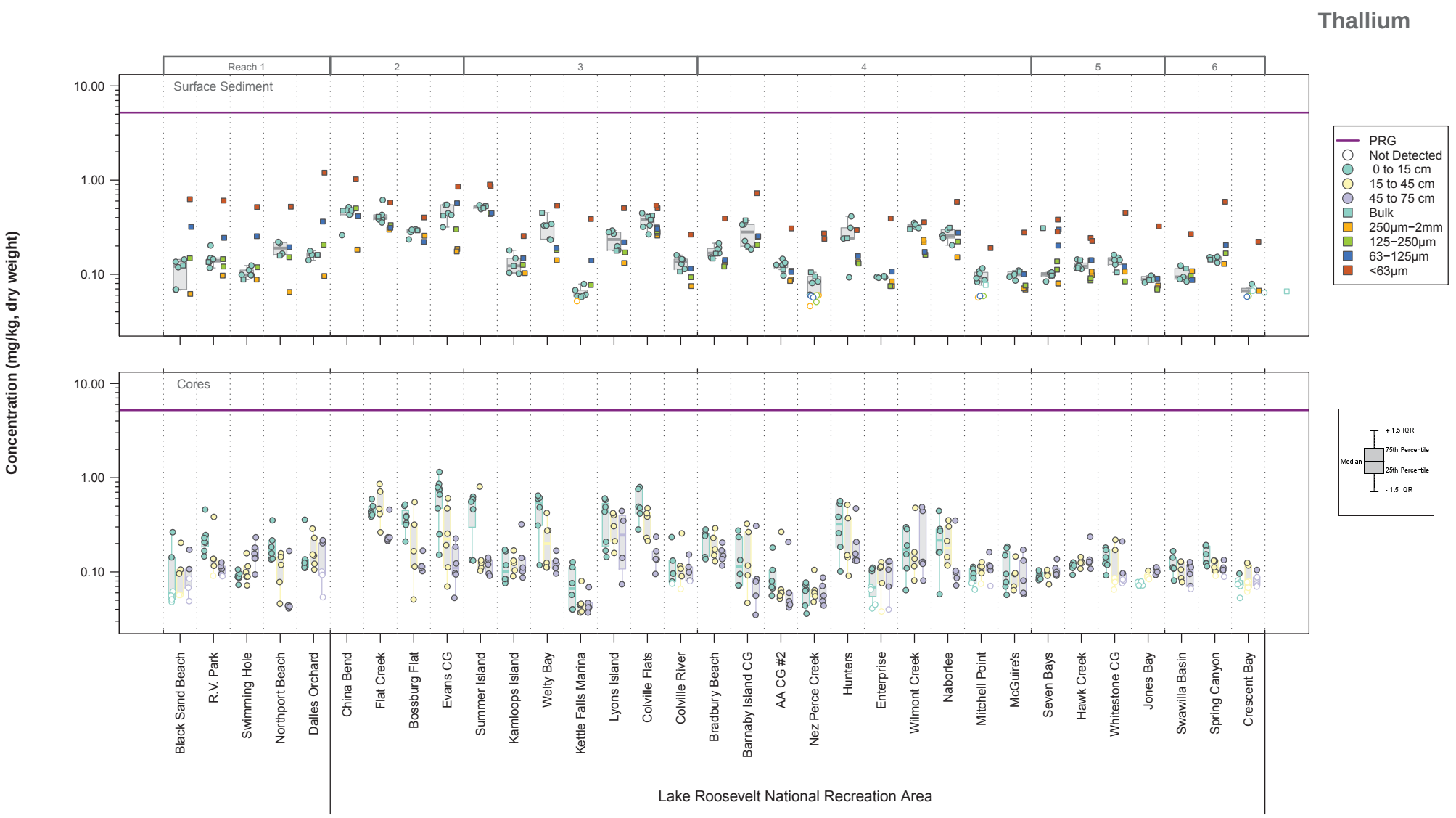
Figure 5−19
Concentrations of Silver in UCR Beach Sediment.



Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−20
Concentrations of Sodium in UCR Beach Sediment.

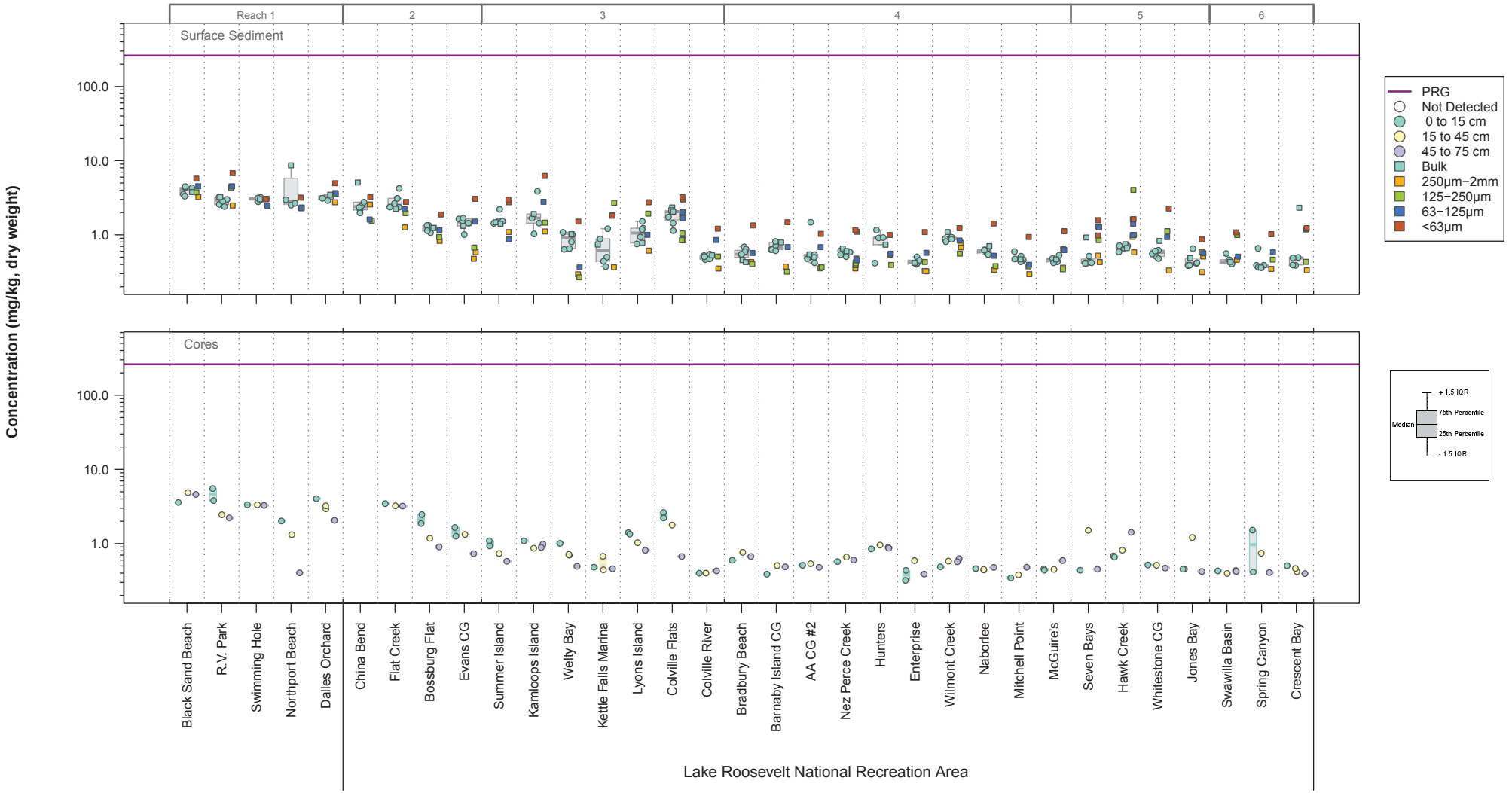


Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−21
Concentrations of Thallium in UCR Beach Sediment.

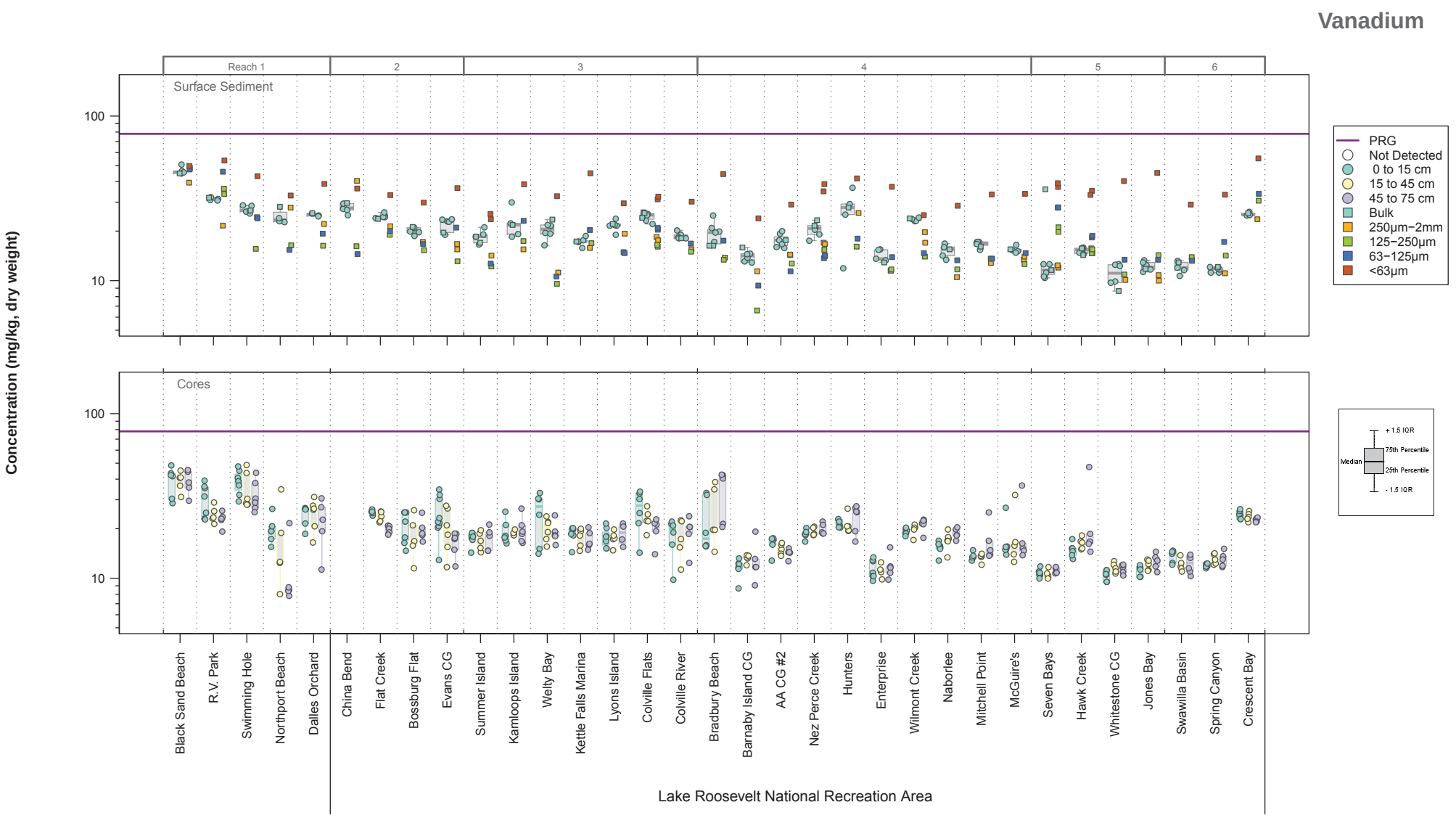
Uranium



Notes:
PRG is the Recreational PRG developed for UCR beaches by EPA Region 10 (USEPA 2006).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−22
Concentrations of Uranium in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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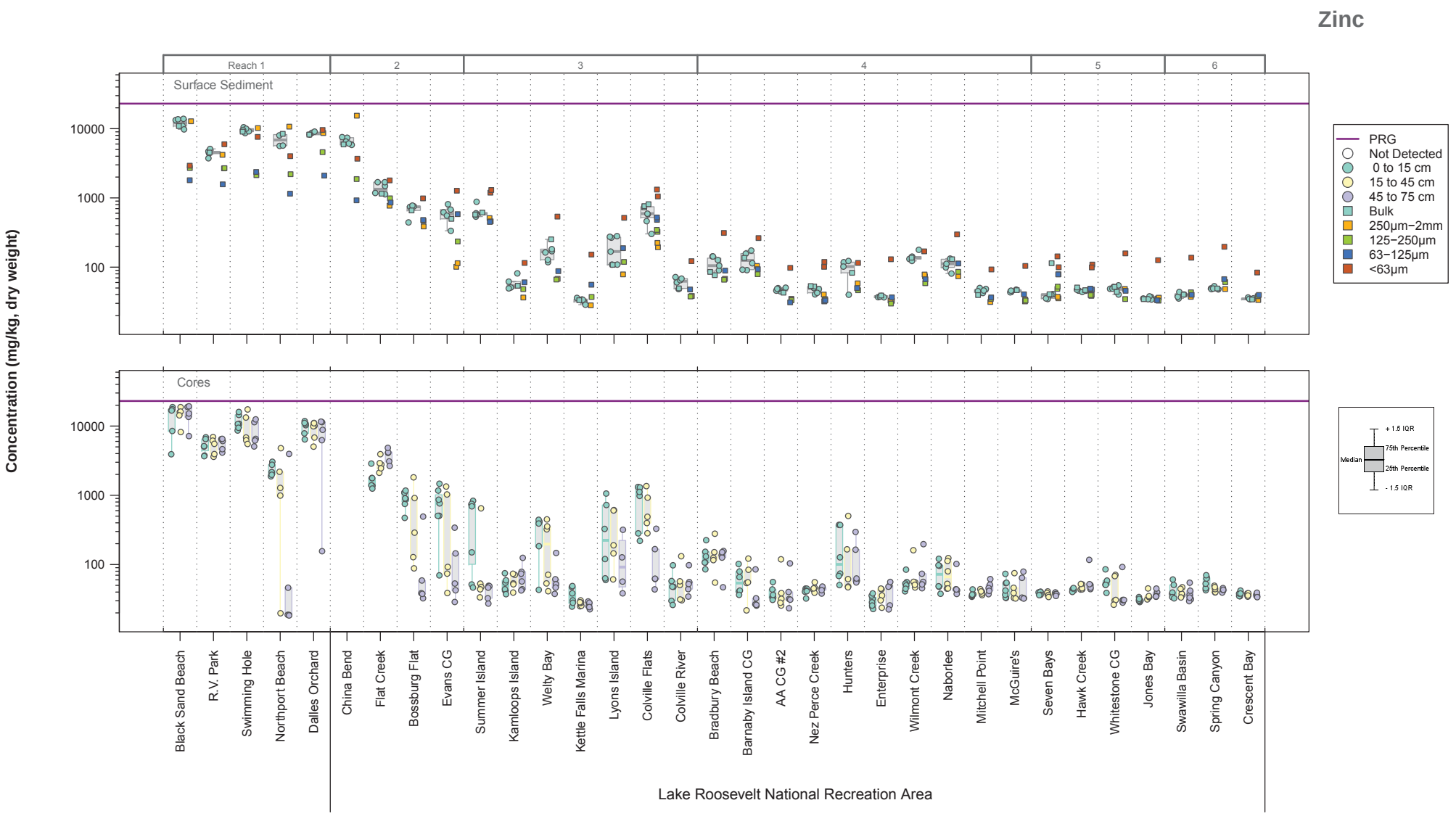
Figure 5−23
Concentrations of Vanadium in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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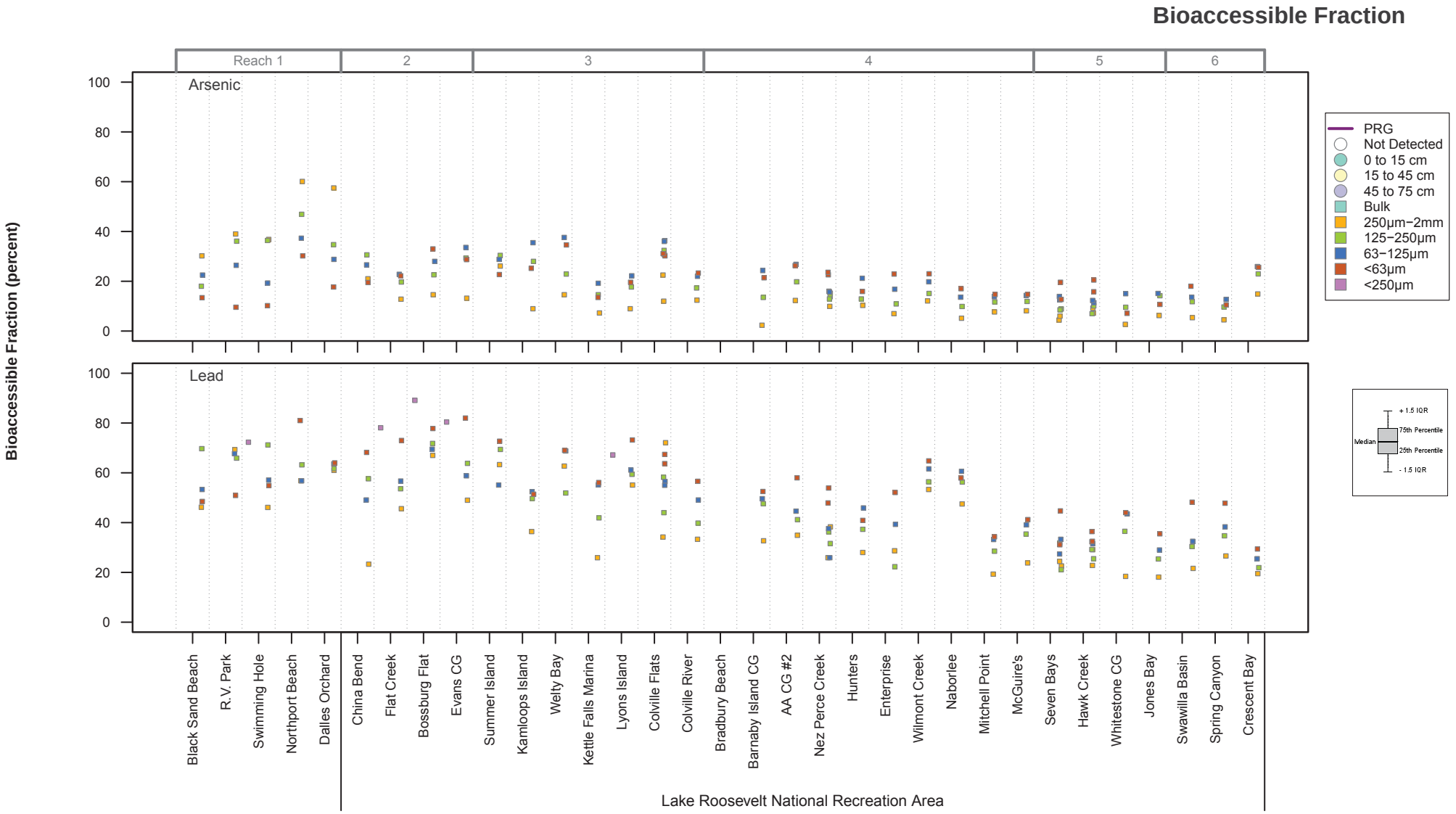
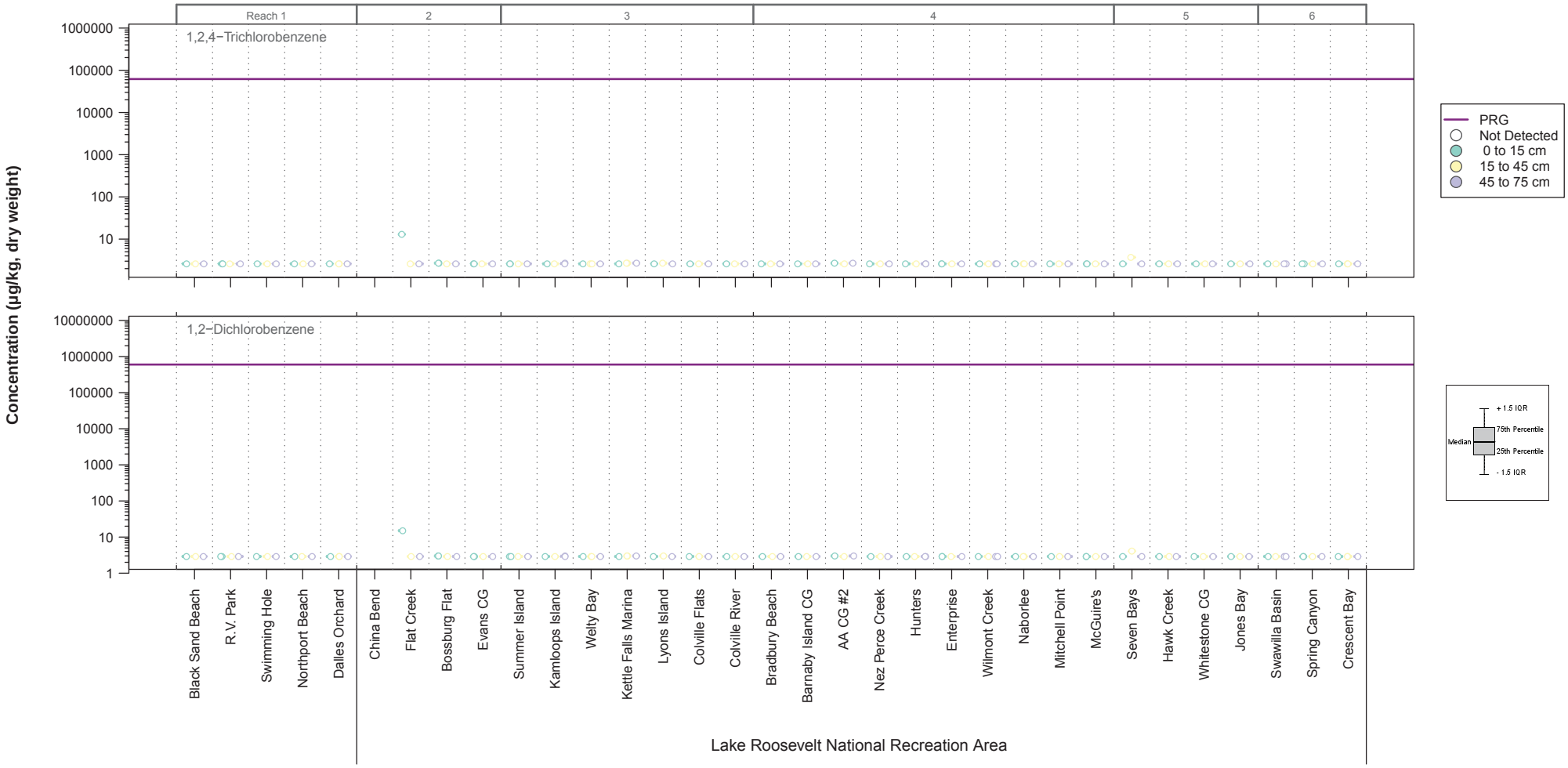
Figure 5−24
Concentrations of Zinc in UCR Beach Sediment.



No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−25
Bioaccessible Fraction of Arsenic and Lead in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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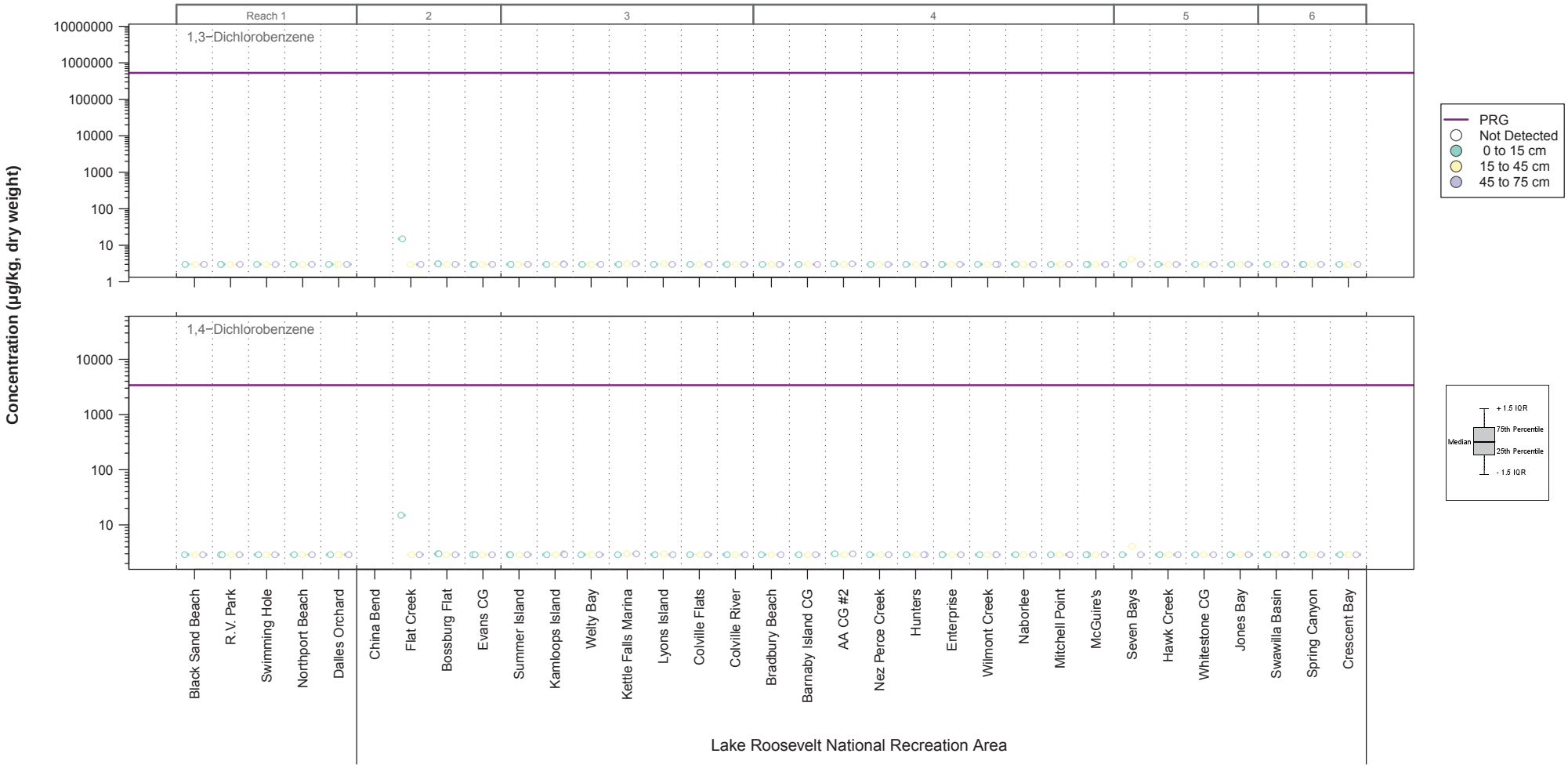
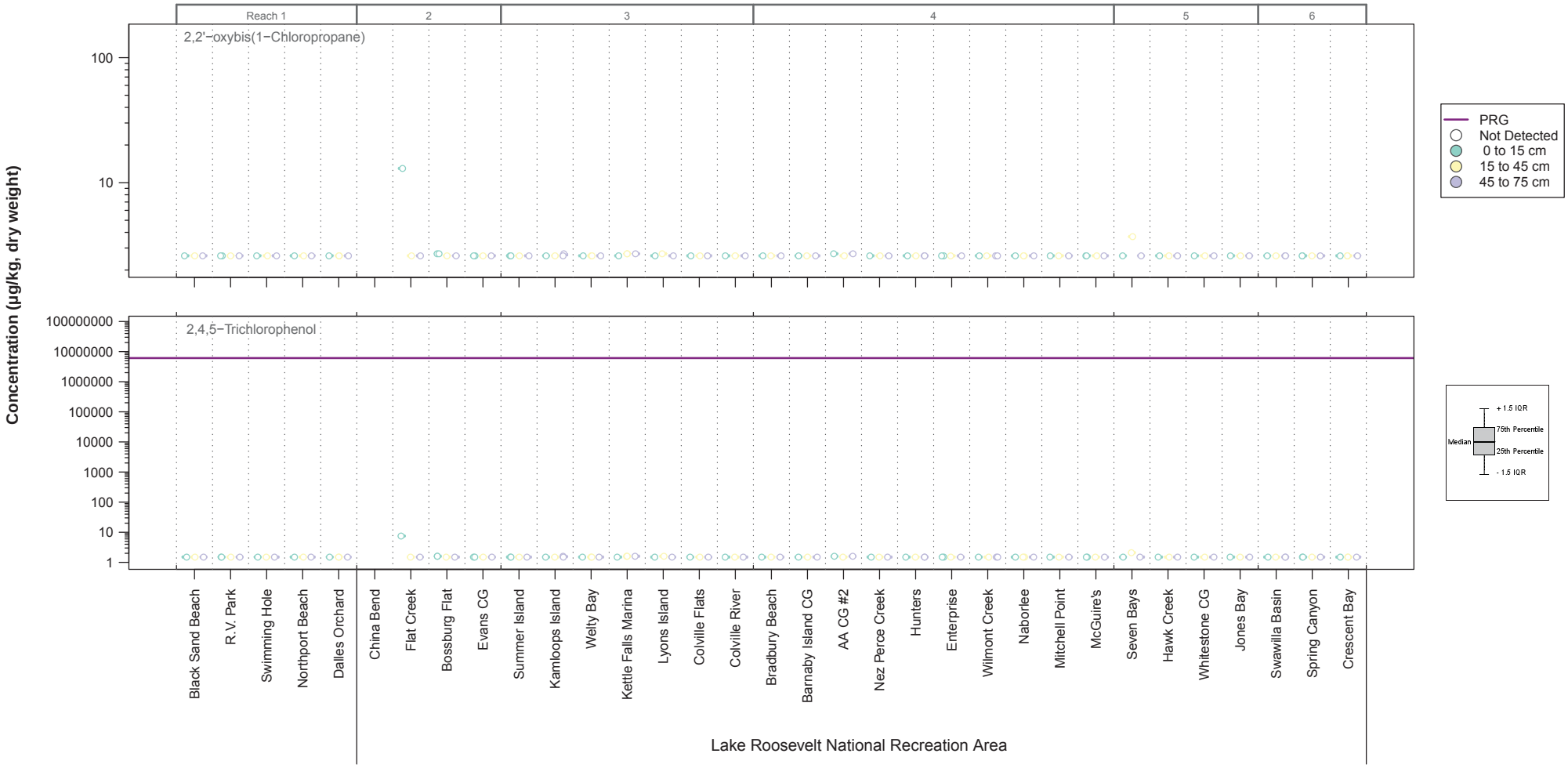
Figure 5−26
Concentrations of
1,2,4−Trichlorobenzene and
1,2−Dichlorobenzene
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−27
Concentrations of
1,3−Dichlorobenzene and
1,4−Dichlorobenzene
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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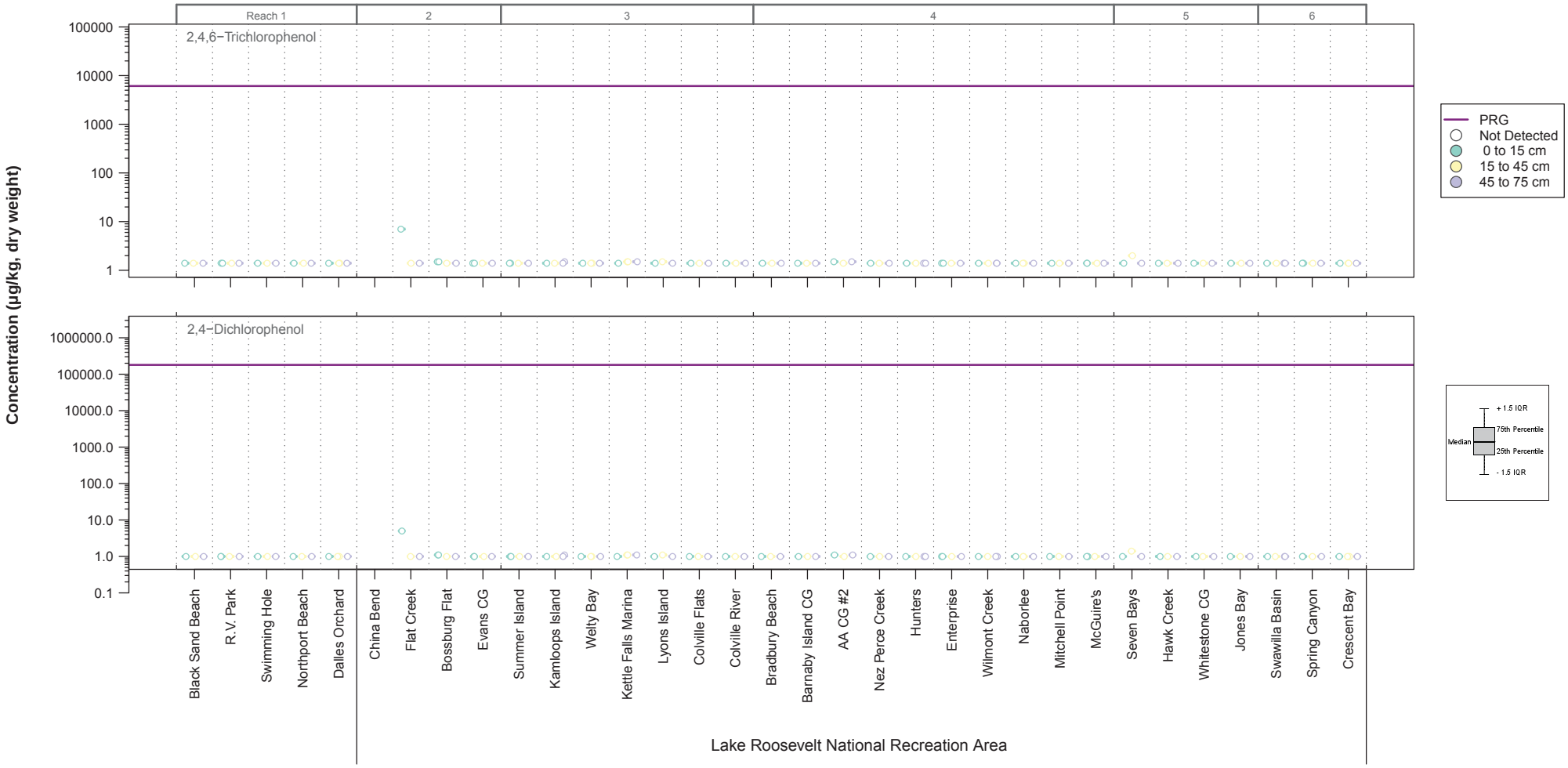
Figure 5−28
Concentrations of
2,2'−oxybis(1−Chloropropane) and
2,4,5−Trichlorophenol
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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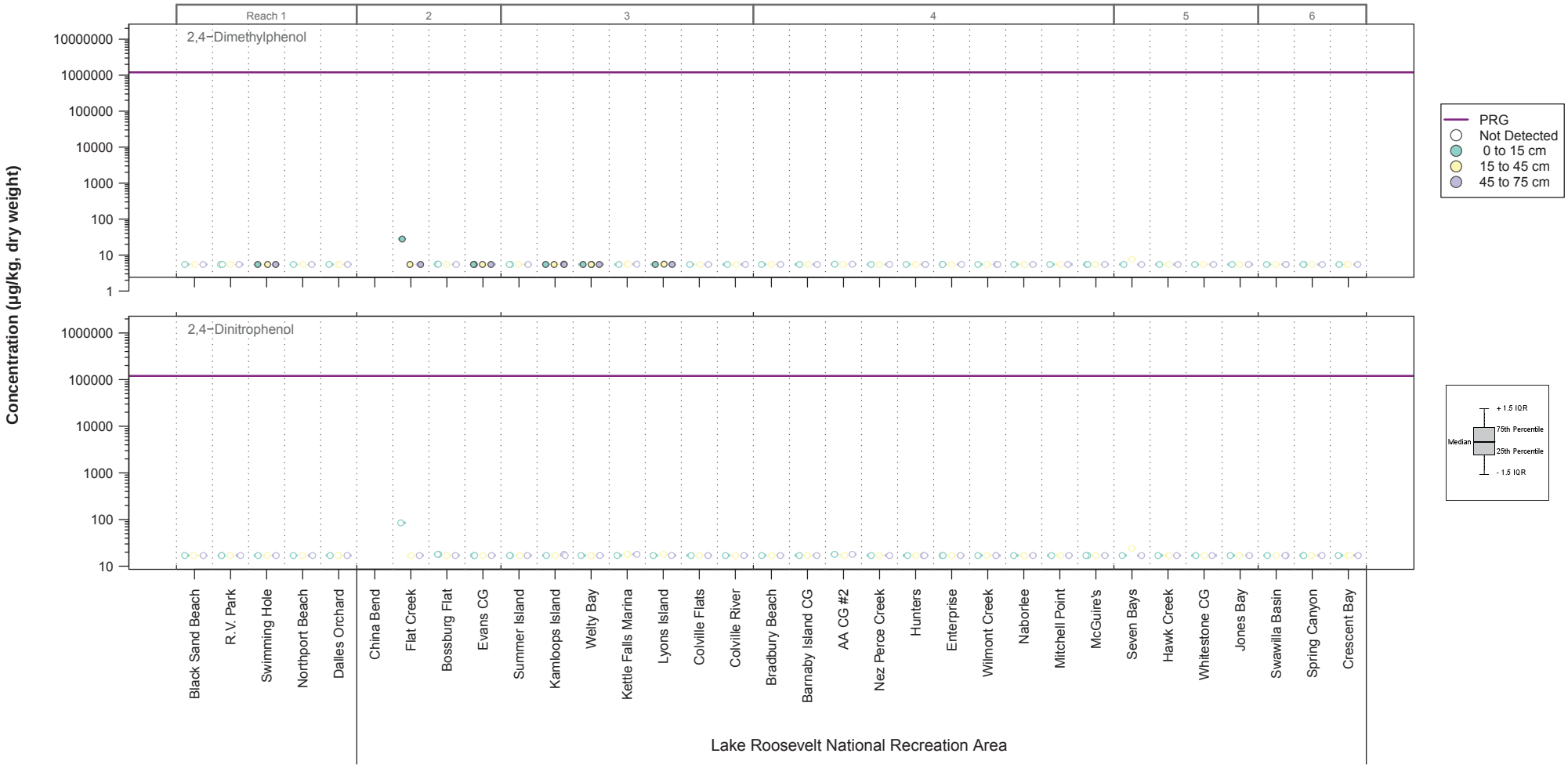
Figure 5−29
Concentrations of
2,4,6−Trichlorophenol and
2,4−Dichlorophenol
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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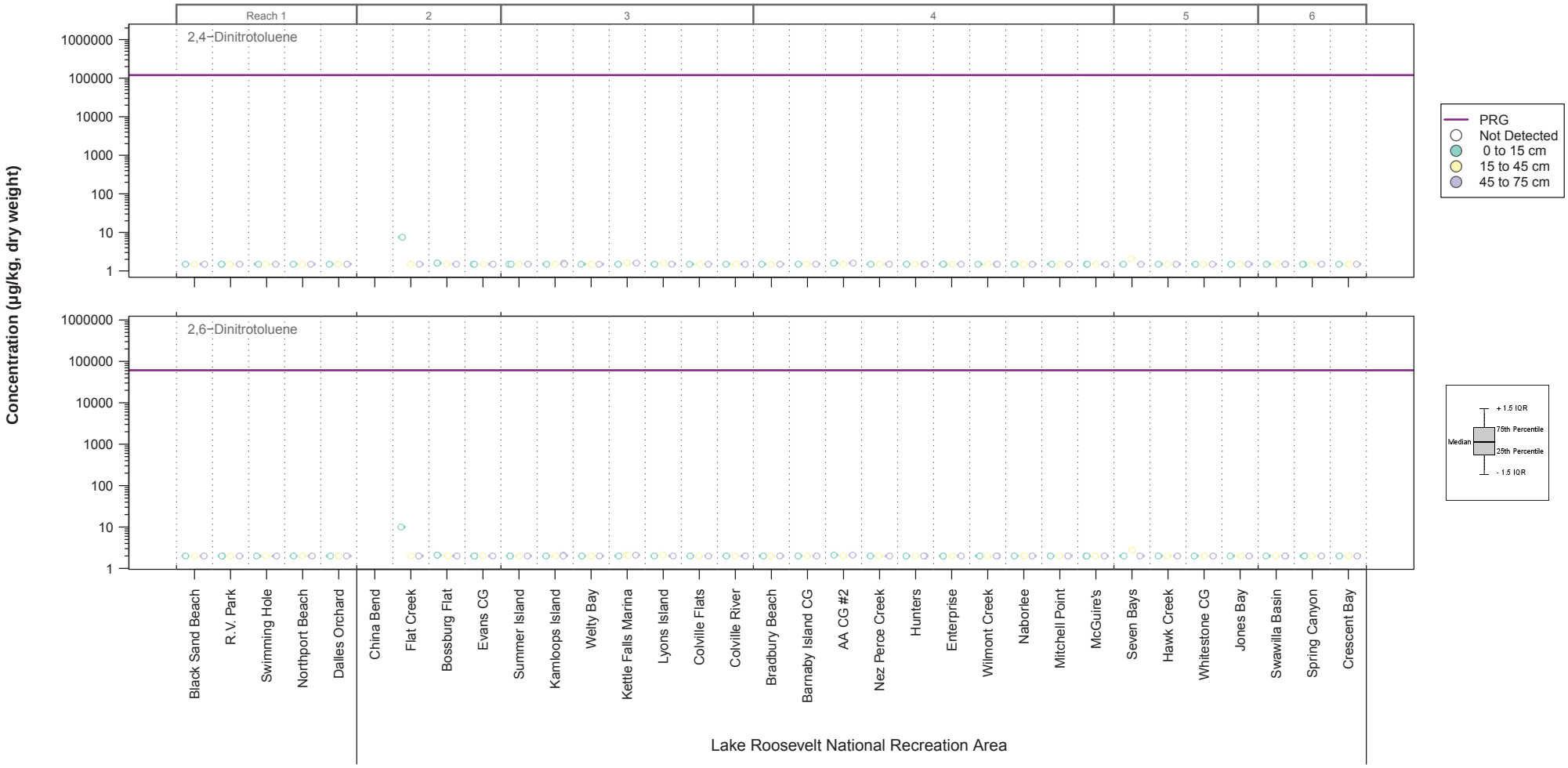
Figure 5−30
Concentrations of
2,4−Dimethylphenol and
2,4−Dinitrophenol
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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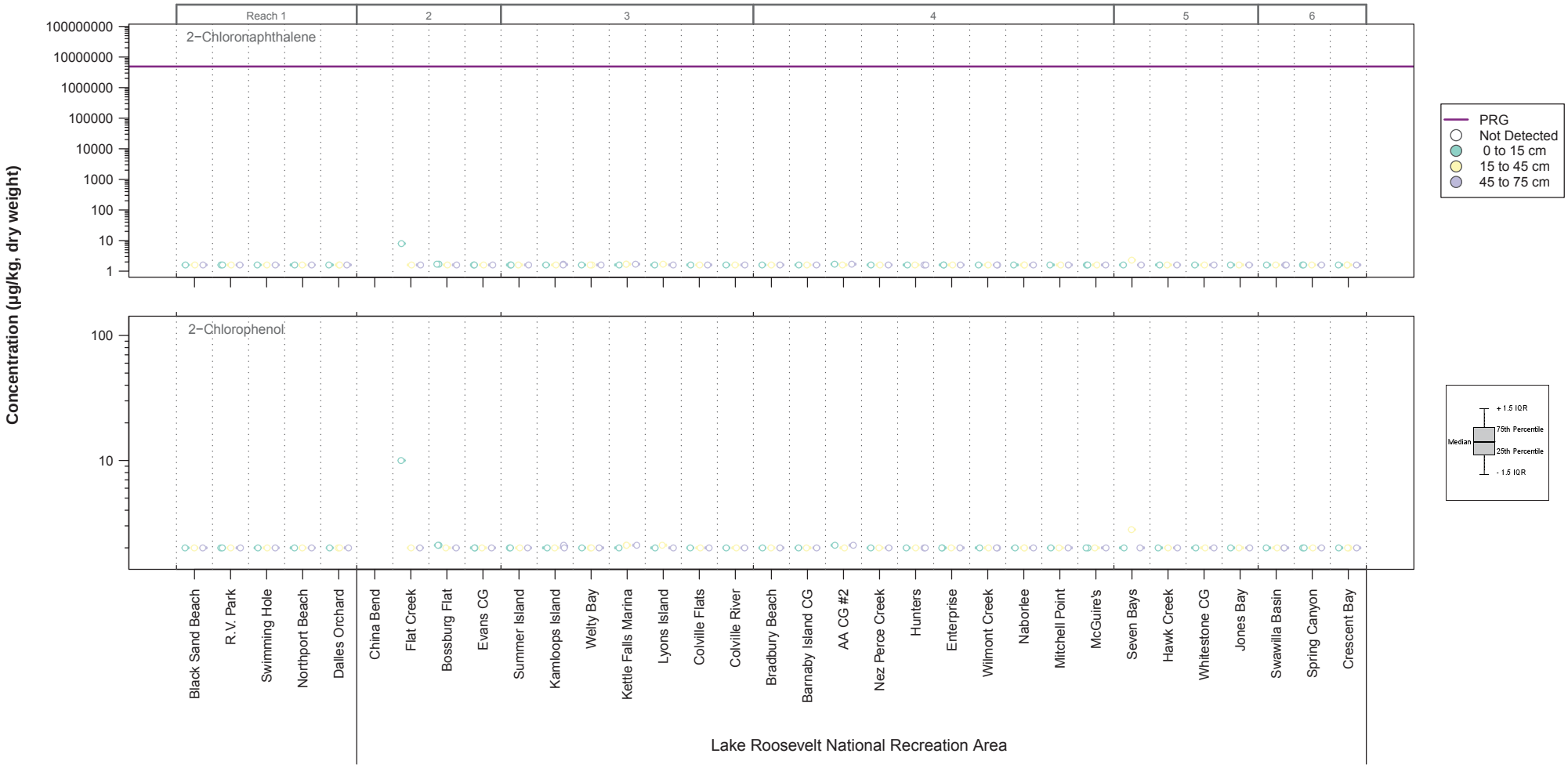
Figure 5−31
Concentrations of
2,4−Dinitrotoluene and
2,6−Dinitrotoluene
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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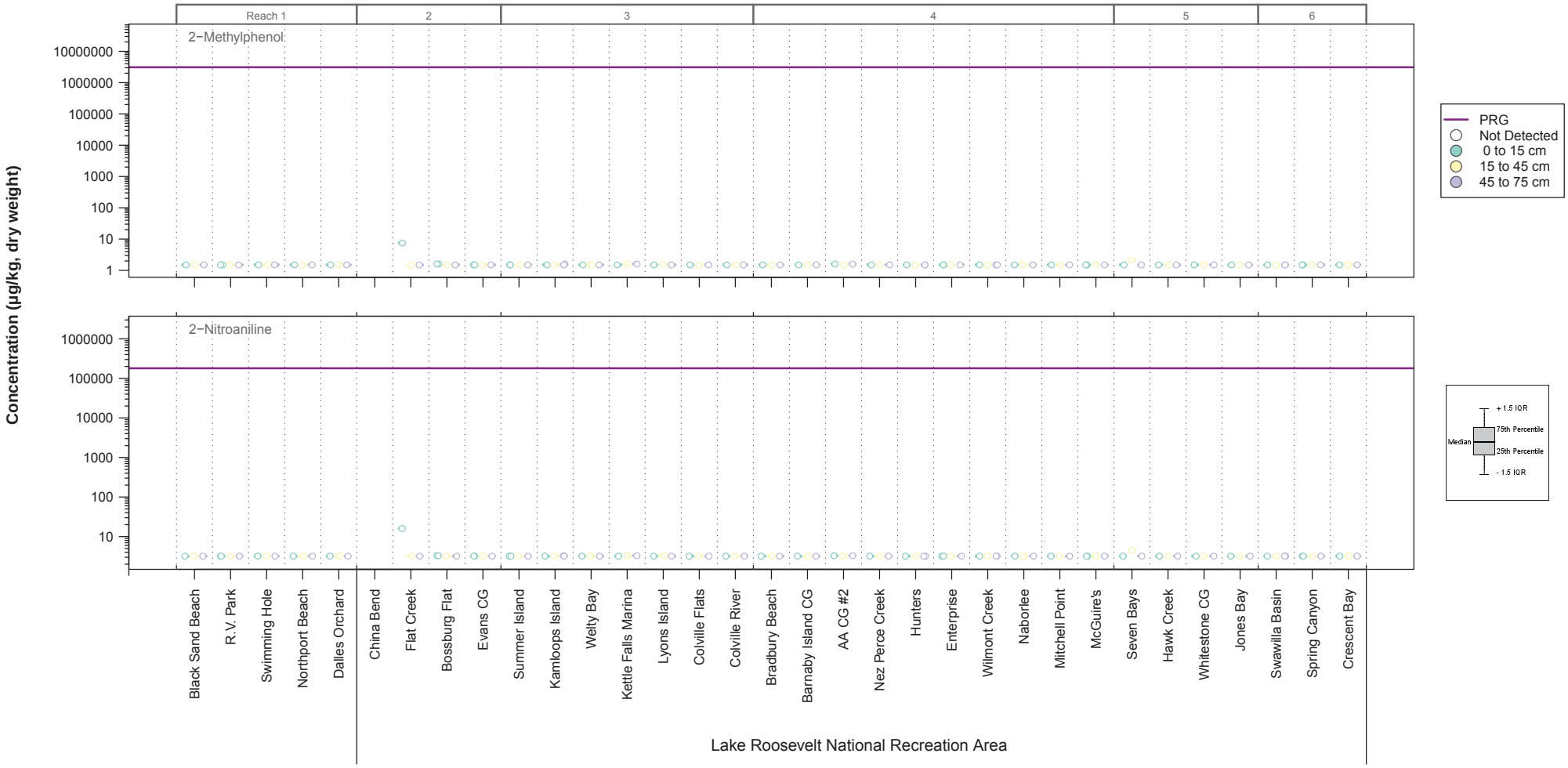
Figure 5−32
Concentrations of
2−Chloronaphthalene and
2−Chlorophenol
in UCR Beach Sediment.



Notes:
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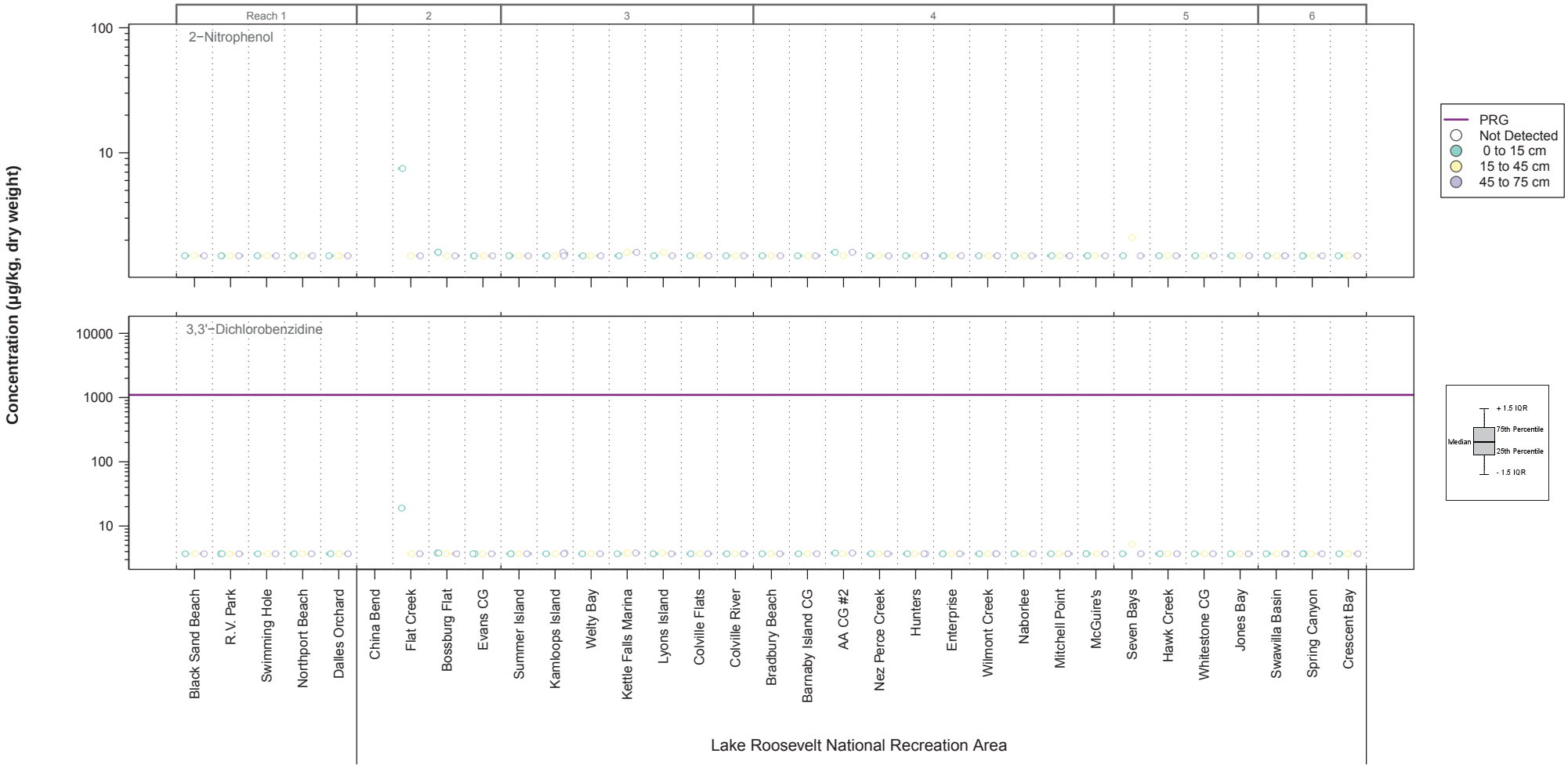
Figure 5−33
Concentrations of
2−Methylphenol and
2−Nitroaniline
in UCR Beach Sediment.



Notes:
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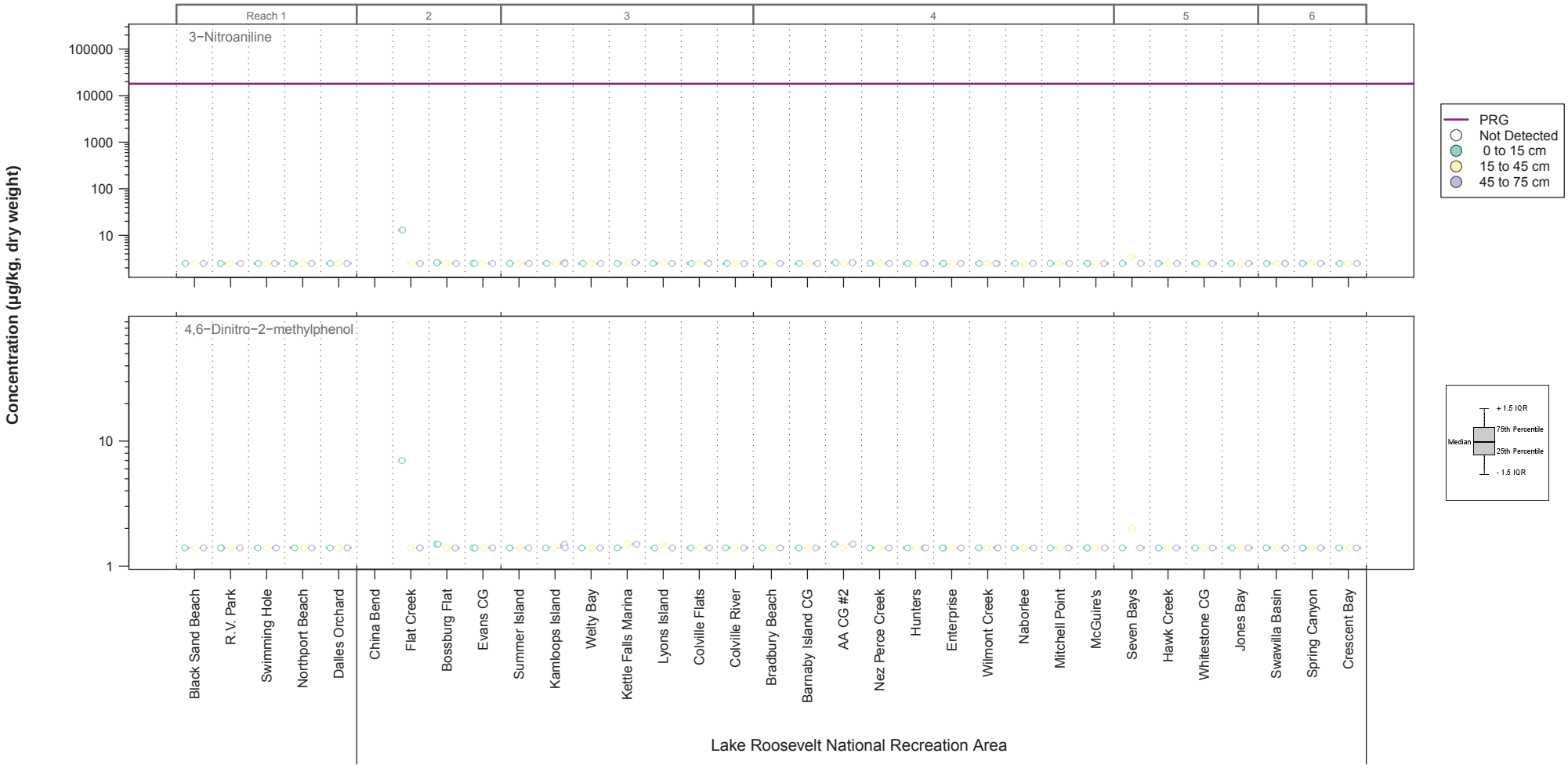
Figure 5−34
Concentrations of
2−Nitrophenol and
3,3'−Dichlorobenzidine
in UCR Beach Sediment.



Notes:
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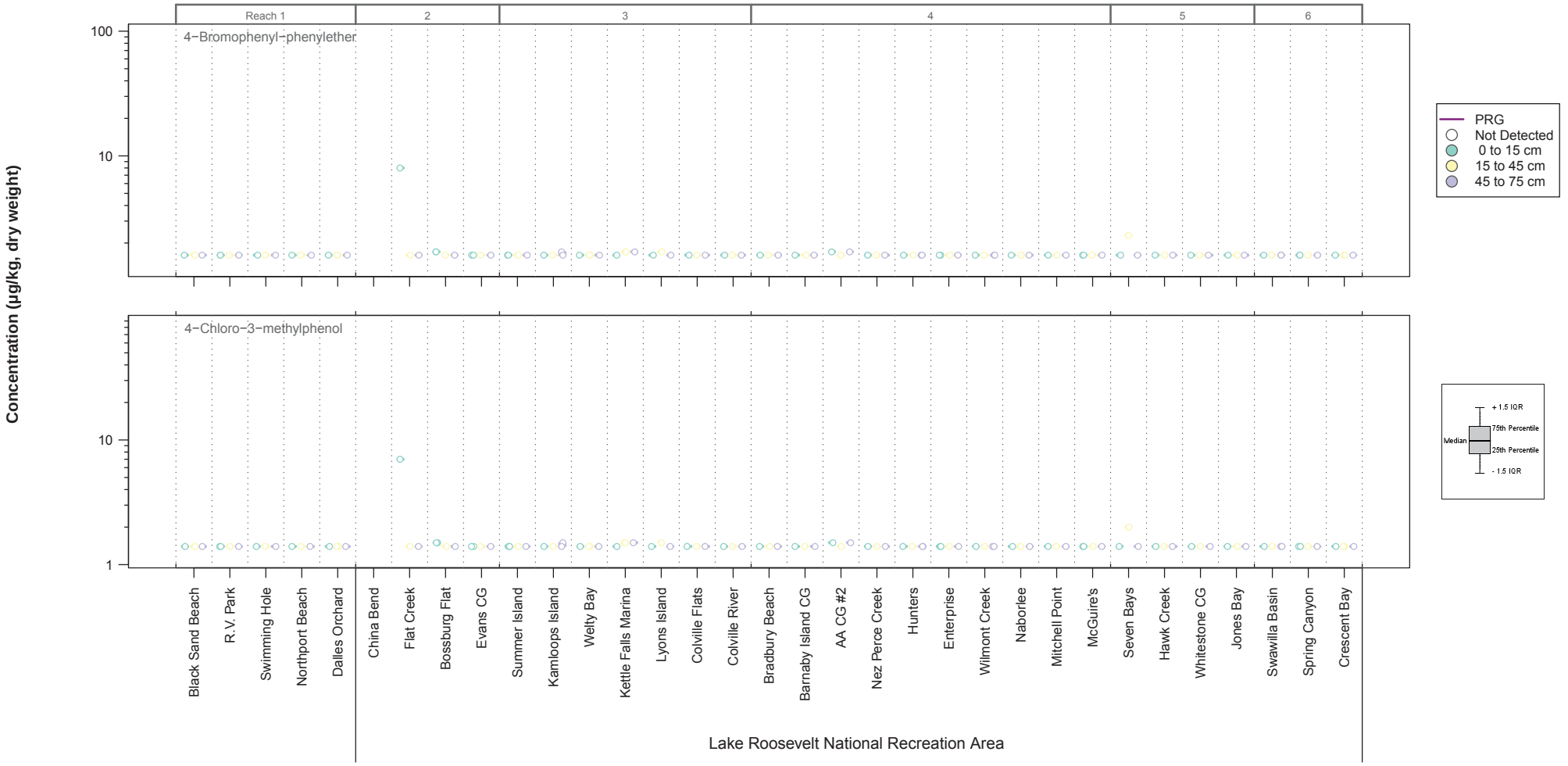
Figure 5−35
Concentrations of
3−Nitroaniline and
4,6−Dinitro−2−methylphenol
in UCR Beach Sediment.



Notes:
No PRG available.

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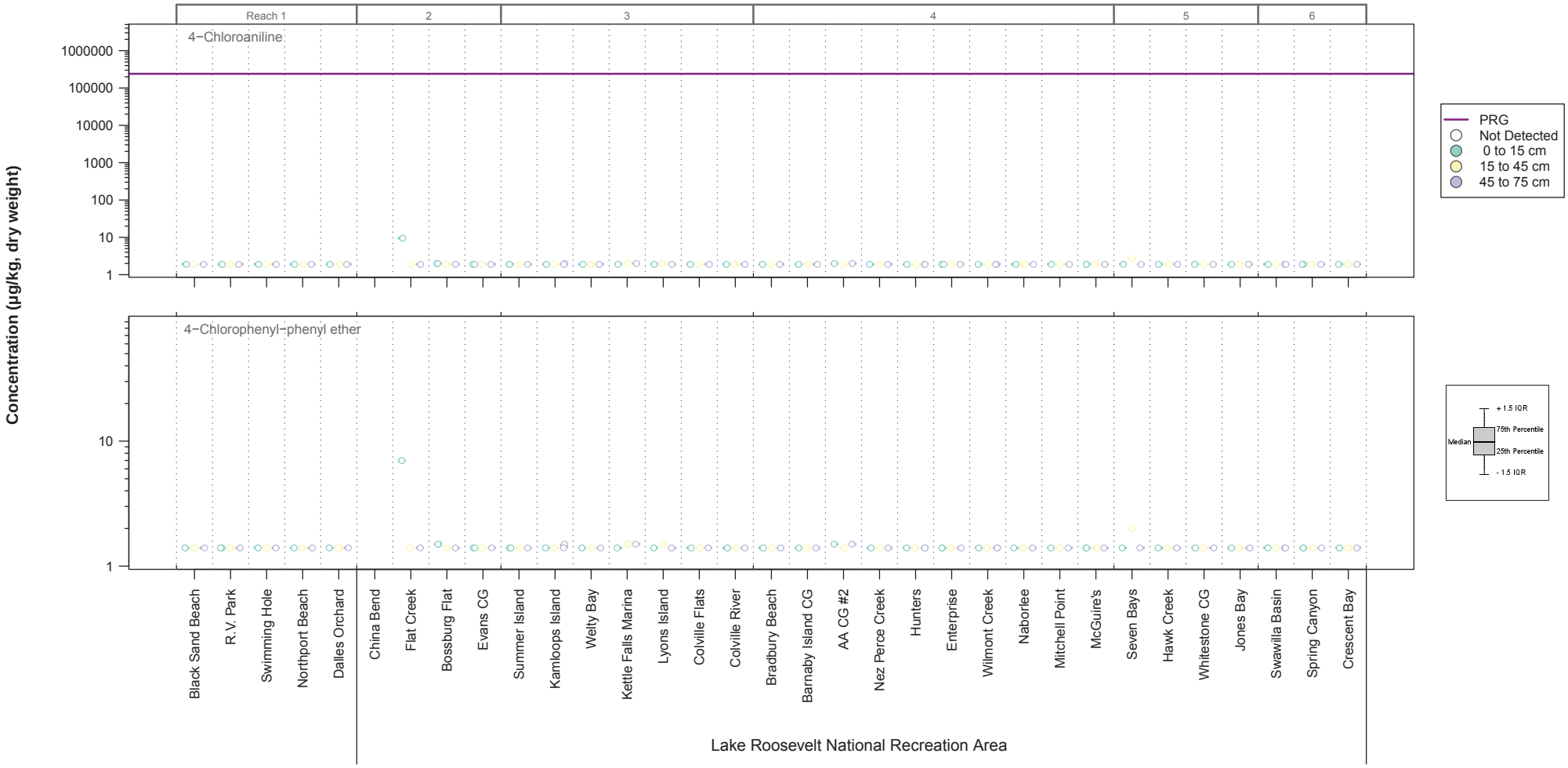
Figure 5−36
Concentrations of
4−Bromophenyl−phenylether and
4−Chloro−3−methylphenol
in UCR Beach Sediment.



Notes:
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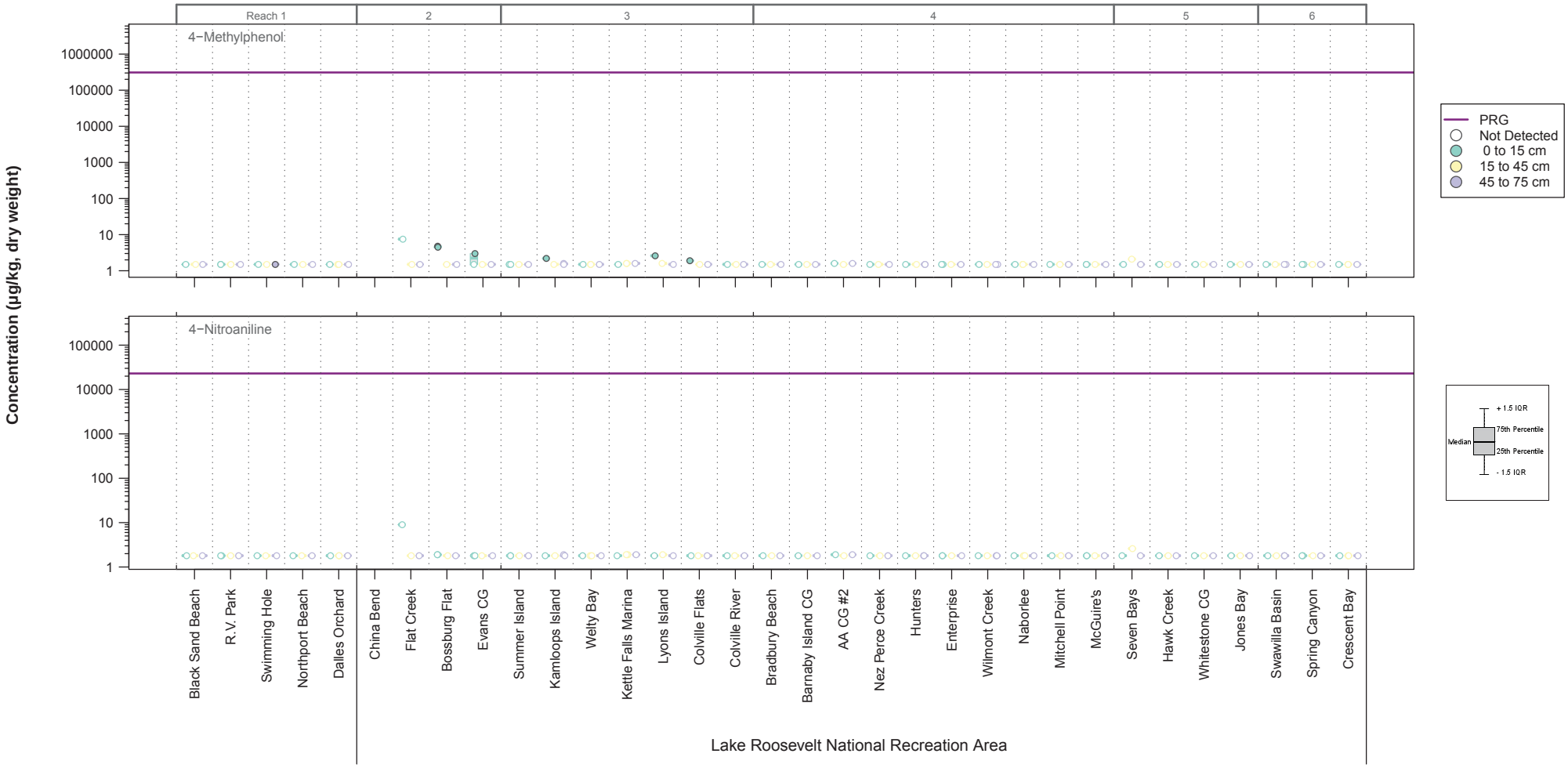
Figure 5−37
Concentrations of
4−Chloroaniline and
4−Chlorophenyl−phenyl ether
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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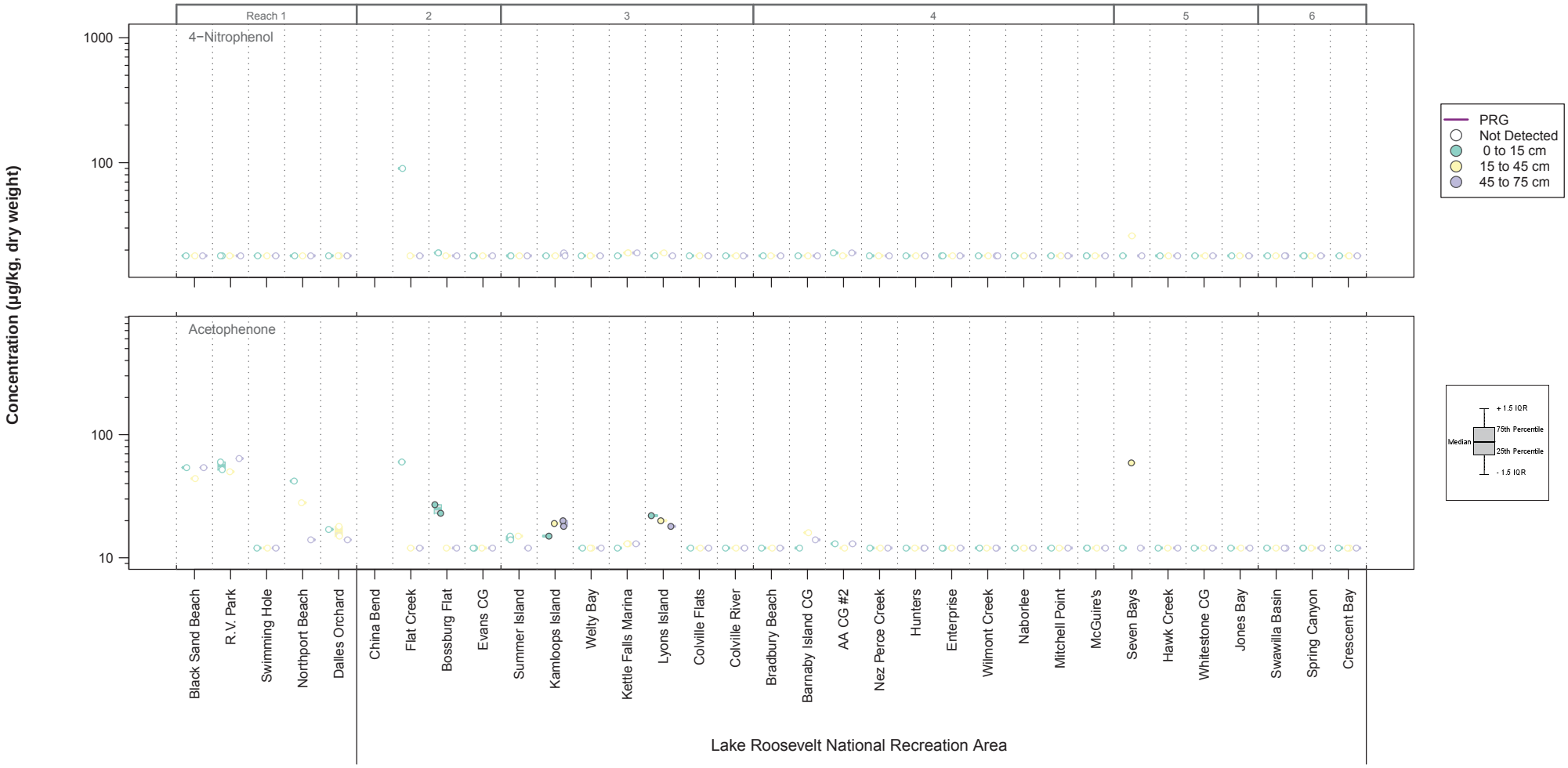
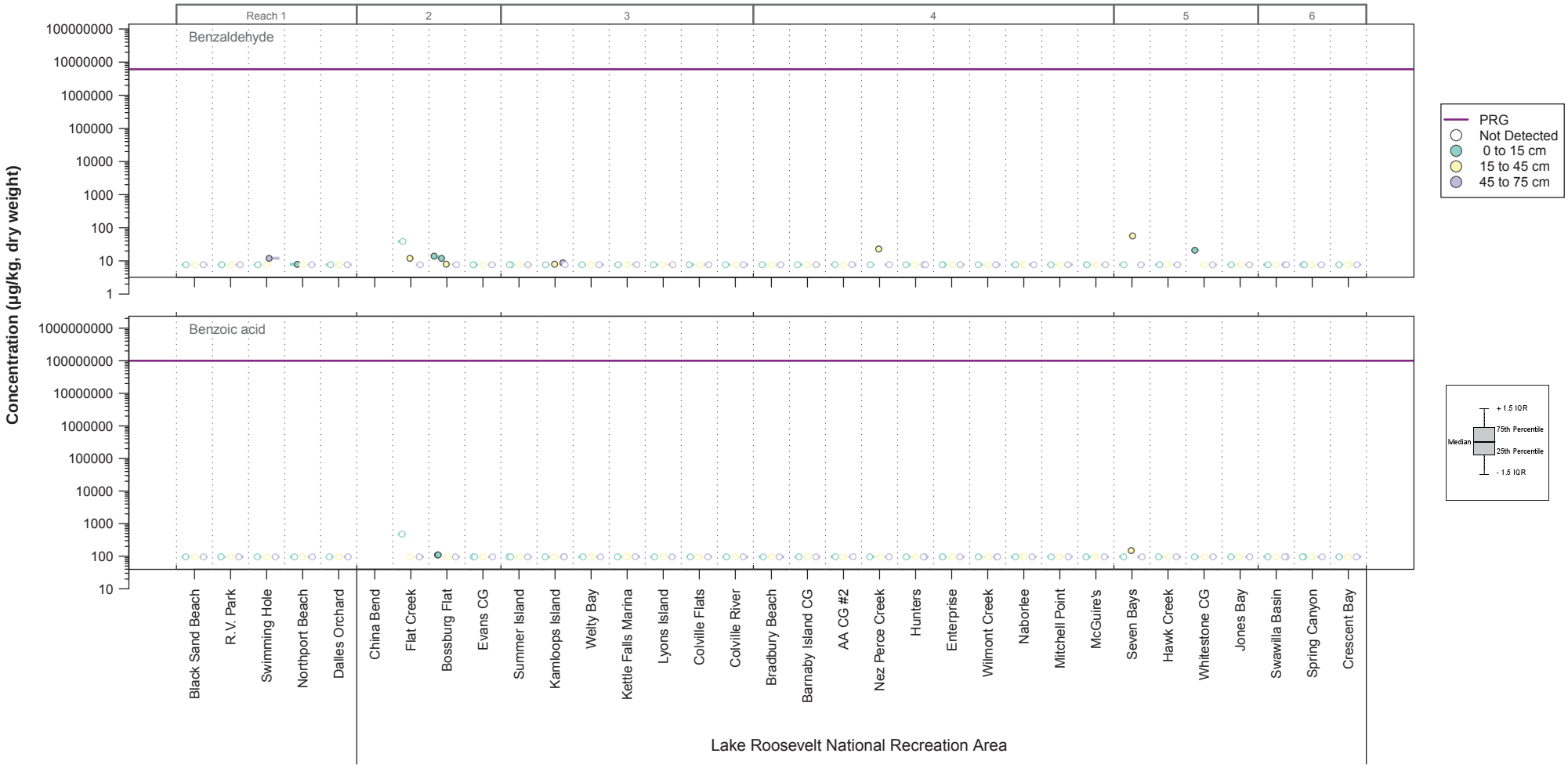
Figure 5−38
Concentrations of
4−Methylphenol and
4−Nitroaniline
in UCR Beach Sediment.



Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−39
Concentrations of
4−Nitrophenol and
Acetophenone
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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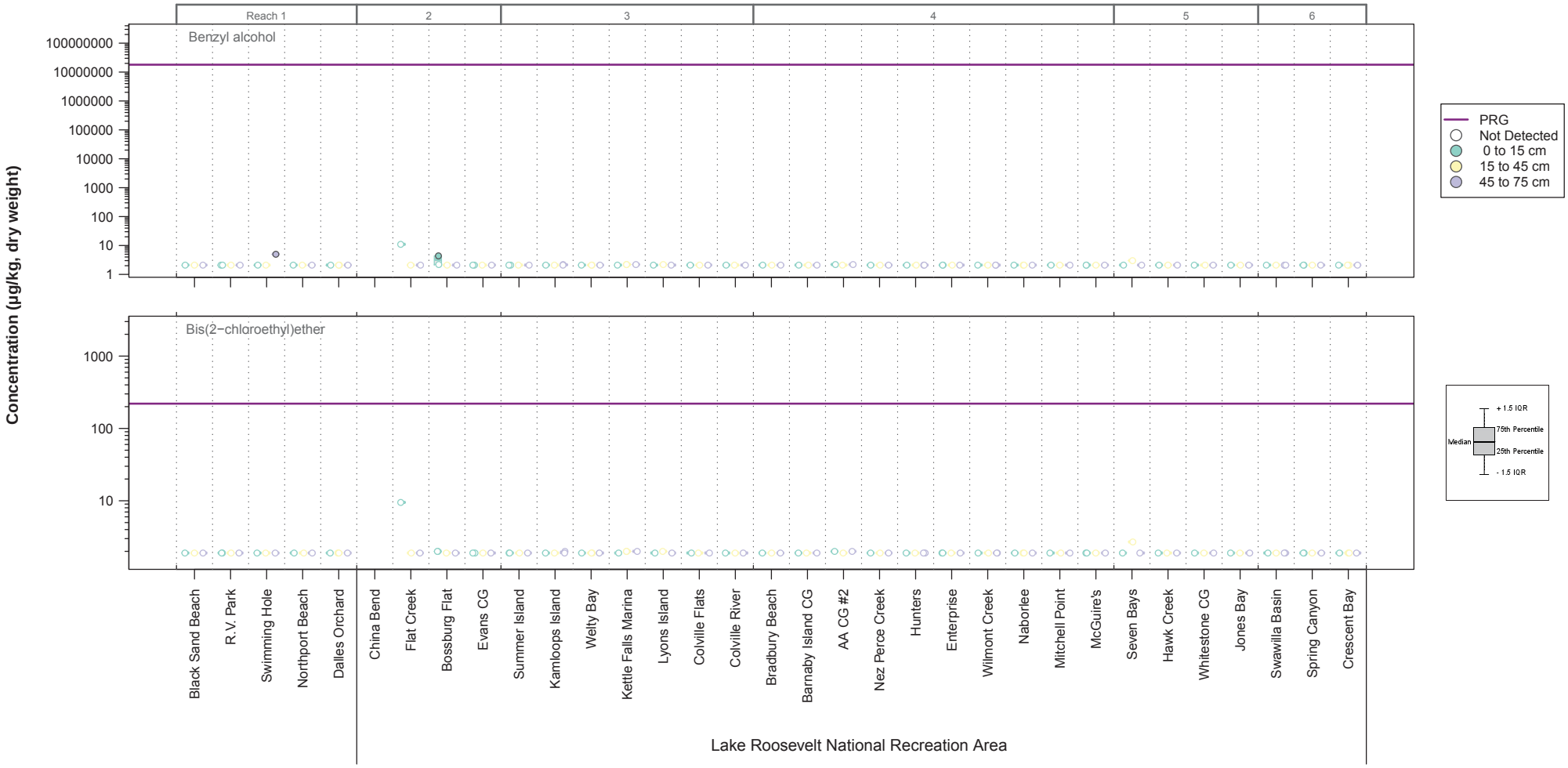
Figure 5-40
Concentrations of
Benzaldehyde and
Benzoic acid
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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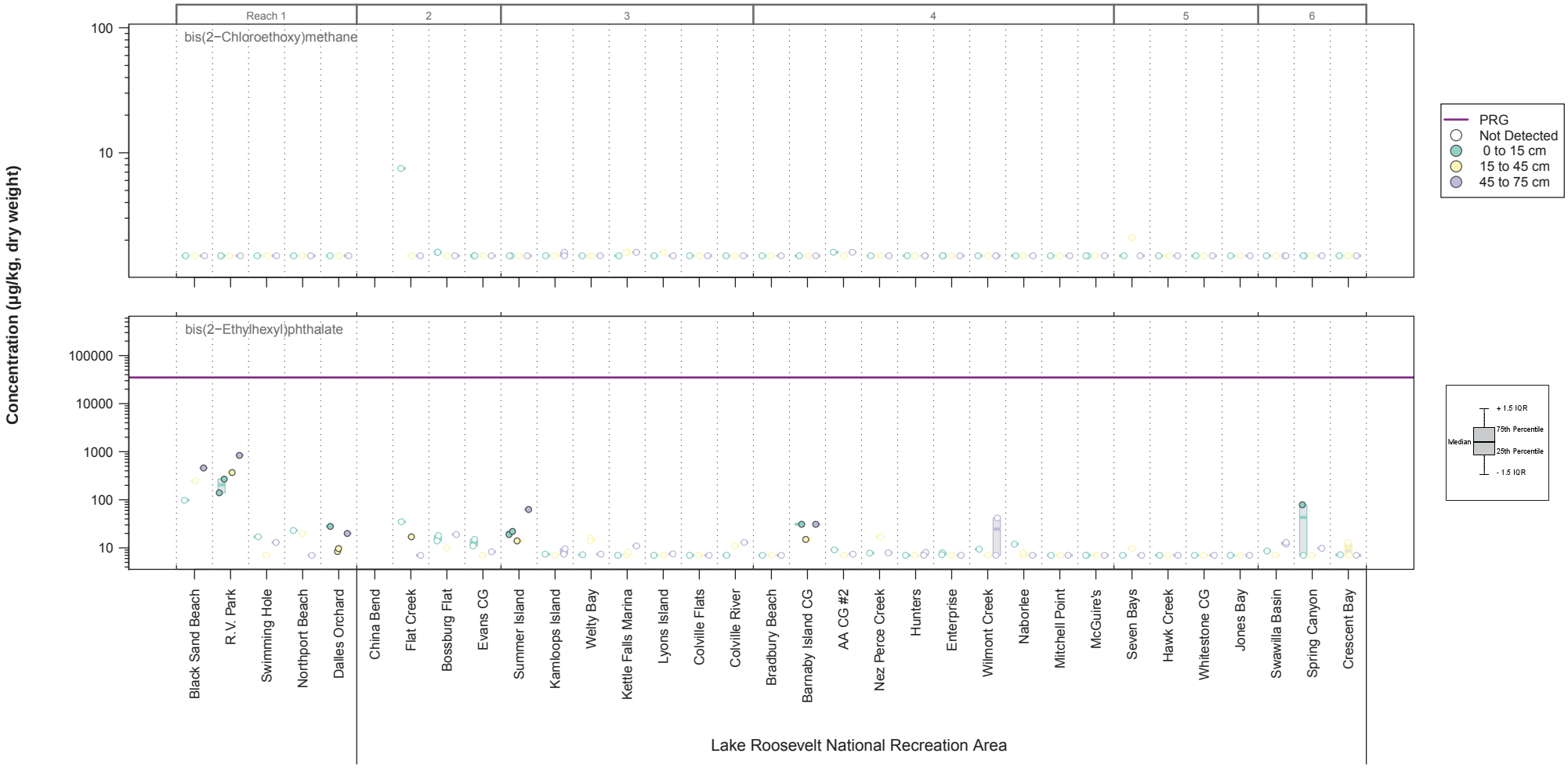
Figure 5−41
Concentrations of
Benzyl alcohol and
Bis(2−chloroethyl)ether
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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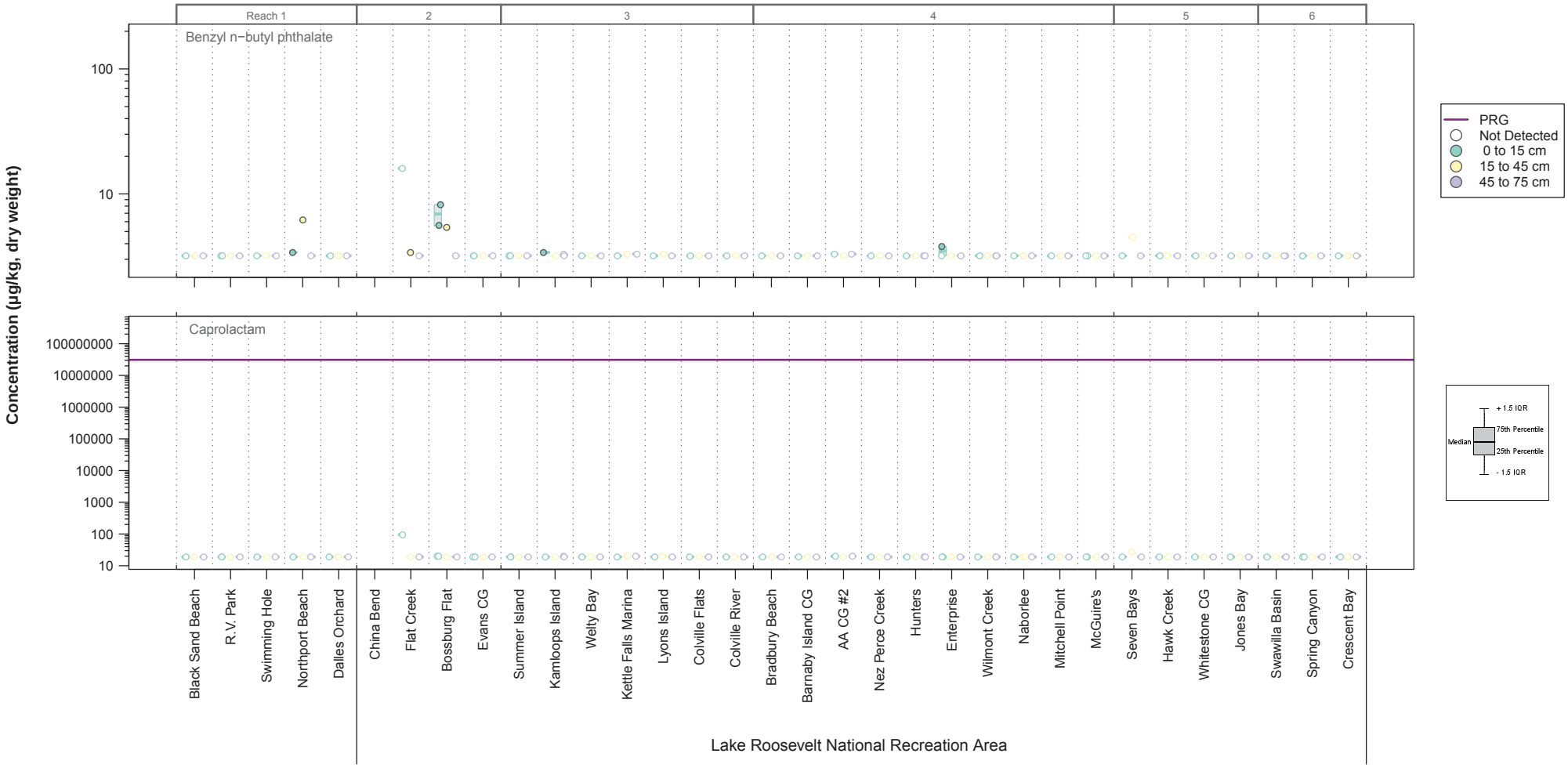
Figure 5−42
Concentrations of
bis(2−Chloroethoxy)methane and
bis(2−Ethylhexyl)phthalate
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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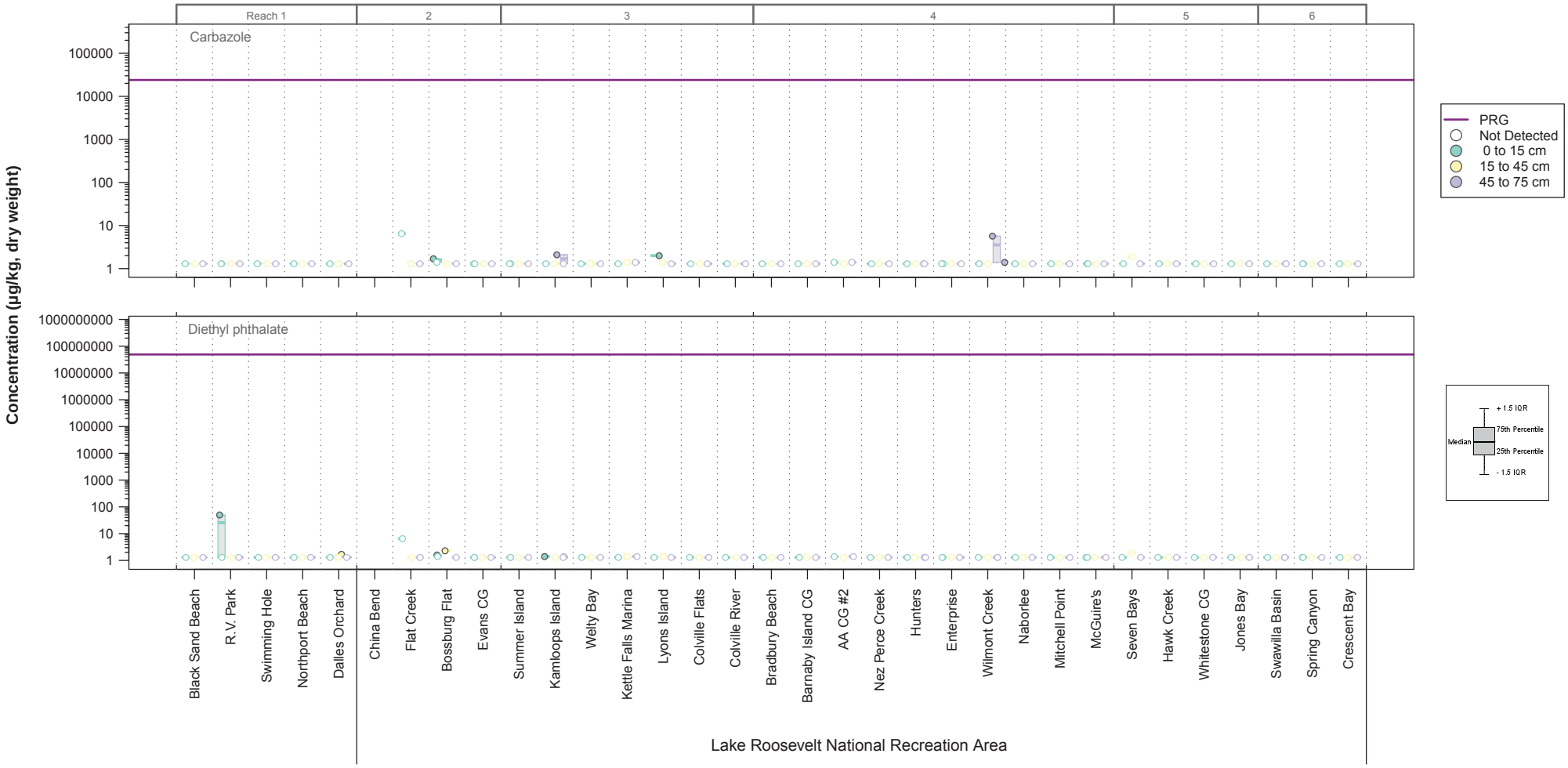
Figure 5−43
Concentrations of
Benzyl n−butyl phthalate and
Caprolactam
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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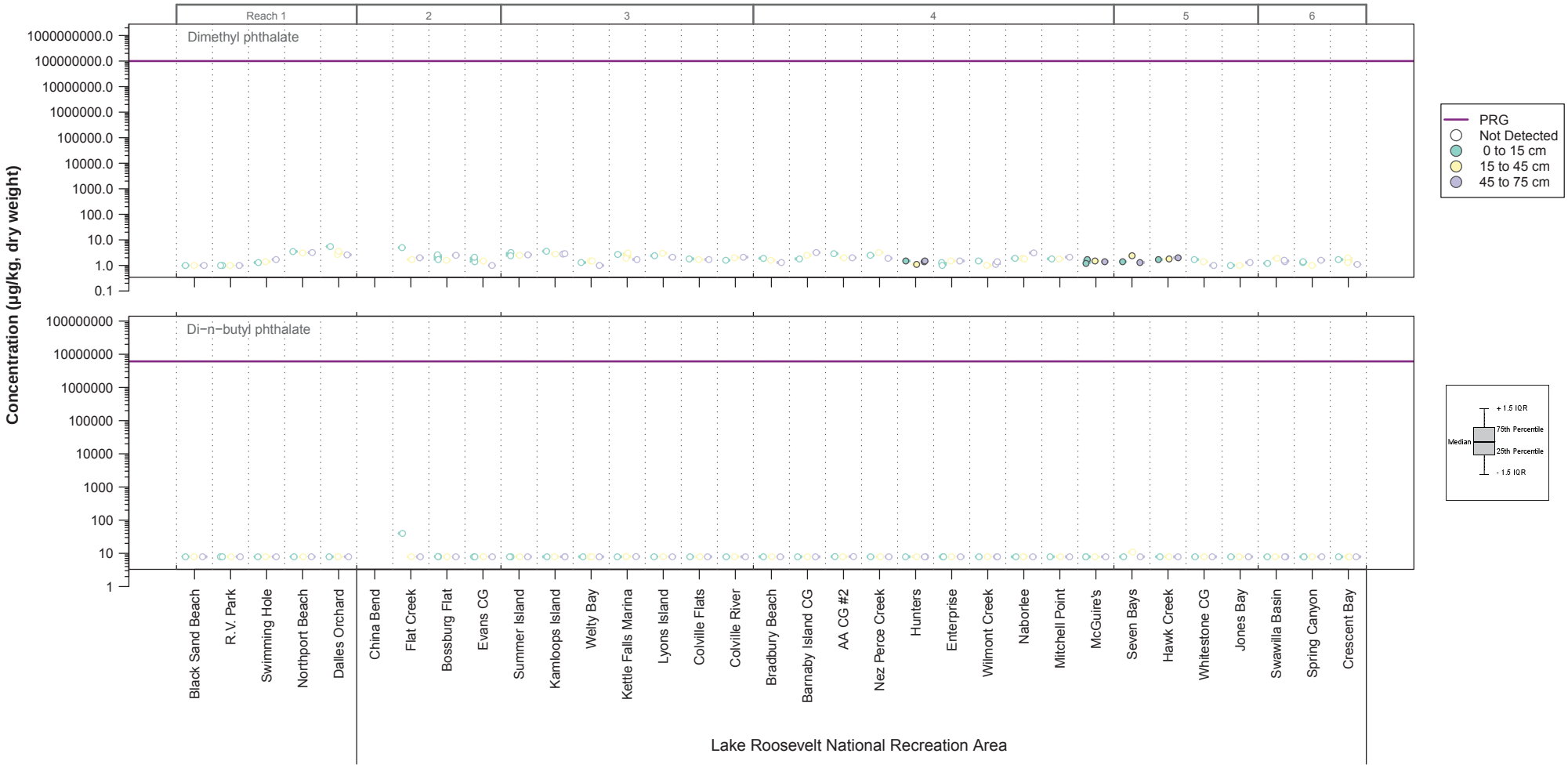
Figure 5-44
Concentrations of
Carbazole and
Diethyl phthalate
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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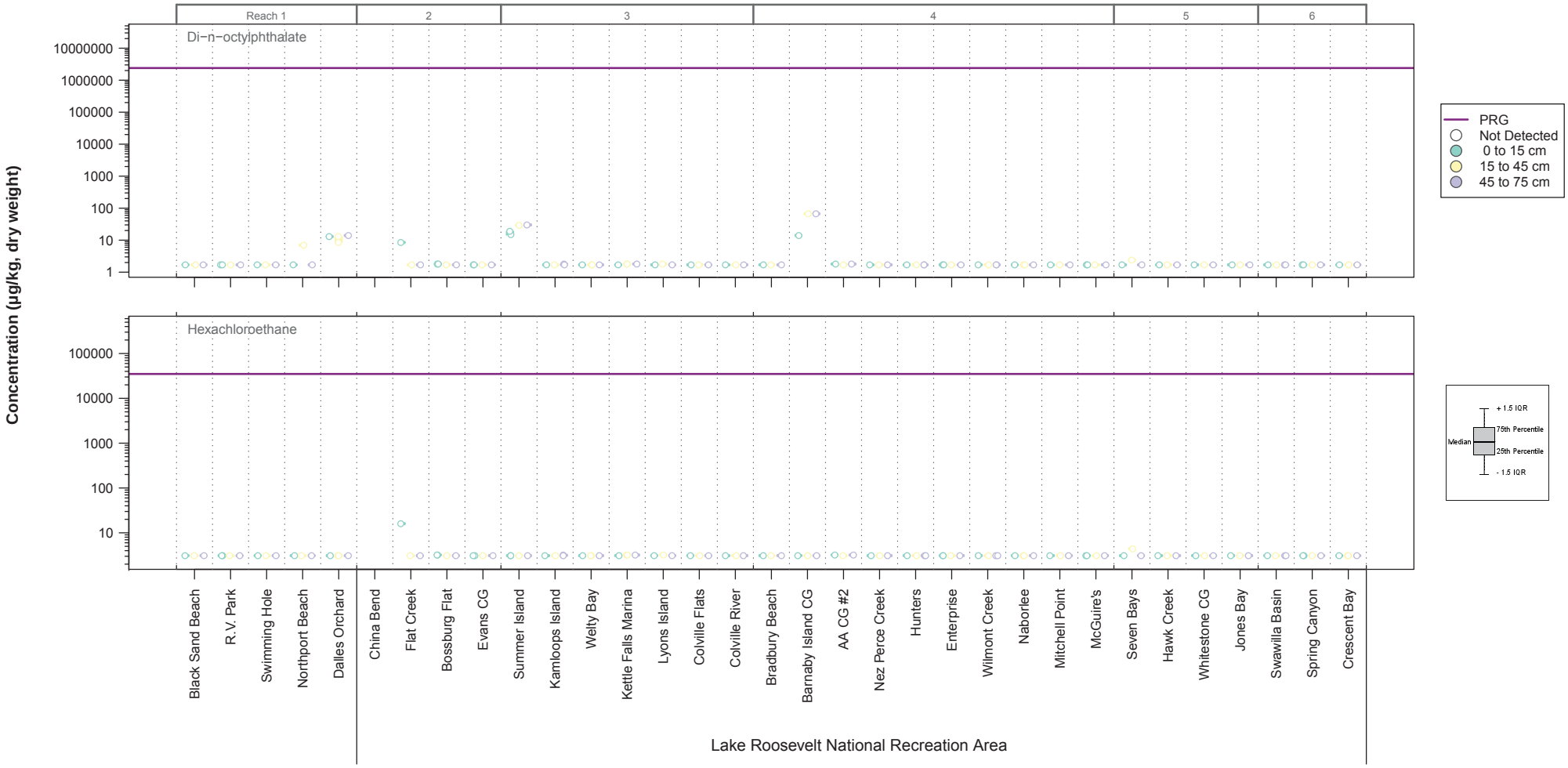
Figure 5−45
Concentrations of
Dimethyl phthalate and
Di−n−butyl phthalate
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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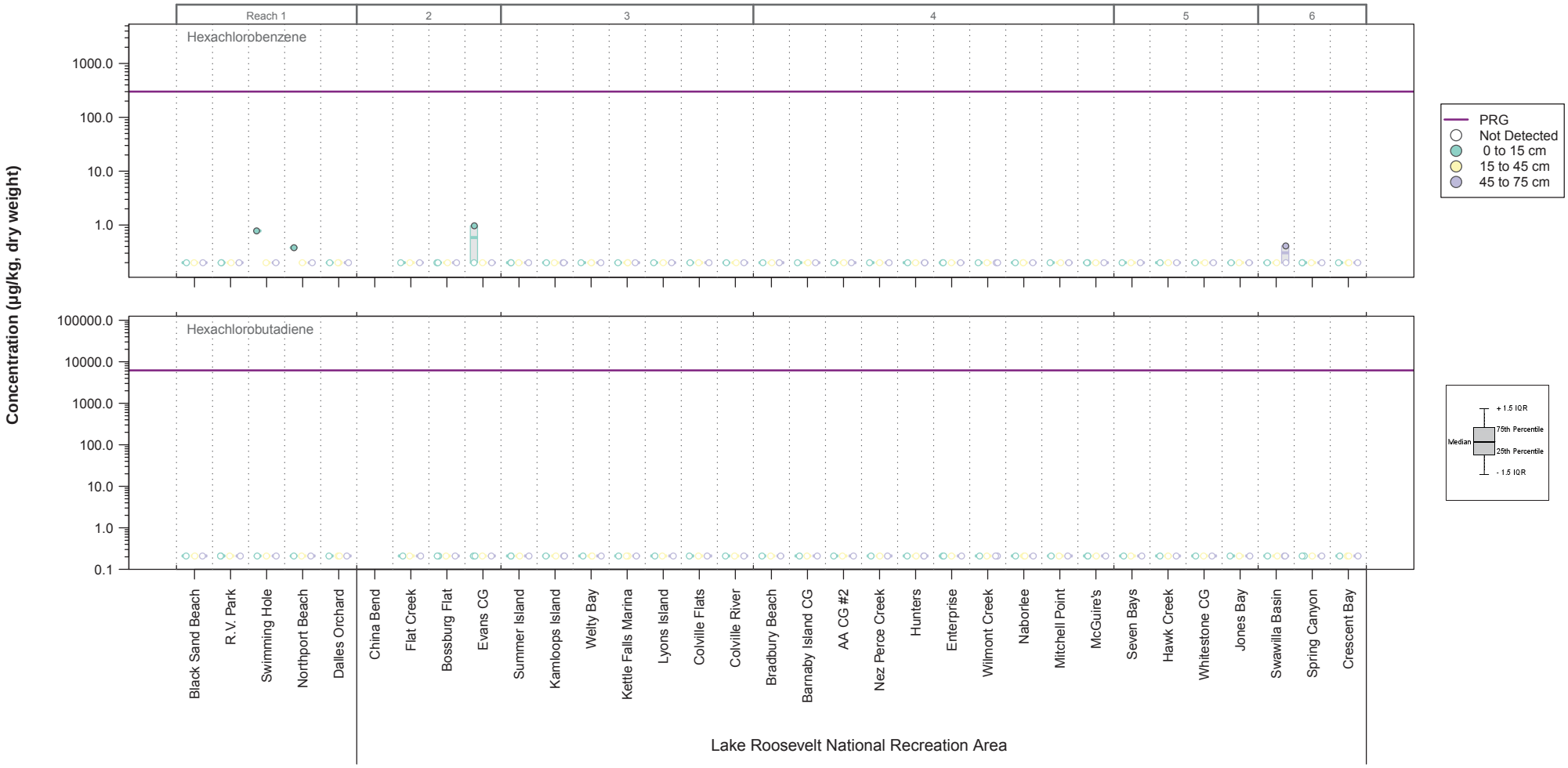
Figure 5−46
Concentrations of
Di−n−octylphthalate and
Hexachloroethane
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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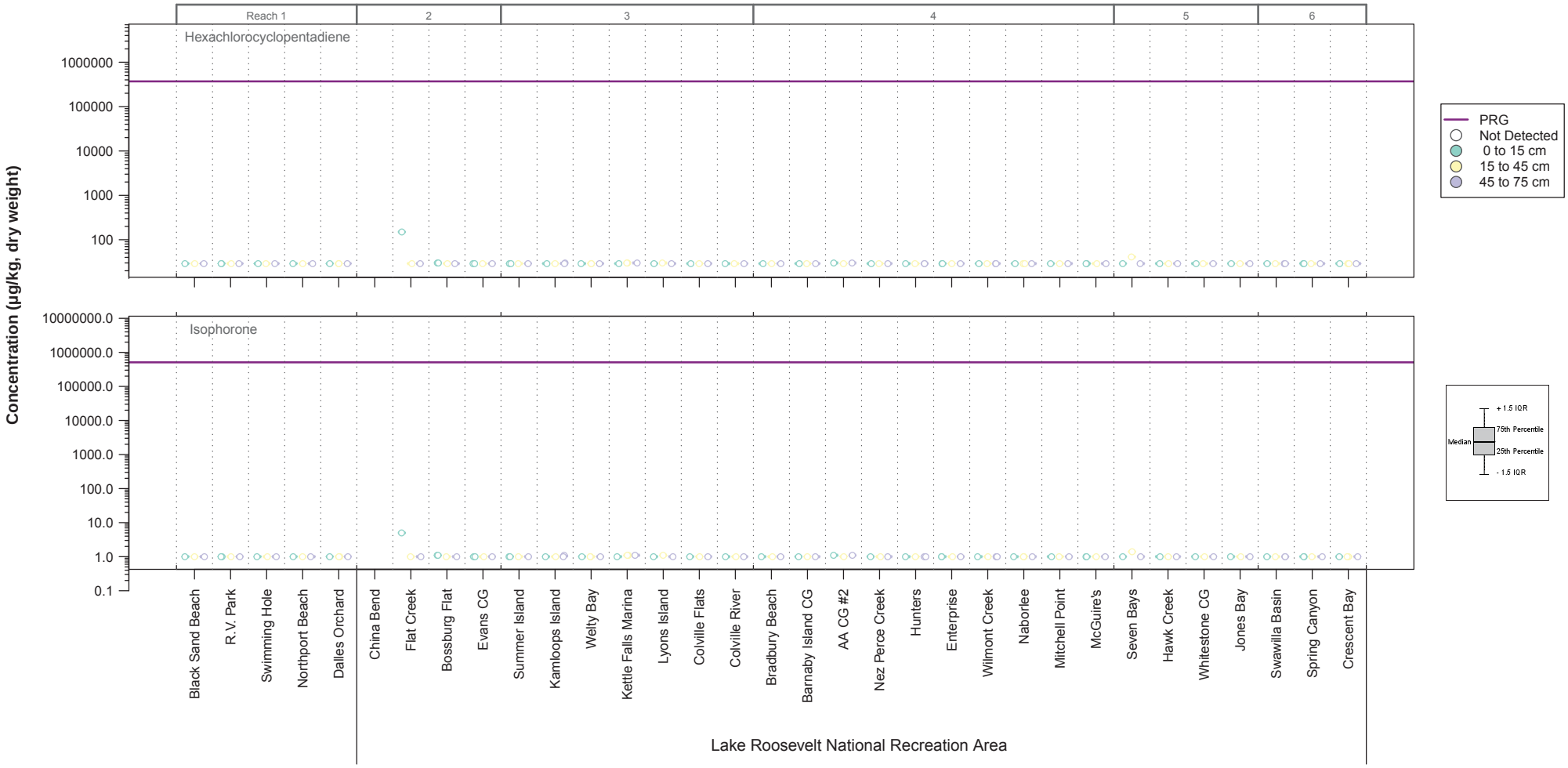
Figure 5-47
Concentrations of
Hexachlorobenzene and
Hexachlorobutadiene
in UCR Beach Sediment.



Notes:
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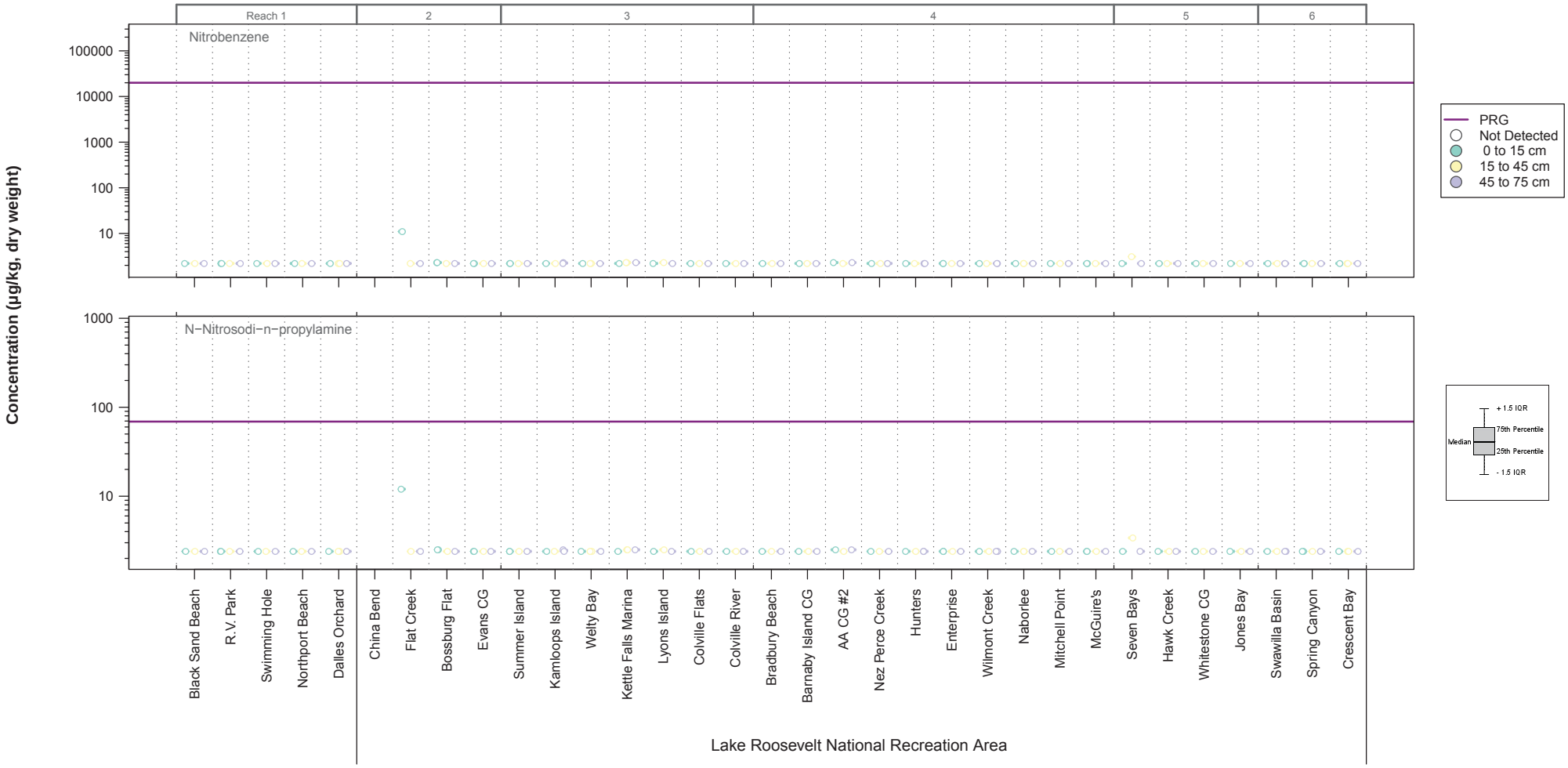
Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5-48
Concentrations of
Hexachlorocyclopentadiene and
Isophorone
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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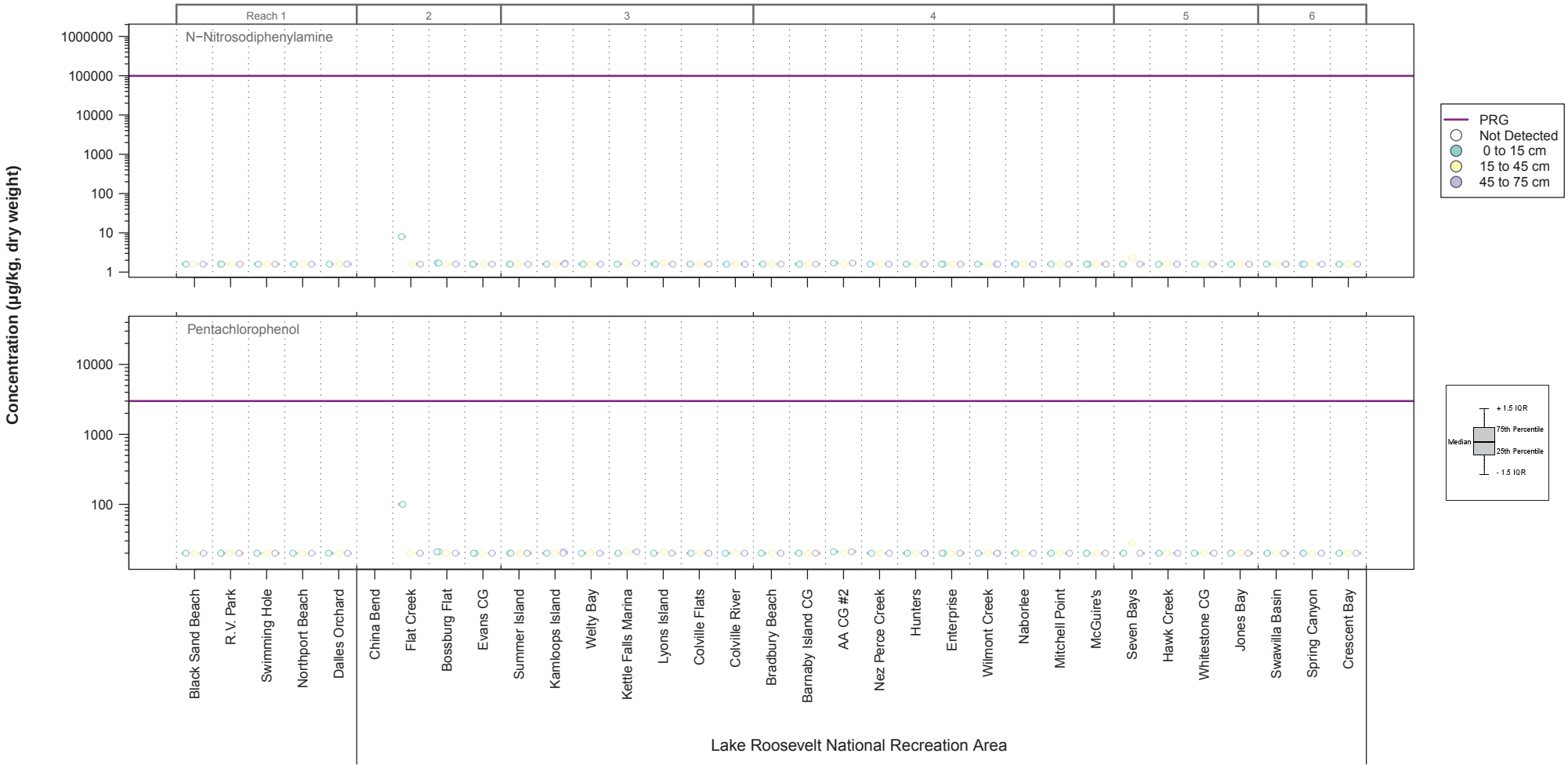
Figure 5−49
Concentrations of
Nitrobenzene and
N−Nitrosodi−n−propylamine
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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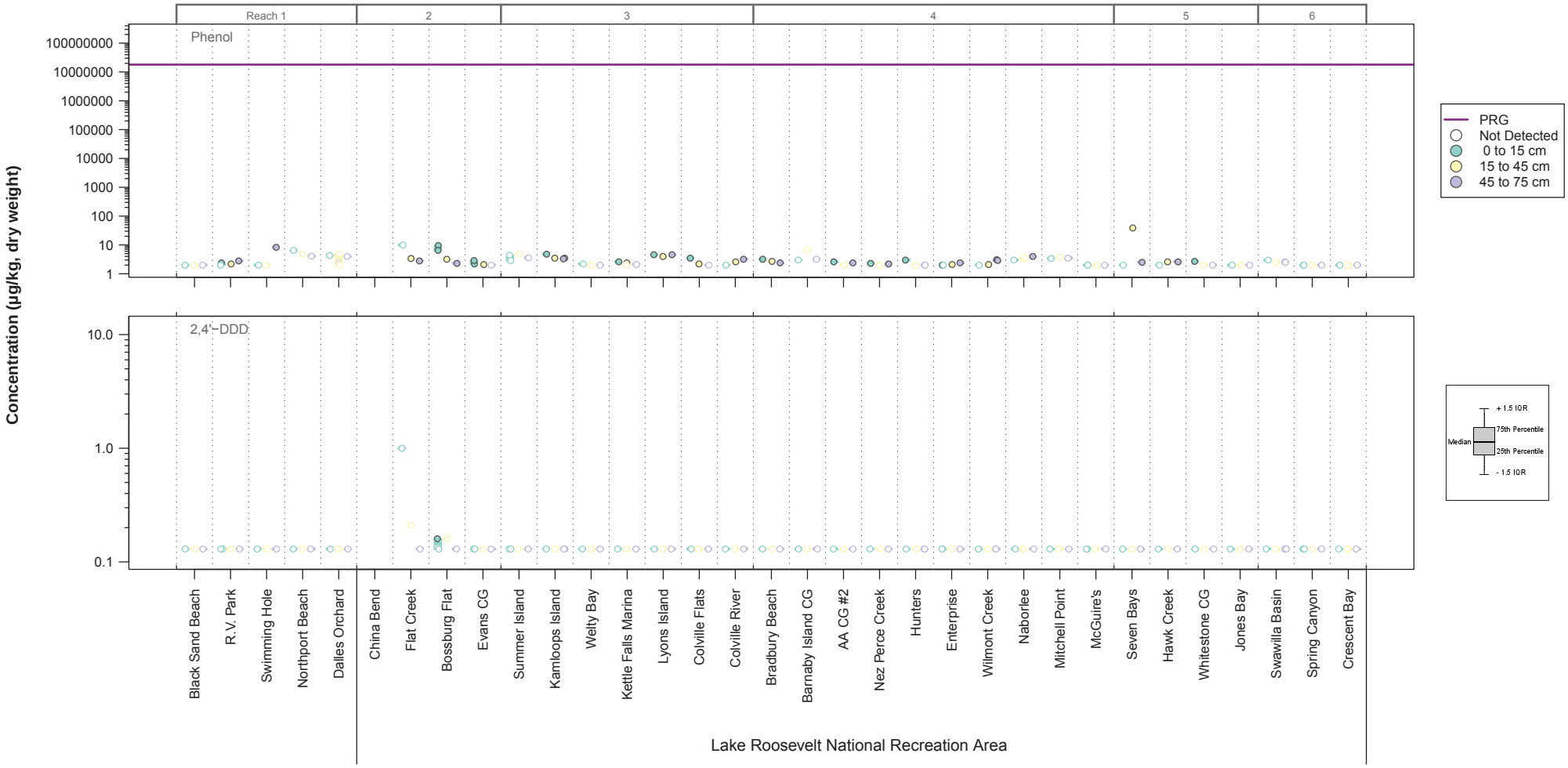
Figure 5−50
Concentrations of
N−Nitrosodiphenylamine and
Pentachlorophenol
in UCR Beach Sediment.



Notes:
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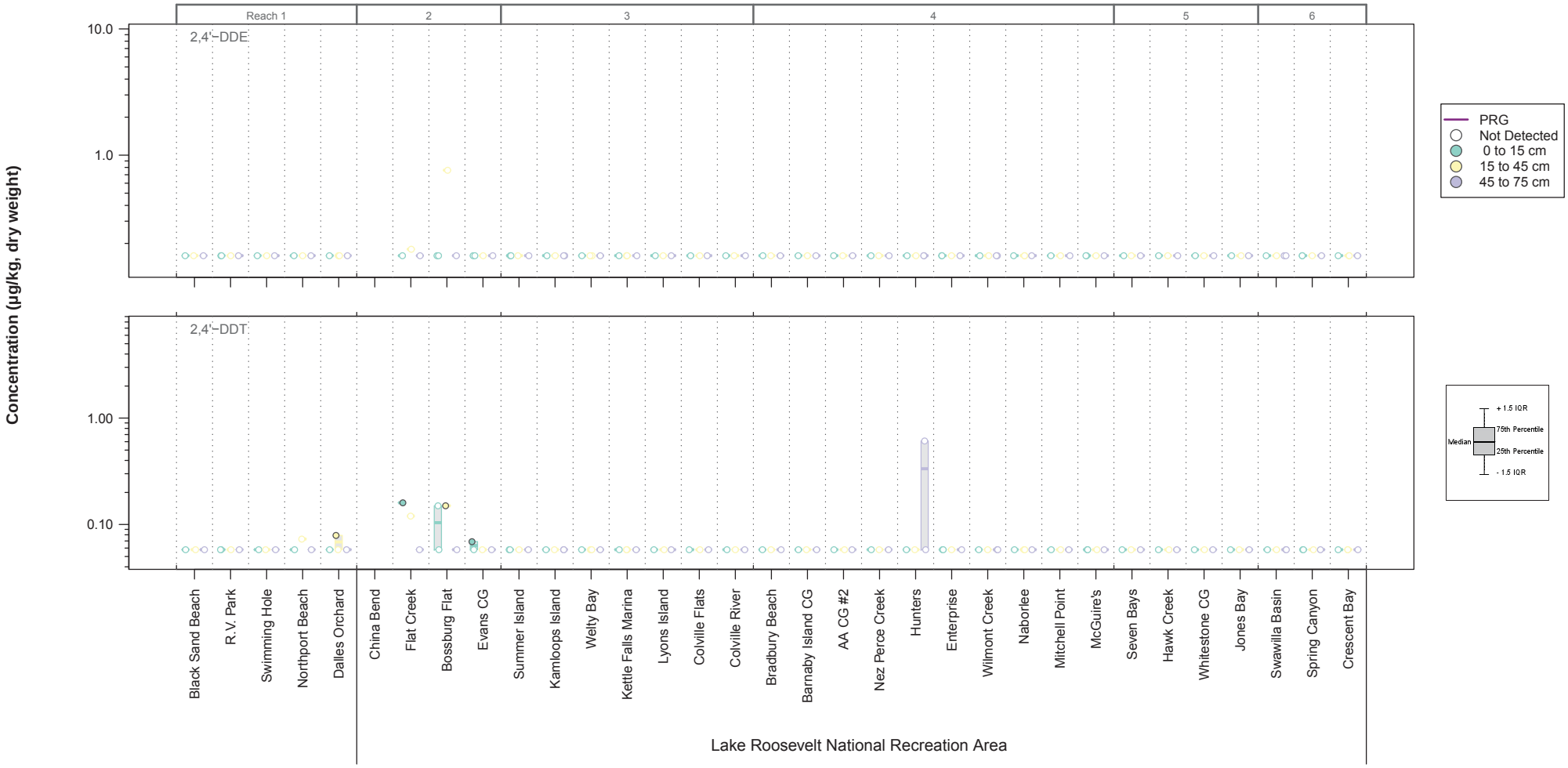
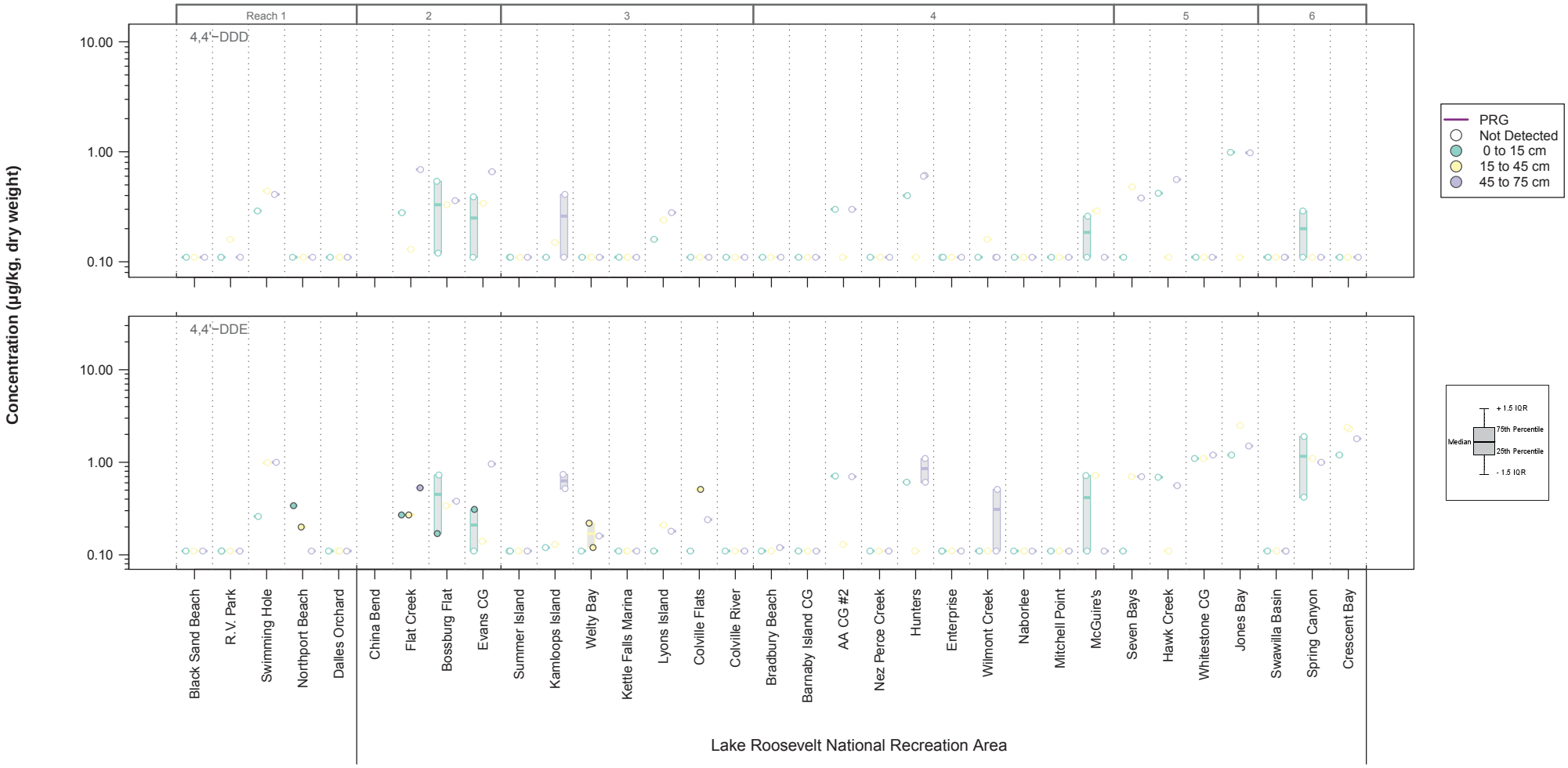
Figure 5-51
Concentrations of
Phenol and
2,4'-DDD
in UCR Beach Sediment.



Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

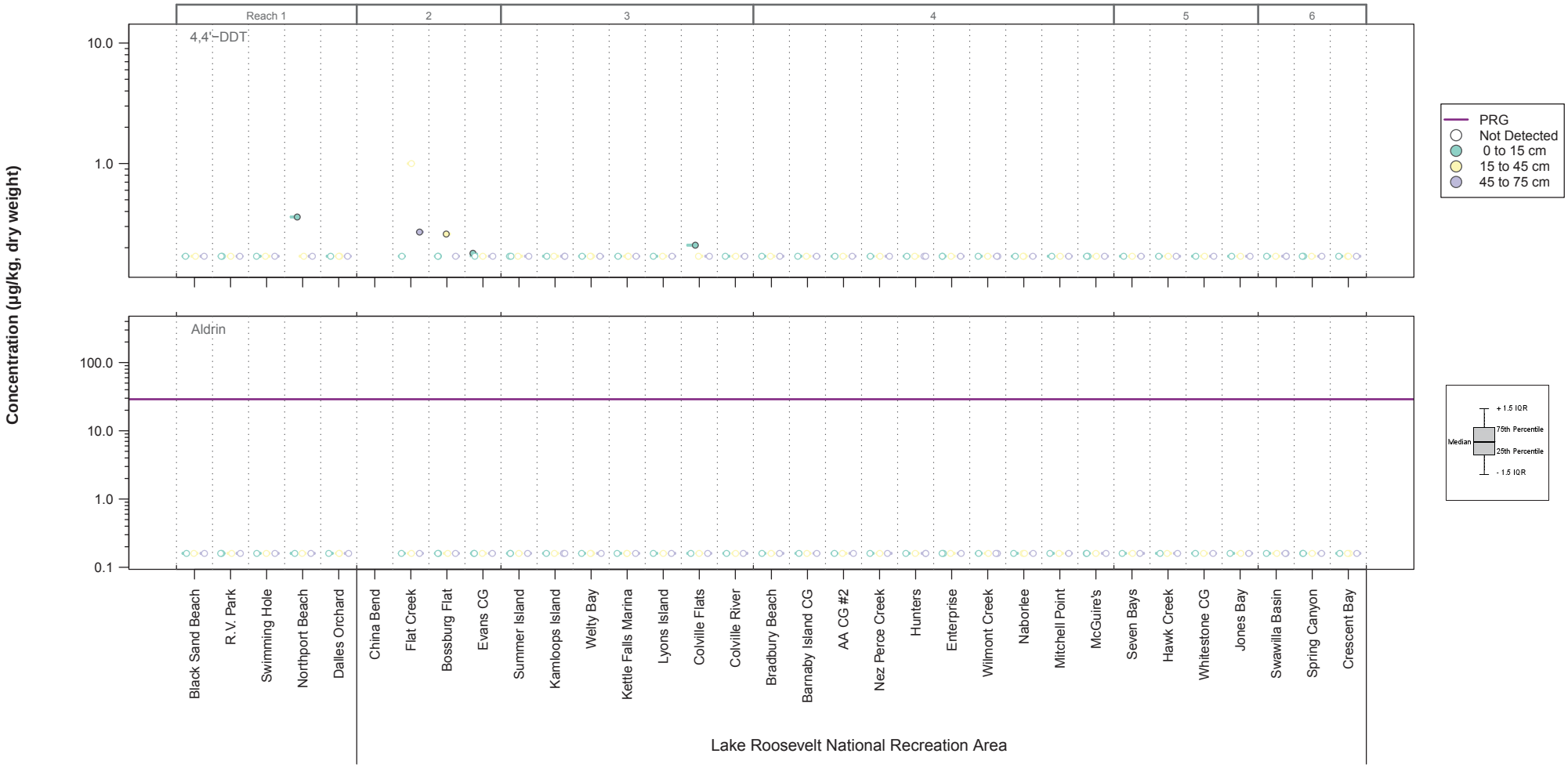
Figure 5−52
Concentrations of
2,4'−DDE and
2,4'−DDT
in UCR Beach Sediment.



Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−53
Concentrations of
4,4'−DDD and
4,4'−DDE
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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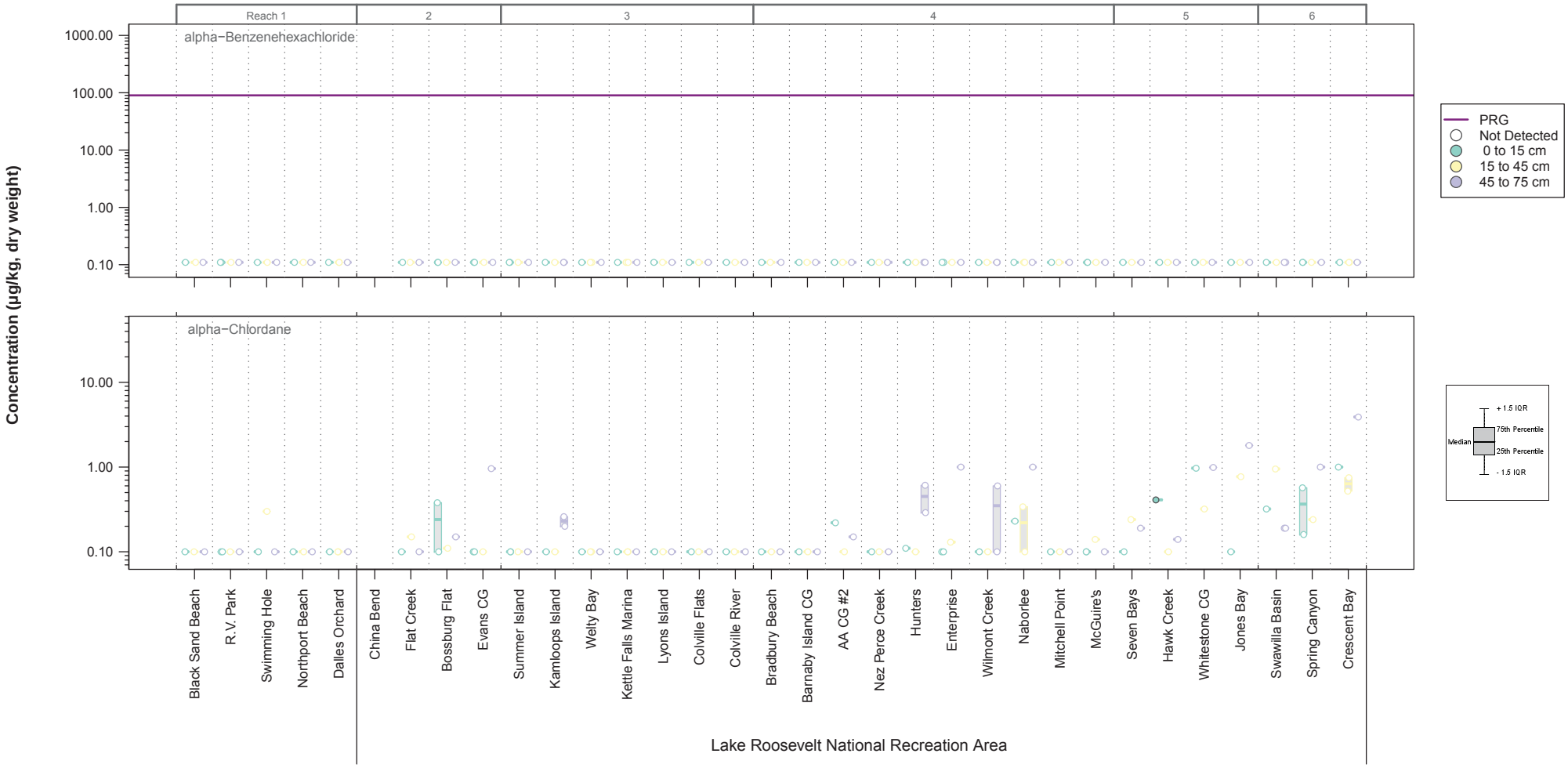
Figure 5−54
Concentrations of
4,4'−DDT and
Aldrin
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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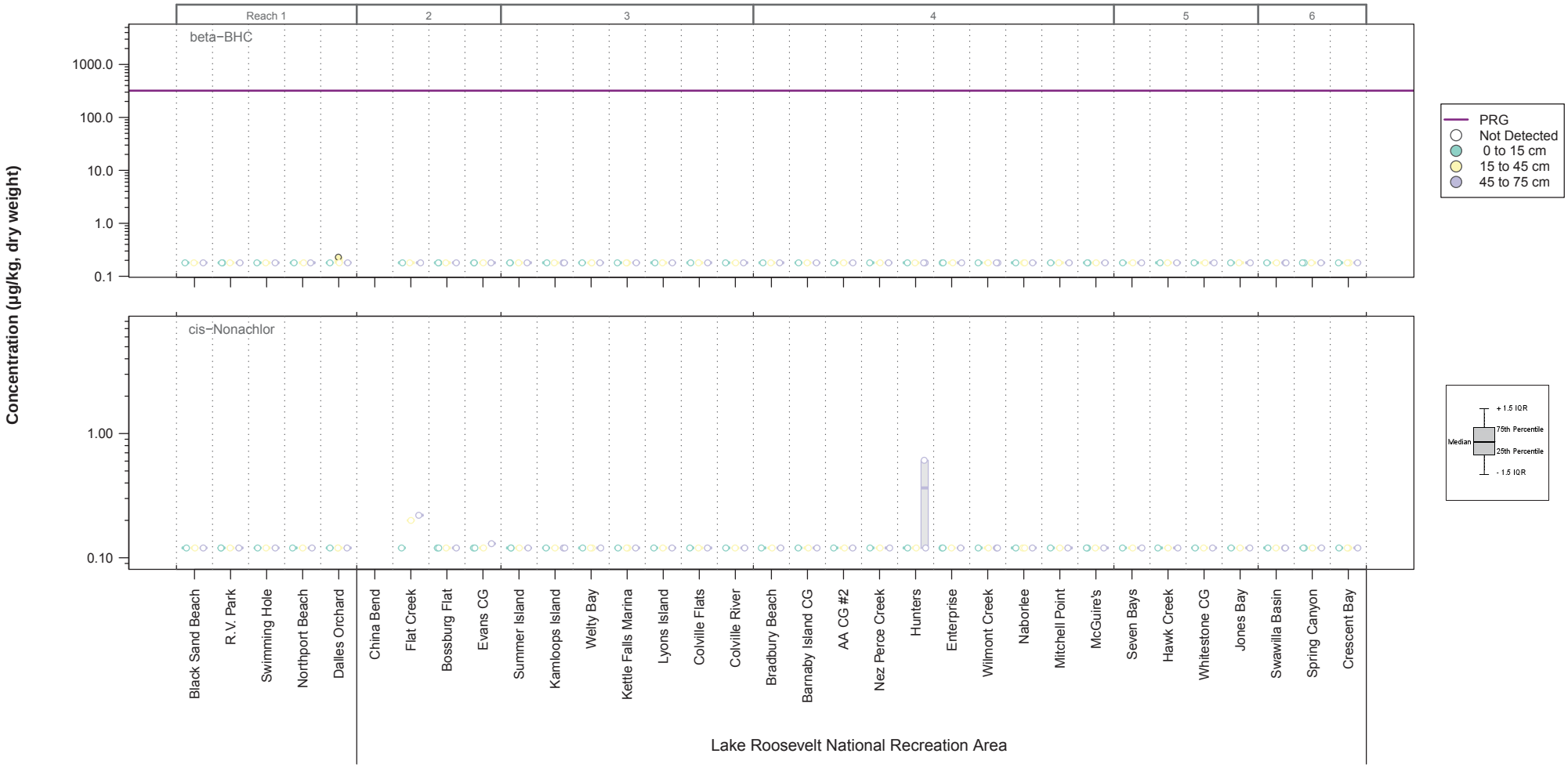
Figure 5−55
Concentrations of
alpha−Benzenehexachloride and
alpha−Chlordane
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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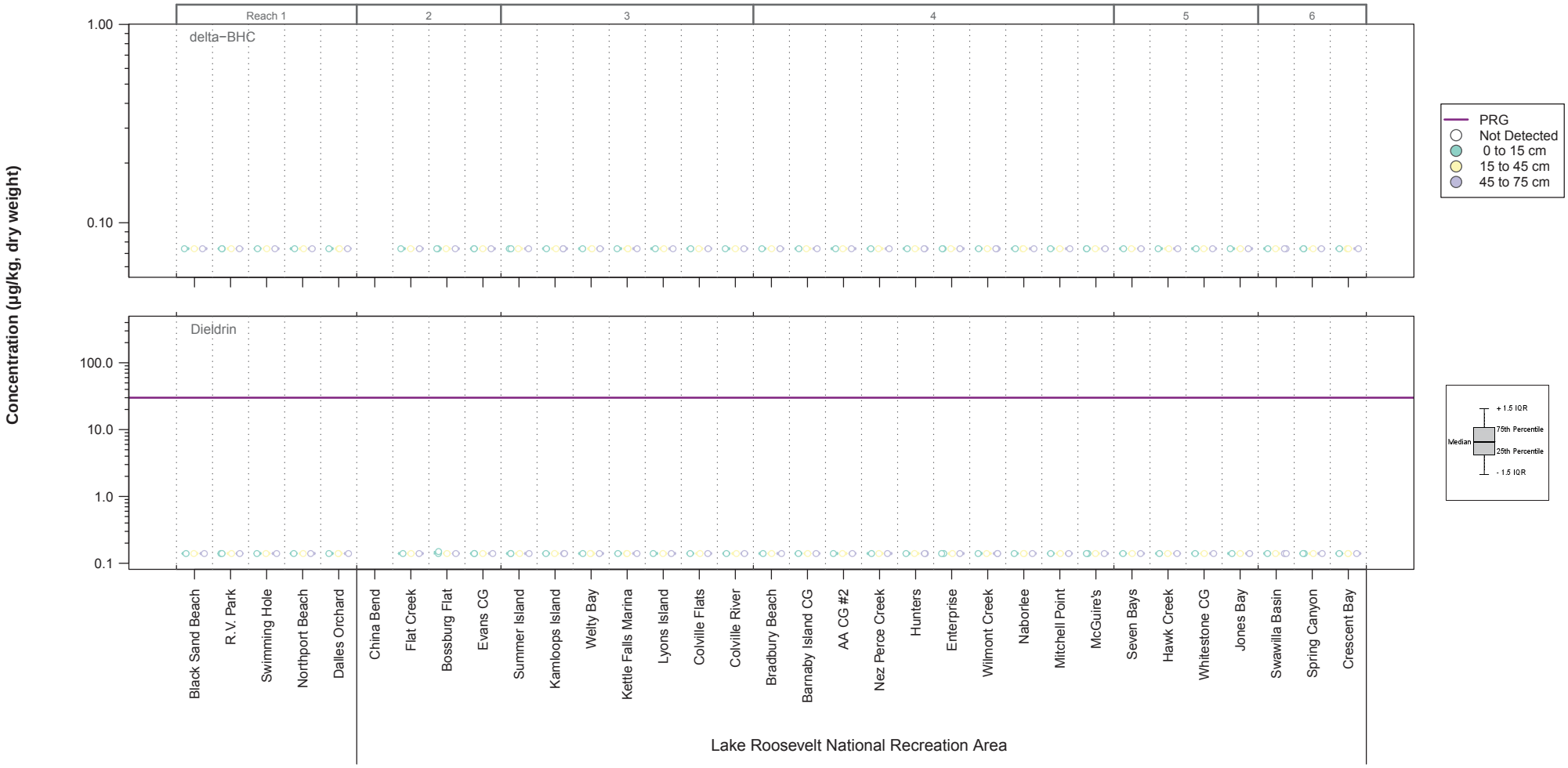
Figure 5−56
Concentrations of
beta−BHC and
cis−Nonachlor
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

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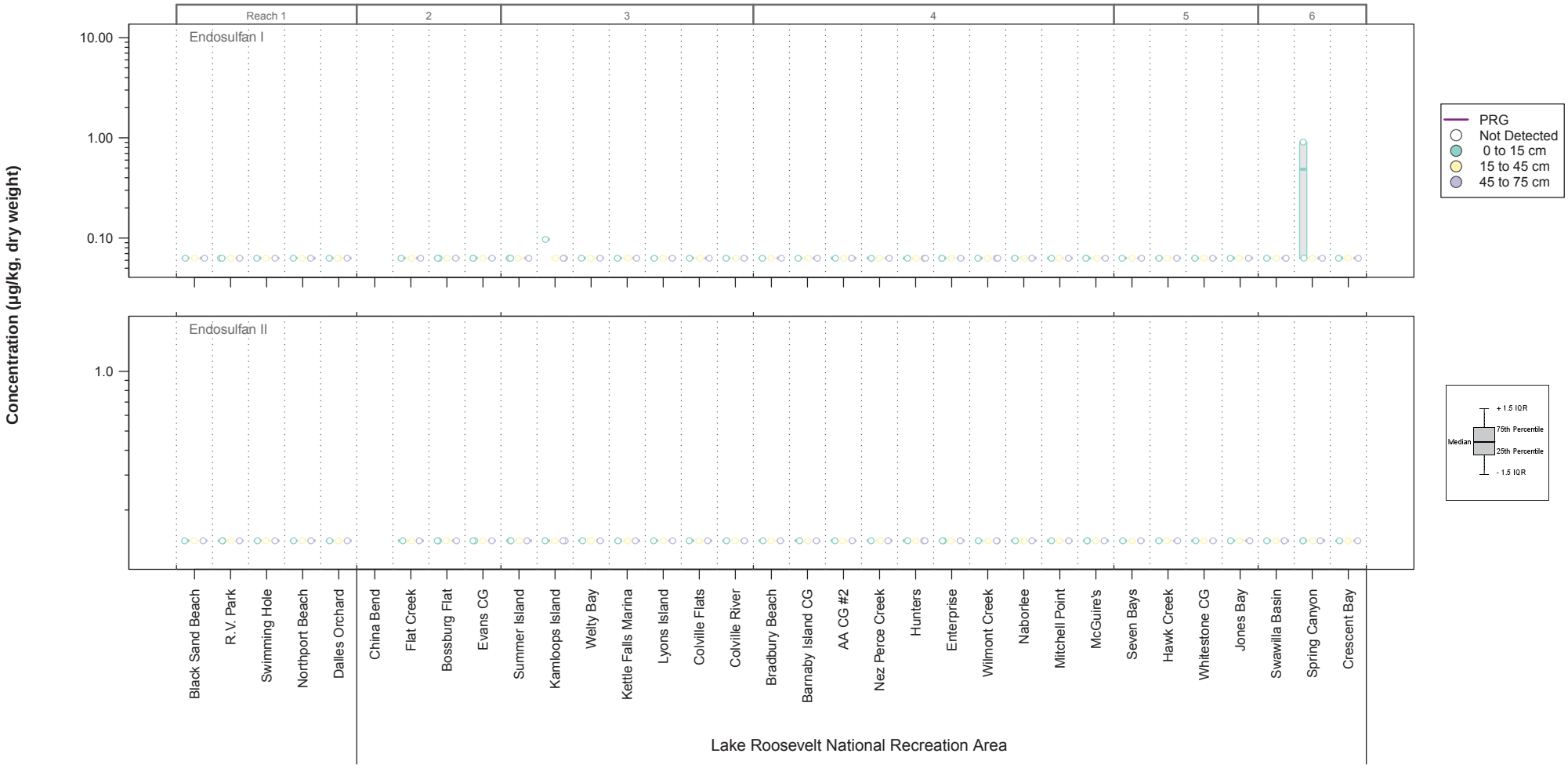
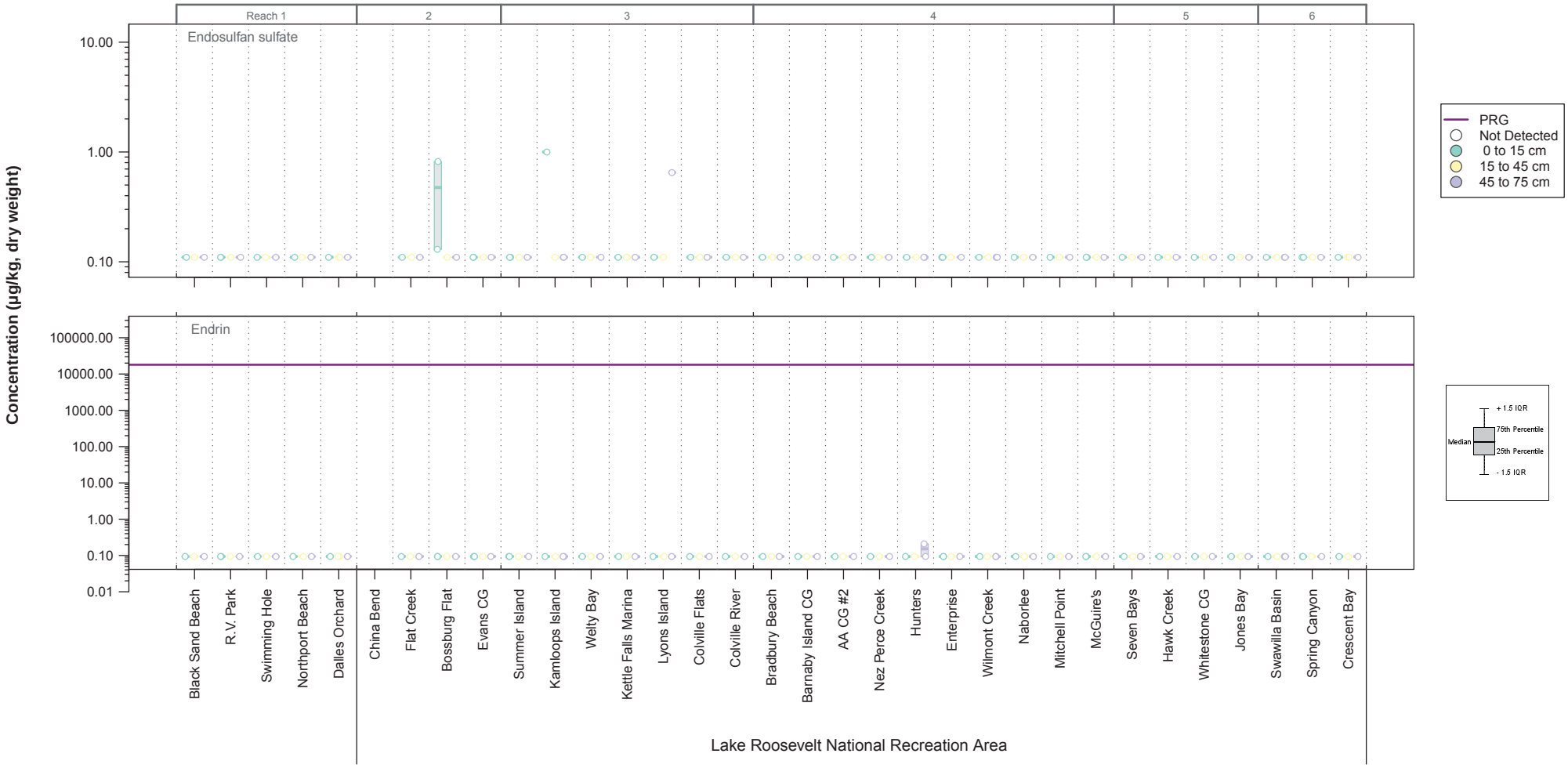
Figure 5−57
Concentrations of
delta−BHC and
Dieldrin
in UCR Beach Sediment.



Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

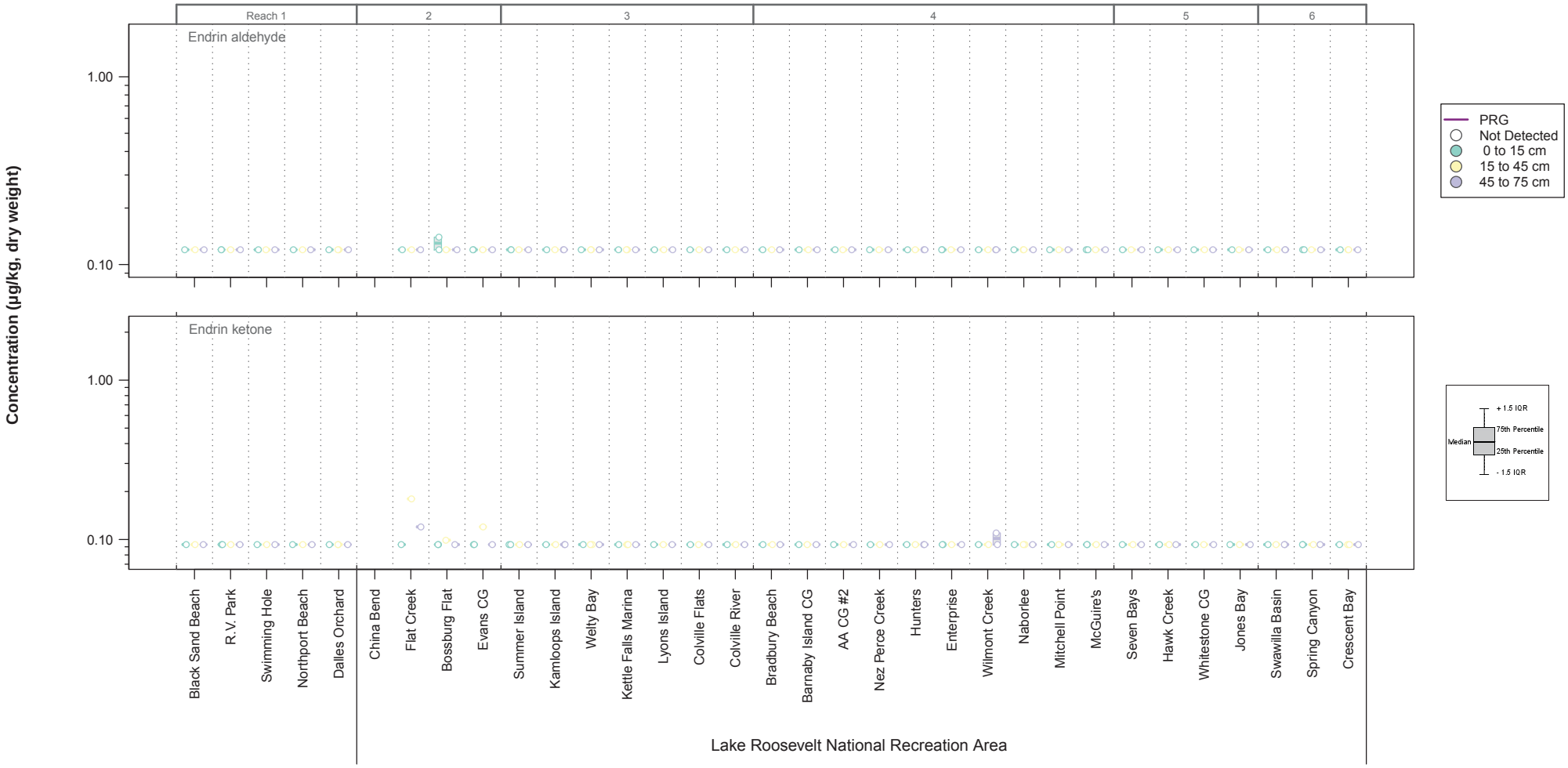
Figure 5-58
Concentrations of
Endosulfan I and
Endosulfan II
in UCR Beach Sediment.



Notes:
PRG is the Residential PRG developed for soil by EPA Region 9 (Smucker 2004).

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

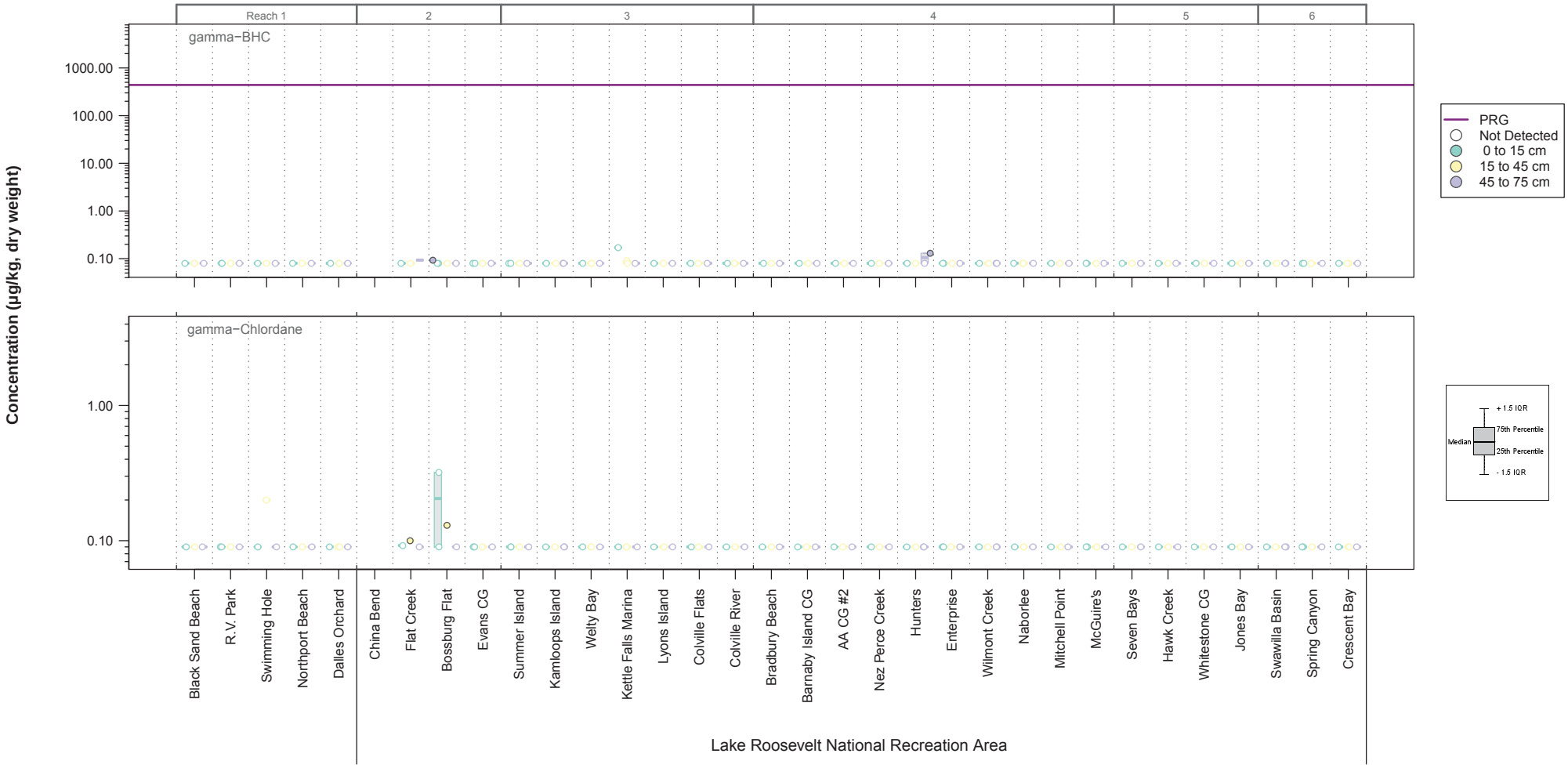
Figure 5-59
Concentrations of
Endosulfan sulfate and
Endrin
in UCR Beach Sediment.



Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5-60
Concentrations of
Endrin aldehyde and
Endrin ketone
in UCR Beach Sediment.



Notes:
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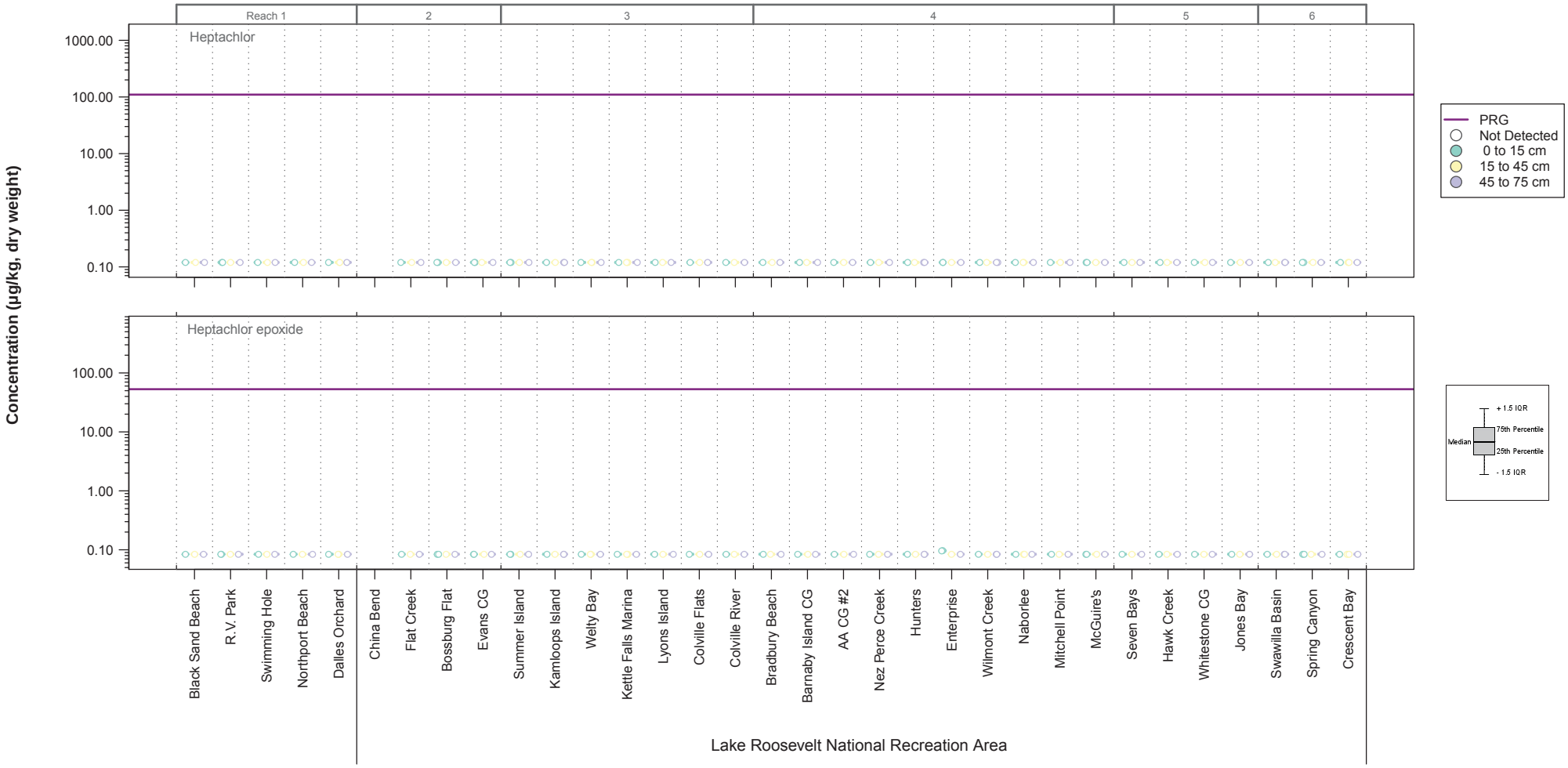
Figure 5−61
Concentrations of
gamma−BHC and
gamma−Chlordane
in UCR Beach Sediment.



Notes:
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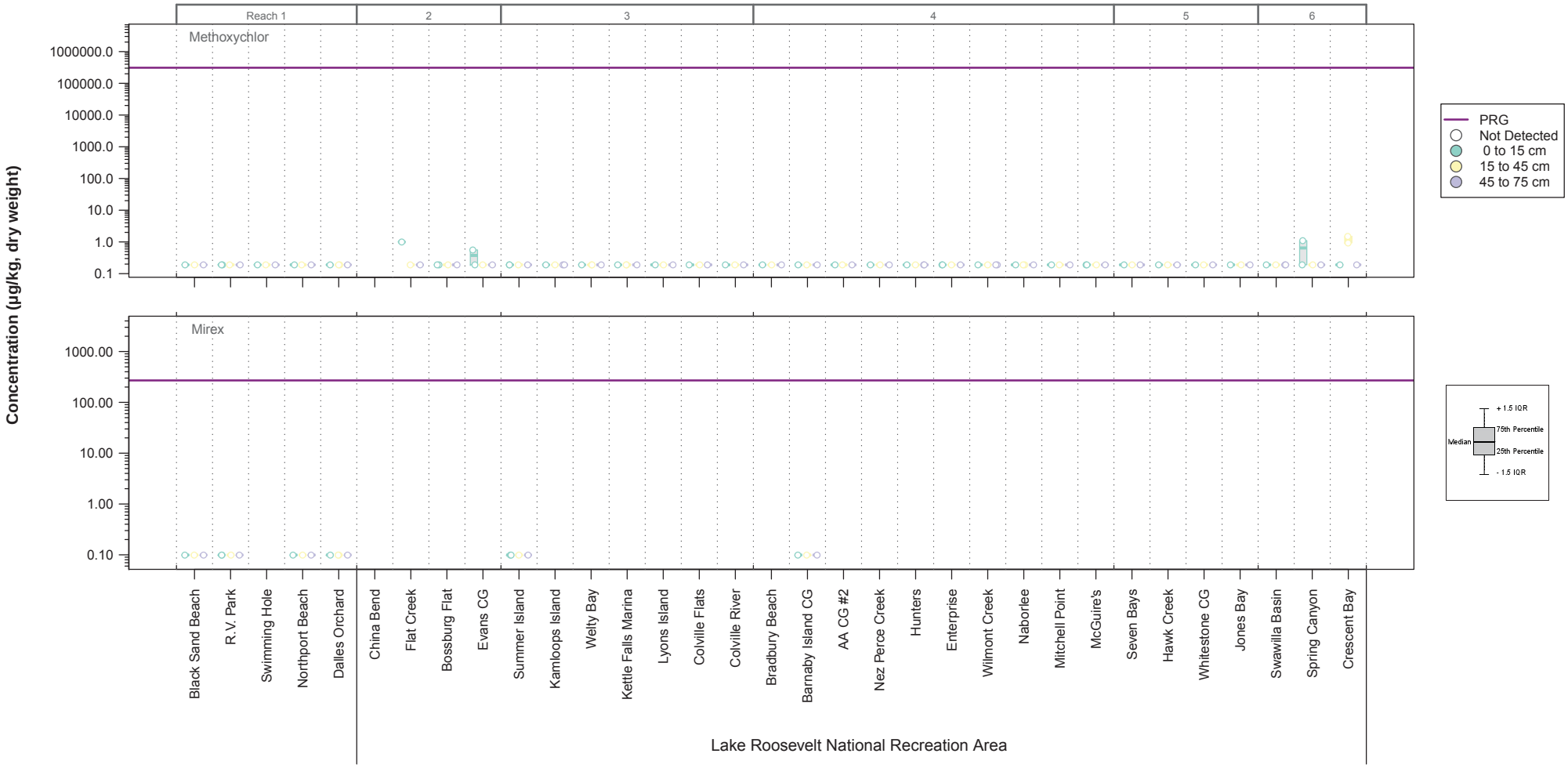
Figure 5-62
Concentrations of
Heptachlor and
Heptachlor epoxide
in UCR Beach Sediment.



Notes:
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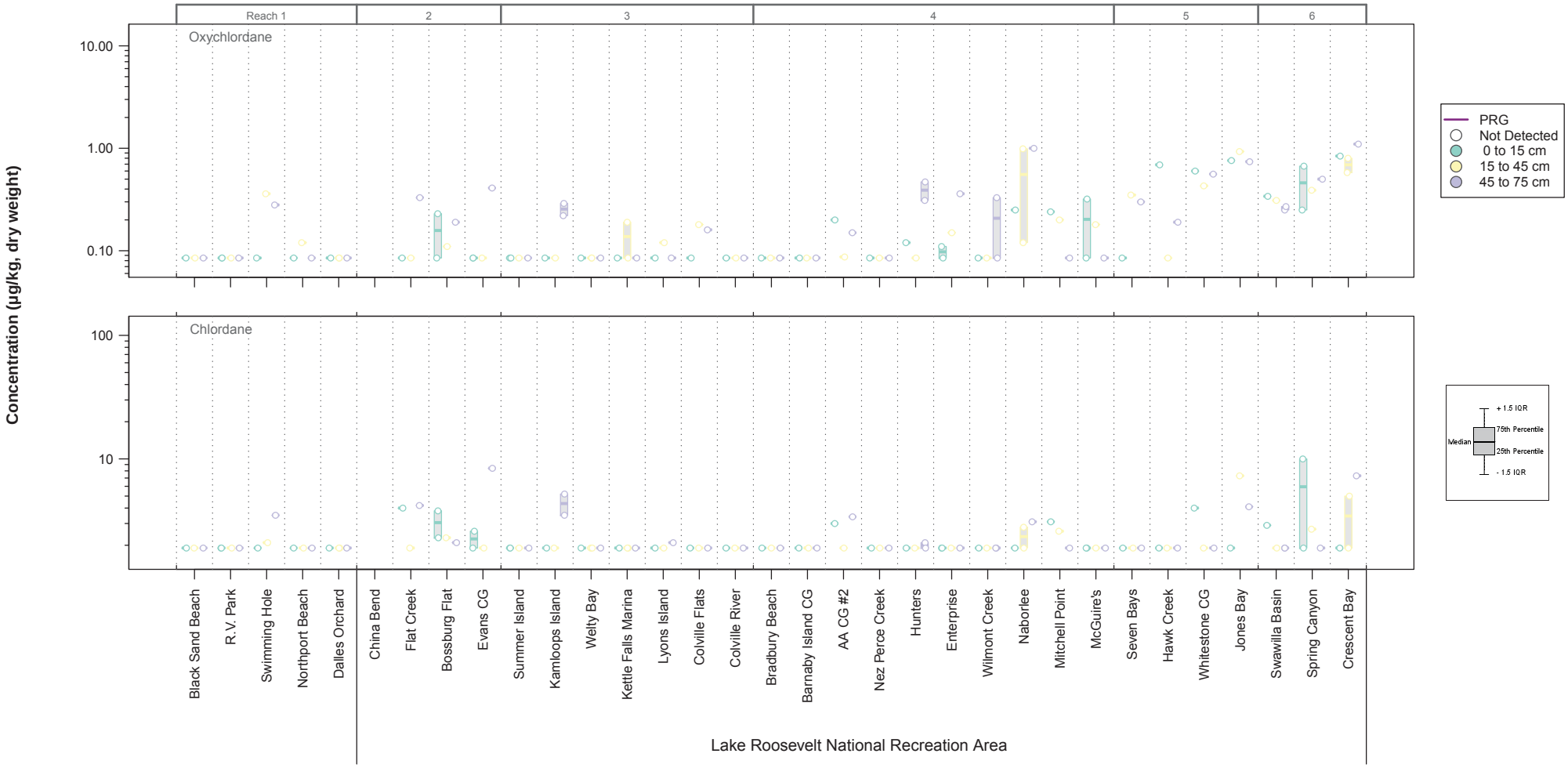
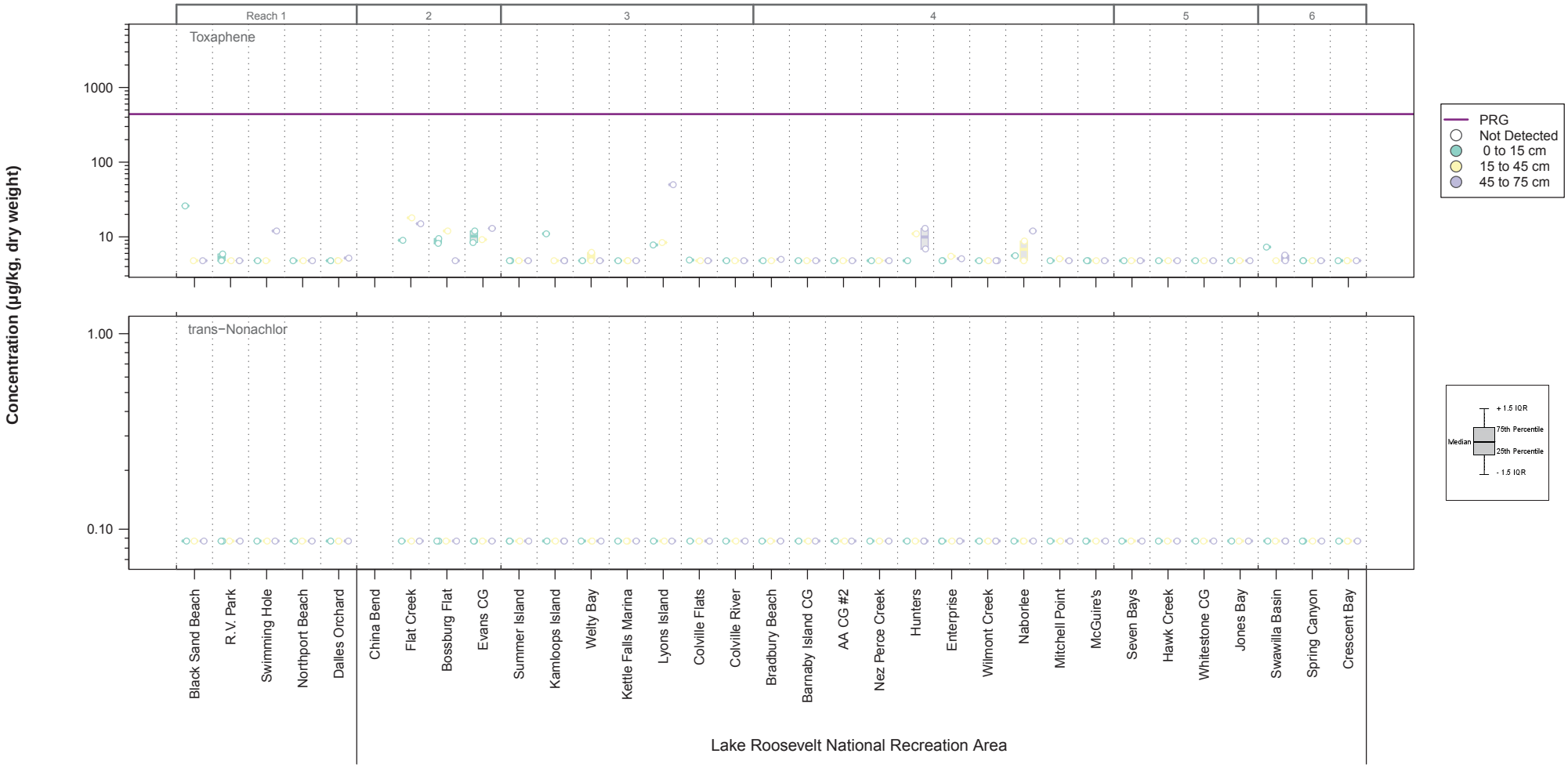
Figure 5-63
Concentrations of Methoxychlor and Mirex
in UCR Beach Sediment.



Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5-64
Concentrations of
Oxychlordane and
Chlordane
in UCR Beach Sediment.



Notes:
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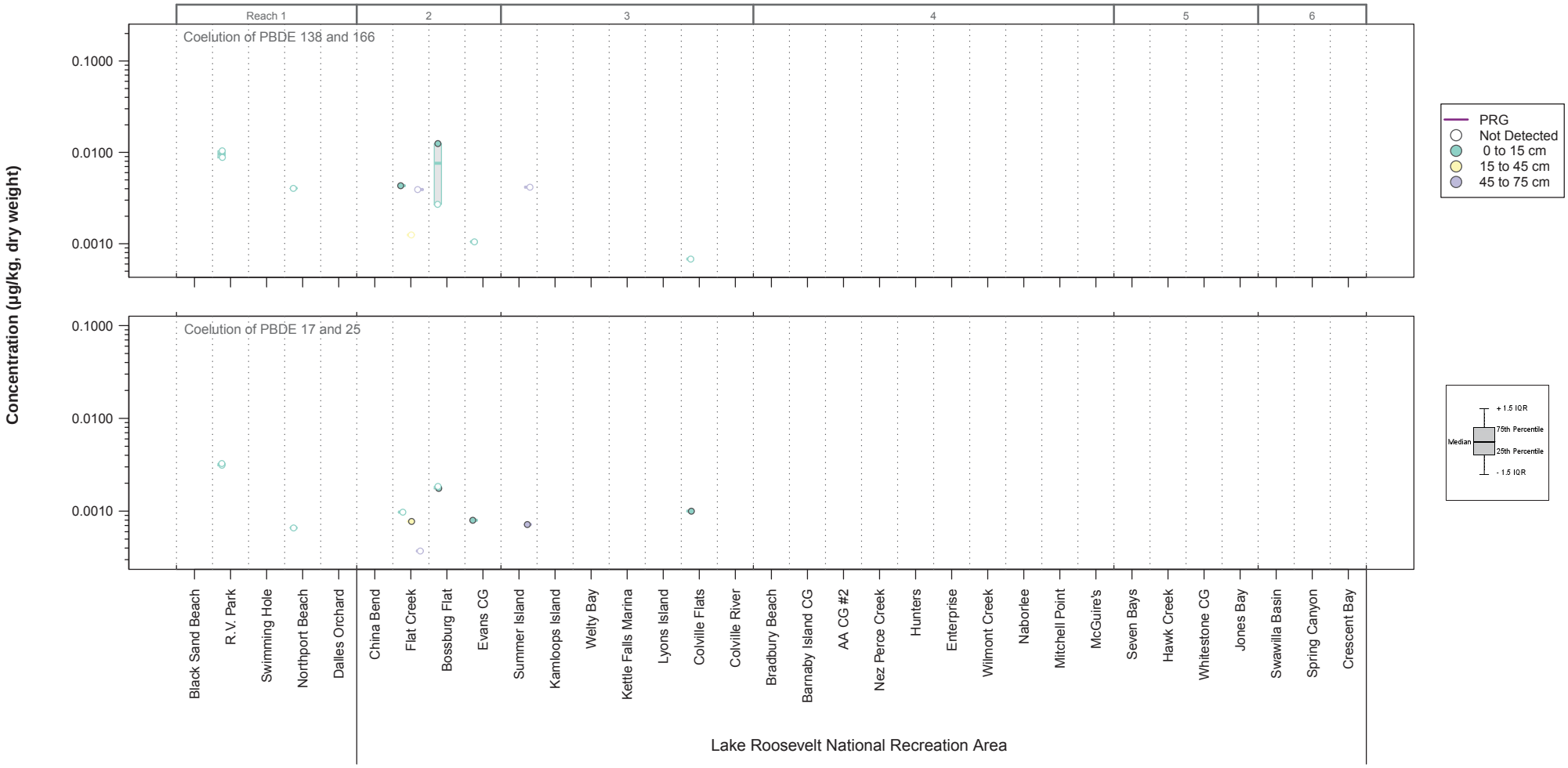
Figure 5−65
Concentrations of
Toxaphene and
trans−Nonachlor
in UCR Beach Sediment.



Notes:
No PRG available.

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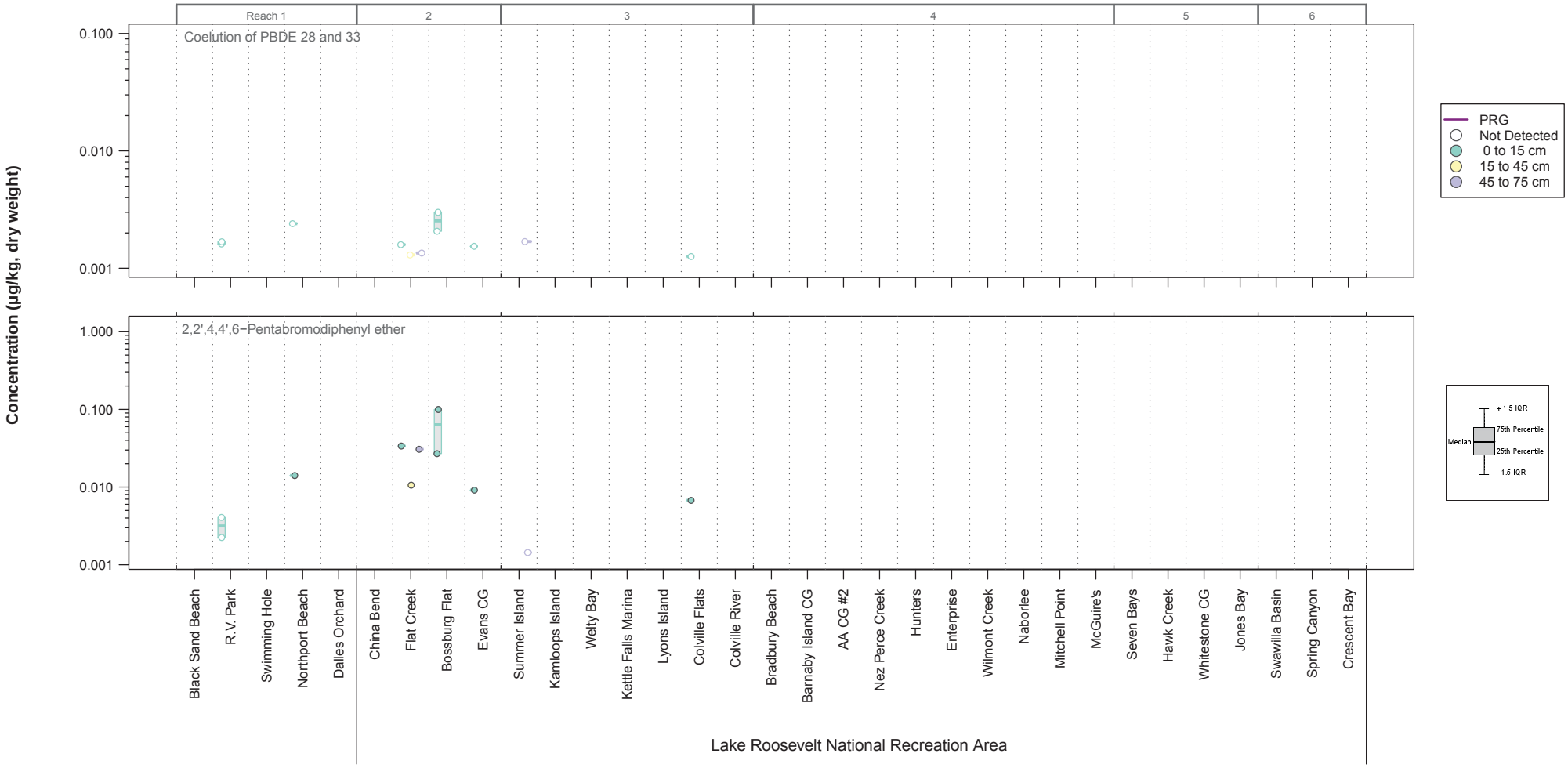
Figure 5-66
Concentrations of
Coelution of PBDE 138 and 166 and
Coelution of PBDE 17 and 25
in UCR Beach Sediment.



Notes:
No PRG available.

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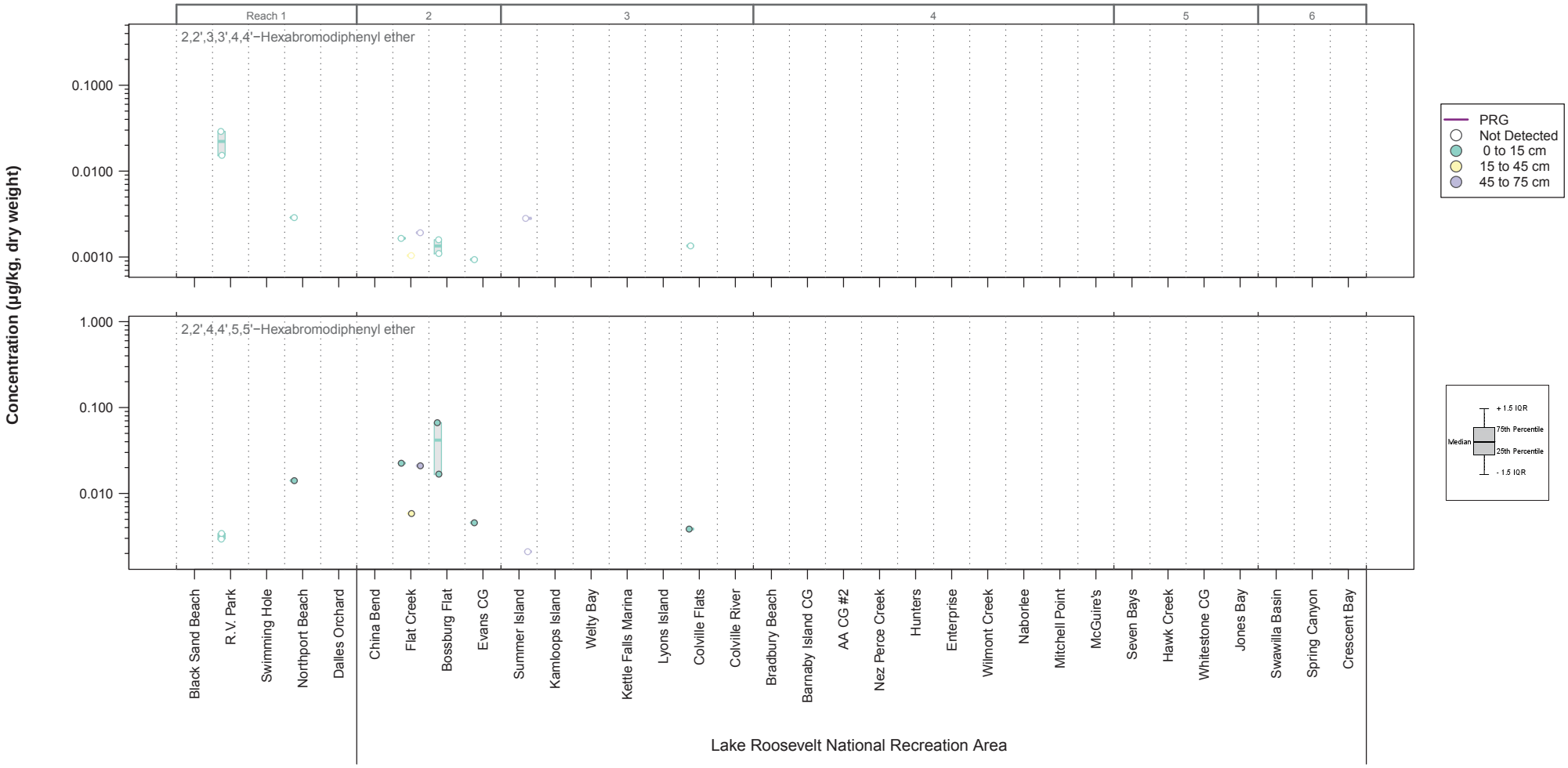
Figure 5−67
Concentrations of
Coelution of PBDE 28 and 33 and
2,2',4,4',6−Pentabromodiphenyl ether
in UCR Beach Sediment.



Notes:
No PRG available.

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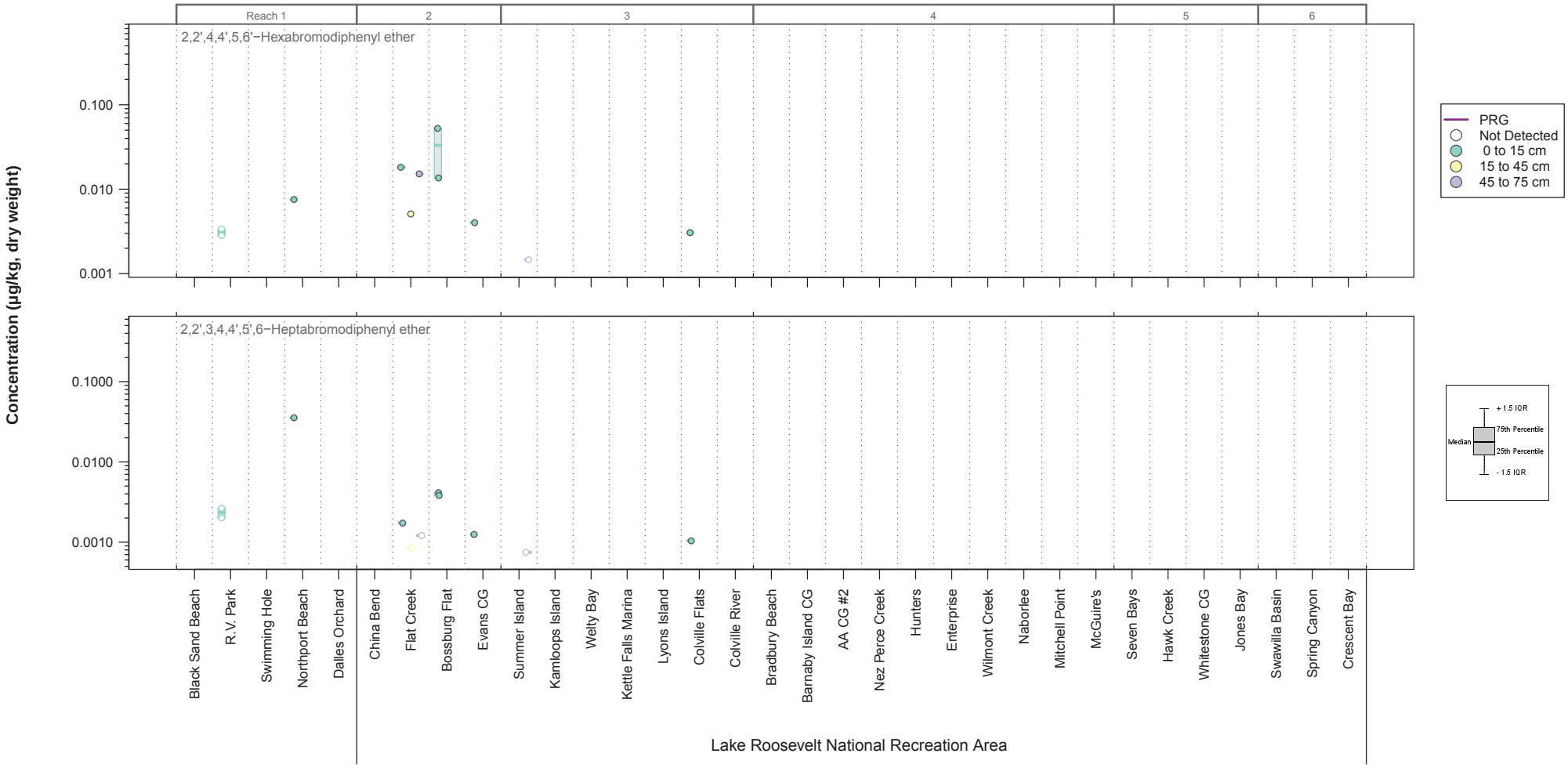
Figure 5−68
Concentrations of
2,2',3,3',4,4'−Hexabromodiphenyl ether and
2,2',4,4',5,5'−Hexabromodiphenyl ether
in UCR Beach Sediment.



Notes:
No PRG available.

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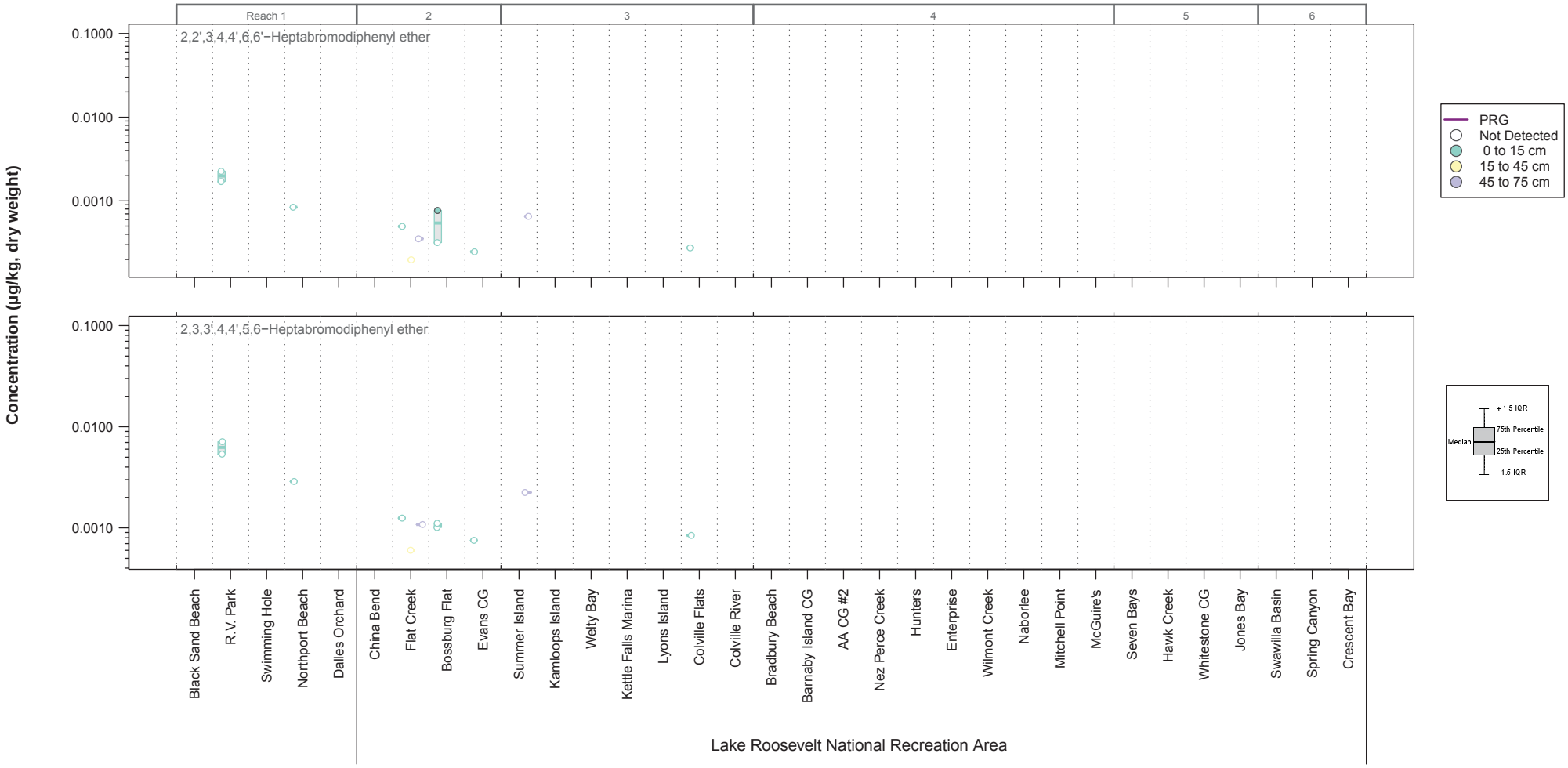
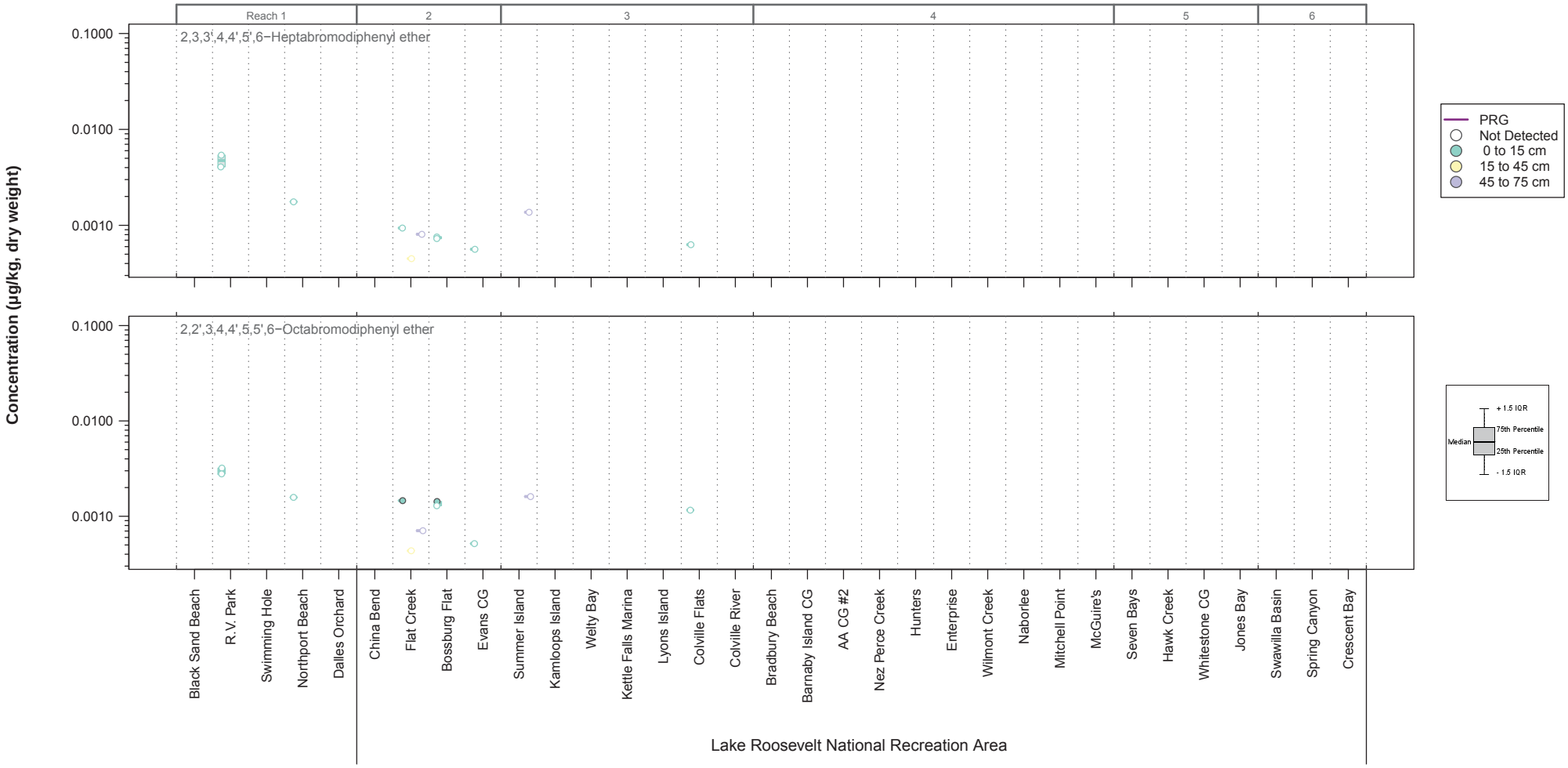
Figure 5−69
Concentrations of
2,2',4,4',5,6'−Hexabromodiphenyl ether and
2,2',3,4,4',5',6−Heptabromodiphenyl ether
in UCR Beach Sediment.



Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−70
Concentrations of
2,2',3,4,4',6,6'−Heptabromodiphenyl ether and
2,3,3',4,4',5,6−Heptabromodiphenyl ether
in UCR Beach Sediment.



Notes:
No PRG available.

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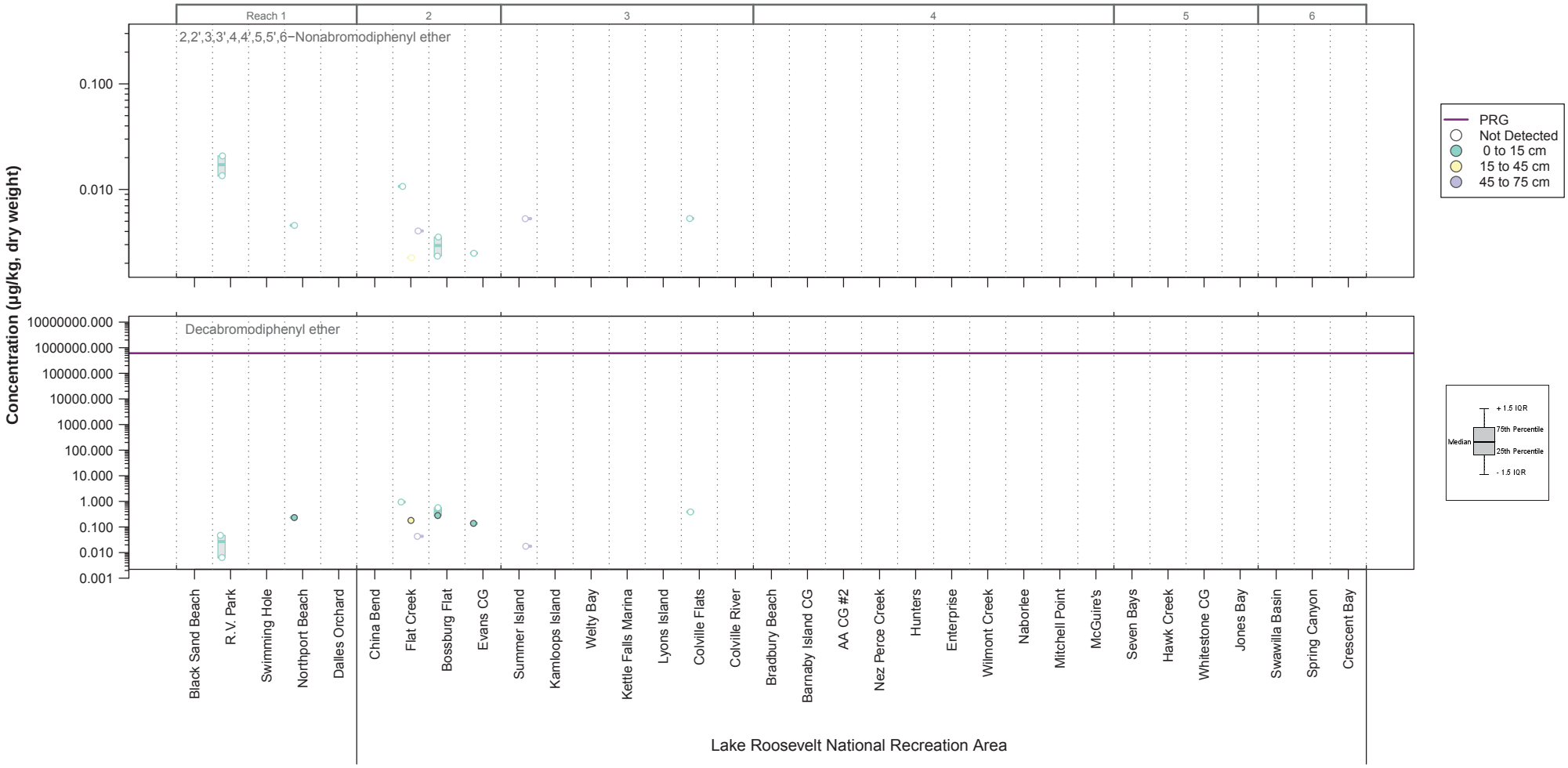
Figure 5−71
Concentrations of
2,3,3',4,4',5',6−Heptabromodiphenyl ether and
2,2',3,4,4',5,5',6−Octabromodiphenyl ether
in UCR Beach Sediment.



Notes:
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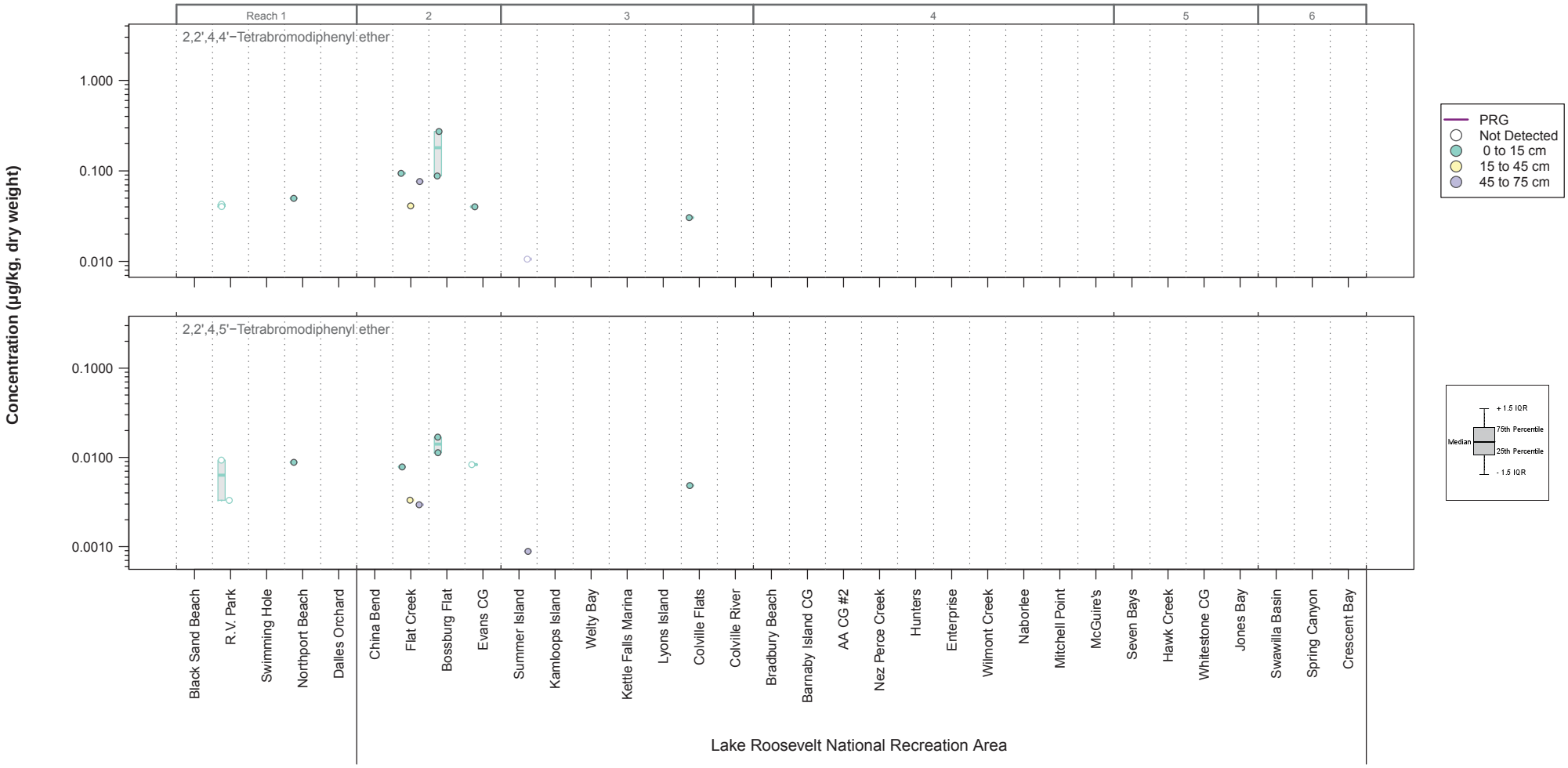
Figure 5−72
Concentrations of
2,2',3,3',4,4',5,5',6−Nonabromodiphenyl ether and
Decabromodiphenyl ether
in UCR Beach Sediment.



Notes:
No PRG available.

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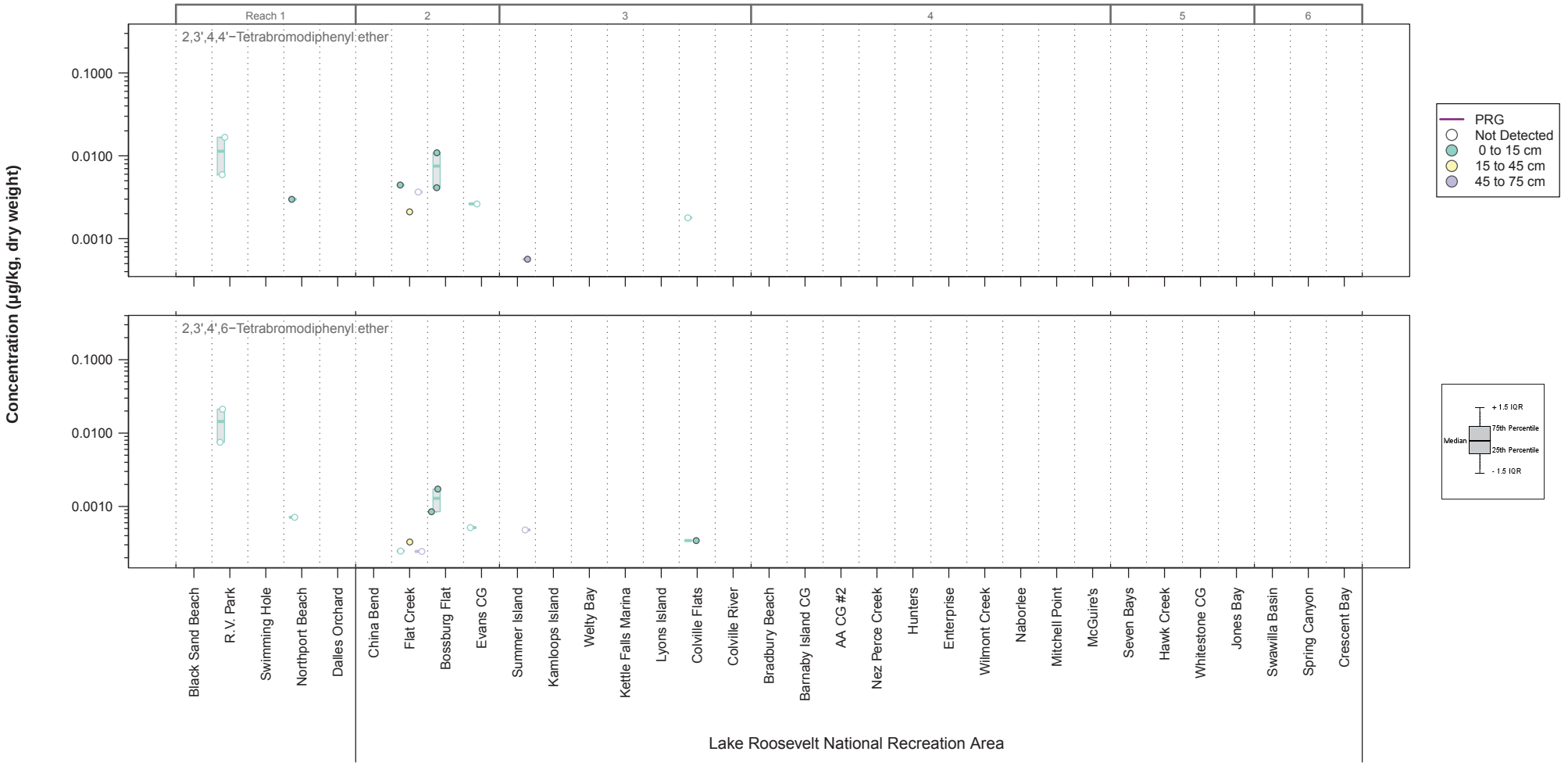
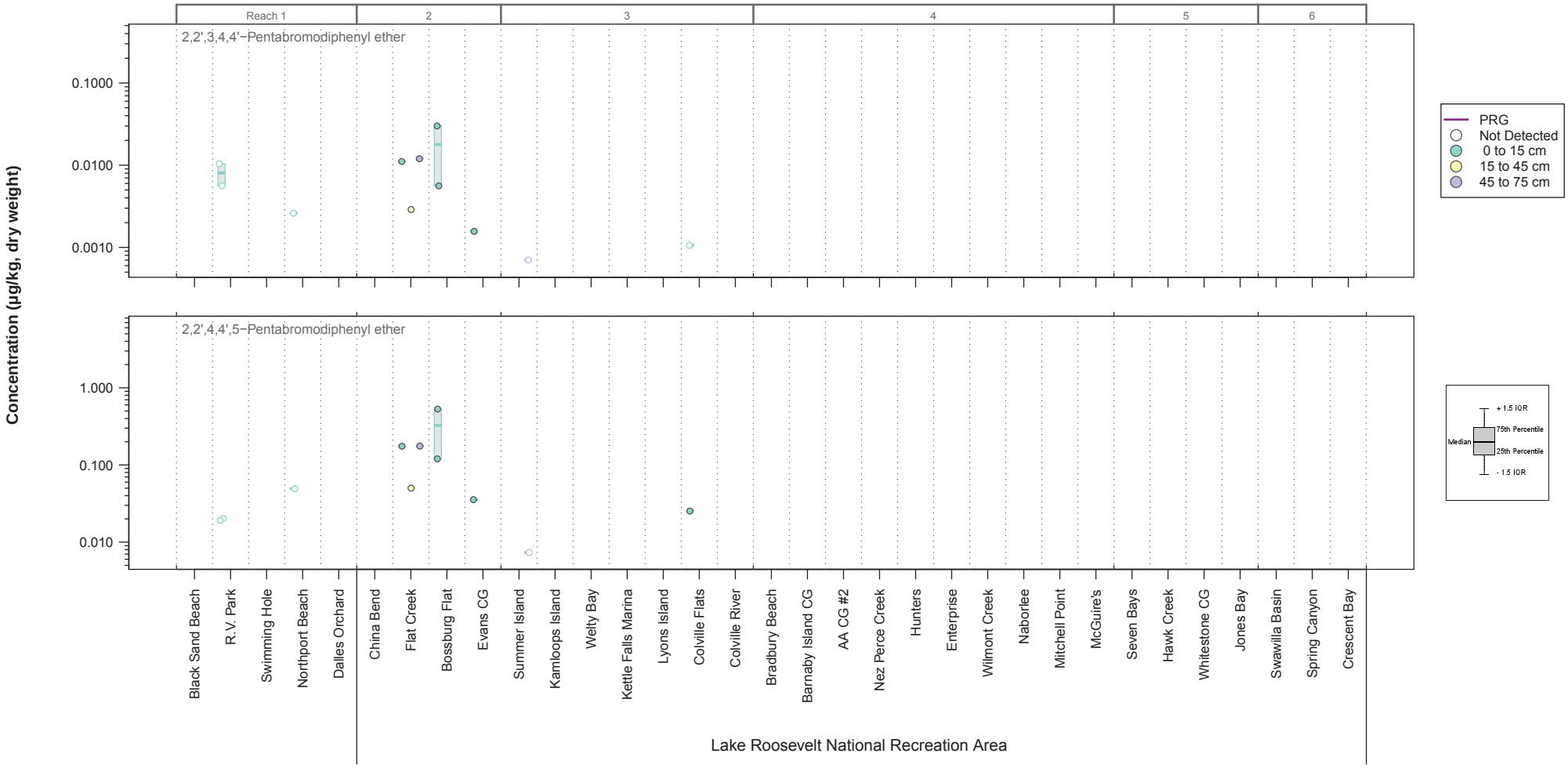
Figure 5−73
Concentrations of
2,2',4,4'−Tetrabromodiphenyl ether and
2,2',4,5'−Tetrabromodiphenyl ether
in UCR Beach Sediment.



Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−74
Concentrations of
2,3',4,4'−Tetrabromodiphenyl ether and
2,3',4',6−Tetrabromodiphenyl ether
in UCR Beach Sediment.



Notes:
No PRG available.

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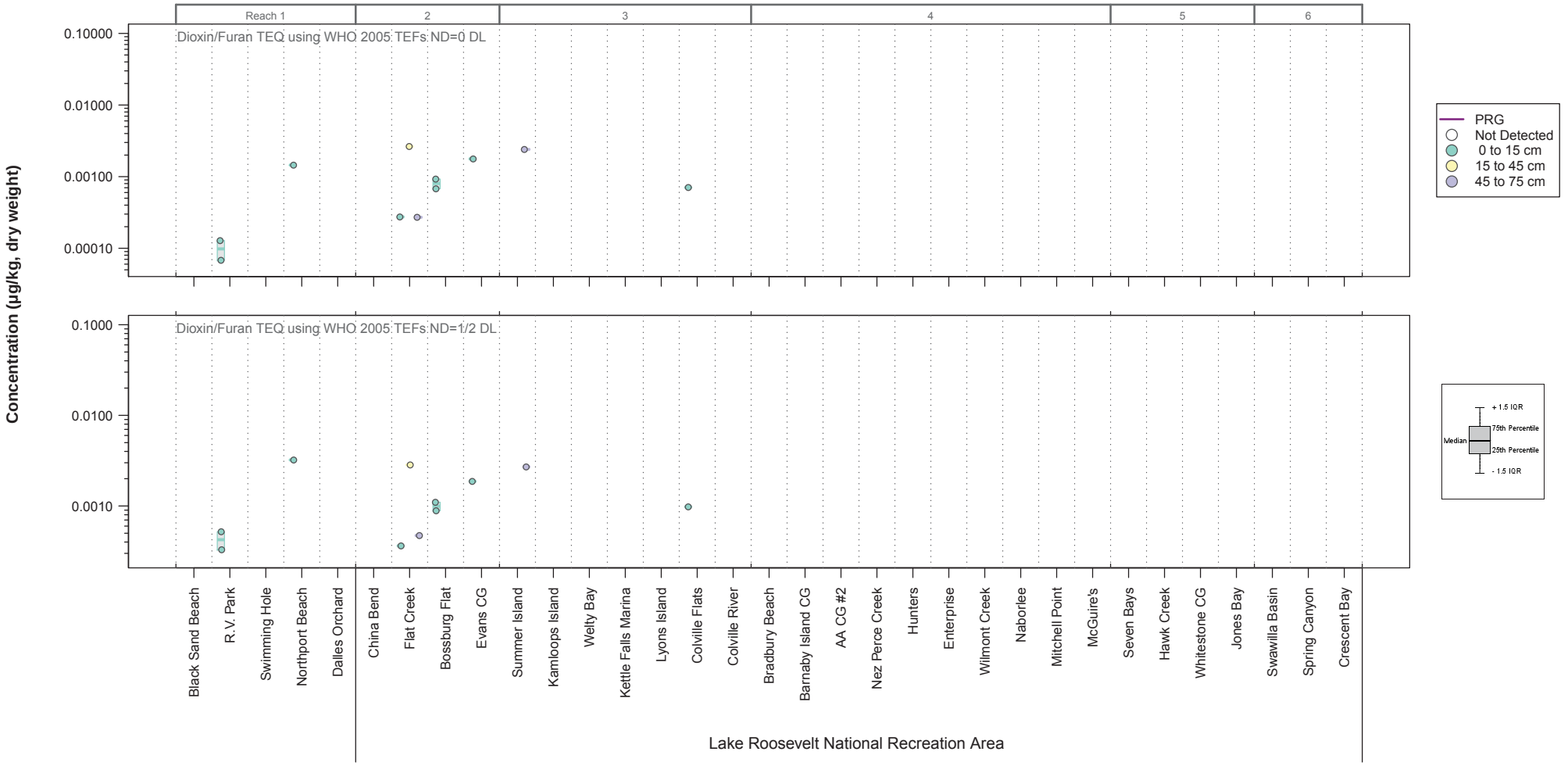
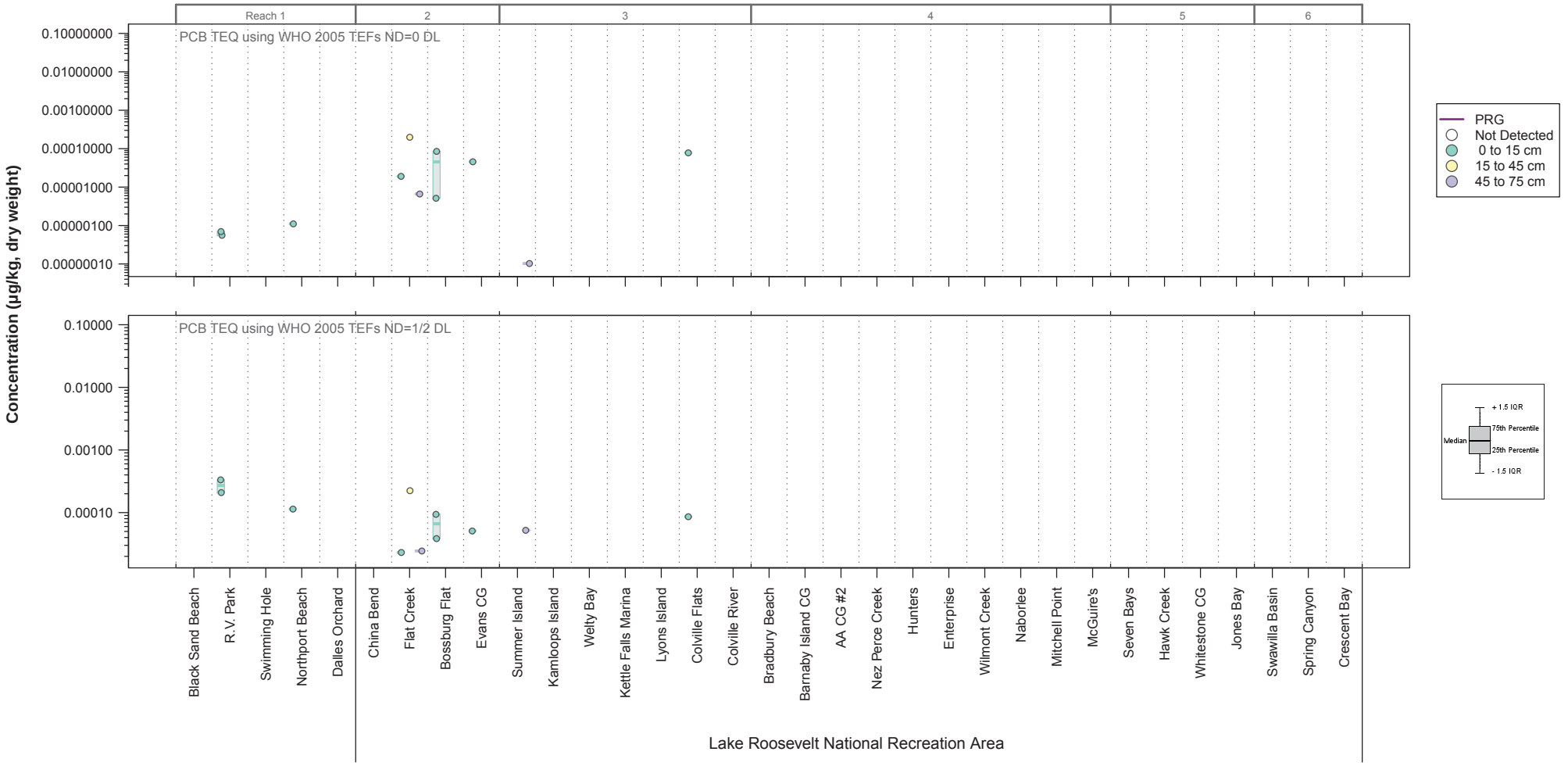
Figure 5−75
Concentrations of
2,2',3,4,4'−Pentabromodiphenyl ether and
2,2',4,4',5−Pentabromodiphenyl ether
in UCR Beach Sediment.



Notes:
No PRG available.

Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

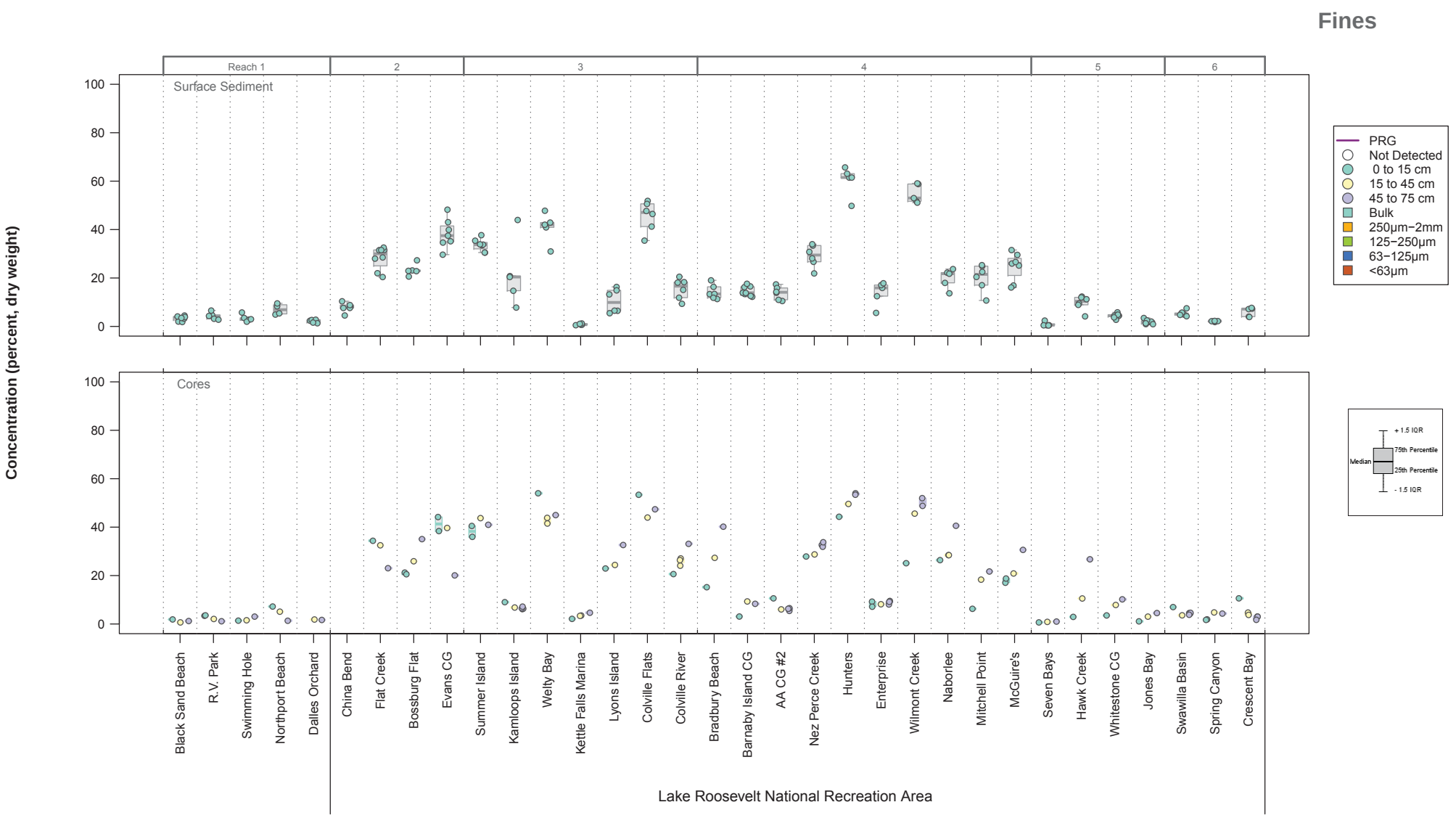
Figure 5-76
Concentrations of
Dioxin/Furan TEQ using WHO 2005 TEFs ND=0 DL and
Dioxin/Furan TEQ using WHO 2005 TEFs ND=1/2 DL
in UCR Beach Sediment.



Notes:
No PRG available.

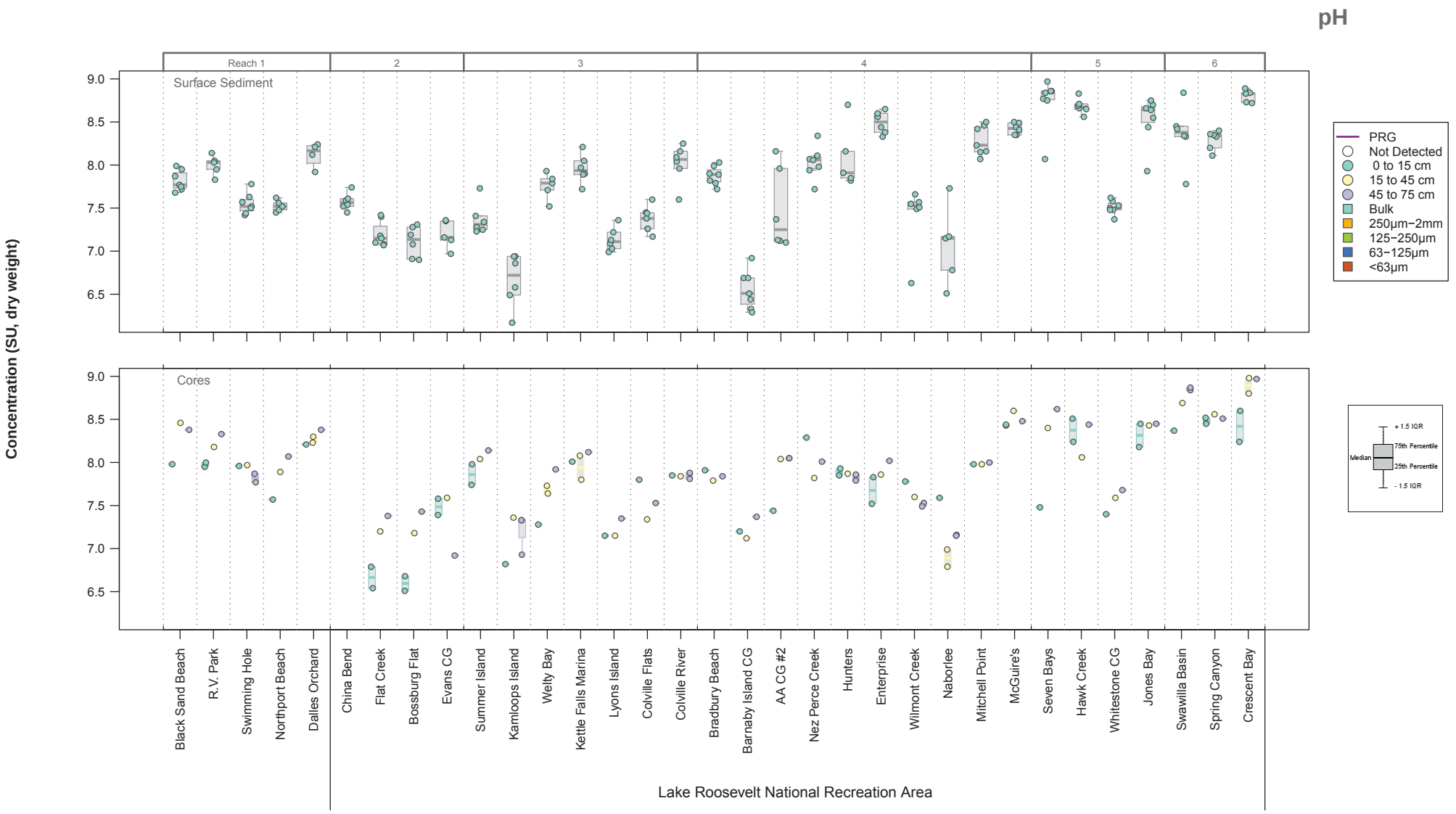
Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5-77
Concentrations of
PCB TEQ using WHO 2005 TEFs ND=0 DL and
PCB TEQ using WHO 2005 TEFs ND=1/2 DL
in UCR Beach Sediment.



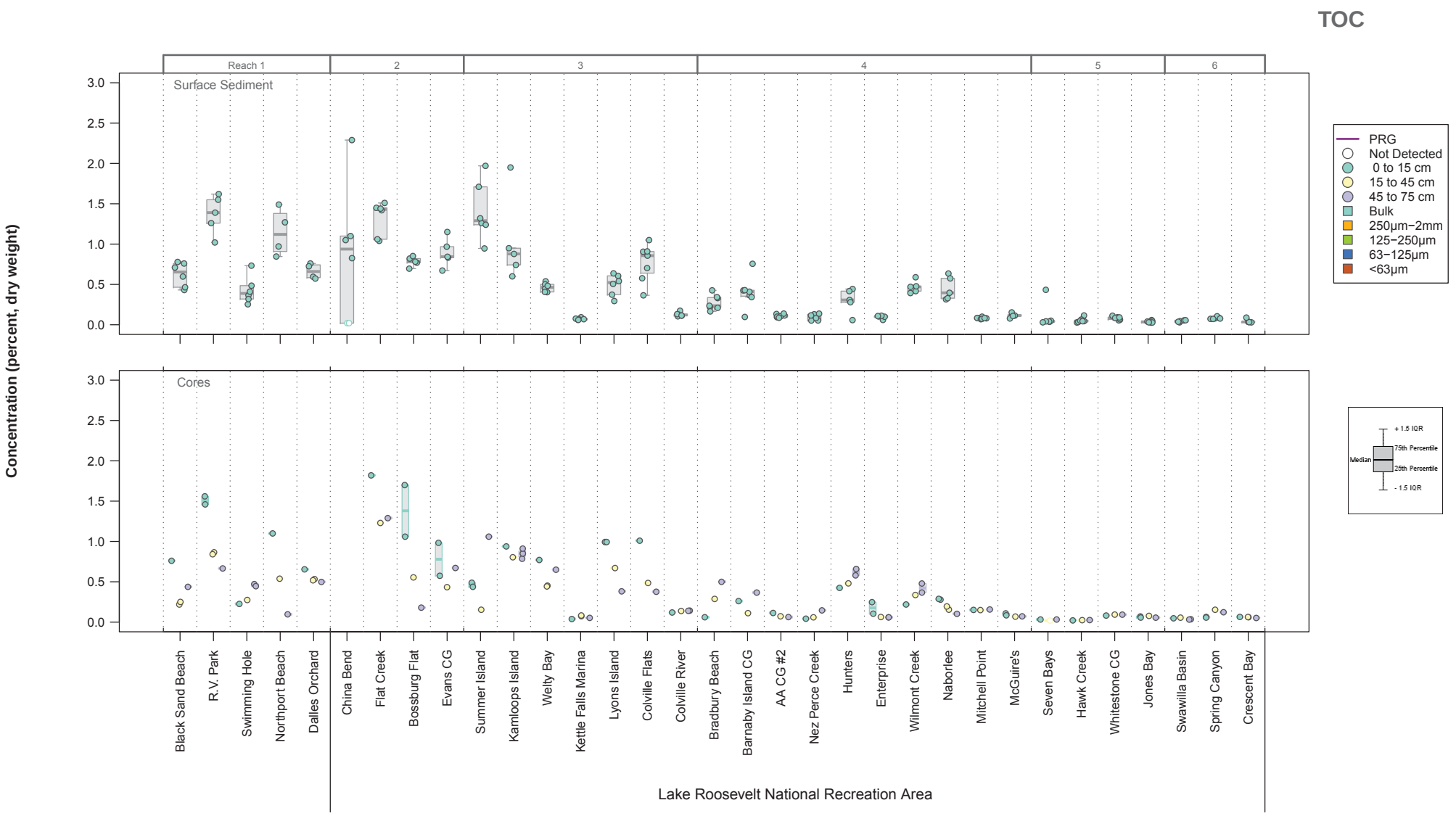
Notes:
No PRG available.
Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−78
Concentrations of Fines in UCR Beach Sediment.



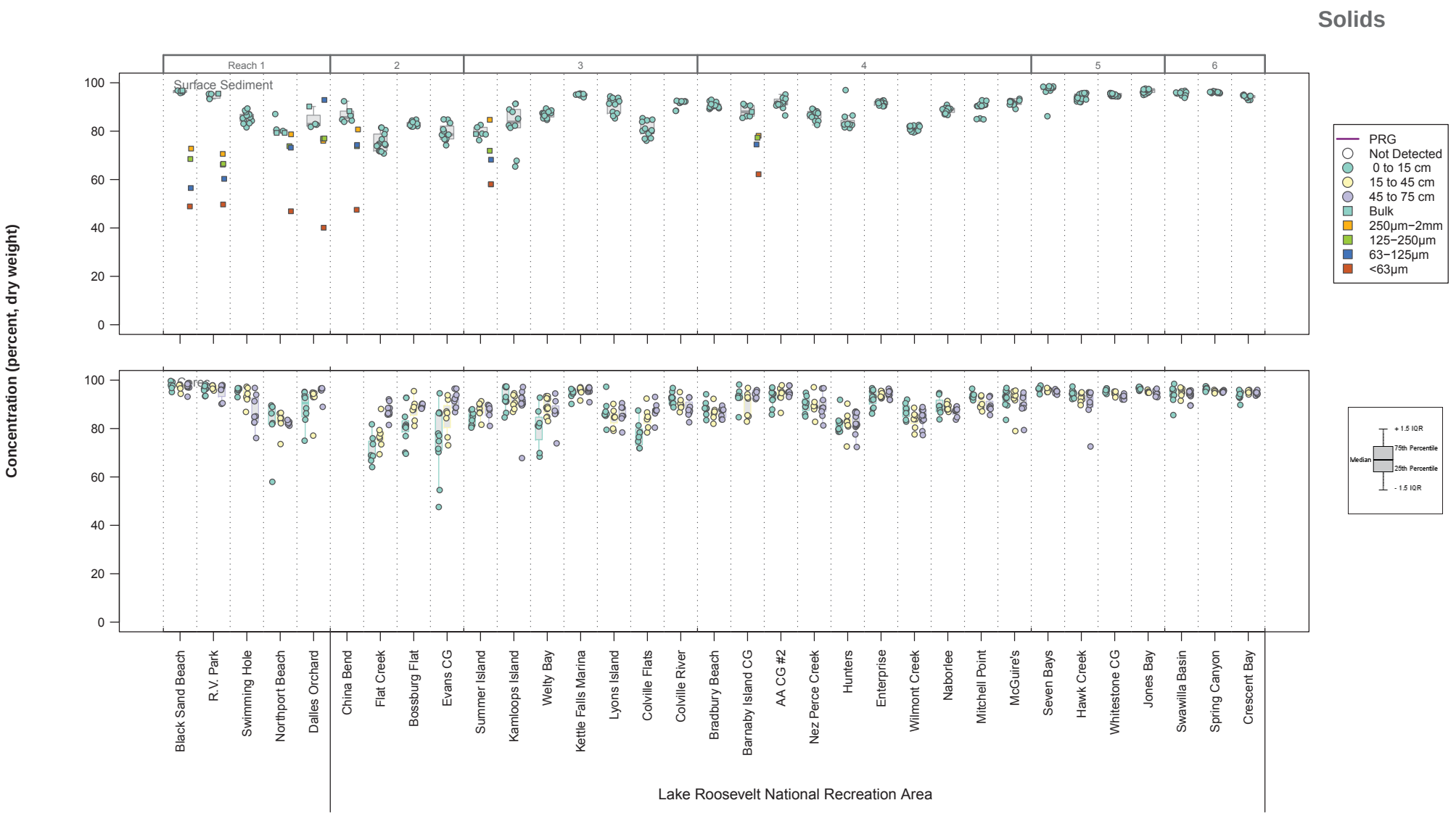
Notes:
No PRG available.
Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−79
Concentrations of pH in UCR Beach Sediment.



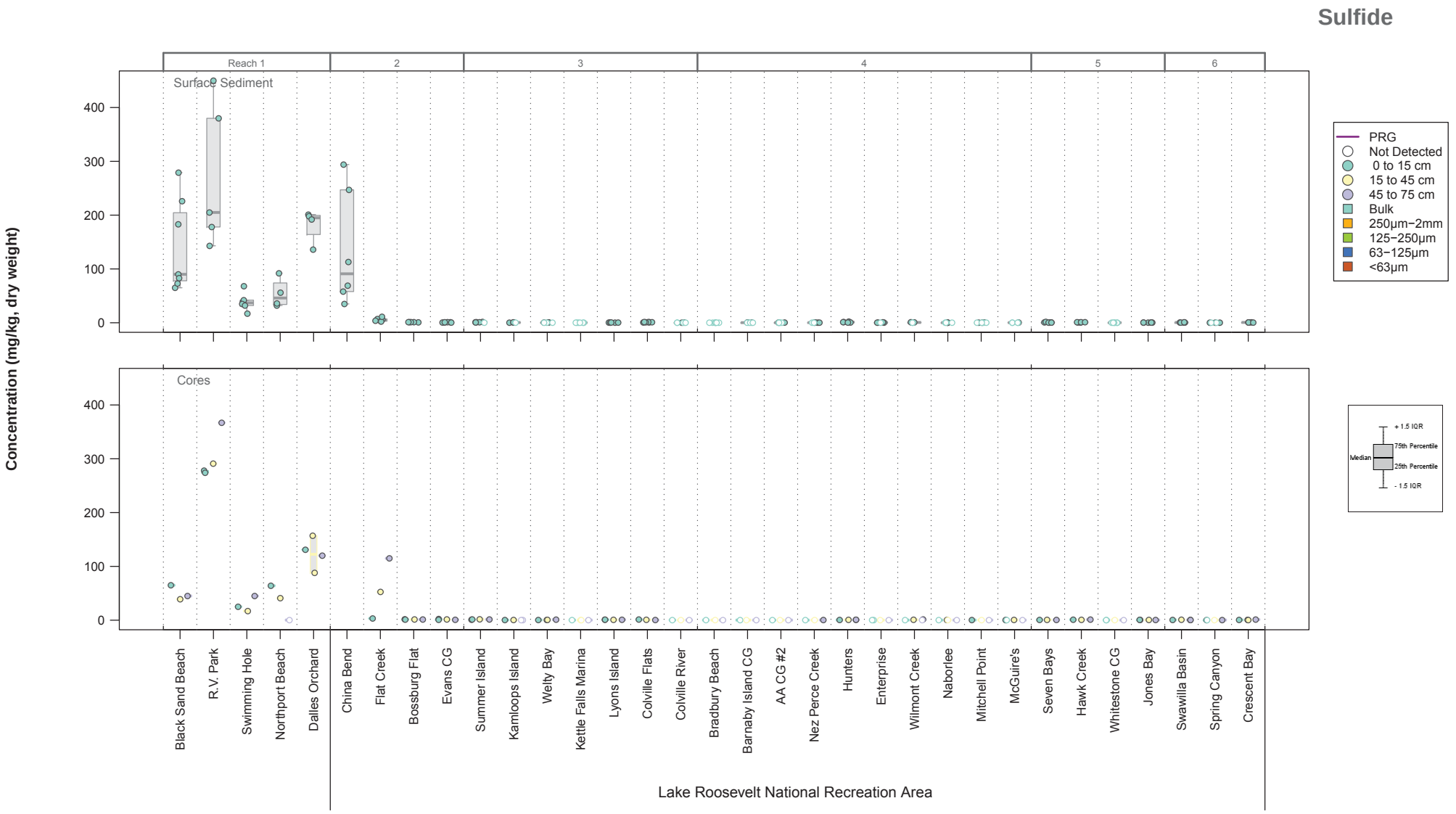
Notes:
No PRG available.
Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−80
Concentrations of TOC in UCR Beach Sediment.



Notes:
No PRG available.
Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−81
Concentrations of Solids in UCR Beach Sediment.



Notes:
No PRG available.
Sediment concentrations at Black Sand Beach are for information purposes only and are not reflective of existing conditions. The reader is encouraged to review materials maintained by the Department of Ecology: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2036.

Figure 5−82
Concentrations of Sulfide in UCR Beach Sediment.

TABLES

Table 2-1. Beach Codes Assigned to All Upper Columbia River Beaches Sampled in 2009, 2010, and 2011

Beach Name	Beach Code	Year Sampled
AA Campground 2 Beach	AA	2011
Barnaby Island Campground	BC	2010
Black Sand Beach	BS	2009
Bossburg Flat Beach	BF	2011
Bradbury Beach	BB	2011
China Bend	CB	2010
Colville Flats Beach	CF	2011
Colville River Beach	CR	2011
Crescent Bay Beach	CS	2011
Dalles Orchard	DS	2010
Enterprise Beach	EN	2011
Evans Campground Beach	EV	2011
Flat Creek Beach	FC	2011
Hunters Beach	HT	2011
Jones Bay Beach	JB	2011
Kamloops Island Beach	KL	2011
Kettle Falls Marina Beach	KF	2011
Lyons Island Beach	LY	2011
McGuire's Beach	MG	2011
Mitchell Point Beach	MP	2011
Mouth of Hawk Creek Beach	HC	2011
Naborlee Beach	NA	2011
Nez Perce Creek Beach	NZ	2011
Northport Beach	NP	2010
Seven Bays Beach	SB	2011
Spring Canyon Beach	SC	2011
Summer Island	SR	2010
Swawilla Basin Beach	SW	2011
Swimming Hole Beach	DM	2011
Upper Columbia River R.V. Park	RV	2009
Welty Bay Beach	WB	2011
Whitestone Campground Beach	WS	2011
Wilmont Creek Beach	WC	2011

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Black Sand Beach (Sampled on September 9, 2009)								
BS-495	Surface	A	A	A2	48.97031764220	-117.65085677500	452366.5505	5424360.24
BS-346	Surface	A	A	A6	48.97060134390	-117.64840094500	452546.5505	5424390.24
BS-240	Surface	A	A	A12	48.97078469980	-117.64778843900	452591.5505	5424410.24
BS-46	Surface	A	Rejected	Submerged	48.97118756010	-117.64813526300	452566.5505	5424455.24
BS-145	Surface	A	A	A10	48.97096191520	-117.64826897900	452556.5505	5424430.24
BS-44	Surface	A	Rejected	Submerged	48.97118679240	-117.64827189500	452556.5505	5424455.24
BS-481	Surface	A	A	A3	48.97036762480	-117.64996926900	452431.5505	5424365.24
BS-256	Surface	A	A	A7	48.97073627020	-117.64840269400	452546.5505	5424405.24
BS-542	Surface	A	A	A1	48.97022769140	-117.65085560400	452366.5505	5424350.24
BS-210	Surface	A	A	A11	48.97082698890	-117.64826723000	452556.5505	5424415.24
BS-340	Surface	A	A	A4	48.97059903940	-117.64881083500	452516.5505	5424390.24
BS-373	Surface	A	A	A5	48.97055560050	-117.64853699200	452536.5505	5424385.24
BS-42	Surface	B	Rejected	Submerged	48.97123982080	-117.64683784300	452661.5505	5424460.24
BS-473	Surface	B	B	B2	48.97036454430	-117.65051578700	452391.5505	5424365.24
BS-359	Surface	B	Rejected	Submerged	48.97054829620	-117.64983497700	452441.5505	5424385.24
BS-490	Surface	B	B	B1	48.97031571460	-117.65119834800	452341.5505	5424360.24
BS-548	Surface	B	B	B3	48.97023000320	-117.65044571700	452396.5505	5424350.24
BS-206	Surface	B	B	B7	48.97082545300	-117.64854049200	452536.5505	5424415.24
BS-11	Surface	B	Rejected	Submerged	48.97137398090	-117.64697622000	452651.5505	5424475.24
BS-238	Surface	B	B	B9	48.97078393250	-117.64792507000	452581.5505	5424410.24
BS-449	Surface	B	B	B4	48.97041144530	-117.65017479800	452416.5505	5424370.24
BS-143	Surface	B	B	B8	48.97096114740	-117.64840561100	452546.5505	5424430.24
BS-192	Surface	B	B	B10	48.97087388330	-117.64792623600	452581.5505	5424420.24
BS-480	Surface	B	B	B5	48.97036723980	-117.65003758300	452426.5505	5424365.24
BS-567	Surface	C	C	C4	48.97018464260	-117.65051344600	452391.5505	5424345.24
BS-471	Surface	C	C	C3	48.97036377370	-117.65065241600	452381.5505	5424365.24
BS-369	Surface	C	C	C6	48.97055214240	-117.64915182700	452491.5505	5424385.24
BS-262	Surface	C	C	C9	48.97073857330	-117.64799280300	452576.5505	5424405.24
BS-434	Surface	C	C	C1	48.97040566540	-117.65119952000	452341.5505	5424370.24
BS-320	Surface	C	C	C8	48.97064823870	-117.64805995200	452571.5505	5424395.24
BS-151	Surface	C	C	C10	48.97096421790	-117.64785908600	452586.5505	5424430.24
BS-28	Surface	C	Rejected	Submerged	48.97128479620	-117.64683842400	452661.5505	5424465.24
BS-285	Surface	C	C	C7	48.97069167870	-117.64833379600	452551.5505	5424400.24
BS-429	Surface	C	C	C5	48.97046026890	-117.64949223400	452466.5505	5424375.24
BS-407	Surface	C	C	C2	48.97045179750	-117.65099516100	452356.5505	5424375.24
BS-110	Surface	C	Rejected	Submerged	48.97105493600	-117.64772362000	452596.5505	5424440.24

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Black Sand Beach (Sampled on September 9, 2009) (continued)								
BS-75	Surface	D	Rejected	Submerged	48.97114757090	-117.64724657400	452631.5505	5424450.24
BS-496	Surface	D	D	D2	48.97031802760	-117.65078846000	452371.5505	5424360.24
BS-263	Surface	D	D	D8	48.97073895710	-117.64792448700	452581.5505	5424405.24
BS-583	Surface	D	D	D4	48.97013928200	-117.65058117500	452386.5505	5424340.24
BS-543	Surface	D	D	D3	48.97022807680	-117.65078729000	452371.5505	5424350.24
BS-308	Surface	D	D	D5	48.97064363060	-117.64887973400	452511.5505	5424395.24
BS-345	Surface	D	D	D6	48.97060095990	-117.64846926000	452541.5505	5424390.24
BS-41	Surface	D	Rejected	Submerged	48.97123943770	-117.64690615900	452656.5505	5424460.24
BS-127	Surface	D	Rejected	rock	48.97100842590	-117.64799630000	452576.5505	5424435.24
BS-491	Surface	D	D	D1	48.97031610020	-117.65113003400	452346.5505	5424360.24
BS-101	Surface	D	Rejected	Submerged	48.97105148220	-117.64833846100	452551.5505	5424440.24
BS-57	Surface	D	Rejected	Submerged	48.97119369600	-117.64704220900	452646.5505	5424455.24
BS-584	Surface	E	E	E4	48.97013966720	-117.65051286100	452391.5505	5424340.24
BS-236	Surface	E	E	E8	48.97078316500	-117.64806170100	452571.5505	5424410.24
BS-112	Surface	E	Rejected	Submerged	48.97105570300	-117.64758698800	452606.5505	5424440.24
BS-582	Surface	E	E	E3	48.97013889670	-117.65064949000	452381.5505	5424340.24
BS-535	Surface	E	E	E1	48.97022499240	-117.65133380600	452331.5505	5424350.24
BS-195	Surface	E	E	E10	48.97087503420	-117.64772128900	452596.5505	5424420.24
BS-322	Surface	E	Rejected	Grassy area	48.97064900620	-117.64792332200	452581.5505	5424395.24
BS-446	Surface	E	E	E5	48.97041029000	-117.65037974200	452401.5505	5424370.24
BS-194	Surface	E	E	E9	48.97087465070	-117.64778960500	452591.5505	5424420.24
BS-540	Surface	E	E	E2	48.97022692050	-117.65099223300	452356.5505	5424350.24
BS-245	Surface	E	Rejected	Submerged	48.97073204400	-117.64915416300	452491.5505	5424405.24
BS-400	Surface	E	E	E6	48.97050562890	-117.64942450300	452471.5505	5424380.24
BS-99	SubRemoved	NA	Rejected	Submerged	48.97105071420	-117.64847509300	452541.5505	5424440.24
BS-458	Subsurface	NA	Rejected	Core E refusal - cobble	48.97041490890	-117.64955996400	452461.5505	5424370.24
BS-522	Subsurface	NA	Rejected	Core A refusal	48.97027343760	-117.65071956000	452376.5505	5424355.24
BS-226	SubRemoved	NA	Rejected	Submerged	48.97077932530	-117.64874485400	452521.5505	5424410.24
BS-20	SubRemoved	NA	Rejected	Submerged	48.97128173050	-117.64738495300	452621.5505	5424465.24
BS-220	Reserved	NA	Rejected	Core B refusal	48.97083082590	-117.64758407600	452606.5505	5424415.24
BS-388	Subsurface	NA	Rejected	Submerged	48.97050101110	-117.65024428200	452411.5505	5424380.24
BS-280	Reserved	NA	Subsurface	Core C	48.97068975860	-117.64867537200	452526.5505	5424400.24
BS-454	Subsurface	NA	Rejected	Core D refusal - cobble	48.97041336990	-117.64983322400	452441.5505	5424370.24
BS-342	Reserved	NA	B	B6	48.97059980770	-117.64867420500	452526.5505	5424390.24
BS-155	Reserved	NA	E	E7	48.97096575220	-117.64758582300	452606.5505	5424430.24
BS-119	Reserved	NA	Rejected	Submerged	48.97100535470	-117.64854282500	452536.5505	5424435.24

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Black Sand Beach (Sampled on September 9, 2009) (continued)								
BS-16	Reserved	NA	Rejected	Core A refusal	48.97132823910	-117.64711227100	452641.5505	5424470.24
BS-311	Reserved	NA	D	D7	48.97064478310	-117.64867478900	452526.5505	5424395.24
BS-188	Reserved	NA	A	A8	48.97087234830	-117.64819949800	452561.5505	5424420.24
BS-355	Subsurface	NA	Rejected	Submerged	48.97054675650	-117.65010823700	452421.5505	5424385.24
BS-272	Reserved	NA	A	A9	48.97068668420	-117.64922189400	452486.5505	5424400.24
BS-487	Reserved	NA	Rejected	Core D refusal - cobble	48.97031455750	-117.65140329200	452326.5505	5424360.24
BS-58	Reserved	NA	Rejected	Submerged	48.97119407920	-117.64697389300	452651.5505	5424455.24
BS-362	Reserved	NA	Rejected	Submerged	48.97054945040	-117.64963003200	452456.5505	5424385.24
BS-385	Reserved	NA	Rejected	Submerged	48.97049985570	-117.65044922700	452396.5505	5424380.24
BS-520	Reserved	NA	Rejected	Core D refusal - cobble	48.97027266680	-117.65085618900	452366.5505	5424355.24
BS-223	Reserved	NA	Rejected	Submerged	48.97077817250	-117.64894980000	452506.5505	5424410.24
BS-427	Reserved	NA	Rejected	Core D refusal - cobble	48.97045949960	-117.64962886300	452456.5505	5424375.24
BS-436	Reserved	NA	Rejected	Core D refusal - cobble	48.97040643660	-117.65106289000	452351.5505	5424370.24
BS-348	Reserved	NA	Subsurface	Core D	48.97060211180	-117.64826431500	452556.5505	5424390.24
BS-303	Reserved	NA	Rejected	Core A refusal - cobble	48.97064170880	-117.64922131000	452486.5505	5424395.24
BS-398	Reserved	NA	Rejected	Core E refusal - cobble	48.97050485970	-117.64956113300	452461.5505	5424380.24
BS-33	Reserved	NA	Rejected	Submerged	48.97123330310	-117.64799921400	452576.5505	5424460.24
BS-136	Reserved	NA	Subsurface	Core E	48.97101187790	-117.64738145900	452621.5505	5424435.24
BS-464	Reserved	NA	D	D9	48.97036107560	-117.65113061900	452346.5505	5424365.24
BS-278	Reserved	NA	C	C11	48.97068899020	-117.64881200300	452516.5505	5424400.24
BS-96	Reserved	NA	Rejected	Submerged	48.97110259540	-117.64724599200	452631.5505	5424445.24
BS-360	Reserved	NA	Rejected	Core B refusal - cobble	48.97054868100	-117.64976666200	452446.5505	5424385.24
BS-547	Reserved	NA	D	D10	48.97022961800	-117.65051403100	452391.5505	5424350.24
BS-415	Reserved	NA	D	D11	48.97045488030	-117.65044864200	452396.5505	5424375.24
BS-562	Reserved	NA	D	D12	48.97018271600	-117.65085501900	452366.5505	5424345.24
BS-189	Reserved	NA	Rejected	Rock	48.97087273210	-117.64813118200	452566.5505	5424420.24
BS-587	Reserved	NA	B	B12	48.97009006620	-117.65133204800	452331.5505	5424335.24
BS-573	Reserved	NA	B	B11	48.97013542730	-117.65126432000	452336.5505	5424340.24
BS-12	Reserved	NA	Rejected	Submerged	48.97137436400	-117.64690790400	452656.5505	5424475.24
BS-380	Reserved	NA	Rejected	Core A refusal - cobble	48.97049792930	-117.65079080200	452371.5505	5424380.24
BS-251	Reserved	NA	Subsurface	Core A	48.97073434980	-117.64874427100	452521.5505	5424405.24
BS-410	Reserved	NA	C	C12	48.97045295390	-117.65079021600	452371.5505	5424375.24
BS-431	Reserved	NA	E	E11	48.97046103810	-117.64935560400	452476.5505	5424375.24
BS-81	Reserved	NA	Rejected	Submerged	48.97109684150	-117.64827072900	452556.5505	5424445.24
BS-269	Reserved	NA	Rejected	Submerged	48.97068553060	-117.64942683900	452471.5505	5424400.24
BS-105	Reserved	NA	Rejected	Gravel/bedrock/cobble	48.97105301760	-117.64806519900	452571.5505	5424440.24

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Black Sand Beach (Sampled on September 9, 2009) (continued)								
BS-413	Reserved	NA	Rejected	Core B refusal - cobble	48.97045410980	-117.65058527200	452386.5505	5424375.24
BS-24	Reserved	NA	Rejected	Submerged	48.97128326370	-117.64711168900	452641.5505	5424465.24
BS-313	Reserved	NA	Subsurface	Core B	48.97064555130	-117.64853815800	452536.5505	5424395.24
BS-512	Reserved	NA	E	E12	48.97026958210	-117.65140270600	452326.5505	5424355.24
Upper Columbia R.V. Park Beach (Sampled on September 10, 2009)								
RV-159	Surface	A	Rejected	Submerged	48.95033265630	-117.70577234200	448326.8978	5422174.538
RV-296	Surface	A	A	A6	48.94992662720	-117.70597149100	448311.8978	5422129.538
RV-31	Surface	A	Rejected	Cobble and boulders	48.95065708090	-117.70420618000	448441.8978	5422209.538
RV-362	Surface	A	A	A3	48.94960427250	-117.70719619000	448221.8978	5422094.538
RV-408	Surface	A	A	A2	48.94946934730	-117.70719428300	448221.8978	5422079.538
RV-360	Surface	A	A	A5	48.94965426850	-117.70637739700	448281.8978	5422099.538
RV-85	Surface	A	Rejected	Cobble and boulders	48.95052007080	-117.70454571600	448416.8978	5422194.538
RV-412	Surface	A	A	A1	48.94947102160	-117.70692114100	448241.8978	5422079.538
RV-162	Surface	A	Rejected	Submerged	48.95033390960	-117.70556748200	448341.8978	5422174.538
RV-205	Surface	A	Rejected	Cobble and boulders	48.95024604740	-117.70522478100	448366.8978	5422164.538
RV-330	Surface	A	A	A4	48.94974212720	-117.70672009600	448256.8978	5422109.538
RV-20	Surface	A	Rejected	Cobble and boulders	48.95070288970	-117.70407023900	448451.8978	5422214.538
RV-397	Surface	B	B	B1	48.94951599670	-117.70692177700	448241.8978	5422084.538
RV-259	Surface	B	B	B7	48.95006280600	-117.70576853600	448326.8978	5422144.538
RV-136	Surface	B	Rejected	Cobble and boulders	48.95043012060	-117.70454444900	448416.8978	5422184.538
RV-358	Surface	B	B	B5	48.94965343210	-117.70651396900	448271.8978	5422099.538
RV-213	Surface	B	B	B8	48.95019731330	-117.70583872500	448321.8978	5422159.538
RV-133	Surface	B	Rejected	Cobble and boulders	48.95042886920	-117.70474930900	448401.8978	5422184.538
RV-65	Surface	B	Rejected	Cobble and boulders	48.95056587990	-117.70440977500	448426.8978	5422199.538
RV-306	Surface	B	B	B6	48.94988081620	-117.70610742800	448301.8978	5422124.538
RV-422	Surface	B	B	B2	48.94942479090	-117.70712536200	448226.8978	5422074.538
RV-332	Surface	B	B	B4	48.94974296390	-117.70658352500	448266.8978	5422109.538
RV-128	Surface	B	Rejected	Cobble and boulders	48.95042678260	-117.70509074300	448376.8978	5422184.538
RV-384	Surface	B	B	B3	48.94956222700	-117.70671755500	448256.8978	5422089.538
RV-338	Surface	C	C	C3	48.94969547840	-117.70699260400	448236.8978	5422104.538
RV-225	Surface	C	Rejected	Submerged	48.95015066650	-117.70611123600	448301.8978	5422154.538
RV-313	Surface	C	C	C7	48.94983416870	-117.70637993700	448281.8978	5422119.538
RV-341	Surface	C	C	C5	48.94969673380	-117.70678774700	448251.8978	5422104.538
RV-312	Surface	C	C	C6	48.94983375050	-117.70644822300	448276.8978	5422119.538
RV-418	Surface	C	C	C2	48.94942311610	-117.70739850300	448206.8978	5422074.538
RV-339	Surface	C	C	C4	48.94969589690	-117.70692431800	448241.8978	5422104.538

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Upper Columbia R.V. Park Beach (Sampled on September 10, 2009) (continued)								
RV-289	Surface	C	C	C8	48.94992370060	-117.70644949300	448276.8978	5422129.538
RV-33	Surface	C	Rejected	Cobble and boulders	48.95065791460	-117.70406960600	448451.8978	5422209.538
RV-62	Surface	C	Rejected	Cobble and boulders	48.95056462870	-117.70461463600	448411.8978	5422199.538
RV-395	Surface	C	C	C1	48.94951515960	-117.70705834800	448231.8978	5422084.538
RV-244	Surface	C	C	C9	48.95010736320	-117.70583745600	448321.8978	5422149.538
RV-364	Surface	D	D	D1	48.94960510970	-117.70705961900	448231.8978	5422094.538
RV-319	Surface	D	D	D2	48.94978710230	-117.70672073200	448256.8978	5422114.538
RV-246	Surface	D	Rejected	Grassy area	48.95010819880	-117.70570088400	448331.8978	5422149.538
RV-149	Surface	D	Rejected	Cobble and boulders	48.95038139010	-117.70515839600	448371.8978	5422179.538
RV-187	Surface	D	Rejected	Cobble and boulders	48.95029144000	-117.70515712800	448371.8978	5422169.538
RV-173	Surface	D	Rejected	Cobble and boulders	48.95033850180	-117.70481632900	448396.8978	5422174.538
RV-214	Surface	D	D	D3	48.95019773110	-117.70577043900	448326.8978	5422159.538
RV-75	Surface	D	Rejected	Submerged	48.95051589780	-117.70522858400	448366.8978	5422194.538
RV-195	Surface	D	Rejected	Submerged	48.95024187050	-117.70590764600	448316.8978	5422164.538
RV-67	Surface	D	Rejected	Cobble and boulders	48.95056671390	-117.70427320100	448436.8978	5422199.538
RV-43	Surface	D	Rejected	Submerged	48.95061002090	-117.70454698200	448416.8978	5422204.538
RV-48	Surface	D	Rejected	Cobble and boulders	48.95061210590	-117.70420554700	448441.8978	5422204.538
RV-321	Surface	E	E	E4	48.94978793900	-117.70658416000	448266.8978	5422114.538
RV-108	Surface	E	Rejected	Cobble and boulders	48.95047384420	-117.70474994300	448401.8978	5422189.538
RV-79	Surface	E	Rejected	Submerged	48.95051756750	-117.70495543700	448386.8978	5422194.538
RV-14	Surface	E	Rejected	Submerged	48.95070038810	-117.70447996200	448421.8978	5422214.538
RV-325	Surface	E	E	E5	48.94978961180	-117.70631101600	448286.8978	5422114.538
RV-70	Surface	E	Rejected	Cobble and boulders	48.95056796450	-117.70406834000	448451.8978	5422199.538
RV-393	Surface	E	E	E1	48.94951432240	-117.70719491900	448221.8978	5422084.538
RV-320	Surface	E	E	E3	48.94978752060	-117.70665244600	448261.8978	5422114.538
RV-50	Surface	E	Rejected	Cobble and boulders	48.95061293960	-117.70406897300	448451.8978	5422204.538
RV-353	Surface	E	E	E2	48.94965134030	-117.70685539700	448246.8978	5422099.538
RV-7	Surface	E	Rejected	Submerged	48.95074703110	-117.70420744600	448441.8978	5422219.538
RV-179	Surface	E	Rejected	Submerged	48.95028809900	-117.70570342100	448331.8978	5422169.538
RV-185	Subsurface	NA	Rejected	Cobble and boulders	48.95029060500	-117.70529370100	448361.8978	5422169.538
RV-82	Subsurface	NA	Rejected	Cobble and boulders	48.95051881930	-117.70475057600	448401.8978	5422194.538
RV-101	Subsurface	NA	Rejected	Submerged	48.95047092270	-117.70522795000	448366.8978	5422189.538
RV-64	Subsurface	NA	Rejected	Cobble and boulders	48.95056546290	-117.70447806200	448421.8978	5422199.538
RV-181	Subsurface	NA	Rejected	Cobble and boulders	48.95028893450	-117.70556684800	448341.8978	5422169.538
RV-413	Reserved	NA	Rejected	Grassy area	48.94947144010	-117.70685285600	448246.8978	5422079.538
RV-426	Reserved	NA	Rejected	Cobble	48.94937688460	-117.70760272300	448191.8978	5422069.538

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Upper Columbia R.V. Park Beach (Sampled on September 10, 2009) (continued)								
RV-399	Reserved	NA	Subsurface	Core C	48.94951683360	-117.70678520600	448251.8978	5422084.538
RV-83	Reserved	NA	Rejected	Cobble and boulders	48.95051923650	-117.70468228900	448406.8978	5422194.538
RV-262	Reserved	NA	Rejected	Submerged	48.95001323250	-117.70651904900	448271.8978	5422139.538
RV-170	Reserved	NA	Rejected	Cobble and boulders	48.95033724990	-117.70502118900	448381.8978	5422174.538
RV-314	Reserved	NA	Subsurface	Core D	48.94983458690	-117.70631165100	448286.8978	5422119.538
RV-350	Reserved	NA	Rejected	Submerged	48.94965008480	-117.70706025400	448231.8978	5422099.538
RV-293	Reserved	NA	Rejected	Grassy area	48.94992537320	-117.70617634900	448296.8978	5422129.538
RV-190	Reserved	NA	Rejected	Cobble and boulders	48.95029269210	-117.70495226900	448386.8978	5422169.538
RV-427	Reserved	NA	Rejected	Cobble	48.94937730350	-117.70753443800	448196.8978	5422069.538
RV-100	Reserved	NA	Rejected	Submerged	48.95047050520	-117.70529623700	448361.8978	5422189.538
RV-125	Reserved	NA	Rejected	Submerged	48.95042553020	-117.70529560300	448361.8978	5422184.538
RV-176	Reserved	NA	Rejected	Submerged	48.95028684550	-117.70590828100	448316.8978	5422169.538
RV-29	Reserved	NA	Rejected	Submerged	48.95065624710	-117.70434275400	448431.8978	5422209.538
RV-97	Reserved	NA	Rejected	Cobble and boulders	48.95052507300	-117.70372627300	448476.8978	5422194.538
RV-347	Reserved	NA	Subsurface	Core B	48.94969924360	-117.70637803200	448281.8978	5422104.538
RV-268	Reserved	NA	Rejected	Core E refusal	48.95001574130	-117.70610933200	448301.8978	5422139.538
RV-151	Reserved	NA	Rejected	Cobble and boulders	48.95038222490	-117.70502182300	448381.8978	5422179.538
RV-348	Reserved	NA	Rejected	Culvert	48.94969966170	-117.70630974700	448286.8978	5422104.538
RV-1	Reserved	NA	Rejected	Submerged	48.95079283980	-117.70407150400	448451.8978	5422224.538
RV-172	Reserved	NA	Rejected	Cobble and boulders	48.95033808450	-117.70488461600	448391.8978	5422174.538
RV-106	Reserved	NA	Rejected	Cobble and boulders	48.95047300970	-117.70488651600	448391.8978	5422189.538
RV-352	Reserved	NA	D	D4	48.94965092180	-117.70692368300	448241.8978	5422099.538
RV-104	Reserved	NA	Rejected	Submerged	48.95047217500	-117.70502309000	448381.8978	5422189.538
RV-88	Reserved	NA	Rejected	Cobble and boulders	48.95052132190	-117.70434085500	448431.8978	5422194.538
RV-257	Reserved	NA	Subsurface	Core A	48.95006197020	-117.70590510800	448316.8978	5422144.538
RV-287	Reserved	NA	Rejected	Submerged	48.94992286410	-117.70658606500	448266.8978	5422129.538
RV-428	Reserved	NA	A	A7	48.94937772230	-117.70746615300	448201.8978	5422069.538
RV-57	Reserved	NA	Rejected	Submerged	48.95056254250	-117.70495607000	448386.8978	5422199.538
RV-188	Reserved	NA	Rejected	Cobble and boulders	48.95029185740	-117.70508884200	448376.8978	5422169.538
RV-237	Reserved	NA	Rejected	Submerged	48.95010443720	-117.70631546000	448286.8978	5422149.538
RV-271	Reserved	NA	Rejected	Grassy area	48.95001699520	-117.70590447400	448316.8978	5422139.538
RV-283	Reserved	NA	Rejected	Grassy area	48.94997160220	-117.70597212500	448311.8978	5422134.538
RV-278	Reserved	NA	Rejected	Core E refusal	48.94996951200	-117.70631355600	448286.8978	5422134.538
RV-258	Reserved	NA	Rejected	Grassy area	48.95006238810	-117.70583682200	448321.8978	5422144.538
RV-196	Reserved	NA	Rejected	Submerged	48.95024228830	-117.70583936000	448321.8978	5422164.538
RV-229	Reserved	NA	A	A8	48.95015233820	-117.70583809100	448321.8978	5422154.538

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Upper Columbia R.V. Park Beach (Sampled on September 10, 2009) (continued)								
RV-167	Reserved	NA	Rejected	Cobble and boulders	48.95033599760	-117.70522604900	448366.8978	5422174.538
RV-273	Reserved	NA	Rejected	Grassy area	48.95001783090	-117.70576790100	448326.8978	5422139.538
RV-377	Reserved	NA	A	A10	48.94955929740	-117.70719555400	448221.8978	5422089.538
RV-417	Reserved	NA	A	A11	48.94942269730	-117.70746678900	448201.8978	5422074.538
RV-109	Reserved	NA	Rejected	Cobble and boulders	48.95047426140	-117.70468165600	448406.8978	5422189.538
RV-378	Reserved	NA	A	A12	48.94955971610	-117.70712726900	448226.8978	5422089.538
RV-12	Reserved	NA	Rejected	Submerged	48.95074911500	-117.70386601000	448466.8978	5422219.538
RV-60	Reserved	NA	Rejected	Submerged	48.95056379440	-117.70475121000	448401.8978	5422199.538
RV-429	Reserved	NA	Rejected	Grassy area	48.94937814110	-117.70739786800	448206.8978	5422069.538
RV-25	Reserved	NA	Rejected	Submerged	48.95065457880	-117.70461590200	448411.8978	5422209.538
RV-217	Reserved	NA	Rejected	Cobble and boulders	48.95019898440	-117.70556557900	448341.8978	5422159.538
RV-388	Reserved	NA	Rejected	Submerged	48.94951222860	-117.70753634600	448196.8978	5422084.538
RV-192	Reserved	NA	Rejected	Submerged	48.95024061660	-117.70611250500	448301.8978	5422164.538
RV-333	Reserved	NA	A	A9	48.94974338220	-117.70651523900	448271.8978	5422109.538
RV-142	Reserved	NA	Rejected	Submerged	48.95037846690	-117.70563640300	448336.8978	5422179.538
RV-282	Reserved	NA	Rejected	Grassy area	48.94997118430	-117.70604041100	448306.8978	5422134.538
RV-265	Reserved	NA	Rejected	Cobble and boulders	48.95001448710	-117.70631419100	448286.8978	5422139.538
RV-23	Reserved	NA	Rejected	Cobble and boulders	48.95070414000	-117.70386537700	448466.8978	5422214.538
RV-127	Reserved	NA	Rejected	Submerged	48.95042636520	-117.70515903000	448371.8978	5422184.538
RV-290	Reserved	NA	B	B12	48.94992411880	-117.70638120700	448281.8978	5422129.538
RV-58	Reserved	NA	Rejected	Submerged	48.95056295980	-117.70488778400	448391.8978	5422199.538
RV-59	Reserved	NA	Rejected	Submerged	48.95056337710	-117.70481949700	448396.8978	5422199.538
RV-180	Reserved	NA	Rejected	Cobble and boulders	48.95028851680	-117.70563513400	448336.8978	5422169.538
RV-186	Reserved	NA	Rejected	Cobble and boulders	48.95029102250	-117.70522541500	448366.8978	5422169.538
RV-345	Reserved	NA	Subsurface	Core E	48.94969840710	-117.70651460400	448271.8978	5422104.538
RV-269	Reserved	NA	C	C10	48.95001615930	-117.70604104600	448306.8978	5422139.538
RV-308	Reserved	NA	Rejected	Submerged	48.94983207730	-117.70672136700	448256.8978	5422119.538
RV-160	Reserved	NA	Rejected	Submerged	48.95033307410	-117.70570405500	448331.8978	5422174.538
RV-236	Reserved	NA	Rejected	Submerged	48.95010401900	-117.70638374700	448281.8978	5422149.538
RV-337	Reserved	NA	Rejected	Submerged	48.94969505980	-117.70706089000	448231.8978	5422104.538
RV-122	Reserved	NA	Rejected	Submerged	48.95042427740	-117.70550046400	448346.8978	5422184.538
RV-391	Reserved	NA	B	B9	48.94951348500	-117.70733149000	448211.8978	5422084.538
RV-250	Reserved	NA	Rejected	Submerged	48.95005904400	-117.70638311200	448281.8978	5422144.538
RV-34	Reserved	NA	Rejected	Cobble and boulders	48.95065833140	-117.70400131900	448456.8978	5422209.538
RV-200	Reserved	NA	Rejected	Cobble and boulders	48.95024395950	-117.70556621400	448341.8978	5422164.538
RV-216	Reserved	NA	Rejected	Cobble and boulders	48.95019856670	-117.70563386600	448336.8978	5422159.538

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Upper Columbia R.V. Park Beach (Sampled on September 10, 2009) (continued)								
RV-322	Reserved	NA	B	B10	48.94978835720	-117.70651587400	448271.8978	5422114.538
RV-26	Reserved	NA	Rejected	Submerged	48.95065499600	-117.70454761500	448416.8978	5422209.538
RV-169	Reserved	NA	Rejected	Cobble and boulders	48.95033683250	-117.70508947600	448376.8978	5422174.538
RV-95	Reserved	NA	Rejected	Cobble and boulders	48.95052423970	-117.70386284600	448466.8978	5422194.538
RV-66	Reserved	NA	Rejected	Cobble and boulders	48.95056629690	-117.70434148800	448431.8978	5422199.538
RV-183	Reserved	NA	Rejected	Cobble and boulders	48.95028976980	-117.70543027500	448351.8978	5422169.538
RV-376	Reserved	NA	B	B11	48.94955887880	-117.70726384000	448216.8978	5422089.538
RV-171	Reserved	NA	Rejected	Cobble and boulders	48.95033766720	-117.70495290200	448386.8978	5422174.538
RV-40	Reserved	NA	Rejected	Submerged	48.95060876940	-117.70475184300	448401.8978	5422204.538
RV-140	Reserved	NA	Rejected	Submerged	48.95037763140	-117.70577297600	448326.8978	5422179.538
RV-84	Reserved	NA	Rejected	Cobble and boulders	48.95051965360	-117.70461400200	448411.8978	5422194.538
RV - C11	Alternate	NA	C	C11 new station	48.94988724000	-117.70625554000	448240.8526	5422089.559
RV - C12	Alternate	NA	C	C12 new station	48.95006769000	-117.70600468000	448309.3513	5422145.159
RV - D5	Alternate	NA	D	D5 new station	48.95006300000	-117.70626448000	448290.4289	5422144.829
RV - D6	Alternate	NA	D	D6 new station	48.94942700000	-117.70734904000	448209.4078	5422075.149
RV - D7	Alternate	NA	D	D7 new station	48.94983437000	-117.70666439000	448260.8139	5422119.546
RV - D8	Alternate	NA	D	D8 new station	48.94974546000	-117.70631993000	448286.0581	5422109.174
RV - D9	Alternate	NA	D	D9 new station	48.94979116000	-117.70639084000	448281.4675	5422114.296
RV - D10	Alternate	NA	D	D10 new station	48.95015505000	-117.70578387000	448326.1402	5422154.068
RV - D11	Alternate	NA	D	D11 new station	48.94942297000	-117.70754334000	448196.0896	5422075.148
RV - D12	Alternate	NA	D	D12 new station	48.94956201000	-117.70685512000	448246.1563	5422090.761
RV - E6	Alternate	NA	E	E6 new station	48.94960888000	-117.70680328000	448251.0114	5422094.882
RV - E7	Alternate	NA	E	E7 new station	48.95015764000	-117.70592675000	448275.642	5422099.828
RV - E8	Alternate	NA	E	E8 new station	48.95002562000	-117.70619013000	448295.7231	5422139.711
RV - E9	Alternate	NA	E	E9 new station	48.95010920000	-117.70592795000	448314.7141	5422149.852
RV - E10	Alternate	NA	E	E10 new station	48.94965692000	-117.70645232000	448315.4614	5422154.933
RV - E11	Alternate	NA	E	E 11 new station	48.94946867000	-117.70747482000	448201.5991	5422080.032
RV - E12	Alternate	NA	E	E12 new station	48.94960659000	-117.70713241000	448226.4943	5422095.077
Northport Beach (Visited on September 9, 2009)								
This beach was determined to be unsuitable for sampling. The majority of the proposed primary and alternate surface and subsurface sample locations at this beach were in areas dominated by large cobble and gravels.								
NP-723	Surface	A	NA	Sand	-	-	-	-
NP-130	Surface	A	NA	Submerged	-	-	-	-
NP-722	Surface	A	NA	Sand	-	-	-	-
NP-610	Surface	A	NA	Sand	-	-	-	-
NP-126	Surface	A	NA	Cobble/gravel	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Northport Beach (Visited on September 9, 2009) (continued)								
NP-317	Surface	A	NA	Cobble/gravel	-	-	-	-
NP-734	Surface	A	NA	Cobble/gravel	-	-	-	-
NP-512	Surface	A	NA	Cobble/gravel	-	-	-	-
NP-63	Surface	A	NA	Submerged	-	-	-	-
NP-286	Surface	A	NA	Cobble/gravel	-	-	-	-
NP-196	Surface	A	NA	Cobble/gravel	-	-	-	-
NP-526	Surface	A	NA	Cobble/gravel	-	-	-	-
NP-600	Surface	B	NA	Submerged	-	-	-	-
NP-67	Surface	B	NA	Submerged	-	-	-	-
NP-537	Surface	B	NA	Cobble/gravel	-	-	-	-
NP-634	Surface	B	NA	Cobble/gravel	-	-	-	-
NP-732	Surface	B	NA	Sand	-	-	-	-
NP-698	Surface	B	NA	Sand	-	-	-	-
NP-148	Surface	B	NA	Cobble/gravel	-	-	-	-
NP-390	Surface	B	NA	Cobble/gravel	-	-	-	-
NP-731	Surface	B	NA	Sand	-	-	-	-
NP-121	Surface	B	NA	Cobble/gravel	-	-	-	-
NP-123	Surface	B	NA	Cobble/gravel	-	-	-	-
NP-42	Surface	B	NA	Submerged	-	-	-	-
NP-287	Surface	C	NA	Cobble/gravel	-	-	-	-
NP-245	Surface	C	NA	Submerged	-	-	-	-
NP-654	Surface	C	NA	Cobble/gravel	-	-	-	-
NP-346	Surface	C	NA	Cobble/gravel	-	-	-	-
NP-471	Surface	C	NA	Cobble/gravel	-	-	-	-
NP-258	Surface	C	NA	Cobble/gravel	-	-	-	-
NP-536	Surface	C	NA	Cobble/gravel	-	-	-	-
NP-377	Surface	C	NA	Cobble/gravel	-	-	-	-
NP-60	Surface	C	NA	Submerged	-	-	-	-
NP-418	Surface	C	NA	Cobble/gravel	-	-	-	-
NP-521	Surface	C	NA	Submerged	-	-	-	-
NP-672	Surface	C	NA	Sand	-	-	-	-
NP-64	Surface	D	NA	Submerged	-	-	-	-
NP-120	Surface	D	NA	Cobble/gravel	-	-	-	-
NP-268	Surface	D	NA	Cobble/gravel	-	-	-	-
NP-664	Surface	D	NA	Sand	-	-	-	-
NP-397	Surface	D	NA	Cobble/gravel	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Northport Beach (Visited on September 9, 2009) (continued)								
NP-576	Surface	D	NA	Submerged	-	-	-	-
NP-581	Surface	D	NA	Cobble/gravel	-	-	-	-
NP-710	Surface	D	NA	Sand	-	-	-	-
NP-398	Surface	D	NA	Gravel/bedrock/cobble	-	-	-	-
NP-332	Surface	D	NA	Cobble/gravel	-	-	-	-
NP-12	Surface	D	NA	Submerged	-	-	-	-
NP-638	Surface	D	NA	Sand	-	-	-	-
NP-262	Surface	E	NA	Gravel/bedrock/cobble	-	-	-	-
NP-499	Surface	E	NA	Submerged	-	-	-	-
NP-393	Surface	E	NA	Cobble/gravel	-	-	-	-
NP-678	Surface	E	NA	Sand	-	-	-	-
NP-452	Surface	E	NA	Cobble/gravel	-	-	-	-
NP-656	Surface	E	NA	Sand	-	-	-	-
NP-119	Surface	E	NA	Cobble/gravel	-	-	-	-
NP-361	Surface	E	NA	Cobble/gravel	-	-	-	-
NP-568	Surface	E	NA	Sand	-	-	-	-
NP-29	Surface	E	NA	Submerged	-	-	-	-
NP-82	Surface	E	NA	Submerged	-	-	-	-
NP-571	Surface	E	NA	Sand	-	-	-	-
NP-596	Subsurface	NA	NA	Sand	-	-	-	-
NP-362	Subsurface	NA	NA	Cobble/gravel	-	-	-	-
NP-215	Subsurface	NA	NA	Submerged	-	-	-	-
NP-598	Subsurface	NA	NA	Sand	-	-	-	-
NP-138	Subsurface	NA	NA	Submerged	-	-	-	-
NP-158	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-692	Reserved	NA	NA	Sand	-	-	-	-
NP-544	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-16	Reserved	NA	NA	Submerged	-	-	-	-
NP-66	Reserved	NA	NA	Submerged	-	-	-	-
NP-298	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-242	Reserved	NA	NA	Submerged	-	-	-	-
NP-436	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-459	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-177	Reserved	NA	NA	Submerged	-	-	-	-
NP-528	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-10	Reserved	NA	NA	Submerged	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Northport Beach (Visited on September 9, 2009) (continued)								
NP-607	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-380	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-350	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-132	Reserved	NA	NA	Submerged	-	-	-	-
NP-226	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-331	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-605	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-709	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-515	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-127	Reserved	NA	NA	Submerged	-	-	-	-
NP-122	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-530	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-247	Reserved	NA	NA	Submerged	-	-	-	-
NP-602	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-631	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-688	Reserved	NA	NA	Sand	-	-	-	-
NP-33	Reserved	NA	NA	Submerged	-	-	-	-
NP-661	Reserved	NA	NA	Sand	-	-	-	-
NP-178	Reserved	NA	NA	Submerged	-	-	-	-
NP-146	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-281	Reserved	NA	NA	Submerged	-	-	-	-
NP-612	Reserved	NA	NA	Sand	-	-	-	-
NP-622	Reserved	NA	NA	Sand	-	-	-	-
NP-279	Reserved	NA	NA	Submerged	-	-	-	-
NP-720	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-567	Reserved	NA	NA	Sand	-	-	-	-
NP-2	Reserved	NA	NA	Submerged	-	-	-	-
NP-114	Reserved	NA	NA	Gravel/bedrock/cobble	-	-	-	-
NP-151	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-548	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-373	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-464	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-730	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-655	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-517	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-256	Reserved	NA	NA	Cobble/gravel	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Northport Beach (Visited on September 9, 2009) (continued)								
NP-75	Reserved	NA	NA	Submerged	-	-	-	-
NP-80	Reserved	NA	NA	Submerged	-	-	-	-
NP-555	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-323	Reserved	NA	NA	Submerged	-	-	-	-
NP-280	Reserved	NA	NA	Submerged	-	-	-	-
NP-611	Reserved	NA	NA	Sand	-	-	-	-
NP-73	Reserved	NA	NA	Submerged	-	-	-	-
NP-99	Reserved	NA	NA	Submerged	-	-	-	-
NP-364	Reserved	NA	NA	Submerged	-	-	-	-
NP-140	Reserved	NA	NA	Submerged	-	-	-	-
NP-182	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-308	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-562	Reserved	NA	NA	Sand	-	-	-	-
NP-163	Reserved	NA	NA	Submerged	-	-	-	-
NP-585	Reserved	NA	NA	Sand	-	-	-	-
NP-11	Reserved	NA	NA	Submerged	-	-	-	-
NP-272	Reserved	NA	NA	Submerged	-	-	-	-
NP-399	Reserved	NA	NA	Gravel/bedrock/cobble	-	-	-	-
NP-552	Reserved	NA	NA	Submerged	-	-	-	-
NP-422	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-458	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-111	Reserved	NA	NA	Submerged	-	-	-	-
NP-700	Reserved	NA	NA	Sand	-	-	-	-
NP-101	Reserved	NA	NA	Submerged	-	-	-	-
NP-560	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-366	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-632	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-599	Reserved	NA	NA	Submerged	-	-	-	-
NP-529	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-584	Reserved	NA	NA	Sand	-	-	-	-
NP-447	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-575	Reserved	NA	NA	Submerged	-	-	-	-
NP-251	Reserved	NA	NA	Submerged	-	-	-	-
NP-470	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-205	Reserved	NA	NA	Submerged	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Northport Beach (Visited on September 9, 2009) (continued)								
NP-330	Reserved	NA	NA	Cobble/gravel	-	-	-	-
NP-502	Reserved	NA	NA	Cobble/gravel	-	-	-	-
Onion Creek (Visited on September 9, 2009)								
This beach was determined to be unsuitable for sampling. The proposed beach sample area was mainly exposed bedrock overlain by large cobble close to shore which transitioned into riparian zone soils and vegetation.								
OC-658	Surface	A	NA	Submerged	-	-	-	-
OC-512	Surface	A	NA	Submerged	-	-	-	-
OC-1	Surface	A	NA	Submerged	-	-	-	-
OC-411	Surface	A	NA	Submerged	-	-	-	-
OC-276	Surface	A	NA	Submerged	-	-	-	-
OC-509	Surface	A	NA	Submerged	-	-	-	-
OC-653	Surface	A	NA	Submerged	-	-	-	-
OC-443	Surface	A	NA	Submerged	-	-	-	-
OC-360	Surface	A	NA	Grassy area	-	-	-	-
OC-637	Surface	A	NA	Submerged	-	-	-	-
OC-53	Surface	A	NA	Submerged	-	-	-	-
OC-102	Surface	B	NA	Submerged	-	-	-	-
OC-552	Surface	B	NA	Submerged	-	-	-	-
OC-536	Surface	B	NA	Submerged	-	-	-	-
OC-629	Surface	B	NA	Submerged	-	-	-	-
OC-719	Surface	B	NA	Bedrock/cobble	-	-	-	-
OC-56	Surface	B	NA	Bedrock/cobble	-	-	-	-
OC-383	Surface	B	NA	Submerged	-	-	-	-
OC-216	Surface	B	NA	Submerged	-	-	-	-
OC-255	Surface	B	NA	Grassy area	-	-	-	-
OC-746	Surface	B	NA	Submerged	-	-	-	-
OC-583	Surface	B	NA	Submerged	-	-	-	-
OC-460	Surface	B	NA	Submerged	-	-	-	-
OC-169	Surface	C	NA	Grassy area	-	-	-	-
OC-732	Surface	C	NA	Submerged	-	-	-	-
OC-133	Surface	C	NA	Submerged	-	-	-	-
OC-486	Surface	C	NA	Bedrock/cobble	-	-	-	-
OC-519	Surface	C	NA	Submerged	-	-	-	-
OC-65	Surface	C	NA	Bedrock/cobble	-	-	-	-
OC-422	Surface	C	NA	Submerged	-	-	-	-
OC-454	Surface	C	NA	Submerged	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Onion Creek (Visited on September 9, 2009) (continued)								
OC-499	Surface	C	NA	Sand	-	-	-	-
OC-647	Surface	C	NA	Sand	-	-	-	-
OC-264	Surface	C	NA	Bedrock/cobble	-	-	-	-
OC-83	Surface	C	NA	Bedrock/cobble	-	-	-	-
OC-643	Surface	D	NA	Submerged	-	-	-	-
OC-375	Surface	D	NA	Submerged	-	-	-	-
OC-35	Surface	D	NA	Submerged	-	-	-	-
OC-320	Surface	D	NA	Grassy area	-	-	-	-
OC-722	Surface	D	NA	Sand	-	-	-	-
OC-164	Surface	D	NA	Grassy area	-	-	-	-
OC-67	Surface	D	NA	Bedrock/cobble	-	-	-	-
OC-40	Surface	D	NA	Bedrock/cobble	-	-	-	-
OC-107	Surface	D	NA	Submerged	-	-	-	-
OC-644	Surface	D	NA	Submerged	-	-	-	-
OC-701	Surface	D	NA	Sand	-	-	-	-
OC-292	Surface	D	NA	Bedrock/cobble	-	-	-	-
OC-498	Surface	E	NA	Grassy area	-	-	-	-
OC-636	Surface	E	NA	Submerged	-	-	-	-
OC-308	Surface	E	NA	Submerged	-	-	-	-
OC-621	Surface	E	NA	Sand	-	-	-	-
OC-724	Surface	E	NA	Submerged	-	-	-	-
OC-232	Surface	E	NA	Bedrock/cobble	-	-	-	-
OC-183	Surface	E	NA	Bedrock/cobble	-	-	-	-
OC-7	Surface	E	NA	Submerged	-	-	-	-
OC-549	Surface	E	NA	Submerged	-	-	-	-
OC-315	Surface	E	NA	Submerged	-	-	-	-
OC-679	Surface	E	NA	Sand	-	-	-	-
OC-199	Surface	E	NA	Grassy area	-	-	-	-
OC-330	Reserved	NA	NA	Grassy area	-	-	-	-
OC-84	Subsurface	NA	NA	Bedrock/cobble	-	-	-	-
OC-537	Reserved	NA	NA	Submerged	-	-	-	-
OC-368	Reserved	NA	NA	Sand	-	-	-	-
OC-10	Subsurface	NA	NA	Submerged	-	-	-	-
OC-668	Reserved	NA	NA	Sand	-	-	-	-
OC-116	Subsurface	NA	NA	Bedrock/cobble	-	-	-	-
OC-78	Reserved	NA	NA	Submerged	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Onion Creek (Visited on September 9, 2009) (continued)								
OC-581	Reserved	NA	NA	Submerged	-	-	-	-
OC-55	Reserved	NA	NA	Submerged	-	-	-	-
OC-296	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-212	Reserved	NA	NA	Sand	-	-	-	-
OC-534	Reserved	NA	NA	Submerged	-	-	-	-
OC-51	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-176	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-409	Reserved	NA	NA	Submerged	-	-	-	-
OC-633	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-85	Subsurface	NA	NA	Bedrock/cobble	-	-	-	-
OC-47	Subsurface	NA	NA	Bedrock/cobble	-	-	-	-
OC-366	Reserved	NA	NA	Sand	-	-	-	-
OC-738	Reserved	NA	NA	Sand	-	-	-	-
OC-60	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-204	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-580	Reserved	NA	NA	Submerged	-	-	-	-
OC-489	Reserved	NA	NA	Submerged	-	-	-	-
OC-513	Reserved	NA	NA	Submerged	-	-	-	-
OC-574	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-337	Reserved	NA	NA	Submerged	-	-	-	-
OC-250	Reserved	NA	NA	Submerged	-	-	-	-
OC-652	Reserved	NA	NA	Submerged	-	-	-	-
OC-660	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-303	Reserved	NA	NA	Sand	-	-	-	-
OC-632	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-288	Reserved	NA	NA	Grassy area	-	-	-	-
OC-263	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-147	Reserved	NA	NA	Grassy area	-	-	-	-
OC-123	Reserved	NA	NA	Sand	-	-	-	-
OC-556	Reserved	NA	NA	Submerged	-	-	-	-
OC-535	Reserved	NA	NA	Submerged	-	-	-	-
OC-4	Reserved	NA	NA	Submerged	-	-	-	-
OC-167	Reserved	NA	NA	Grassy area	-	-	-	-
OC-251	Reserved	NA	NA	Submerged	-	-	-	-
OC-667	Reserved	NA	NA	Sand	-	-	-	-
OC-710	Reserved	NA	NA	Bedrock/cobble	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Onion Creek (Visited on September 9, 2009) (continued)								
OC-194	Reserved	NA	NA	Grassy area	-	-	-	-
OC-601	Reserved	NA	NA	Submerged	-	-	-	-
OC-704	Reserved	NA	NA	Sand	-	-	-	-
OC-437	Reserved	NA	NA	Sand	-	-	-	-
OC-141	Reserved	NA	NA	Grassy area	-	-	-	-
OC-550	Reserved	NA	NA	Submerged	-	-	-	-
OC-182	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-491	Reserved	NA	NA	Submerged	-	-	-	-
OC-239	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-378	Reserved	NA	NA	Submerged	-	-	-	-
OC-538	Reserved	NA	NA	Submerged	-	-	-	-
OC-115	Reserved	NA	NA	Grassy area	-	-	-	-
OC-241	Reserved	NA	NA	Sand	-	-	-	-
OC-310	Reserved	NA	NA	Submerged	-	-	-	-
OC-390	Reserved	NA	NA	Grassy area	-	-	-	-
OC-358	Reserved	NA	NA	Grassy area	-	-	-	-
OC-313	Reserved	NA	NA	Submerged	-	-	-	-
OC-81	Reserved	NA	NA	Submerged	-	-	-	-
OC-561	Reserved	NA	NA	Sand	-	-	-	-
OC-86	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-618	Reserved	NA	NA	Sand	-	-	-	-
OC-157	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-458	Reserved	NA	NA	Submerged	-	-	-	-
OC-179	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-389	Reserved	NA	NA	Grassy area	-	-	-	-
OC-153	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-544	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-630	Reserved	NA	NA	Submerged	-	-	-	-
OC-59	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-432	Reserved	NA	NA	Grassy area	-	-	-	-
OC-505	Reserved	NA	NA	Submerged	-	-	-	-
OC-729	Reserved	NA	NA	Sand	-	-	-	-
OC-736	Reserved	NA	NA	Submerged	-	-	-	-
OC-173	Reserved	NA	NA	Grassy area	-	-	-	-
OC-662	Reserved	NA	NA	Submerged	-	-	-	-
OC-158	Reserved	NA	NA	Bedrock/cobble	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Onion Creek (Visited on September 9, 2009) (continued)								
OC-29	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-45	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-467	Reserved	NA	NA	Sand	-	-	-	-
OC-343	Reserved	NA	NA	Submerged	-	-	-	-
OC-48	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-695	Reserved	NA	NA	Submerged	-	-	-	-
OC-336	Reserved	NA	NA	Submerged	-	-	-	-
OC-728	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-631	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
OC-562	Reserved	NA	NA	Sand	-	-	-	-
Dalles Orchard (Visited on September 9, 2009)								
This beach was determined to be unsuitable for sampling. The majority of the proposed sampling area was submerged or dominated by exposed bedrock overlain by large cobble.								
DS-282	Surface	A	NA	Bedrock/cobble	-	-	-	-
DS-182	Surface	A	NA	Grassy area	-	-	-	-
DS-236	Surface	A	NA	Bedrock/cobble	-	-	-	-
DS-160	Surface	A	NA	Submerged	-	-	-	-
DS-181	Surface	A	NA	Bedrock/cobble	-	-	-	-
DS-232	Surface	A	NA	Submerged	-	-	-	-
DS-278	Surface	A	NA	Submerged	-	-	-	-
DS-163	Surface	A	NA	Bedrock/cobble	-	-	-	-
DS-176	Surface	A	NA	Sand	-	-	-	-
DS-304	Surface	A	NA	Submerged	-	-	-	-
DS-285	Surface	A	NA	Bedrock/cobble	-	-	-	-
DS-194	Surface	A	NA	Bedrock/cobble	-	-	-	-
DS-12	Surface	B	NA	Submerged	-	-	-	-
DS-155	Surface	B	NA	Sand	-	-	-	-
DS-188	Surface	B	NA	Bedrock/cobble	-	-	-	-
DS-239	Surface	B	NA	Bedrock/cobble	-	-	-	-
DS-57	Surface	B	NA	Submerged	-	-	-	-
DS-200	Surface	B	NA	Sand	-	-	-	-
DS-242	Surface	B	NA	Bedrock/cobble	-	-	-	-
DS-274	Surface	B	NA	Bedrock/cobble	-	-	-	-
DS-82	Surface	B	NA	Submerged	-	-	-	-
DS-110	Surface	B	NA	Sand	-	-	-	-
DS-287	Surface	B	NA	Submerged	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Dalles Orchard (Visited on September 9, 2009) (continued)								
DS-237	Surface	B	NA	Bedrock/cobble	-	-	-	-
DS-305	Surface	C	NA	Submerged	-	-	-	-
DS-145	Surface	C	NA	Bedrock/cobble	-	-	-	-
DS-54	Surface	C	NA	Submerged	-	-	-	-
DS-66	Surface	C	NA	Submerged	-	-	-	-
DS-291	Surface	C	NA	Submerged	-	-	-	-
DS-264	Surface	C	NA	Submerged	-	-	-	-
DS-201	Surface	C	NA	Sand	-	-	-	-
DS-134	Surface	C	NA	Sand	-	-	-	-
DS-190	Surface	C	NA	Bedrock/cobble	-	-	-	-
DS-263	Surface	C	NA	Submerged	-	-	-	-
DS-203	Surface	C	NA	Grassy area	-	-	-	-
DS-212	Surface	C	NA	Bedrock/cobble	-	-	-	-
DS-120	Surface	D	NA	Bedrock/cobble	-	-	-	-
DS-61	Surface	D	NA	Submerged	-	-	-	-
DS-175	Surface	D	NA	Sand	-	-	-	-
DS-25	Surface	D	NA	Submerged	-	-	-	-
DS-277	Surface	D	NA	Submerged	-	-	-	-
DS-1	Surface	D	NA	Bedrock/cobble	-	-	-	-
DS-250	Surface	D	NA	Submerged	-	-	-	-
DS-275	Surface	D	NA	Submerged	-	-	-	-
DS-123	Surface	D	NA	Submerged	-	-	-	-
DS-286	Surface	D	NA	Submerged	-	-	-	-
DS-261	Surface	D	NA	Bedrock/cobble	-	-	-	-
DS-229	Surface	D	NA	Grassy area	-	-	-	-
DS-5	Surface	E	NA	Bedrock/cobble	-	-	-	-
DS-216	Surface	E	NA	Bedrock/cobble	-	-	-	-
DS-281	Surface	E	NA	Bedrock/cobble	-	-	-	-
DS-142	Surface	E	NA	Bedrock/cobble	-	-	-	-
DS-113	Surface	E	NA	Sand	-	-	-	-
DS-27	Surface	E	NA	Submerged	-	-	-	-
DS-137	Surface	E	NA	Submerged	-	-	-	-
DS-267	Surface	E	NA	Bedrock/cobble	-	-	-	-
DS-84	Surface	E	NA	Submerged	-	-	-	-
DS-195	Surface	E	NA	Bedrock/cobble	-	-	-	-
DS-103	Surface	E	NA	Submerged	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Dalles Orchard (Visited on September 9, 2009) (continued)								
DS-238	Surface	E	NA	Bedrock/cobble	-	-	-	-
DS-15	Subsurface	NA	NA	Bedrock/cobble	-	-	-	-
DS-37	Subsurface	NA	NA	Submerged	-	-	-	-
DS-270	Subsurface	NA	NA	Bedrock/cobble	-	-	-	-
DS-196	Subsurface	NA	NA	Bedrock/cobble	-	-	-	-
DS-138	Subsurface	NA	NA	Bedrock/cobble	-	-	-	-
DS-308	Reserved	NA	NA	Submerged	-	-	-	-
DS-70	Reserved	NA	NA	Submerged	-	-	-	-
DS-20	Reserved	NA	NA	Submerged	-	-	-	-
DS-266	Reserved	NA	NA	Submerged	-	-	-	-
DS-22	Reserved	NA	NA	Submerged	-	-	-	-
DS-105	Reserved	NA	NA	Submerged	-	-	-	-
DS-207	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-108	Reserved	NA	NA	Submerged	-	-	-	-
DS-243	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-222	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-87	Reserved	NA	NA	Submerged	-	-	-	-
DS-170	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-58	Reserved	NA	NA	Submerged	-	-	-	-
DS-192	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-100	Reserved	NA	NA	Submerged	-	-	-	-
DS-90	Reserved	NA	NA	Submerged	-	-	-	-
DS-197	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-204	Reserved	NA	NA	Grassy area	-	-	-	-
DS-133	Reserved	NA	NA	Sand	-	-	-	-
DS-220	Reserved	NA	NA	Grassy area	-	-	-	-
DS-139	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-89	Reserved	NA	NA	Submerged	-	-	-	-
DS-112	Reserved	NA	NA	Sand	-	-	-	-
DS-179	Reserved	NA	NA	Sand	-	-	-	-
DS-16	Reserved	NA	NA	Submerged	-	-	-	-
DS-4	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-38	Reserved	NA	NA	Submerged	-	-	-	-
DS-10	Reserved	NA	NA	Submerged	-	-	-	-
DS-23	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-102	Reserved	NA	NA	Submerged	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Dalles Orchard (Visited on September 9, 2009) (continued)								
DS-97	Reserved	NA	NA	Submerged	-	-	-	-
DS-36	Reserved	NA	NA	Submerged	-	-	-	-
DS-311	Reserved	NA	NA	Submerged	-	-	-	-
DS-126	Reserved	NA	NA	Submerged	-	-	-	-
DS-299	Reserved	NA	NA	Submerged	-	-	-	-
DS-30	Reserved	NA	NA	Submerged	-	-	-	-
DS-269	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-186	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-26	Reserved	NA	NA	Submerged	-	-	-	-
DS-215	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-99	Reserved	NA	NA	Submerged	-	-	-	-
DS-178	Reserved	NA	NA	Sand	-	-	-	-
DS-48	Reserved	NA	NA	Submerged	-	-	-	-
DS-214	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-294	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-121	Reserved	NA	NA	Submerged	-	-	-	-
DS-93	Reserved	NA	NA	Sand	-	-	-	-
DS-225	Reserved	NA	NA	Grassy area	-	-	-	-
DS-149	Reserved	NA	NA	Sand	-	-	-	-
DS-307	Reserved	NA	NA	Submerged	-	-	-	-
DS-18	Reserved	NA	NA	Submerged	-	-	-	-
DS-117	Reserved	NA	NA	Submerged	-	-	-	-
DS-13	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-259	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-35	Reserved	NA	NA	Submerged	-	-	-	-
DS-173	Reserved	NA	NA	Sand	-	-	-	-
DS-240	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-24	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-165	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-11	Reserved	NA	NA	Submerged	-	-	-	-
DS-67	Reserved	NA	NA	Submerged	-	-	-	-
DS-148	Reserved	NA	NA	Submerged	-	-	-	-
DS-85	Reserved	NA	NA	Submerged	-	-	-	-
DS-63	Reserved	NA	NA	Submerged	-	-	-	-
DS-292	Reserved	NA	NA	Submerged	-	-	-	-
DS-31	Reserved	NA	NA	Submerged	-	-	-	-

Table 3-1. 2009 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Dalles Orchard (Visited on September 9, 2009) (continued)								
DS-183	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-77	Reserved	NA	NA	Submerged	-	-	-	-
DS-40	Reserved	NA	NA	Submerged	-	-	-	-
DS-245	Reserved	NA	NA	Grassy area	-	-	-	-
DS-21	Reserved	NA	NA	Submerged	-	-	-	-
DS-153	Reserved	NA	NA	Sand	-	-	-	-
DS-221	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-95	Reserved	NA	NA	Submerged	-	-	-	-
DS-230	Reserved	NA	NA	Submerged	-	-	-	-
DS-280	Reserved	NA	NA	Submerged	-	-	-	-
DS-189	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-158	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-140	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-284	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-80	Reserved	NA	NA	Submerged	-	-	-	-
DS-227	Reserved	NA	NA	Grassy area	-	-	-	-
DS-172	Reserved	NA	NA	Sand	-	-	-	-
DS-171	Reserved	NA	NA	Bedrock/cobble	-	-	-	-
DS-104	Reserved	NA	NA	Submerged	-	-	-	-

Notes:

NA = not applicable

Table 3-2. 2010 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Northport Beach-Surface (Sampled on April 30, 2010)								
NP-148	Reserved	NA	A	A1	48.92198940800	-117.77218410300	443432.58310000	5419071.12340000
NP-107	Reserved	NA	A	A2	48.92207798600	-117.77239023100	443417.58310000	5419081.12340000
NP-121	Surface	A	A	A3	48.92205687000	-117.77218514300	443432.58310000	5419078.62340000
NP-112	Surface	A	A	A4	48.92207912900	-117.77221961400	443430.08310000	5419081.12340000
NP-80	Reserved	NA	A	A5	48.92218996600	-117.77246021200	443412.58310000	5419093.62340000
NP-71	Surface	A	A	A6	48.92225742800	-117.77246125300	443412.58310000	5419101.12340000
NP-73	Surface	A	A	A7	48.92225788500	-117.77239300600	443417.58310000	5419101.12340000
NP-46	Surface	A	A	A8	48.92234760500	-117.77242851700	443415.08310000	5419111.12340000
NP-41	Reserved	NA	A	A9	48.92237032100	-117.77239474000	443417.58310000	5419113.62340000
NP-31	Reserved	NA	A	A10	48.92241575300	-117.77232718600	443422.58310000	5419118.62340000
NP-29	Surface	A	A	A11	48.92241529600	-117.77239543300	443417.58310000	5419118.62340000
NP-7	Surface	A	A	A12	48.92259702200	-117.77212521600	443437.58310000	5419138.62340000
NP-219	Surface	A	Rejected	Disturbed area	48.92188176700	-117.77146577800	443485.08310000	5419058.62340000
NP-175	Surface	A	Rejected	Disturbed area	48.92197080300	-117.77160365800	443475.08310000	5419068.62340000
NP-173	Surface	A	Rejected	Disturbed area	48.92197034700	-117.77167190500	443470.08310000	5419068.62340000
NP-197	Surface	A	Rejected	Disturbed area	48.92192491600	-117.77173945900	443465.08310000	5419063.62340000
NP-183	Surface	A	Rejected	Disturbed area	48.92194671800	-117.77184217600	443457.58310000	5419066.12340000
NP-144	Surface	B	B	B1	48.92198849400	-117.77232059700	443422.58310000	5419071.12340000
NP-133	Surface	B	B	B2	48.92201098200	-117.77232094400	443422.58310000	5419073.62340000
NP-143	Reserved	NA	B	B3	48.92198826600	-117.77235472100	443420.08310000	5419071.12340000
NP-125	Reserved	NA	B	B4	48.92203346900	-117.77232129100	443422.58310000	5419076.12340000
NP-110	Surface	B	B	B5	48.92207867200	-117.77228786100	443425.08310000	5419081.12340000
NP-100	Surface	B	B	B6	48.92210115900	-117.77228820700	443425.08310000	5419083.62340000
NP-90	Surface	B	B	B7	48.92212341800	-117.77232267800	443422.58310000	5419086.12340000
NP-83	Surface	B	B	B8	48.92214613400	-117.77228890100	443425.08310000	5419088.62340000
NP-66	Surface	B	B	B9	48.92228060100	-117.77235922900	443420.08310000	5419103.62340000
NP-65	Surface	B	B	B10	48.92228037200	-117.77239335200	443417.58310000	5419103.62340000
NP-39	Reserved	NA	B	B11	48.92236986400	-117.77246298700	443412.58310000	5419113.62340000
NP-18	Surface	B	B	B12	48.92246027100	-117.77239612700	443417.58310000	5419123.62340000
NP-143	Surface	B	Rejected	Disturbed area	48.92198826600	-117.77235472100	443420.08310000	5419071.12340000
NP-215	Surface	B	Rejected	Disturbed area	48.92190500000	-117.77129600000	443497.58310000	5419061.12340000
NP-39	Surface	B	Rejected	Disturbed area	48.92236986400	-117.77246298700	443412.58310000	5419113.62340000
NP-217	Surface	B	Rejected	Disturbed area	48.92188100000	-117.77153400000	443480.08310000	5419058.62340000
NP-125	Surface	B	Rejected	Disturbed area	48.92203346900	-117.77232129100	443422.58310000	5419076.12340000
NP-176	Surface	B	Rejected	Disturbed area	48.92197100000	-117.7715700000	443477.58310000	5419068.62340000
NP-141	Reserved	NA	C	C1	48.92201509300	-117.77170672100	443467.58310000	5419073.62340000
NP-146	Reserved	NA	C	C2	48.92198895100	-117.77225235000	443427.58310000	5419071.12340000
NP-127	Surface	C	C	C3	48.92203392600	-117.77225304400	443427.58310000	5419076.12340000
NP-86	Surface	C	C	C4	48.92214681900	-117.77218653000	443432.58310000	5419088.62340000

Table 3-2. 2010 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Northport Beach-Surface (Sampled on April 30, 2010) (continued)								
NP-61	Surface	C	C	C5	48.92230354500	-117.77229132800	443425.08310000	5419106.12340000
NP-64	Surface	C	C	C6	48.92228014400	-117.77242747600	443415.08310000	5419103.62340000
NP-51	Reserved	NA	C	C7	48.92232489000	-117.77246229300	443412.58310000	5419108.62340000
NP-38	Surface	C	C	C8	48.92236963600	-117.77249711100	443410.08310000	5419113.62340000
NP-24	Reserved	NA	C	C9	48.92243824000	-117.77232753200	443422.58310000	5419121.12340000
NP-17	Surface	C	C	C10	48.92248298600	-117.77236235000	443420.08310000	5419126.12340000
NP-14	Reserved	NA	C	C11	48.92252841800	-117.77229479600	443425.08310000	5419131.12340000
NP-9	Surface	C	C	C12	48.92257385000	-117.77222724100	443430.08310000	5419136.12340000
NP-222	Surface	C	Rejected	Disturbed area	48.92188245200	-117.77136340800	443492.58310000	5419058.62340000
NP-190	Surface	C	Rejected	Disturbed area	48.92194831600	-117.77160331100	443475.08310000	5419066.12340000
NP-199	Surface	C	Rejected	Disturbed area	48.92192537200	-117.77167121200	443470.08310000	5419063.62340000
NP-155	Surface	C	Rejected	Disturbed area	48.92199306200	-117.77163812800	443472.58310000	5419071.12340000
NP-160	Surface	C	Rejected	Disturbed area	48.92196669200	-117.77221788000	443430.08310000	5419068.62340000
Northport Beach-Subsurface (Sampled on April 29, 2010)								
NP-109	Reserved	NA	Subsurface	Core A	48.92207844300	-117.77232198400	443422.58310000	5419081.12340000
NP-91	Reserved	NA	Subsurface	Core B	48.92212364700	-117.77228855400	443425.08310000	5419086.12340000
NP-119	Reserved	NA	Subsurface	Core C	48.92205641300	-117.77225339000	443427.58310000	5419078.62340000
NP-128	Reserved	NA	Subsurface	Core D	48.92203415400	-117.77221892000	443430.08310000	5419076.12340000
NP-E	Alternate	NA	Subsurface	Core E	48.92206750900	-117.77221606400	443430.33001500	5419079.82902000
NP-82	Subsurface	NA	Rejected	Cobble	48.92214522000	-117.77242539500	443415.08310000	5419088.62340000
NP-134	Subsurface	NA	Rejected	Cobble	48.92201121000	-117.77228682100	443425.08310000	5419073.62340000
NP-180	Subsurface	NA	Rejected	Disturbed area	48.92194603300	-117.77194454600	443450.08310000	5419066.12340000
NP-194	Subsurface	NA	Rejected	Disturbed area	48.92192423000	-117.77184182900	443457.58310000	5419063.62340000
NP-216	Subsurface	NA	Rejected	Disturbed area	48.92190562400	-117.77126138400	443500.08310000	5419061.12340000
NP-69	Reserved	NA	Rejected	cobble	48.92228128600	-117.77225685800	443427.58310000	5419103.62340000
NP-167	Reserved	NA	Rejected	Cobble	48.92196829200	-117.77197901600	443447.58310000	5419068.62340000
NP-63	Reserved	NA	Rejected	cobble	48.92227991500	-117.77246160000	443412.58310000	5419103.62340000
NP-33	Reserved	NA	Rejected	cobble	48.92239235200	-117.77246333400	443412.58310000	5419116.12340000
NP-77	Reserved	NA	Rejected	cobble	48.92223516900	-117.77242678200	443415.08310000	5419098.62340000
NP-206	Reserved	NA	Rejected	Disturbed area	48.92190334100	-117.77160261900	443475.08310000	5419061.12340000
NP-48	Reserved	NA	Rejected	Cobble	48.92234806300	-117.77236026900	443420.08310000	5419111.12340000
NP-93	Reserved	NA	Rejected	Cobble	48.92212410400	-117.77222030700	443430.08310000	5419086.12340000
NP-60	Reserved	NA	Rejected	Cobble	48.92230331600	-117.77232545200	443422.58310000	5419106.12340000
NP-104	Reserved	NA	Rejected	Cobble	48.92210207300	-117.77215171300	443435.08310000	5419083.62340000
Dalles Orchard (Sampled on April 29, 2010)								
DS-172	Surface	A	A	A1	48.87272987000	-117.85962869200	436964.85920000	5413664.12310000
DS-200	Surface	A	A	A2	48.87271228700	-117.85957384100	436968.85920000	5413662.12310000
DS-149	Surface	A	A	A3	48.87274907900	-117.85946537200	436976.85920000	5413666.12310000
DS-205	Surface	A	A	A4	48.87271330300	-117.85943748400	436978.85920000	5413662.12310000

Table 3-2. 2010 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Dalles Orchard (Sampled on April 29, 2010) (continued)								
DS-125	Surface	A	A	A5	48.87276767800	-117.85938386600	436982.85920000	5413668.12310000
DS-104	Surface	A	A	A6	48.87278627800	-117.85930236000	436988.85920000	5413670.12310000
DS-111	Surface	A	A	A7	48.87278770000	-117.85911146000	437002.85920000	5413670.12310000
DS-107	Surface	A	A	A8	48.87278688700	-117.85922054500	436994.85920000	5413670.12310000
DS-28	Surface	A	A	A9	48.87285904900	-117.85919450600	436996.85920000	5413678.12310000
DS-192	Surface	A	A	A10	48.87273393500	-117.85908326400	437004.85920000	5413664.12310000
DS-142	Surface	A	A	A11	48.87277113300	-117.85892025200	437016.85920000	5413668.12310000
DS-41	Surface	A	A	A12	48.87286169000	-117.85883997700	437022.85920000	5413678.12310000
DS-248	Surface	B	B	B1	48.87265709800	-117.85973654400	436956.85920000	5413656.12310000
DS-217	Surface	B	B	B2	48.87269307700	-117.85973716100	436956.85920000	5413660.12310000
DS-220	Surface	B	B	B3	48.87269368700	-117.85965534700	436962.85920000	5413660.12310000
DS-242	Surface	B	B	B4	48.87267630700	-117.85957322400	436968.85920000	5413658.12310000
DS-144	Surface	B	B	B5	48.87274806300	-117.85960172900	436966.85920000	5413666.12310000
DS-203	Surface	B	B	B6	48.87271289600	-117.85949202700	436974.85920000	5413662.12310000
DS-43	Surface	B	B	B7	48.87284024700	-117.85930328400	436988.85920000	5413676.12310000
DS-84	Surface	B	B	B8	48.87280467400	-117.85924812500	436992.85920000	5413672.12310000
DS-66	Surface	B	B	B9	48.87282307000	-117.85919389000	436996.85920000	5413674.12310000
DS-140	Surface	B	B	B10	48.87277072700	-117.85897479500	437012.85920000	5413668.12310000
DS-21	Surface	B	B	B11	48.87287886700	-117.85894937100	437014.85920000	5413680.12310000
DS-1	Surface	B	B	B12	48.87291464300	-117.85897725900	437012.85920000	5413684.12310000
DS-238	Surface	C	C	C1	48.87267549400	-117.85968231000	436960.85920000	5413658.12310000
DS-221	Surface	C	C	C2	48.87269389000	-117.85962807500	436964.85920000	5413660.12310000
DS-243	Surface	C	C	C3	48.87267651100	-117.85954595300	436970.85920000	5413658.12310000
DS-176	Surface	C	C	C4	48.87273068300	-117.85951960600	436972.85920000	5413664.12310000
DS-180	Surface	C	C	C5	48.87273149600	-117.85941052100	436980.85920000	5413664.12310000
DS-47	Surface	C	C	C6	48.87284106000	-117.85919419800	436996.85920000	5413676.12310000
DS-108	Surface	C	C	C7	48.87278709100	-117.85919327400	436996.85920000	5413670.12310000
DS-14	Surface	C	C	C8	48.87287744500	-117.85914027100	437000.85920000	5413680.12310000
DS-191	Surface	C	C	C9	48.87273373200	-117.85911053600	437002.85920000	5413664.12310000
DS-115	Surface	C	C	C10	48.87278851300	-117.85900237400	437010.85920000	5413670.12310000
DS-76	Surface	C	C	C11	48.87282510200	-117.85892117600	437016.85920000	5413674.12310000
DS-12	Surface	C	C	C12	48.87289746700	-117.85886786500	437020.85920000	5413682.12310000
DS-219	Subsurface	A	A	Core A	48.87269348400	-117.85968261800	436960.85920000	5413660.12310000
DS-122	Subsurface	B	B	Core B	48.87276706900	-117.85946568000	436976.85920000	5413668.12310000
DS-102	Subsurface	C	C	Core C	48.87278587100	-117.85935690200	436984.85920000	5413670.12310000
DS-188	Subsurface	D	D	Core D	48.87273312200	-117.85919235000	436996.85920000	5413664.12310000
DS-10	Subsurface	E	E	Core E	48.87289706000	-117.85892240800	437016.85920000	5413682.12310000

Table 3-2. 2010 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
China Bend (Sampled on April 30, 2010)								
CB-7	Surface	A	A	A1	48.82466686600	-117.93006559400	431734.58810000	5408382.18850000
CB-70	Surface	A	A	A2	48.82386063900	-117.92964194900	431764.58810000	5408292.18850000
CB-536	Surface	A	A	A3	48.82251472800	-117.92920833900	431794.58810000	5408142.18850000
CB-463	Surface	A	A	A4	48.82268693200	-117.93016519400	431724.58810000	5408162.18850000
CB-313	Surface	A	A	A5	48.82312896900	-117.93112705500	431654.58810000	5408212.18850000
CB-385	Surface	A	A	A6	48.82285142100	-117.93207558800	431584.58810000	5408182.18850000
CB-438	Surface	A	A	A7	48.82278456900	-117.92921332800	431794.58810000	5408172.18850000
CB-828	Surface	A	A	A8	48.82169311600	-117.93069174700	431684.58810000	5408052.18850000
CB-793	Surface	A	A	A9	48.82177866200	-117.93123827600	431644.58810000	5408062.18850000
CB-754	Surface	A	A	A10	48.82186200400	-117.93205724000	431584.58810000	5408072.18850000
CB-783	Surface	A	A	A11	48.82176765000	-117.93260043500	431544.58810000	5408062.18850000
CB-97	Surface	A	A	A12	48.82096803800	-117.93135949200	431634.58810000	5407972.18850000
CB-283	Surface	B	B	B1	48.82332864300	-117.92867842500	431834.58810000	5408232.18850000
CB-635	Surface	B	B	B2	48.82223939400	-117.92988443700	431744.58810000	5408112.18850000
CB-704	Surface	B	B	B3	48.82205950000	-117.92988110800	431744.58810000	5408092.18850000
CB-587	Surface	B	B	B4	48.82231394200	-117.93179314500	431604.58810000	5408122.18850000
CB-620	Surface	B	B	B5	48.82222289300	-117.93192769400	431594.58810000	5408112.18850000
CB-723	Surface	B	B	B6	48.82195415300	-117.93178647500	431604.58810000	5408082.18850000
CB-940	Surface	B	B	B7	48.82132232200	-117.93204723200	431584.58810000	5408012.18850000
CB-168	Surface	B	B	B8	48.82069159100	-117.93217177000	431574.58810000	5407942.18850000
CB-992	Surface	B	B	B9	48.82113471400	-117.93299739500	431514.58810000	5407992.18850000
CB-159	Surface	B	B	B10	48.82068167100	-117.93339768600	431484.58810000	5407942.18850000
CB-1058	Surface	B	B	B11	48.82049515600	-117.93421162000	431424.58810000	5407922.18850000
CB-320	Surface	B	B	B12	48.82313666700	-117.93017351800	431724.58810000	5408212.18850000
CB-325	Surface	C	C	C1	48.82314216100	-117.92949241900	431774.58810000	5408212.18850000
CB-247	Surface	C	C	C2	48.82340430900	-117.93045095200	431704.58810000	5408242.18850000
CB-207	Surface	C	C	C3	48.82358310400	-117.93059050400	431694.58810000	5408262.18850000
CB-528	Surface	C	C	C4	48.82250593800	-117.93029808300	431714.58810000	5408142.18850000
CB-522	Surface	C	C	C5	48.82249933900	-117.93111539100	431654.58810000	5408142.18850000
CB-692	Surface	C	C	C6	48.82204630200	-117.93151570900	431624.58810000	5408092.18850000
CB-510	Surface	C	C	C7	48.82248612400	-117.93275000500	431534.58810000	5408142.18850000
CB-720	Surface	C	C	C8	48.82195084900	-117.93219512400	431574.58810000	5408082.18850000
CB-853	Surface	C	C	C9	48.82159656700	-117.93150737400	431624.58810000	5408042.18850000
CB-784	Surface	C	C	C10	48.82176875200	-117.93246421900	431554.58810000	5408062.18850000
CB-847	Surface	C	C	C11	48.82158996000	-117.93232466700	431564.58810000	5408042.18850000
CB-673	Surface	C	C	C12	48.82201983800	-117.93478490700	431384.58810000	5408092.18850000
CB-68	Surface	D	D	D1	48.82385844200	-117.92991439200	431744.58810000	5408292.18850000
CB-295	Surface	D	D	D2	48.82322551500	-117.93031140200	431714.58810000	5408222.18850000
CB-344	Surface	D	D	D3	48.82304562100	-117.93030807200	431714.58810000	5408202.18850000

Table 3-2. 2010 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
China Bend (Sampled on April 30, 2010) (continued)								
CB-289	Surface	D	D	D4	48.82321891600	-117.93112872100	431654.58810000	5408222.18850000
CB-341	Surface	D	D	D5	48.82304232200	-117.93071673000	431684.58810000	5408202.18850000
CB-781	Surface	D	D	D6	48.82176544600	-117.93287286700	431524.58810000	5408062.18850000
CB-904	Surface	D	D	D7	48.82140676000	-117.93272997400	431534.58810000	5408022.18850000
CB-170	Surface	D	D	D8	48.82069379400	-117.93189934400	431594.58810000	5407942.18850000
CB-1073	Surface	D	D	D9	48.82051169700	-117.93216843300	431574.58810000	5407922.18850000
CB-1098	Surface	D	D	D10	48.82032519100	-117.93298236900	431514.58810000	5407902.18850000
CB-174	Surface	D	D	D11	48.82058399900	-117.93434950400	431414.58810000	5407932.18850000
CB-1040	Surface	D	D	D12	48.82094378700	-117.93435619200	431414.58810000	5407972.18850000
CB-233	Surface	E	E	E1	48.82350194900	-117.92949907300	431774.58810000	5408252.18850000
CB-324	Surface	E	E	E2	48.82314106200	-117.92962863900	431764.58810000	5408212.18850000
CB-267	Surface	E	E	E3	48.82331106300	-117.93085794800	431674.58810000	5408232.18850000
CB-262	Surface	E	E	E4	48.82330556100	-117.93153904800	431624.58810000	5408232.18850000
CB-394	Surface	E	E	E5	48.82286132800	-117.93084961800	431674.58810000	5408182.18850000
CB-424	Surface	E	E	E6	48.82276918000	-117.93112039000	431654.58810000	5408172.18850000
CB-737	Surface	E	E	E7	48.82196955300	-117.92987944400	431744.58810000	5408082.18850000
CB-592	Surface	E	E	E8	48.82231944500	-117.93111205800	431654.58810000	5408122.18850000
CB-755	Surface	E	E	E9	48.82186310500	-117.93192102300	431594.58810000	5408072.18850000
CB-1071	Surface	E	E	E10	48.82050949300	-117.93244085800	431554.58810000	5407922.18850000
CB-1054	Surface	E	E	E11	48.82095922900	-117.93244920100	431554.58810000	5407972.18850000
CB-707	Surface	E	E	E12	48.82193099500	-117.93464701700	431394.58810000	5408082.18850000
Summer Island (Sampled on April 27, 2010)								
SR-845	Surface	A	A	A1	48.68621309800	-118.03448135600	423861.77700000	5393090.82690000
SR-659	Surface	A	Rejected	A2 - submerged	48.68819801700	-118.03384263600	423911.77700000	5393310.82690000
SR-884	Reserved	na	A	A2	48.68539503800	-118.03541567900	423791.77700000	5393000.82690000
SR-790	Surface	A	A	A3	48.68728879500	-118.03491101100	423831.77700000	5393210.82690000
SR-742	Surface	A	A	A4	48.68756229400	-118.03450899300	423861.77700000	5393240.82690000
SR-350	Surface	A	A	A5	48.68972466700	-118.03414565200	423891.77700000	5393480.82690000
SR-331	Surface	A	A	A6	48.68981217300	-118.03441920500	423871.77700000	5393490.82690000
SR-301	Surface	A	A	A7	48.68999572500	-118.03401532300	423901.77700000	5393510.82690000
SR-150	Surface	A	A	A8	48.69116136900	-118.03444684500	423871.77700000	5393640.82690000
SR-105	Surface	A	A	A9	48.69179709100	-118.03378044000	423921.77700000	5393710.82690000
SR-64	Surface	A	A	A10	48.69224682200	-118.03378964800	423921.77700000	5393760.82690000
SR-31	Surface	A	A	A11	48.69260782700	-118.03366115100	423931.77700000	5393800.82690000
SR-37	Surface	A	A	A12	48.69261513800	-118.03284597300	423991.77700000	5393800.82690000
SR-805	Surface	B	B	B1	48.68711012200	-118.03477147700	423841.77700000	5393190.82690000
SR-808	Surface	B	B	B2	48.68711378200	-118.03436393200	423871.77700000	5393190.82690000
SR-732	Surface	B	B	B3	48.68765224100	-118.03451083600	423861.77700000	5393250.82690000
SR-708	Surface	B	B	B4	48.68783091300	-118.03465037100	423851.77700000	5393270.82690000

Table 3-2. 2010 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Summer Island (Sampled on April 27, 2010) (continued)								
SR-779	Surface	B	Rejected	B5 - submerged	48.68747600700	-118.03409960300	423891.77700000	5393230.82690000
SR-127	Reserved	NA	B	B5	48.69142876700	-118.03472409200	423851.77700000	5393670.82690000
SR-640	Surface	B	B	B6	48.68828308500	-118.03438788300	423871.77700000	5393320.82690000
SR-470	Surface	B	B	B7	48.68908528000	-118.03521958600	423811.77700000	5393410.82690000
SR-452	Surface	B	B	B8	48.68917644700	-118.03508557600	423821.77700000	5393420.82690000
SR-453	Surface	B	B	B9	48.68917766800	-118.03494972200	423831.77700000	5393420.82690000
SR-443	Surface	B	Rejected	B10 - submerged	48.68927859300	-118.03372888000	423921.77700000	5393430.82690000
SR-189	Reserved	NA	B	B10	48.69070797600	-118.03484520500	423841.77700000	5393590.82690000
SR-65	Surface	B	B	B11	48.69224804200	-118.03365378600	423931.77700000	5393760.82690000
SR-69	Surface	B	B	B12	48.69225291700	-118.03311033800	423971.77700000	5393760.82690000
SR-769	Surface	C	C	C1	48.68403606900	-118.03647473800	423711.77700000	5392850.82690000
SR-865	Surface	C	C	C2	48.68566731800	-118.03514952200	423811.77700000	5393030.82690000
SR-721	Surface	C	C	C3	48.68774218700	-118.03451267800	423861.77700000	5393260.82690000
SR-688	Surface	C	Rejected	C4 - submerged	48.68801690500	-118.03397480400	423901.77700000	5393290.82690000
SR-620	Reserved	NA	C	C4	48.68836815100	-118.03493313100	423831.77700000	5393330.82690000
SR-607	Surface	C	C	C5	48.68846419800	-118.03425571600	423881.77700000	5393340.82690000
SR-475	Surface	C	C	C6	48.68909138300	-118.03454031800	423861.77700000	5393410.82690000
SR-374	Surface	C	C	C7	48.68953134900	-118.03563636900	423781.77700000	5393460.82690000
SR-311	Surface	C	C	C8	48.68989723900	-118.03496447000	423831.77700000	5393500.82690000
SR-224	Surface	C	C	C9	48.69043691700	-118.03497553200	423831.77700000	5393560.82690000
SR-215	Surface	C	C	C10	48.69053174400	-118.03443394600	423871.77700000	5393570.82690000
SR-124	Surface	C	C	C11	48.69152359300	-118.03418249500	423891.77700000	5393680.82690000
SR-47	Surface	C	C	C12	48.69242671500	-118.03379333100	423921.77700000	5393780.82690000
SR-726	Surface	D	D	D1	48.68764491800	-118.03532593300	423801.77700000	5393250.82690000
SR-628	Surface	D	Rejected	D2 - submerged	48.68837791000	-118.03384631900	423911.77700000	5393330.82690000
SR-777	Reserved	NA	D	D2	48.68747356800	-118.03437130200	423871.77700000	5393230.82690000
SR-503	Surface	D	D	D3	48.68889928200	-118.03589516300	423761.77700000	5393390.82690000
SR-397	Surface	D	D	D4	48.68944750700	-118.03495525300	423831.77700000	5393450.82690000
SR-384	Surface	D	D	D5	48.68954355400	-118.03427782300	423881.77700000	5393460.82690000
SR-271	Surface	D	D	D6	48.69017683700	-118.03388315000	423911.77700000	5393530.82690000
SR-199	Surface	D	D	D7	48.69061803000	-118.03484336100	423841.77700000	5393580.82690000
SR-166	Surface	D	D	D8	48.69098147600	-118.03444315900	423871.77700000	5393620.82690000
SR-163	Surface	D	D	D9	48.69097781500	-118.03485073500	423841.77700000	5393620.82690000
SR-340	Surface	D	D	D10	48.68971246300	-118.03550420400	423791.77700000	5393480.82690000
SR-90	Surface	D	D	D11	48.69197820300	-118.03364826200	423931.77700000	5393730.82690000
SR-76	Surface	D	D	D12	48.69216175200	-118.03324435900	423961.77700000	5393750.82690000
SR-901	Surface	E	E	E1	48.68511909100	-118.03608936000	423741.77700000	5392970.82690000
SR-822	Surface	E	E	E2	48.68684150300	-118.03463010000	423851.77700000	5393160.82690000
SR-667	Surface	E	E	E3	48.68809953200	-118.03479175100	423841.77700000	5393300.82690000

Table 3-2. 2010 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Summer Island (Sampled on April 27, 2010) (continued)								
SR-540	Surface	E	E	E4	48.68871816700	-118.03602732500	423751.77700000	5393370.82690000
SR-465	Surface	E	E	E5	48.68907917400	-118.03589885300	423761.77700000	5393410.82690000
SR-513	Surface	E	E	E6	48.68891149000	-118.03453663300	423861.77700000	5393390.82690000
SR-394	Surface	E	E	E7	48.68944384500	-118.03536281600	423801.77700000	5393450.82690000
SR-302	Surface	E	E	E8	48.68999694500	-118.03387946700	423911.77700000	5393510.82690000
SR-93	Surface	E	E	E9	48.69188215900	-118.03432572600	423881.77700000	5393720.82690000
SR-83	Surface	E	E	E10	48.69206936800	-118.03351424200	423941.77700000	5393740.82690000
SR-63	Surface	E	E	E11	48.69224560300	-118.03392551000	423911.77700000	5393760.82690000
SR-28	Surface	E	E	E12	48.69270386700	-118.03298367600	423981.77700000	5393810.82690000
SR-711	Subsurface	NA	Rejected	Core A-Refusal-cobble	48.68783457300	-118.03424282100	423881.77700000	5393270.82690000
SR-393	Reserved	NA	Subsurface	Core A-Refusal-cobble	48.68944262400	-118.03549867000	423791.77700000	5393450.82690000
SR-423	Reserved	NA	Subsurface	Core A-Refusal-cobble	48.68936732000	-118.03386657500	423911.77700000	5393440.82690000
SR-266	Reserved	NA	Subsurface	Core A-Refusal-cobble	48.69017073900	-118.03456243200	423861.77700000	5393530.82690000
SR-222	Reserved	NA	Subsurface	Core A-Refusal-cobble	48.69043447500	-118.03524724600	423811.77700000	5393560.82690000
SR-668	Reserved	NA	Subsurface	Core A-Refusal-cobble	48.68810075200	-118.03465590000	423851.77700000	5393300.82690000
SR-649	Reserved	A	Subsurface	Core A	48.68818581700	-118.03520114700	423811.77700000	5393310.82690000
SR-618	Subsurface	B	B	Core B	48.68836571000	-118.03520483400	423811.77700000	5393330.82690000
SR-741	Reserved	NA	Subsurface	Core C-Refusal-cobble	48.68756107400	-118.03464484300	423851.77700000	5393240.82690000
SR-920	Reserved	C	Subsurface	Core C	48.68484558600	-118.03649135100	423711.77700000	5392940.82690000
SR-841	Reserved	D	Subsurface	Core D	48.68630060500	-118.03475489000	423841.77700000	5393100.82690000
SR-759	Reserved	E	Subsurface	Core E	48.68458063500	-118.03594244800	423751.77700000	5392910.82690000
Barnaby Island Campground (Sampled on April 28, 2010)								
BC-186	Surface	A	A	A1	48.45181346600	-118.22037186200	409764.27220000	5367238.65140000
BC-432	Reserved	na	Rejected	Grass and wood debris	48.45080111500	-118.22251147900	409604.27220000	5367128.65140000
BC-1076	Surface	A	Rejected	Grass and wood debris	48.44892520600	-118.22124930800	409694.27220000	5366918.65140000
BC-1110	Surface	A	Rejected	Grass and wood debris	48.44882521300	-118.22219357000	409624.27220000	5366908.65140000
BC-2759	Surface	A	A	A2	48.44529189200	-118.21602353100	410074.27220000	5366508.65140000
BC-2692	Surface	A	A	A3	48.44547035300	-118.21616302000	410064.27220000	5366528.65140000
BC-2713	Surface	A	A	A4	48.44536468100	-118.21764800400	409954.27220000	5366518.65140000
BC-1735	Surface	A	A	A5	48.44761329400	-118.21770176600	409954.27220000	5366768.65140000
BC-1313	Surface	A	A	A6	48.44851273800	-118.21772327300	409954.27220000	5366868.65140000
BC-850	Surface	A	A	A7	48.44958062000	-118.21883072100	409874.27220000	5366988.65140000
BC-1214	Surface	A	A	A8	48.44867401400	-118.21948520700	409824.27220000	5366888.65140000
BC-1255	Surface	A	A	A9	48.44858120300	-118.21975345700	409804.27220000	5366878.65140000
BC-1586	Surface	A	A	A10	48.44784443900	-118.22135862500	409684.27220000	5366798.65140000
BC-1590	Reserved	NA	A	A11	48.44785017800	-118.22081782500	409724.27220000	5366798.65140000
BC-2749	Reserved	NA	A	A12	48.44527759700	-118.21737546600	409974.27220000	5366508.65140000
BC-966	Surface	B	Rejected	Grass and wood debris	48.44919073300	-118.22166139000	409664.27220000	5366948.65140000
BC-3488	Surface	B	B	B1	48.44351013300	-118.21435831600	410194.27220000	5366308.65140000

Table 3-2. 2010 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Barnaby Island Campground (Sampled on April 28, 2010) (continued)								
BC-2268	Surface	B	B	B2	48.44654254100	-118.21686477800	410014.27220000	5366648.65140000
BC-2515	Surface	B	B	B3	48.44589289800	-118.21874246700	409874.27220000	5366578.65140000
BC-1824	Surface	B	B	B4	48.44744198600	-118.21688626900	410014.27220000	5366748.65140000
BC-1492	Surface	B	B	B5	48.44816154200	-118.21690346300	410014.27220000	5366828.65140000
BC-1143	Surface	B	B	B6	48.44887251600	-118.21773187600	409954.27220000	5366908.65140000
BC-2022	Surface	B	B	B7	48.44695933700	-118.21998507700	409784.27220000	5366698.65140000
BC-2017	Surface	B	B	B8	48.44695216800	-118.22066106600	409734.27220000	5366698.65140000
BC-778	Surface	B	B	B9	48.44975477900	-118.21937584800	409834.27220000	5367008.65140000
BC-596	Surface	B	B	B10	48.45029731100	-118.21911835700	409854.27220000	5367068.65140000
BC-168	Surface	B	B	B11	48.45190627800	-118.22010359600	409784.27220000	5367248.65140000
BC-2749	Reserved	NA	B	B12	48.44527759700	-118.21737546600	409974.27220000	5366508.65140000
BC-3660	Surface	C	C	C1	48.44268349900	-118.21596125800	410074.27220000	5366218.65140000
BC-3452	Surface	C	C	C2	48.44359008600	-118.21530678500	410124.27220000	5366318.65140000
BC-3263	Surface	C	C	C3	48.44401551300	-118.21761574900	409954.27220000	5366368.65140000
BC-3182	Surface	C	C	C4	48.44419397100	-118.21775524100	409944.27220000	5366388.65140000
BC-2820	Surface	C	C	C5	48.44510914600	-118.21628962200	410054.27220000	5366488.65140000
BC-2348	Surface	C	C	C6	48.44636265200	-118.21686048000	410014.27220000	5366628.65140000
BC-99	Surface	C	C	C7	48.45226892200	-118.21984179300	409804.27220000	5367288.65140000
BC-1797	Surface	C	C	C8	48.44740332400	-118.22053664600	409744.27220000	5366748.65140000
BC-1337	Surface	C	C	C9	48.44839558000	-118.22028995500	409764.27220000	5366858.65140000
BC-1253	Surface	C	C	C10	48.44857833600	-118.22002386100	409784.27220000	5366878.65140000
BC-1286	Surface	C	C	C11	48.44847404900	-118.22137372500	409684.27220000	5366868.65140000
BC-478	Surface	C	C	C12	48.45075419300	-118.21845308400	409904.27220000	5367118.65140000
BC-361	Surface	D	Rejected	Grass and wood debris	48.45107238400	-118.22238274800	409614.27220000	5367158.65140000
BC-1192	Surface	D	Rejected	Grass and wood debris	48.44864245200	-118.22245965700	409604.27220000	5366888.65140000
BC-3540	Surface	D	D	D1	48.44332739000	-118.21462440400	410174.27220000	5366288.65140000
BC-3104	Surface	D	D	D2	48.44437672100	-118.21748915900	409964.27220000	5366408.65140000
BC-3005	Surface	D	D	D3	48.44466799400	-118.21546773100	410114.27220000	5366438.65140000
BC-2910	Surface	D	D	D4	48.44481785900	-118.21831106300	409904.27220000	5366458.65140000
BC-2375	Surface	D	D	D5	48.44625697100	-118.21834548800	409904.27220000	5366618.65140000
BC-2215	Surface	D	D	D6	48.44661818000	-118.21821889800	409914.27220000	5366658.65140000
BC-2263	Surface	D	D	D7	48.44653539000	-118.21754076200	409964.27220000	5366648.65140000
BC-1656	Surface	D	D	D8	48.44779604400	-118.21743566700	409974.27220000	5366788.65140000
BC-1966	Surface	D	D	D9	48.44703493900	-118.22133921200	409684.27220000	5366708.65140000
BC-1461	Surface	D	D	D10	48.44811714200	-118.22109469500	409704.27220000	5366828.65140000
BC-1799	Reserved	NA	D	D11	48.44740619200	-118.22026624800	409764.27220000	5366748.65140000
BC-2743	Reserved	NA	D	D12	48.44526901300	-118.21818662700	409914.27220000	5366508.65140000
BC-3678	Surface	E	E	E1	48.44260355100	-118.21501280500	410144.27220000	5366208.65140000
BC-3387	Surface	E	E	E2	48.44376854800	-118.21544626700	410114.27220000	5366338.65140000

Table 3-2. 2010 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Barnaby Island Campground (Sampled on April 28, 2010) (continued)								
BC-3470	Surface	E	E	E3	48.44348442600	-118.21679171600	410014.27220000	5366308.65140000
BC-149	Surface	E	E	E4	48.45199765600	-118.21997054000	409794.27220000	5367258.65140000
BC-1520	Surface	E	E	E5	48.44805013300	-118.21892932700	409864.27220000	5366818.65140000
BC-1633	Surface	E	E	E6	48.44776310200	-118.22054526900	409744.27220000	5366788.65140000
BC-620	Surface	E	E	E7	48.45020020200	-118.21979223700	409804.27220000	5367058.65140000
BC-690	Surface	E	E	E8	48.45003463800	-118.21843586700	409904.27220000	5367038.65140000
BC-345	Reserved	NA	E	E9	48.45118098800	-118.22062719100	409744.27220000	5367168.65140000
BC-2130	Reserved	NA	E	E10	48.44680522400	-118.21754721300	409964.27220000	5366678.65140000
BC-2384	Reserved	NA	E	E11	48.44626984800	-118.21712872300	409994.27220000	5366618.65140000
BC-46	Reserved	NA	E	E12	48.45262296500	-118.22039126400	409764.27220000	5367328.65140000
BC-2150	Surface	E	Rejected	Cobble	48.44683380300	-118.21484326000	410164.27220000	5366678.65140000
BC-1117	Surface	E	Rejected	Grass and wood debris	48.44883526200	-118.22124715100	409694.27220000	5366908.65140000
BC-2980	Surface	E	Rejected	Submerged	48.44478646800	-118.21276603000	410314.27220000	5366448.65140000
BC-703	Surface	E	Rejected	Grass and wood debris	48.44991889800	-118.22086741900	409724.27220000	5367028.65140000
BC-995	Reserved	NA	Rejected	Grass and wood debris	48.44909217400	-118.22247045300	409604.27220000	5366938.65140000
BC-2797	Subsurface	A	A	Core A	48.44523334100	-118.21304712600	410294.27220000	5366498.65140000
BC-3648	Subsurface	B	B	Core B	48.44277487200	-118.21582821800	410084.27220000	5366228.65140000
BC-3509	Reserved	NA	Subsurface	Core C	48.44341019700	-118.21530249300	410124.27220000	5366298.65140000
BC-D	Alternate	NA	Subsurface	Core D	48.45222598100	-118.22011645100	409783.88815500	5367284.20202000
BC-E	Alternate	NA	Subsurface	Core E	48.44899298100	-118.21794219700	409938.93323700	5366922.28870000
BC-2590	Subsurface	C	Rejected	cobble	48.44572445900	-118.21765660500	409954.27220000	5366558.65140000
BC-2129	Subsurface	D	Rejected	cobble	48.44680379300	-118.21768241100	409954.27220000	5366678.65140000
BC-1497	Subsurface	E	Rejected	cobble	48.44801715000	-118.22203894200	409634.27220000	5366818.65140000
BC-184	Reserved	NA	Rejected	cobble	48.45181059800	-118.22064228400	409744.27220000	5367238.65140000
BC-224	Reserved	NA	Rejected	cobble	48.45162640600	-118.22104360200	409714.27220000	5367218.65140000
BC-272	Reserved	NA	Rejected	cobble	48.45144938600	-118.22076886900	409734.27220000	5367198.65140000
BC-1238	Surface	D	Rejected	Grass	48.44855681600	-118.22205189200	409634.27220000	5366878.65140000
BC-78	Reserved	NA	Rejected	cobble	48.45234596000	-118.22106085700	409714.27220000	5367298.65140000
BC-72	Reserved	NA	Rejected	cobble	48.45244594400	-118.22011652700	409784.27220000	5367308.65140000

Notes:

NA = not applicable

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Flat Creek-Surface (Sampled on April 23, 2011)								
FC-122	Surface	A	A	A1	48.81963428910	-117.97402606900	428500.837	5407863.128
FC-136	Surface	A	A	A2	48.81958471100	-117.97457003100	428460.837	5407858.128
FC-369	Surface	A	A	A3	48.81896717180	-117.97312765400	428565.837	5407788.128
FC-118	Surface	A	A	A4	48.81963198680	-117.97429848600	428480.837	5407863.128
FC-94	Surface	A	A	A5	48.81967408110	-117.97463987900	428455.837	5407868.128
FC-364	Surface	A	A	A6	48.81896429660	-117.97346817000	428540.837	5407788.128
FC-138	Surface	A	A	A7	48.81958586250	-117.97443382200	428470.837	5407858.128
FC-353	Surface	A	A	A8	48.81900811920	-117.97360524800	428530.837	5407793.128
FC-77	Surface	A	A	A9	48.81971905410	-117.97464075100	428455.837	5407873.128
FC-43	Surface	A	A	A10	48.81985857850	-117.97409853100	428495.837	5407888.128
FC-305	Surface	A	A	A11	48.81918858640	-117.97354062900	428535.837	5407813.128
FC-327	Surface	A	A	A12	48.81914821370	-117.97299492900	428575.837	5407808.128
FC-10	Surface	B	B	B1	48.81994334310	-117.97471321600	428450.837	5407898.128
FC-390	Surface	B	B	B2	48.81883052780	-117.97332935100	428550.837	5407773.128
FC-151	Surface	B	B	B3	48.81959334340	-117.97354846800	428535.837	5407858.128
FC-250	Surface	B	B	B4	48.81936962870	-117.97340790500	428545.837	5407833.128
FC-384	Surface	B	B	B5	48.81887665080	-117.97319401600	428560.837	5407778.128
FC-140	Surface	B	B	B6	48.81958701380	-117.97429761400	428480.837	5407858.128
FC-389	Surface	B	B	B7	48.81882995270	-117.97339745500	428545.837	5407773.128
FC-373	Surface	B	B	B8	48.81891989870	-117.97339919600	428545.837	5407783.128
FC-365	Surface	B	B	B9	48.81896487170	-117.97340006700	428545.837	5407788.128
FC-18	Surface	B	B	B10	48.81994794890	-117.97416837800	428490.837	5407898.128
FC-163	Surface	B	B	B11	48.81954261650	-117.97422863800	428485.837	5407853.128
FC-130	Surface	B	B	B12	48.81958125540	-117.97497865500	428430.837	5407858.128
FC-398	Surface	C	C	C1	48.81878555480	-117.97332848100	428550.837	5407768.128
FC-141	Surface	C	C	C2	48.81958758940	-117.97422951000	428485.837	5407858.128
FC-57	Surface	C	C	C3	48.81981418100	-117.97402955500	428500.837	5407883.128
FC-155	Surface	C	C	C4	48.81953801040	-117.97477347100	428445.837	5407853.128
FC-93	Surface	C	C	C5	48.81967350520	-117.97470798300	428450.837	5407868.128
FC-270	Surface	C	C	C6	48.81927450510	-117.97401909700	428500.837	5407823.128
FC-99	Surface	C	C	C7	48.81967695980	-117.97429935700	428480.837	5407868.128
FC-13	Surface	C	C	C8	48.81994507060	-117.97450890200	428465.837	5407898.128
FC-260	Surface	C	C	C9	48.81932177970	-117.97374755300	428520.837	5407828.128
FC-226	Surface	C	C	C10	48.81941057500	-117.97388550400	428510.837	5407838.128
FC-182	Surface	C	C	C11	48.81949649220	-117.97436397500	428475.837	5407848.128
FC-55	Surface	C	C	C12	48.81981303000	-117.97416576400	428490.837	5407883.128
FC-199	Surface	D	D	D1	48.81945036780	-117.97449931100	428465.837	5407843.128
FC-330	Surface	D	D	D2	48.81909749000	-117.97367509400	428525.837	5407803.128
FC-223	Surface	D	D	D3	48.81940884860	-117.97408981500	428495.837	5407838.128
FC-123	Surface	D	D	D4	48.81963486450	-117.97395796500	428505.837	5407863.128
FC-292	Surface	D	D	D5	48.81923413460	-117.97347339600	428540.837	5407818.128
FC-31	Surface	D	D	D6	48.81990355150	-117.97409940200	428495.837	5407893.128

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Flat Creek-Surface (Sampled on April 23, 2011) (continued)								
FC-47	Surface	D	D	D7	48.81980842420	-117.97471059900	428450.837	5407883.128
FC-388	Surface	D	D	D8	48.81882937760	-117.97346555800	428540.837	5407773.128
FC-354	Surface	D	D	D9	48.81900869440	-117.97353714500	428535.837	5407793.128
FC-143	Surface	D	D	D10	48.81958874060	-117.97409330200	428495.837	5407858.128
FC-116	Surface	D	D	D11	48.81963083550	-117.97443469400	428470.837	5407863.128
FC-293	Surface	D	D	D12	48.81923470970	-117.97340529300	428545.837	5407818.128
FC-1	Surface	E	E	E1	48.82012381090	-117.97464859900	428455.837	5407918.128
FC-45	Surface	E	E	E2	48.81980727230	-117.97484680800	428440.837	5407883.128
FC-396	Surface	E	E	E3	48.81878440460	-117.97346468700	428540.837	5407768.128
FC-361	Surface	E	E	E4	48.81901271980	-117.97306042100	428570.837	5407793.128
FC-346	Surface	E	E	E5	48.81905481770	-117.97340180900	428545.837	5407798.128
FC-186	Surface	E	E	E6	48.81949879460	-117.97409155800	428495.837	5407848.128
FC-107	Surface	E	E	E7	48.81968156360	-117.97375452300	428520.837	5407868.128
FC-170	Surface	E	E	E8	48.81954664470	-117.97375190900	428520.837	5407853.128
FC-266	Surface	E	E	E9	48.81932523080	-117.97333893100	428550.837	5407828.128
FC-215	Surface	E	E	E10	48.81945957470	-117.97340964700	428545.837	5407843.128
FC-383	Surface	E	E	E11	48.81887607580	-117.97326211900	428555.837	5407778.128
FC-298	Surface	E	E	E12	48.81923758480	-117.97306477400	428570.837	5407818.128
Flat Creek-Subsurface (Sampled on April 23, 2011)								
FC-230	Subsurface	NA	Subsurface	Core C	48.81941287620	-117.97361308800	428530.837	5407838.128
FC-110	Subsurface	NA	Rejected	Cobble	48.81962738040	-117.97484331900	428440.837	5407863.128
FC-144	Reserved	NA	Subsurface	Core E	48.81958931610	-117.97402519700	428500.837	5407858.128
FC-243	Subsurface	NA	Subsurface	Core B	48.81936560200	-117.97388463200	428510.837	5407833.128
FC-181	Subsurface	NA	Subsurface	Core D	48.81949591650	-117.97443207900	428470.837	5407848.128
FC-351	Subsurface	NA	Rejected	Cobble	48.81905769280	-117.97306129200	428570.837	5407798.128
FC-333	Reserved	NA	Subsurface	Core A	48.81909921560	-117.97347078300	428540.837	5407803.128
Lyons Island-Surface (Sampled on April 24, 2011)								
LY-475	Surface	A	A	A1	48.58068071120	-118.11977863400	417411.882	5381448.978
LY-297	Surface	A	A	A2	48.58120059040	-118.12182396000	417261.882	5381508.978
LY-935	Surface	A	A	A3	48.57878394190	-118.12055023300	417351.882	5381238.978
LY-507	Surface	A	A	A4	48.58047838470	-118.12207915200	417241.882	5381428.978
LY-468	Surface	A	A	A5	48.58067147860	-118.12072754600	417341.882	5381448.978
LY-485	Surface	A	A	A6	48.58057097210	-118.12181002600	417261.882	5381438.978
LY-132	Surface	A	A	A7	48.58176005760	-118.11980247800	417411.882	5381568.978
LY-704	Surface	A	A	A8	48.57968207790	-118.12070567200	417341.882	5381338.978
LY-384	Surface	A	A	A9	48.58093207470	-118.12168242900	417271.882	5381478.978
LY-561	Surface	A	A	A10	48.58030905730	-118.12099070700	417321.882	5381408.978
LY-709	Surface	A	A	A11	48.57968867320	-118.12002789000	417391.882	5381338.978
LY-53	Surface	A	A	A12	48.58191090440	-118.12278882000	417191.882	5381588.978
LY-441	Surface	B	B	B1	48.58075878480	-118.12100065300	417321.882	5381458.978
LY-999	Surface	B	B	B2	48.57843866160	-118.11905119800	417461.882	5381198.978
LY-1020	Surface	B	B	B3	48.57825877040	-118.11904722700	417461.882	5381178.978

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Lyons Island-Surface (Sampled on April 24, 2011) (continued)								
LY-877	Surface	B	B	B4	48.57906828080	-118.11906509700	417461.882	5381268.978
LY-410	Surface	B	B	B5	48.58084212920	-118.12168043900	417271.882	5381468.978
LY-420	Surface	B	B	B6	48.58085532750	-118.12032484500	417371.882	5381468.978
LY-761	Surface	B	B	B7	48.57951669110	-118.11921058100	417451.882	5381318.978
LY-439	Surface	B	B	B8	48.58075614490	-118.12127177100	417301.882	5381458.978
LY-304	Surface	B	B	B9	48.58120983210	-118.12087503800	417331.882	5381508.978
LY-988	Surface	B	B	B10	48.57852728970	-118.11918873700	417451.882	5381208.978
LY-698	Surface	B	B	B11	48.57967415830	-118.12151900900	417281.882	5381338.978
LY-227	Surface	B	B	B12	48.58136858760	-118.12304798800	417171.882	5381528.978
LY-257	Surface	C	C	C1	48.58127731980	-118.12318155500	417161.882	5381518.978
LY-235	Surface	C	C	C2	48.58137916040	-118.12196350200	417251.882	5381528.978
LY-572	Surface	C	C	C3	48.58020590580	-118.12234429400	417221.882	5381398.978
LY-580	Surface	C	C	C4	48.58021647190	-118.12125983400	417301.882	5381398.978
LY-677	Surface	C	C	C5	48.57976542420	-118.12138544200	417291.882	5381348.978
LY-212	Surface	C	C	C6	48.58147966860	-118.12088100500	417331.882	5381538.978
LY-418	Surface	C	C	C7	48.58085268910	-118.12059596400	417351.882	5381468.978
LY-873	Surface	C	C	C8	48.57906300950	-118.11960731500	417421.882	5381268.978
LY-519	Surface	C	C	C9	48.58049422630	-118.12045245200	417361.882	5381428.978
LY-909	Surface	C	C	C10	48.57886992900	-118.12095888300	417321.882	5381248.978
LY-92	Surface	C	C	C11	48.58183549070	-118.12129564700	417301.882	5381578.978
LY-50	Surface	C	C	C12	48.58190693780	-118.12319550700	417161.882	5381588.978
LY-112	Surface	D	D	D1	48.58173365710	-118.12251371200	417211.882	5381568.978
LY-322	Surface	D	D	D2	48.58110403900	-118.12249977000	417211.882	5381498.978
LY-48	Surface	D	D	D3	48.58190429260	-118.12346663100	417141.882	5381588.978
LY-543	Surface	D	D	D4	48.58040428080	-118.12045046400	417361.882	5381418.978
LY-1053	Surface	D	D	D5	48.57799683550	-118.11822796000	417521.882	5381148.978
LY-157	Surface	D	D	D6	48.58166351800	-118.12047829900	417361.882	5381558.978
LY-309	Surface	D	D	D7	48.58121642850	-118.12019723700	417381.882	5381508.978
LY-742	Surface	D	D	D8	48.57949162620	-118.12178614000	417261.882	5381318.978
LY-996	Surface	D	D	D9	48.57853782570	-118.11810431100	417531.882	5381208.978
LY-35	Surface	D	D	D10	48.58201406140	-118.12143518900	417291.882	5381598.978
LY-741	Surface	D	D	D11	48.57949030540	-118.12192169600	417251.882	5381318.978
LY-582	Surface	D	D	D12	48.58021911180	-118.12098871800	417321.882	5381398.978
LY-495	Surface	E	E	E1	48.58058417180	-118.12045444000	417361.882	5381438.978
LY-520	Surface	E	E	E2	48.58049554540	-118.12031689400	417371.882	5381428.978
LY-542	Surface	E	E	E3	48.58040296150	-118.12058602200	417351.882	5381418.978
LY-927	Surface	E	E	E4	48.57889365830	-118.11851890900	417501.882	5381248.978
LY-458	Surface	E	E	E5	48.58065827570	-118.12208313400	417241.882	5381448.978
LY-1035	Surface	E	E	E6	48.57817409340	-118.11850303300	417501.882	5381168.978
LY-120	Surface	E	E	E7	48.58174422490	-118.12142921900	417291.882	5381568.978
LY-85	Surface	E	E	E8	48.58182624540	-118.12224458100	417231.882	5381578.978
LY-1004	Surface	E	E	E9	48.57844524700	-118.11837343300	417511.882	5381198.978

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Lyons Island-Surface (Sampled on April 24, 2011) (continued)								
LY-271	Surface	E	E	E10	48.58129581780	-118.12128370900	417301.882	5381518.978
LY-61	Surface	E	E	E11	48.58192147490	-118.12170432400	417271.882	5381588.978
LY-127	Surface	E	E	E12	48.58175346350	-118.12048028700	417361.882	5381568.978
Lyons Island-Subsurface (Sampled on April 24, 2011)								
LY-514	Subsurface	NA	Subsurface	Core C	48.58048762840	-118.12113024400	417311.882	5381428.978
LY-4	Reserved	NA	Rejected	Gravel	48.58219791270	-118.12103248000	417321.882	5381618.978
LY-64	Reserved	NA	Rejected	Gravel	48.58192543620	-118.12129763700	417301.882	5381588.978
LY-315	Subsurface	NA	Rejected	Cobble	48.58109478390	-118.12344868900	417141.882	5381498.978
LY-88	Reserved	NA	Subsurface	Core E	48.58183020860	-118.12183789500	417261.882	5381578.978
LY-716	Subsurface	NA	Rejected	Cobble	48.57969789990	-118.11907899600	417461.882	5381338.978
LY-726	Reserved	NA	Rejected	Gravel	48.57959081290	-118.12083923900	417331.882	5381328.978
LY-625	Reserved	NA	Subsurface	Core A	48.58004186000	-118.12071362600	417341.882	5381378.978
LY-312	Subsurface	NA	Rejected	Cobble	48.58122038440	-118.11979055600	417411.882	5381508.978
LY-361	Reserved	NA	Rejected	Gravel	48.58102730140	-118.12114218000	417311.882	5381488.978
LY-208	Reserved	NA	Subsurface	Core D	48.58147438850	-118.12142324900	417291.882	5381538.978
LY-1014	Subsurface	NA	Rejected	Cobble	48.57835530140	-118.11837144900	417511.882	5381188.978
LY-333	Reserved	NA	Rejected	Gravel	48.58111856680	-118.12100861000	417321.882	5381498.978
LY-566	Reserved	NA	Rejected	Gravel	48.58031565430	-118.12031291800	417371.882	5381408.978
LY-754	Reserved	NA	Subsurface	Core B	48.57950746340	-118.12015947200	417381.882	5381318.978
AA Campground-Surface (Sampled on April 25, 2011)								
AA-91	Surface	A	A	A1	48.25959628010	-118.14703741300	414866.949	5345789.826
AA-443	Surface	A	A	A2	48.25873839750	-118.14735505600	414841.949	5345694.826
AA-601	Surface	A	A	A3	48.25853495050	-118.14970834600	414666.949	5345674.826
AA-194	Surface	A	A	A4	48.25914989050	-118.14669058700	414891.949	5345739.826
AA-118	Surface	A	A	A5	48.25946068360	-118.14710174700	414861.949	5345774.826
AA-6	Surface	A	A	A6	48.26017826530	-118.14731991100	414846.949	5345854.826
AA-683	Surface	A	A	A7	48.25844432730	-118.14977368100	414661.949	5345664.826
AA-503	Surface	A	A	A8	48.25862220590	-118.14997977100	414646.949	5345684.826
AA-253	Surface	A	A	A9	48.25901093490	-118.14709168400	414861.949	5345724.826
AA-819	Surface	A	A	A10	48.25827519910	-118.14869202200	414741.949	5345644.826
AA-658	Surface	A	A	A11	48.25849940050	-118.14876441200	414736.949	5345669.826
AA-216	Surface	A	A	A12	48.25902630570	-118.15005620300	414641.949	5345729.826
AA-724	Surface	B	B	B1	48.25840204620	-118.14950326500	414681.949	5345659.826
AA-775	Surface	B	B	B2	48.25836918540	-118.14828992700	414771.949	5345654.826
AA-224	Surface	B	B	B3	48.25903169390	-118.14951738300	414681.949	5345729.826
AA-98	Surface	B	B	B4	48.25954996130	-118.14717111300	414856.949	5345784.826
AA-548	Surface	B	B	B5	48.25865247970	-118.14694893000	414871.949	5345684.826
AA-587	Surface	B	B	B6	48.25860145650	-118.14755409200	414826.949	5345679.826
AA-621	Surface	B	B	B7	48.25854841220	-118.14836130800	414766.949	5345674.826
AA-425	Surface	B	B	B8	48.25872629330	-118.14856739400	414751.949	5345694.826
AA-196	Surface	B	B	B9	48.25907195420	-118.14998985900	414646.949	5345734.826
AA-783	Surface	B	B	B10	48.25837456530	-118.14775111400	414811.949	5345654.826

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
AA Campground-Surface (Sampled on April 25, 2011) (continued)								
AA-338	Surface	B	B	B11	48.25880547300	-118.14964704500	414671.949	5345704.826
AA-592	Surface	B	B	B12	48.25860481700	-118.14721733200	414851.949	5345679.826
AA-297	Surface	C	C	C1	48.25891964110	-118.14722437700	414851.949	5345714.826
AA-553	Surface	C	C	C2	48.25857857830	-118.14984405900	414656.949	5345679.826
AA-160	Surface	C	C	C3	48.25928548680	-118.14662625200	414896.949	5345754.826
AA-568	Surface	C	C	C4	48.25858867720	-118.14883378000	414731.949	5345679.826
AA-566	Surface	C	C	C5	48.25858733120	-118.14896848300	414721.949	5345679.826
AA-188	Surface	C	C	C6	48.25914585950	-118.14709470300	414861.949	5345739.826
AA-127	Surface	C	C	C7	48.25941570870	-118.14710074100	414861.949	5345769.826
AA-89	Surface	C	C	C8	48.25959493620	-118.14717212000	414856.949	5345789.826
AA-599	Surface	C	C	C9	48.25853360350	-118.14984305000	414656.949	5345674.826
AA-340	Surface	C	C	C10	48.25880681980	-118.14951234100	414681.949	5345704.826
AA-1	Surface	C	C	C11	48.26022256810	-118.14738827200	414841.949	5345859.826
AA-549	Surface	C	C	C12	48.25857588380	-118.15011346600	414636.949	5345679.826
AA-27	Surface	D	D	D1	48.25999769380	-118.14738323900	414841.949	5345834.826
AA-685	Surface	D	D	D2	48.25844567430	-118.14963897700	414671.949	5345664.826
AA-797	Surface	D	D	D3	48.25832017400	-118.14869303000	414741.949	5345649.826
AA-412	Surface	D	D	D4	48.25871754340	-118.14944297200	414686.949	5345694.826
AA-582	Surface	D	D	D5	48.25859809490	-118.14789085200	414801.949	5345679.826
AA-457	Surface	D	D	D6	48.25866920150	-118.14977872400	414661.949	5345689.826
AA-675	Surface	D	D	D7	48.25851083450	-118.14761943100	414821.949	5345669.826
AA-35	Surface	D	D	D8	48.25995339100	-118.14731487800	414846.949	5345829.826
AA-4	Surface	D	D	D9	48.26017692100	-118.14745461900	414836.949	5345854.826
AA-49	Surface	D	D	D10	48.25986411340	-118.14724551200	414851.949	5345819.826
AA-223	Surface	D	D	D11	48.25903102060	-118.14958473500	414676.949	5345729.826
AA-834	Surface	D	D	D12	48.25823156990	-118.14855631100	414751.949	5345639.826
AA-335	Surface	E	E	E1	48.25880345250	-118.14984910200	414656.949	5345704.826
AA-249	Surface	E	E	E2	48.25900824680	-118.14736109500	414841.949	5345724.826
AA-424	Surface	E	E	E3	48.25872562050	-118.14863474700	414746.949	5345694.826
AA-516	Surface	E	E	E4	48.25863095990	-118.14910419500	414711.949	5345684.826
AA-593	Surface	E	E	E5	48.25860548900	-118.14714998000	414856.949	5345679.826
AA-102	Surface	E	E	E6	48.25955264900	-118.14690170000	414876.949	5345784.826
AA-43	Surface	E	E	E7	48.25990908820	-118.14724651800	414851.949	5345824.826
AA-177	Surface	E	E	E8	48.25919486540	-118.14669159300	414891.949	5345744.826
AA-473	Surface	E	E	E9	48.25867997280	-118.14870109100	414741.949	5345689.826
AA-767	Surface	E	E	E10	48.25836380300	-118.14882874100	414731.949	5345654.826
AA-649	Surface	E	E	E11	48.25849334260	-118.14937057900	414691.949	5345669.826
AA-751	Surface	E	E	E12	48.25842021250	-118.14768476900	414816.949	5345659.826
AA Campground-Subsurface (Sampled on April 25, 2011)								
AA-121	Subsurface	NA	Subsurface	Core B	48.25946269930	-118.14689968800	414876.949	5345774.826
AA-427	Subsurface	NA	Rejected	Refusal	48.25872763890	-118.14843269000	414761.949	5345694.826
AA-698	Reserved	NA	Subsurface	Core D	48.25845442560	-118.14876340400	414736.949	5345664.826

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
AA Campground-Subsurface (Sampled on April 25, 2011) (continued)								
AA-256	Subsurface	NA	Subsurface	Core A	48.25901295050	-118.14688962700	414876.949	5345724.826
AA-552	Subsurface	NA	Subsurface	Core E	48.25857790470	-118.14991141000	414651.949	5345679.826
AA-64	Subsurface	NA	Subsurface	Core C	48.25977617960	-118.14704143800	414866.949	5345809.826
Nez Perce-Surface (Sampled on April 26, 2011)								
NZ-154	Surface	A	A	A1	48.13997672230	-118.23356687600	408231.423	5332594.051
NZ-214	Surface	A	A	A2	48.13968955420	-118.23517307200	408111.423	5332564.051
NZ-401	Surface	A	A	A3	48.13881459830	-118.23286692800	408281.423	5332464.051
NZ-18	Surface	A	A	A4	48.14070640680	-118.23264338100	408301.423	5332674.051
NZ-581	Surface	A	A	A5	48.13825037420	-118.23513854400	408111.423	5332404.051
NZ-40	Surface	A	A	A6	48.14052074200	-118.23317663600	408261.423	5332654.051
NZ-64	Surface	A	A	A7	48.14044232490	-118.23209935800	408341.423	5332644.051
NZ-29	Surface	A	A	A8	48.14061501640	-118.23277561800	408291.423	5332664.051
NZ-735	Surface	A	A	A9	48.13771068150	-118.23512559700	408111.423	5332344.051
NZ-716	Surface	A	A	A10	48.13780351860	-118.23485898800	408131.423	5332354.051
NZ-75	Surface	A	A	A11	48.14034228640	-118.23303793700	408271.423	5332634.051
NZ-98	Surface	A	A	A12	48.14025810410	-118.23249822300	408311.423	5332624.051
NZ-443	Surface	B	B	B1	48.13873905860	-118.23152091400	408381.423	5332454.051
NZ-563	Surface	B	B	B2	48.13836197050	-118.23312492900	408261.423	5332414.051
NZ-59	Surface	B	B	B3	48.14043511880	-118.23277131100	408291.423	5332644.051
NZ-251	Surface	B	B	B4	48.13962702090	-118.23261753800	408301.423	5332554.051
NZ-598	Surface	B	B	B5	48.13827490530	-118.23285400500	408281.423	5332404.051
NZ-699	Surface	B	B	B6	48.13790357160	-118.23392046000	408201.423	5332364.051
NZ-285	Surface	B	B	B7	48.13923836600	-118.23529666900	408101.423	5332514.051
NZ-127	Surface	B	B	B8	48.14005945640	-118.23424097900	408181.423	5332604.051
NZ-271	Surface	B	B	B9	48.13942692800	-118.23449465900	408161.423	5332534.051
NZ-216	Surface	B	B	B10	48.13969244270	-118.23490429500	408131.423	5332564.051
NZ-337	Surface	B	B	B11	48.13897718420	-118.23448387500	408161.423	5332484.051
NZ-627	Surface	B	B	B12	48.13818063070	-118.23325500400	408251.423	5332394.051
NZ-747	Surface	C	C	C1	48.13761206410	-118.23592973700	408051.423	5332334.051
NZ-540	Surface	C	C	C2	48.13846633140	-118.23178323000	408361.423	5332424.051
NZ-273	Surface	C	C	C3	48.13942981490	-118.23422588400	408181.423	5332534.051
NZ-498	Surface	C	C	C4	48.13854475180	-118.23286046600	408281.423	5332434.051
NZ-10	Surface	C	C	C5	48.14080212030	-118.23210796900	408341.423	5332684.051
NZ-268	Surface	C	C	C6	48.13942259650	-118.23489782200	408131.423	5332534.051
NZ-444	Surface	C	C	C7	48.13874049860	-118.23138652800	408391.423	5332454.051
NZ-622	Surface	C	C	C8	48.13817341810	-118.23392692700	408201.423	5332394.051
NZ-176	Surface	C	C	C9	48.13988388810	-118.23383349900	408211.423	5332584.051
NZ-631	Surface	C	C	C10	48.13818639800	-118.23271746600	408291.423	5332394.051
NZ-749	Surface	C	C	C11	48.13761495430	-118.23566097100	408071.423	5332334.051
NZ-212	Surface	C	C	C12	48.13981124220	-118.23221867800	408331.423	5332574.051
NZ-56	Surface	D	D	D1	48.14043079320	-118.23317448200	408261.423	5332644.051
NZ-695	Surface	D	D	D2	48.13789779870	-118.23445799500	408161.423	5332364.051

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Nez Perce-Surface (Sampled on April 26, 2011) (continued)								
NZ-93	Surface	D	D	D3	48.14025089560	-118.23317017300	408261.423	5332624.051
NZ-738	Surface	D	D	D4	48.13771790120	-118.23445368100	408161.423	5332344.051
NZ-753	Surface	D	D	D5	48.13751922450	-118.23619634300	408031.423	5332324.051
NZ-242	Surface	D	D	D6	48.13960826910	-118.23436458500	408171.423	5332554.051
NZ-512	Surface	D	D	D7	48.13842593790	-118.23554601500	408081.423	5332424.051
NZ-247	Surface	D	D	D8	48.13961548450	-118.23369264400	408221.423	5332554.051
NZ-97	Surface	D	D	D9	48.14025666270	-118.23263261300	408301.423	5332624.051
NZ-545	Surface	D	D	D10	48.13833598920	-118.23554385700	408081.423	5332414.051
NZ-272	Surface	D	D	D11	48.13942837160	-118.23436027100	408171.423	5332534.051
NZ-646	Surface	D	D	D12	48.13807913980	-118.23432792400	408171.423	5332384.051
NZ-89	Surface	E	E	E1	48.14024512600	-118.23370773200	408221.423	5332624.051
NZ-162	Surface	E	E	E2	48.13998825760	-118.23249176300	408311.423	5332594.051
NZ-579	Surface	E	E	E3	48.13824748520	-118.23540731300	408091.423	5332404.051
NZ-182	Surface	E	E	E4	48.13989254240	-118.23302716500	408271.423	5332584.051
NZ-257	Surface	E	E	E5	48.13951398920	-118.23476559200	408141.423	5332544.051
NZ-565	Surface	E	E	E6	48.13836485410	-118.23285615900	408281.423	5332414.051
NZ-606	Surface	E	E	E7	48.13828643370	-118.23177892600	408361.423	5332404.051
NZ-317	Surface	E	E	E8	48.13906280140	-118.23488919200	408131.423	5332494.051
NZ-171	Surface	E	E	E9	48.13987667190	-118.23450544300	408161.423	5332584.051
NZ-63	Surface	E	E	E10	48.14044088400	-118.23223374900	408331.423	5332644.051
NZ-53	Surface	E	E	E11	48.14042646620	-118.23357765300	408231.423	5332644.051
NZ-81	Surface	E	E	E12	48.14035093520	-118.23223159600	408331.423	5332634.051
Nez Perce-Subsurface (Sampled on April 26, 2011)								
NZ-714	Subsurface	NA	Subsurface	Core A	48.13780063030	-118.23512775500	408111.423	5332354.051
NZ-572	Subsurface	NA	Rejected	Refusal	48.13837494200	-118.23191546300	408351.423	5332414.051
NZ-292	Reserved	NA	Subsurface	Core E	48.13924847400	-118.23435595800	408171.423	5332514.051
NZ-521	Subsurface	NA	Subsurface	Core B	48.13843893500	-118.23433655000	408171.423	5332424.051
NZ-368	Subsurface	NA	Subsurface	Core C	48.13890166340	-118.23313785500	408261.423	5332474.051
NZ-229	Subsurface	NA	Subsurface	Core D	48.13971120280	-118.23315724500	408261.423	5332564.051
Naborlee-Surface (Sampled on April 30, 2011)								
NA-559	Surface	A	A	A1	48.04085129110	-118.35740496500	398824.649	5321731.989
NA-537	Surface	A	A	A2	48.04098713350	-118.35351770300	399114.649	5321741.989
NA-574	Surface	A	A	A3	48.04087504700	-118.35539309400	398974.649	5321731.989
NA-292	Surface	A	A	A4	48.04150466910	-118.35540961400	398974.649	5321801.989
NA-769	Surface	A	A	A5	48.04052949930	-118.35417654000	399064.649	5321691.989
NA-592	Surface	A	A	A6	48.04090350760	-118.35297884700	399154.649	5321731.989
NA-249	Surface	A	A	A7	48.04159461510	-118.35541197400	398974.649	5321811.989
NA-283	Surface	A	A	A8	48.04165464060	-118.35031515300	399354.649	5321811.989
NA-588	Surface	A	A	A9	48.04089718740	-118.35351534700	399114.649	5321731.989
NA-289	Surface	A	A	A10	48.04149675420	-118.35608024600	398924.649	5321801.989
NA-549	Surface	A	A	A11	48.04100608660	-118.35190820100	399234.649	5321741.989
NA-566	Surface	A	A	A12	48.04086238150	-118.35646609200	398894.649	5321731.989

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Naborlee-Surface (Sampled on April 30, 2011) (continued)								
NA-586	Surface	B	B	B1	48.04089402630	-118.35378359600	399094.649	5321731.989
NA-484	Surface	B	B	B2	48.04106917570	-118.35419068700	399064.649	5321751.989
NA-427	Surface	B	B	B3	48.04127276770	-118.35218351400	399214.649	5321771.989
NA-557	Surface	B	B	B4	48.04101870950	-118.35083519800	399314.649	5321741.989
NA-247	Surface	B	B	B5	48.04159144960	-118.35568022700	398954.649	5321811.989
NA-257	Surface	B	B	B6	48.04160727080	-118.35433896000	399054.649	5321811.989
NA-829	Surface	B	B	B7	48.04024542480	-118.35537657600	398974.649	5321661.989
NA-419	Surface	B	B	B8	48.04126013220	-118.35325652100	399134.649	5321771.989
NA-197	Surface	B	B	B9	48.04182507030	-118.35112462100	399294.649	5321831.989
NA-319	Surface	B	B	B10	48.04154734190	-118.35178819700	399244.649	5321801.989
NA-290	Surface	B	B	B11	48.04149833750	-118.35594611900	398934.649	5321801.989
NA-809	Surface	B	B	B12	48.04032903950	-118.35591542900	398934.649	5321671.989
NA-414	Surface	C	Rejected	Cobble and vegetation	48.04125222990	-118.35392715100	399084.649	5321771.989
NA-348	Reserved	NA	C	C1	48.04143844420	-118.35339536000	399124.649	5321791.989
NA-777	Surface	C	C	C2	48.04040314610	-118.35725902500	398834.649	5321681.989
NA-2	Surface	C	C	C3	48.04253832780	-118.35167995800	399254.649	5321911.989
NA-311	Surface	C	C	C4	48.04153471000	-118.35286121000	399164.649	5321801.989
NA-358	Surface	C	C	C5	48.04145423870	-118.35205409600	399224.649	5321791.989
NA-789	Surface	C	C	C6	48.04042215150	-118.35564954300	398954.649	5321681.989
NA-659	Surface	C	C	C7	48.04066505840	-118.35793673400	398784.649	5321711.989
NA-656	Surface	C	C	C8	48.04066030110	-118.35833910700	398754.649	5321711.989
NA-130	Surface	C	C	C9	48.04199549420	-118.35193409300	399234.649	5321851.989
NA-89	Surface	C	C	C10	48.04207438660	-118.35287534300	399164.649	5321861.989
NA-389	Surface	C	C	C11	48.04135481780	-118.35285649900	399164.649	5321781.989
NA-382	Surface	C	C	C12	48.04134375670	-118.35379538200	399094.649	5321781.989
NA-186	Surface	D	D	D1	48.04180770730	-118.35260002200	399184.649	5321831.989
NA-730	Surface	D	D	D2	48.04061628280	-118.35444714600	399044.649	5321701.989
NA-431	Surface	D	D	D3	48.04127908170	-118.35164701000	399254.649	5321771.989
NA-463	Surface	D	D	D4	48.04118755730	-118.35177878200	399244.649	5321761.989
NA-397	Surface	D	D	D5	48.04136744960	-118.35178349000	399244.649	5321781.989
NA-651	Surface	D	D	D6	48.04082777270	-118.35176936800	399244.649	5321721.989
NA-92	Surface	D	D	D7	48.04207912480	-118.35247295900	399194.649	5321861.989
NA-66	Surface	D	D	D8	48.04217854320	-118.35167054400	399254.649	5321871.989
NA-152	Surface	D	D	D9	48.04189133480	-118.35313888700	399144.649	5321841.989
NA-31	Surface	D	D	D10	48.04236632480	-118.35100460700	399304.649	5321891.989
NA-355	Surface	D	D	D11	48.04144950200	-118.35245647500	399194.649	5321791.989
NA-86	Surface	D	D	D12	48.04206964700	-118.35327772700	399134.649	5321861.989
NA-393	Surface	E	E	E1	48.04136113500	-118.35231999400	399204.649	5321781.989
NA-309	Surface	E	E	E2	48.04153155050	-118.35312946300	399144.649	5321801.989
NA-100	Surface	E	E	E3	48.04209175320	-118.35139993400	399274.649	5321861.989
NA-166	Surface	E	E	E4	48.04191343870	-118.35126110100	399284.649	5321841.989
NA-767	Surface	E	E	E5	48.04052633680	-118.35444478800	399044.649	5321691.989

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Naborlee-Surface (Sampled on April 30, 2011) (continued)								
NA-59	Surface	E	E	E6	48.04229529690	-118.34939271000	399424.649	5321881.989
NA-98	Surface	E	E	E7	48.04208859710	-118.35166819100	399254.649	5321861.989
NA-128	Surface	E	E	E8	48.04199233680	-118.35220234900	399214.649	5321851.989
NA-409	Surface	E	E	E9	48.04121424440	-118.35714616700	398844.649	5321771.989
NA-291	Surface	E	E	E10	48.04149992060	-118.35581199300	398944.649	5321801.989
NA-521	Surface	E	E	E11	48.04095549480	-118.35620020400	398914.649	5321741.989
NA-764	Surface	E	E	E12	48.04052159	-118.3548472	399014.649	5321691.989
Naborlee-Subsurface (Sampled on April 30, 2011)								
NA-528	Subsurface	NA	Subsurface	Core D	48.0409729	-118.3547248	399024.649	5321741.989
NA-737	Subsurface	NA	Subsurface	Core C	48.04062735	-118.3535083	399114.649	5321701.989
NA-318	Subsurface	NA	Rejected	Gravel	48.04154576	-118.3519223	399234.649	5321801.989
NA-765	Reserved	NA	Subsurface	Core A	48.04052317	-118.354713	399024.649	5321691.989
NA-676	Subsurface	NA	Rejected	Rock	48.04069199	-118.3556566	398954.649	5321711.989
NA-768	Reserved	NA	Subsurface	Core E	48.04052792	-118.3543107	399054.649	5321691.989
NA-591	Subsurface	NA	Subsurface	Core B	48.04090193	-118.353113	399144.649	5321731.989
Wilmont Creek-Surface (Sampled on April 28, 2011)								
WC-182	Surface	A	A	A1	48.05048238	-118.2941789	403555.160	5322721.321
WC-212	Surface	A	A	A2	48.0503879	-118.2945791	403525.160	5322711.321
WC-284	Surface	A	A	A3	48.05021858	-118.2936355	403595.160	5322691.321
WC-223	Surface	A	A	A4	48.05026465	-118.2975282	403305.160	5322701.321
WC-175	Surface	A	A	A5	48.0504718	-118.2951179	403485.160	5322721.321
WC-295	Surface	A	A	A6	48.05009839	-118.2963163	403395.160	5322681.321
WC-507	Surface	A	A	A7	48.04941358	-118.2932128	403625.160	5322601.321
WC-424	Surface	A	A	A8	48.04976129	-118.294295	403545.160	5322641.321
WC-307	Surface	A	A	A9	48.05011654	-118.2947065	403515.160	5322681.321
WC-520	Surface	A	A	A10	48.04932363	-118.2932105	403625.160	5322591.321
WC-262	Surface	A	A	A11	48.05018531	-118.2965868	403375.160	5322691.321
WC-513	Surface	A	A	A12	48.04931306	-118.2941496	403555.160	5322591.321
WC-485	Surface	B	B	B1	48.04949144	-118.2942882	403545.160	5322611.321
WC-365	Surface	B	B	B2	48.04993514	-118.2948361	403505.160	5322661.321
WC-224	Surface	B	B	B3	48.05026617	-118.297394	403315.160	5322701.321
WC-106	Surface	B	B	B4	48.05063354	-118.2967323	403365.160	5322741.321
WC-156	Surface	B	B	B5	48.05044304	-118.2976668	403295.160	5322721.321
WC-203	Surface	B	B	B6	48.05037429	-118.2957864	403435.160	5322711.321
WC-512	Surface	B	B	B7	48.04931155	-118.2942837	403545.160	5322591.321
WC-500	Surface	B	B	B8	48.04940301	-118.2941518	403555.160	5322601.321
WC-166	Surface	B	B	B9	48.05045818	-118.2963253	403395.160	5322721.321
WC-480	Surface	B	B	B10	48.04948388	-118.294959	403495.160	5322611.321
WC-486	Surface	B	B	B11	48.04949295	-118.2941541	403555.160	5322611.321
WC-413	Surface	B	B	B12	48.04974465	-118.2957706	403435.160	5322641.321

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Wilmont Creek-Surface (Sampled on April 28, 2011) (continued)								
WC-496	Surface	C	C	C1	48.04939696	-118.2946884	403515.160	5322601.321
WC-483	Surface	C	C	C2	48.04948842	-118.2945565	403525.160	5322611.321
WC-315	Surface	C	C	C3	48.05012863	-118.2936332	403595.160	5322681.321
WC-461	Surface	C	C	C4	48.04956929	-118.2953637	403465.160	5322621.321
WC-267	Surface	C	C	C5	48.05019288	-118.2959161	403425.160	5322691.321
WC-459	Surface	C	C	C6	48.04956627	-118.295632	403445.160	5322621.321
WC-494	Surface	C	C	C7	48.04939393	-118.2949567	403495.160	5322601.321
WC-251	Surface	C	C	C8	48.05030702	-118.2937719	403585.160	5322701.321
WC-39	Surface	C	C	C9	48.05099181	-118.2968755	403355.160	5322781.321
WC-117	Surface	C	C	C10	48.05066228	-118.2941834	403555.160	5322741.321
WC-465	Surface	C	C	C11	48.04957534	-118.2948271	403505.160	5322621.321
WC-419	Surface	C	C	C12	48.04975373	-118.2949657	403495.160	5322641.321
WC-456	Surface	D	D	D1	48.04968342	-118.2932195	403625.160	5322631.321
WC-468	Surface	D	D	D2	48.04957988	-118.2944246	403535.160	5322621.321
WC-31	Surface	D	D	D3	48.05111353	-118.2940605	403565.160	5322791.321
WC-17	Surface	D	Rejected	Thick vegetation	48.05117322	-118.2967458	403365.160	5322801.321
WC-103	Reserved	NA	D	D4	48.050629	-118.297135	403335.160	5322741.321
WC-26	Surface	D	D	D5	48.05108176	-118.2968777	403355.160	5322791.321
WC-471	Surface	D	D	D6	48.04958441	-118.2940222	403565.160	5322621.321
WC-338	Surface	D	D	D7	48.05002811	-118.29457	403525.160	5322671.321
WC-396	Surface	D	D	D8	48.04984972	-118.2944314	403535.160	5322651.321
WC-398	Surface	D	D	D9	48.04985275	-118.2941631	403555.160	5322651.321
WC-205	Surface	D	D	D10	48.05037731	-118.2955181	403455.160	5322711.321
WC-250	Surface	D	D	D11	48.05030551	-118.293906	403575.160	5322701.321
WC-230	Surface	D	D	D12	48.05027526	-118.2965891	403375.160	5322701.321
WC-189	Surface	E	E	E1	48.05035309	-118.2976646	403295.160	5322711.321
WC-448	Surface	E	E	E2	48.04967134	-118.2942927	403545.160	5322631.321
WC-273	Surface	E	E	E3	48.05020196	-118.2951112	403485.160	5322691.321
WC-161	Surface	E	E	E4	48.05045061	-118.2969961	403345.160	5322721.321
WC-528	Surface	E	E	E5	48.04914072	-118.2934743	403605.160	5322571.321
WC-254	Surface	E	E	E6	48.05017319	-118.2976601	403295.160	5322691.321
WC-221	Surface	E	E	E7	48.05026162	-118.2977965	403285.160	5322701.321
WC-237	Surface	E	E	E8	48.05028585	-118.29565	403445.160	5322701.321
WC-123	Surface	E	E	E9	48.05067134	-118.2933784	403615.160	5322741.321
WC-515	Surface	E	E	E10	48.04931608	-118.2938813	403575.160	5322591.321
WC-257	Surface	E	E	E11	48.05017774	-118.2972576	403325.160	5322691.321
WC-34	Surface	E	E	E12	48.05111806	-118.293658	403595.160	5322791.321
Wilmont Creek-Subsurface (Sampled on April 28, 2011)								
WC-151	Subsurface	NA	Subsurface	core C	48.05057535	-118.2939128	403575.160	5322731.321
WC-193	Subsurface	NA	Rejected	Cobble	48.05035915	-118.297128	403335.160	5322711.321

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Wilmont Creek-Subsurface (Sampled on April 28, 2011) (continued)								
WC-220	Reserved	NA	Subsurface	core D	48.05039999	-118.2935058	403605.160	5322711.321
WC-384	Subsurface	NA	Rejected	Refusal	48.04983157	-118.2960412	403415.160	5322651.321
WC-373	Reserved	NA	Subsurface	core E	48.04994723	-118.2937629	403585.160	5322661.321
WC-54	Subsurface	NA	Subsurface	core A	48.05090338	-118.2967391	403365.160	5322771.321
WC-56	Subsurface	NA	Rejected	Refusal	48.05090641	-118.2964708	403385.160	5322771.321
WC-245	Reserved	NA	Subsurface	core B	48.05029795	-118.2945768	403525.160	5322701.321
Mitchell Point-Surface (Sampled on May 1, 2011)								
MP-290	Surface	A	A	A1	48.04172048	-118.3825108	396955.135	5321861.871
MP-277	Surface	A	A	A2	48.04181043	-118.3825132	396955.135	5321871.871
MP-324	Surface	A	A	A3	48.04134294	-118.3839765	396845.135	5321821.871
MP-307	Surface	A	A	A4	48.04152929	-118.3834449	396885.135	5321841.871
MP-228	Surface	A	A	A5	48.04227145	-118.3815864	397025.135	5321921.871
MP-112	Surface	A	A	A6	48.04281918	-118.3809302	397075.135	5321981.871
MP-168	Surface	A	A	A7	48.04265541	-118.3795841	397175.135	5321961.871
MP-339	Surface	A	A	A8	48.04126269	-118.3831694	396905.135	5321811.871
MP-108	Surface	A	A	A9	48.04294939	-118.3775793	397325.135	5321991.871
MP-289	Surface	A	A	A10	48.04171887	-118.3826449	396945.135	5321861.871
MP-276	Surface	A	A	A11	48.04180881	-118.3826473	396945.135	5321871.871
MP-266	Surface	A	A	A12	48.04190522	-118.3821132	396985.135	5321881.871
MP-318	Surface	B	B	B1	48.04144096	-118.3833083	396895.135	5321831.871
MP-90	Surface	B	B	B2	48.04292041	-118.3799937	397145.135	5321991.871
MP-23	Surface	B	B	B3	48.04327052	-118.380808	397085.135	5322031.871
MP-173	Surface	B	B	B4	48.04266346	-118.3789134	397225.135	5321961.871
MP-130	Surface	B	B	B5	48.04285301	-118.3781135	397285.135	5321981.871
MP-57	Surface	B	B	B6	48.04299585	-118.3812032	397055.135	5322001.871
MP-255	Surface	B	B	B7	48.042	-118.3817133	397015.135	5321891.871
MP-212	Surface	B	B	B8	48.04248357	-118.3789086	397225.135	5321941.871
MP-311	Surface	B	B	B9	48.04153575	-118.3829084	396925.135	5321841.871
MP-100	Surface	B	B	B10	48.04293652	-118.3786524	397245.135	5321991.871
MP-205	Surface	B	B	B11	48.0424723	-118.3798475	397155.135	5321941.871
MP-202	Surface	B	B	B12	48.04245618	-118.3811888	397055.135	5321941.871
MP-207	Surface	C	C	C1	48.04247552	-118.3795793	397175.135	5321941.871
MP-179	Surface	C	C	C2	48.04267312	-118.3781087	397285.135	5321961.871
MP-25	Surface	C	C	C3	48.04327375	-118.3805398	397105.135	5322031.871
MP-322	Surface	C	C	C4	48.04144742	-118.3827718	396935.135	5321831.871
MP-195	Surface	C	C	C5	48.04257513	-118.3787769	397235.135	5321951.871
MP-344	Surface	C	C	C6	48.04116951	-118.3834352	396885.135	5321801.871
MP-293	Surface	C	C	C7	48.04172533	-118.3821084	396985.135	5321861.871
MP-137	Surface	C	C	C8	48.04272601	-118.381196	397055.135	5321971.871
MP-342	Surface	C	C	C9	48.04116628	-118.3837035	396865.135	5321801.871

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Mitchell Point-Surface (Sampled on May 1, 2011)								
MP-151	Surface	C	C	C10	48.04275502	-118.3787817	397235.135	5321971.871
MP-222	Surface	C	C	C11	48.0423888	-118.3793086	397195.135	5321931.871
MP-221	Surface	C	C	C12	48.04238719	-118.3794427	397185.135	5321931.871
MP-192	Surface	D	D	D1	48.0425703	-118.3791793	397205.135	5321951.871
MP-345	Surface	D	D	D2	48.04117113	-118.3833011	396895.135	5321801.871
MP-118	Surface	D	D	D3	48.04283369	-118.379723	397165.135	5321981.871
MP-282	Surface	D	D	D4	48.0418185	-118.3818426	397005.135	5321871.871
MP-124	Surface	D	D	D5	48.04284335	-118.3789182	397225.135	5321981.871
MP-284	Surface	D	D	D6	48.04182172	-118.3815743	397025.135	5321871.871
MP-104	Surface	D	D	D7	48.04294295	-118.3781159	397285.135	5321991.871
MP-241	Surface	D	D	D8	48.04208511	-118.3821181	396985.135	5321901.871
MP-218	Surface	D	D	D9	48.04236462	-118.3813205	397045.135	5321931.871
MP-177	Surface	D	D	D10	48.0426699	-118.3783769	397265.135	5321961.871
MP-327	Surface	D	D	D11	48.04134778	-118.3835742	396875.135	5321821.871
MP-317	Surface	D	D	D12	48.04143935	-118.3834425	396885.135	5321831.871
MP-16	Surface	E	E	E1	48.04336208	-118.3806763	397095.135	5322041.871
MP-117	Surface	E	E	E2	48.04283208	-118.3798571	397155.135	5321981.871
MP-158	Surface	E	E	E3	48.04276628	-118.3778428	397305.135	5321971.871
MP-153	Surface	E	E	E4	48.04275824	-118.3785134	397255.135	5321971.871
MP-58	Surface	E	E	E5	48.04299746	-118.3810691	397065.135	5322001.871
MP-323	Surface	E	E	E6	48.04134132	-118.3841107	396835.135	5321821.871
MP-51	Surface	E	E	E7	48.04310191	-118.3798643	397155.135	5322011.871
MP-160	Surface	E	E	E8	48.0427695	-118.3775745	397325.135	5321971.871
MP-56	Surface	E	E	E9	48.04299424	-118.3813373	397045.135	5322001.871
MP-29	Surface	E	E	E10	48.04328019	-118.3800033	397145.135	5322031.871
MP-170	Surface	E	E	E11	48.04265863	-118.3793158	397195.135	5321961.871
MP-80	Surface	E	E	E12	48.04290429	-118.3813349	397045.135	5321991.871
Mitchell Point-Subsurface (Sampled on May 1, 2011)								
MP-252	Subsurface	NA	Subsurface	Core B	48.04199516	-118.3821156	396985.135	5321891.871
MP-21	Subsurface	NA	Rejected	Cobble	48.0432673	-118.3810763	397065.135	5322031.871
MP-10	Reserved	NA	Subsurface	Core D	48.04345364	-118.3805446	397105.135	5322051.871
MP-300	Subsurface	NA	Subsurface	Core A	48.0416257	-118.3829108	396925.135	5321851.871
MP-163	Subsurface	NA	Subsurface	Core C	48.04263768	-118.3810595	397065.135	5321961.871
MP-93	Subsurface	NA	Rejected	Cobble	48.04292524	-118.3795913	397175.135	5321991.871
MP-169	Reserved	NA	Rejected	Refusal	48.04265702	-118.3794499	397185.135	5321961.871
MP-47	Reserved	NA	Subsurface	Core E	48.04309547	-118.3804008	397115.135	5322011.871
Enterprise-Surface (Sampled on April 29, 2011)								
EN-213	Surface	A	A	A1	48.03897664	-118.2672721	405539.231	5321409.189
EN-6	Surface	A	A	A2	48.03970363	-118.2666192	405589.231	5321489.189
EN-335	Surface	A	A	A3	48.03863607	-118.2655197	405669.231	5321369.189

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Enterprise-Surface (Sampled on April 29, 2011) (continued)								
EN-361	Surface	A	A	A4	48.03854464	-118.2656516	405659.231	5321359.189
EN-430	Surface	A	A	A5	48.03823632	-118.2691322	405399.231	5321329.189
EN-280	Surface	A	A	A6	48.03867421	-118.2702162	405319.231	5321379.189
EN-512	Surface	A	A	A7	48.03796054	-118.2696621	405359.231	5321299.189
EN-599	Surface	A	A	A8	48.03748558	-118.2719311	405189.231	5321249.189
EN-462	Surface	A	A	A9	48.0381523	-118.2685935	405439.231	5321319.189
EN-264	Surface	A	A	A10	48.0387849	-118.2683407	405459.231	5321389.189
EN-484	Surface	A	A	A11	48.03805198	-118.2695302	405369.231	5321309.189
EN-364	Surface	A	A	A12	48.03840139	-118.2704779	405299.231	5321349.189
EN-147	Surface	B	B	B1	48.03916098	-118.2668742	405569.231	5321429.189
EN-137	Surface	B	B	B2	48.03914618	-118.2682154	405469.231	5321429.189
EN-657	Surface	B	B	B3	48.03711984	-118.2724587	405149.231	5321209.189
EN-637	Surface	B	B	B4	48.03720087	-118.2732656	405089.231	5321219.189
EN-710	Surface	B	B	B5	48.03657271	-118.273116	405099.231	5321149.189
EN-220	Surface	B	B	B6	48.03899439	-118.2656626	405659.231	5321409.189
EN-297	Surface	B	B	B7	48.0386994	-118.2679361	405489.231	5321379.189
EN-80	Surface	B	B	B8	48.03932904	-118.2679516	405489.231	5321449.189
EN-289	Surface	B	B	B9	48.03868755	-118.2690091	405409.231	5321379.189
EN-42	Surface	B	B	B10	48.03952669	-118.2663465	405609.231	5321469.189
EN-321	Surface	B	B	B11	48.03860056	-118.2687387	405429.231	5321369.189
EN-296	Surface	B	B	B12	48.03869792	-118.2680703	405479.231	5321379.189
EN-408	Surface	C	C	C1	48.03833516	-118.2683297	405459.231	5321339.189
EN-464	Surface	C	C	C2	48.03815526	-118.2683253	405459.231	5321319.189
EN-528	Surface	C	C	C3	48.0380079	-118.2653702	405679.231	5321299.189
EN-496	Surface	C	C	C4	48.03809194	-118.2659089	405639.231	5321309.189
EN-417	Surface	C	C	C5	48.0383677	-118.265379	405679.231	5321339.189
EN-223	Surface	C	C	C6	48.03899882	-118.2652603	405689.231	5321409.189
EN-593	Surface	C	Rejected	Thick vegetation	48.03764663	-118.2654955	405669.231	5321259.189
EN-553	Reserved	NA	C	C7	48.03792091	-118.2650997	405699.231	5321289.189
EN-246	Surface	C	C	C8	48.03890148	-118.2659287	405639.231	5321399.189
EN-34	Surface	C	C	C9	48.03951486	-118.2674195	405529.231	5321469.189
EN-598	Surface	C	C	C10	48.03748409	-118.2720652	405179.231	5321249.189
EN-540	Surface	C	Rejected	Boulders and thick vegetation	48.03786763	-118.2699281	405339.231	5321289.189
EN-419	Reserved	NA	C	C11	48.03822001	-118.2706076	405289.231	5321329.189
EN-262	Surface	C	C	C12	48.03878194	-118.268609	405439.231	5321389.189
EN-597	Surface	D	Rejected	Thick vegetation	48.03765254	-118.264959	405709.231	5321259.189
EN-442	Reserved	NA	D	D1	48.03827332	-118.2657791	405649.231	5321329.189
EN-123	Surface	D	D	D2	48.0392598	-118.2660716	405629.231	5321439.189
EN-646	Surface	D	D	D3	48.0372187	-118.2716562	405209.231	5321219.189
EN-466	Surface	D	Rejected	Thick vegetation	48.03815822	-118.268057	405479.231	5321319.189

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Enterprise-Surface (Sampled on April 29, 2011) (continued)								
EN-294	Reserved	NA	D	D4	48.03869495	-118.2683385	405459.231	5321379.189
EN-52	Surface	D	D	D5	48.03954147	-118.2650052	405709.231	5321469.189
EN-344	Surface	D	D	D6	48.03850172	-118.2695412	405369.231	5321359.189
EN-118	Surface	D	D	D7	48.03925241	-118.2667423	405579.231	5321439.189
EN-400	Surface	D	D	D8	48.03832331	-118.2694027	405379.231	5321339.189
EN-325	Surface	D	D	D9	48.03860649	-118.2682022	405469.231	5321369.189
EN-178	Surface	D	D	D10	48.03906807	-118.2671402	405549.231	5321419.189
EN-245	Surface	D	D	D11	48.0389	-118.2660628	405629.231	5321399.189
EN-567	Surface	D	D	D12	48.03782948	-118.2652316	405689.231	5321279.189
EN-520	Surface	E	E	E1	48.0379724	-118.2685891	405439.231	5321299.189
EN-589	Surface	E	E	E2	48.03758443	-118.2711286	405249.231	5321259.189
EN-547	Surface	E	E	E3	48.03788245	-118.2685869	405439.231	5321289.189
EN-300	Surface	E	E	E4	48.03870384	-118.2675338	405519.231	5321379.189
EN-319	Surface	E	E	E5	48.0385976	-118.2690069	405409.231	5321369.189
EN-28	Surface	E	E	E6	48.03962994	-118.2651416	405699.231	5321479.189
EN-117	Surface	E	E	E7	48.03925093	-118.2668764	405569.231	5321439.189
EN-179	Surface	E	E	E8	48.03906955	-118.2670061	405559.231	5321419.189
EN-27	Surface	E	E	E9	48.03962847	-118.2652757	405689.231	5321479.189
EN-171	Surface	E	E	E10	48.03905771	-118.2680791	405479.231	5321419.189
EN-639	Surface	E	E	E11	48.03720384	-118.2729974	405109.231	5321219.189
EN-276	Surface	E	E	E12	48.03881449	-118.2656582	405659.231	5321389.189
Enterprise-Subsurface (Sampled on April 29, 2011)								
EN-12	Subsurface	NA	Subsurface	Core E	48.03960333	-118.2675558	405519.231	5321479.189
EN-312	Subsurface	NA	Rejected	Refusal	48.03858722	-118.2699458	405339.231	5321369.189
EN-533	Reserved	NA	Subsurface	Core A	48.03785725	-118.270867	405269.231	5321289.189
EN-142	Subsurface	NA	Subsurface	Core C	48.03915358	-118.2675448	405519.231	5321429.189
EN-33	Subsurface	NA	Subsurface	Core D	48.03951338	-118.2675536	405519.231	5321469.189
EN-376	Subsurface	NA	Subsurface	Core B	48.03841918	-118.2688684	405419.231	5321349.189
Seven Bays-Surface (Sampled on May 5, 2011)								
SB-191	Surface	A	A	A1	47.85048526	-118.3459607	399308.530	5300559.421
SB-275	Surface	A	A	A2	47.84912975	-118.3464603	399268.530	5300409.421
SB-319	Surface	A	A	A3	47.84859632	-118.3459118	399308.530	5300349.421
SB-255	Surface	A	A	A4	47.84949581	-118.3459351	399308.530	5300449.421
SB-428	Surface	A	A	A5	47.84770466	-118.3452204	399358.530	5300249.421
SB-251	Surface	A	A	A6	47.84948954	-118.3464696	399268.530	5300449.421
SB-159	Surface	A	A	A7	47.85093657	-118.3458387	399318.530	5300609.421
SB-192	Surface	A	A	A8	47.85048682	-118.345827	399318.530	5300559.421
SB-145	Surface	A	A	A9	47.85111647	-118.3458433	399318.530	5300629.421
SB-433	Surface	A	A	A10	47.84771248	-118.3445523	399408.530	5300249.421
SB-408	Surface	A	A	A11	47.84788299	-118.3453587	399348.530	5300269.421

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Seven Bays-Surface (Sampled on May 5, 2011) (continued)								
SB-241	Surface	A	A	A12	47.84967258	-118.346207	399288.530	5300469.421
SB-334	Surface	B	B	B1	47.84841799	-118.3457735	399318.530	5300329.421
SB-282	Surface	B	B	B2	47.84904136	-118.3463243	399278.530	5300399.421
SB-175	Surface	B	B	B3	47.85066045	-118.3463662	399278.530	5300579.421
SB-38	Surface	B	B	B4	47.85265031	-118.345482	399348.530	5300799.421
SB-261	Surface	B	B	B5	47.84940586	-118.3459327	399308.530	5300439.421
SB-44	Surface	B	B	B6	47.85246257	-118.3461455	399298.530	5300779.421
SB-181	Surface	B	B	B7	47.8505705	-118.3463639	399278.530	5300569.421
SB-72	Surface	B	Rejected	Not accessible	47.85210904	-118.3456017	399338.530	5300739.421
SB-93	Reserved	NA	B	B8	47.85183606	-118.345862	399318.530	5300709.421
SB-114	Surface	B	B	B9	47.85156621	-118.345855	399318.530	5300679.421
SB-281	Surface	B	B	B10	47.8490398	-118.346458	399268.530	5300399.421
SB-190	Surface	B	B	B11	47.85048369	-118.3460943	399298.530	5300559.421
SB-205	Surface	B	B	B12	47.85030692	-118.3458224	399318.530	5300539.421
SB-238	Surface	C	C	C1	47.84976566	-118.3459421	399308.530	5300479.421
SB-208	Surface	C	C	C2	47.85021227	-118.346221	399288.530	5300529.421
SB-56	Surface	C	C	C3	47.85228424	-118.3460072	399308.530	5300759.421
SB-19	Surface	C	C	C4	47.85291702	-118.3457563	399328.530	5300829.421
SB-45	Surface	C	C	C5	47.85246414	-118.3460119	399308.530	5300779.421
SB-91	Surface	C	C	C6	47.85183293	-118.3461292	399298.530	5300709.421
SB-7	Surface	C	C	C7	47.85319157	-118.3453623	399358.530	5300859.421
SB-177	Surface	C	C	C8	47.85066359	-118.346099	399298.530	5300579.421
SB-97	Surface	C	C	C9	47.85174141	-118.3462605	399288.530	5300699.421
SB-229	Surface	C	C	C10	47.84984934	-118.3464789	399268.530	5300489.421
SB-153	Surface	C	C	C11	47.85102809	-118.3457074	399328.530	5300619.421
SB-368	Surface	C	C	C12	47.84815597	-118.3450984	399368.530	5300299.421
SB-371	Surface	D	D	D1	47.84816067	-118.3446975	399398.530	5300299.421
SB-59	Surface	D	Rejected	Riprap	47.85228894	-118.3456063	399338.530	5300759.421
SB-62	Reserved	NA	D	D2	47.85219429	-118.3460049	399308.530	5300749.421
SB-123	Surface	D	D	D3	47.85138162	-118.3462512	399288.530	5300659.421
SB-431	Surface	D	D	D4	47.84770935	-118.3448195	399388.530	5300249.421
SB-370	Surface	D	D	D5	47.8481591	-118.3448311	399388.530	5300299.421
SB-10	Surface	D	D	D6	47.85309849	-118.3456273	399338.530	5300849.421
SB-90	Surface	D	D	D7	47.85183136	-118.3462629	399288.530	5300709.421
SB-309	Surface	D	D	D8	47.84868157	-118.346315	399278.530	5300359.421
SB-228	Surface	D	D	D9	47.84994556	-118.3459467	399308.530	5300499.421
SB-372	Surface	D	D	D10	47.84816223	-118.3445639	399408.530	5300299.421
SB-197	Surface	D	D	D11	47.85039374	-118.346092	399298.530	5300549.421
SB-31	Surface	D	D	D12	47.85273869	-118.345618	399338.530	5300809.421
SB-158	Surface	E	E	E1	47.850935	-118.3459723	399308.530	5300609.421

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Seven Bays-Surface (Sampled on May 5, 2011) (continued)								
SB-299	Surface	E	E	E2	47.84886773	-118.3457851	399318.530	5300379.421
SB-57	Surface	E	E	E3	47.85228581	-118.3458736	399318.530	5300759.421
SB-353	Surface	E	E	E4	47.84823965	-118.3456352	399328.530	5300309.421
SB-42	Surface	E	E	E5	47.85255722	-118.3457469	399328.530	5300789.421
SB-401	Surface	E	E	E6	47.84798233	-118.3445592	399408.530	5300279.421
SB-134	Surface	E	E	E7	47.85120015	-118.3463802	399278.530	5300639.421
SB-339	Surface	E	E	E8	47.84832334	-118.3461721	399288.530	5300319.421
SB-399	Surface	E	E	E9	47.8479792	-118.3448265	399388.530	5300279.421
SB-244	Surface	E	E	E10	47.84967728	-118.3458061	399318.530	5300469.421
SB-168	Surface	E	E	E11	47.85084975	-118.3455691	399338.530	5300599.421
SB-369	Surface	E	E	E12	47.84815754	-118.3449648	399378.530	5300299.421
Seven Bays-Subsurface (Sampled on May 5, 2011)								
SB-5	Subsurface	NA	Subsurface	Core A	47.85318844	-118.3456296	399338.530	5300859.421
SB-246	Subsurface	NA	Rejected		47.84958106	-118.3463383	399278.530	5300459.421
SB-30	Reserved	NA	Subsurface	Core D	47.85273712	-118.3457516	399328.530	5300809.421
SB-322	Subsurface	NA	Rejected		47.84860102	-118.3455109	399338.530	5300349.421
SB-24	Reserved	NA	Subsurface	Core E	47.85282551	-118.3458876	399318.530	5300819.421
SB-425	Subsurface	NA	Rejected		47.847804	-118.344421	399418.530	5300259.421
SB-41	Reserved	NA	Subsurface	Core C	47.85255566	-118.3458806	399318.530	5300789.421
SB-149	Subsurface	NA	Rejected		47.85102182	-118.3462419	399288.530	5300619.421
SB-49	Reserved	NA	Subsurface	Core B	47.85237263	-118.3461432	399298.530	5300769.421
Hawke Creek-Surface (Sampled on May 4, 2011)								
HC-98	Surface	A	A		47.82830142	-118.3669432	397695.243	5298121.474
HC-174	Surface	A	A		47.82748234	-118.3677234	397635.243	5298031.474
HC-71	Surface	A	A		47.82877183	-118.3652185	397825.243	5298171.474
HC-44	Surface	A	A		47.82931312	-118.3650991	397835.243	5298231.474
HC-15	Surface	A	A		47.82966974	-118.3653757	397815.243	5298271.474
HC-124	Surface	A	Rejected	Not accessible	47.82812948	-118.3662706	397745.243	5298101.474
HC-92	Reserved	NA	A		47.82839932	-118.3662777	397745.243	5298131.474
HC-210	Surface	A	A		47.82703259	-118.3677116	397635.243	5297981.474
HC-225	Surface	A	A		47.82676434	-118.3675709	397645.243	5297951.474
HC-195	Surface	A	A		47.82720931	-118.3679834	397615.243	5298001.474
HC-152	Surface	A	A		47.82775537	-118.3674633	397655.243	5298061.474
HC-166	Surface	A	A		47.82757228	-118.3677258	397635.243	5298041.474
HC-27	Surface	A	A		47.82958614	-118.364839	397855.243	5298261.474
HC-119	Surface	B	B		47.82812153	-118.3669385	397695.243	5298101.474
HC-14	Surface	B	B		47.82966815	-118.3655093	397805.243	5298271.474
HC-37	Surface	B	B		47.82939989	-118.3653686	397815.243	5298241.474
HC-168	Surface	B	B		47.82757547	-118.3674586	397655.243	5298041.474
HC-26	Surface	B	B		47.82958455	-118.3649726	397845.243	5298261.474

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Hawke Creek-Surface (Sampled on May 4, 2011) (continued)								
HC-102	Surface	B	B		47.82830778	-118.3664089	397735.243	5298121.474
HC-177	Surface	B	Rejected	Cobbles/boulders	47.82748711	-118.3673227	397665.243	5298031.474
HC-167	Reserved	NA	B		47.82757388	-118.3675922	397645.243	5298041.474
HC-75	Surface	B	B		47.82867871	-118.3654833	397805.243	5298161.474
HC-128	Surface	B	B		47.82802999	-118.3670697	397685.243	5298091.474
HC-158	Surface	B	B		47.82766223	-118.3677281	397635.243	5298051.474
HC-211	Surface	B	B		47.82703418	-118.367578	397645.243	5297981.474
HC-154	Surface	B	Rejected	Cobbles/boulders	47.82775855	-118.3671962	397675.243	5298061.474
HC-160	Surface	NA	B		47.82766542	-118.367461	397655.243	5298051.474
HC-122	Surface	C	Rejected	Dangerous slope	47.8281263	-118.3665378	397725.243	5298101.474
HC-10	Reserved	NA	C		47.82976445	-118.3649773	397845.243	5298281.474
HC-241	Surface	C	C		47.8264929	-118.3676974	397635.243	5297921.474
HC-40	Surface	C	C		47.82930676	-118.3656334	397795.243	5298231.474
HC-236	Surface	C	C		47.82658444	-118.3675662	397645.243	5297931.474
HC-2	Surface	C	C		47.82994753	-118.3647149	397865.243	5298301.474
HC-47	Surface	C	C		47.82921999	-118.3653639	397815.243	5298221.474
HC-181	Surface	C	C		47.82739079	-118.3678546	397625.243	5298021.474
HC-11	Surface	C	C		47.82976604	-118.3648437	397855.243	5298281.474
HC-159	Surface	C	C		47.82766382	-118.3675945	397645.243	5298051.474
HC-220	Surface	C	C		47.82685428	-118.3675733	397645.243	5297961.474
HC-207	Surface	C	C		47.82702782	-118.3681123	397605.243	5297981.474
HC-25	Surface	C	C		47.82958296	-118.3651062	397835.243	5298261.474
HC-126	Surface	D	D		47.8280268	-118.3673368	397665.243	5298091.474
HC-115	Surface	D	D		47.82811516	-118.3674728	397655.243	5298101.474
HC-204	Surface	D	D		47.82712254	-118.3677139	397635.243	5297991.474
HC-56	Surface	D	D		47.8290385	-118.3654928	397805.243	5298201.474
HC-39	Surface	D	D		47.82940307	-118.3651015	397835.243	5298241.474
HC-206	Surface	D	Rejected	Steep cliff	47.82712572	-118.3674468	397655.243	5297991.474
HC-179	Reserved	NA	D		47.82738761	-118.3681217	397605.243	5298021.474
HC-55	Surface	D	D		47.82903691	-118.3656263	397795.243	5298201.474
HC-226	Surface	D	D		47.82676593	-118.3674373	397655.243	5297951.474
HC-197	Surface	D	D		47.82721249	-118.3677163	397635.243	5298001.474
HC-180	Surface	D	D		47.8273892	-118.3679882	397615.243	5298021.474
HC-19	Surface	D	D		47.82967609	-118.3648414	397855.243	5298271.474
HC-237	Surface	D	D		47.82658603	-118.3674326	397655.243	5297931.474
HC-12	Surface	E	E		47.82976763	-118.3647102	397865.243	5298281.474
HC-45	Surface	E	E		47.82921681	-118.3656311	397795.243	5298221.474
HC-178	Surface	E	Rejected	Cliff slide area	47.8274887	-118.3671891	397675.243	5298031.474
HC-96	Reserved	NA	E		47.82976445	-118.3649773	397845.243	5298281.474
HC-110	Surface	E	E		47.82821466	-118.3666737	397715.243	5298111.474

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Hawke Creek-Surface (Sampled on May 4, 2011) (continued)								
HC-91	Surface	E	E		47.82839773	-118.3664113	397735.243	5298131.474
HC-17	Surface	E	E		47.82967291	-118.3651085	397835.243	5298271.474
HC-155	Surface	E	E		47.82776014	-118.3670626	397685.243	5298061.474
HC-36	Surface	E	E		47.8293983	-118.3655022	397805.243	5298241.474
HC-89	Surface	E	E		47.82839455	-118.3666784	397715.243	5298131.474
HC-80	Surface	E	E		47.82858717	-118.3656145	397795.243	5298151.474
HC-123	Surface	E	E		47.82812789	-118.3664042	397735.243	5298101.474
HC-240	Surface	E	E		47.82649131	-118.367831	397625.243	5297921.474
Hawke Creek-Subsurface (Sampled on May 4, 2011)								
HC-209	Subsurface	NA	Subsurface	Core B	47.827031	-118.3678451	397625.243	5297981.474
HC-223	Subsurface	NA	Subsurface	Core A	47.82676115	-118.3678381	397625.243	5297951.474
HC-148	Subsurface	NA	Rejected	On cliff	47.82785168	-118.3669314	397695.243	5298071.474
HC-92	Reserved	NA	Subsurface	Core C	47.82839932	-118.3662777	397745.243	5298131.474
HC-16	Subsurface	NA	Subsurface	Core E	47.82967132	-118.3652421	397825.243	5298271.474
HC-133	Subsurface	NA	Rejected	On cliff	47.82803794	-118.3664018	397735.243	5298091.474
HC-69	Reserved	NA	Subsurface	Core D	47.82876866	-118.3654857	397805.243	5298171.474
Whitestone Campground-Surface (Sampled on May 3, 2011)								
WS-149	Surface	A	A	A1	47.88761972	-118.5342858	385302.200	5304949.111
WS-119	Surface	A	A	A2	47.88788239	-118.5348286	385262.200	5304979.111
WS-144	Surface	A	A	A3	47.88761078	-118.5349544	385252.200	5304949.111
WS-135	Surface	A	A	A4	47.88770072	-118.534957	385252.200	5304959.111
WS-118	Surface	A	A	A5	47.8878806	-118.5349623	385252.200	5304979.111
WS-51	Surface	A	A	A6	47.88849767	-118.535917	385182.200	5305049.111
WS-185	Surface	A	A	A7	47.88735525	-118.5338766	385332.200	5304919.111
WS-102	Surface	A	A	A8	47.8880587	-118.5351014	385242.200	5304999.111
WS-13	Surface	A	A	A9	47.88894738	-118.5359303	385182.200	5305099.111
WS-115	Surface	A	A	A10	47.88787524	-118.5353635	385222.200	5304979.111
WS-125	Surface	A	A	A11	47.88778709	-118.5352271	385232.200	5304969.111
WS-162	Surface	A	A	A12	47.88742553	-118.5353502	385222.200	5304929.111
WS-34	Surface	B	B	B1	47.88867934	-118.5357886	385192.200	5305069.111
WS-229	Surface	B	B	B2	47.88689125	-118.5349331	385252.200	5304869.111
WS-8	Surface	B	B	B3	47.88913084	-118.5356682	385202.200	5305119.111
WS-139	Surface	B	B	B4	47.88770787	-118.5344221	385292.200	5304959.111
WS-121	Surface	B	B	B5	47.88788597	-118.5345612	385282.200	5304979.111
WS-187	Surface	B	B	B6	47.88724744	-118.5352112	385232.200	5304909.111
WS-226	Surface	B	B	B7	47.88698655	-118.5345346	385282.200	5304879.111
WS-195	Surface	B	B	B8	47.88726174	-118.5341414	385312.200	5304909.111
WS-167	Surface	B	B	B9	47.88743447	-118.5346816	385272.200	5304929.111
WS-156	Surface	B	B	B10	47.88752441	-118.5346843	385272.200	5304939.111
WS-50	Surface	B	B	B11	47.88849588	-118.5360507	385172.200	5305049.111

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Whitestone Campground-Surface (Sampled on May 3, 2011) (continued)								
WS-180	Surface	B	B	B12	47.88734632	-118.5345452	385282.200	5304919.111
WS-56	Surface	C	C	C1	47.88850662	-118.5352484	385232.200	5305049.111
WS-87	Surface	C	C	C2	47.88824037	-118.534973	385252.200	5305019.111
WS-111	Surface	C	C	C3	47.88797233	-118.5348313	385262.200	5304989.111
WS-215	Surface	C	C	C4	47.88707471	-118.534671	385272.200	5304889.111
WS-12	Surface	C	C	C5	47.88904269	-118.5355318	385212.200	5305109.111
WS-83	Surface	C	C	C6	47.88823322	-118.5355078	385212.200	5305019.111
WS-136	Surface	C	C	C7	47.88770251	-118.5348233	385262.200	5304959.111
WS-186	Surface	C	C	C8	47.88724565	-118.5353449	385222.200	5304909.111
WS-59	Surface	C	C	C9	47.88840594	-118.536048	385172.200	5305039.111
WS-137	Surface	C	C	C10	47.8877043	-118.5346896	385272.200	5304959.111
WS-146	Surface	C	C	C11	47.88761435	-118.5346869	385272.200	5304949.111
WS-192	Surface	C	C	C12	47.88725638	-118.5345426	385282.200	5304909.111
WS-19	Surface	D	D	D1	47.88885744	-118.5359276	385182.200	5305089.111
WS-172	Surface	D	D	D2	47.88744341	-118.534013	385322.200	5304929.111
WS-148	Surface	D	D	D3	47.88761793	-118.5344195	385292.200	5304949.111
WS-158	Surface	D	D	D4	47.88752799	-118.5344168	385292.200	5304939.111
WS-6	Surface	D	D	D5	47.88922257	-118.5355371	385212.200	5305129.111
WS-124	Surface	D	D	D6	47.8877853	-118.5353608	385222.200	5304969.111
WS-95	Surface	D	D	D7	47.88815043	-118.5349703	385252.200	5305009.111
WS-189	Surface	D	D	D8	47.88725101	-118.5349437	385252.200	5304909.111
WS-82	Surface	D	D	D9	47.88823143	-118.5356416	385202.200	5305019.111
WS-116	Surface	D	D	D10	47.88787703	-118.5352298	385232.200	5304979.111
WS-145	Surface	D	D	D11	47.88761257	-118.5348206	385262.200	5304949.111
WS-31	Surface	D	D	D12	47.88877644	-118.5352564	385232.200	5305079.111
WS-207	Surface	E	E	E1	47.88717001	-118.5342725	385302.200	5304899.111
WS-175	Surface	E	E	E2	47.88733738	-118.5352138	385232.200	5304919.111
WS-2	Surface	E	E	E3	47.88931072	-118.5356735	385202.200	5305139.111
WS-36	Surface	E	E	E4	47.88868292	-118.5355211	385212.200	5305069.111
WS-163	Surface	E	E	E5	47.88742732	-118.5352165	385232.200	5304929.111
WS-18	Surface	E	E	E6	47.88885565	-118.5360613	385172.200	5305089.111
WS-22	Surface	E	E	E7	47.8888628	-118.5355265	385212.200	5305089.111
WS-26	Surface	E	E	E8	47.8887675	-118.535925	385182.200	5305079.111
WS-131	Surface	E	E	E9	47.88779781	-118.5344248	385292.200	5304969.111
WS-104	Surface	E	E	E10	47.88806227	-118.5348339	385262.200	5304999.111
WS-217	Surface	E	E	E11	47.88707828	-118.5344035	385292.200	5304889.111
WS-126	Surface	E	E	E12	47.88778887	-118.5350934	385242.200	5304969.111

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Whitestone Campground-Subsurface (Sampled on May 3, 2011)								
WS-84	Subsurface	NA	Subsurface	Core C	47.88823500380	-118.53537411800	385222.200	5305019.111
WS-177	Subsurface	NA	Subsurface	Core A	47.88734095520	-118.53494637800	385252.200	5304919.111
WS-65	Subsurface	NA	Subsurface	Core D	47.88841667470	-118.53524571600	385232.200	5305039.111
WS-43	Subsurface	NA	Subsurface	Core E	47.88859119	-118.5356522	385202.200	5305059.111
WS-169	Subsurface	NA	Subsurface	Core B	47.88743805	-118.5344142	385292.200	5304929.111
Jones Bay-Surface (Sampled on May 2, 2011)								
JB-142	Surface	A	A	A1	47.9242502	-118.5900151	381220.031	5309104.496
JB-65	Surface	A	A	A2	47.92500674	-118.5873609	381420.031	5309184.496
JB-208	Surface	A	A	A3	47.92387191	-118.5913422	381120.031	5309064.496
JB-261	Surface	A	A	A4	47.9235594	-118.5944114	380890.031	5309034.496
JB-192	Surface	A	A	A5	47.92397297	-118.5905421	381180.031	5309074.496
JB-178	Surface	A	A	A6	47.92394701	-118.5924154	381040.031	5309074.496
JB-79	Surface	A	A	A7	47.92479168	-118.5898978	381230.031	5309164.496
JB-81	Surface	A	A	A8	47.92479539	-118.5896302	381250.031	5309164.496
JB-18	Surface	A	A	A9	47.9252673	-118.5880383	381370.031	5309214.496
JB-129	Surface	A	A	A10	47.92433273	-118.5905531	381180.031	5309114.496
JB-165	Surface	A	A	A11	47.92405364	-118.5912139	381130.031	5309084.496
JB-104	Surface	A	A	A12	47.92461366	-118.5897585	381240.031	5309144.496
JB-131	Surface	B	B	B1	47.92433643	-118.5902855	381200.031	5309114.496
JB-267	Surface	B	B	B2	47.92357054	-118.5936086	380950.031	5309034.496
JB-282	Surface	B	B	B3	47.92347318	-118.5941411	380910.031	5309024.496
JB-114	Surface	B	B	B4	47.92452002	-118.5900234	381220.031	5309134.496
JB-25	Surface	B	B	B5	47.9251644	-118.5889722	381300.031	5309204.496
JB-252	Surface	B	B	B6	47.92367348	-118.5926747	381020.031	5309044.496
JB-141	Surface	B	B	B7	47.92424835	-118.5901489	381210.031	5309104.496
JB-224	Surface	B	B	B8	47.9237597	-118.5929451	381000.031	5309054.496
JB-95	Surface	B	B	B9	47.92470916	-118.5893598	381270.031	5309154.496
JB-175	Surface	B	B	B10	47.92394144	-118.5928168	381010.031	5309074.496
JB-49	Surface	B	B	B11	47.92508743	-118.5880328	381370.031	5309194.496
JB-302	Surface	B	B	B12	47.92339438	-118.5933355	380970.031	5309014.496
JB-199	Surface	C	C	C1	47.92385521	-118.5925464	381030.031	5309064.496
JB-174	Surface	C	C	C2	47.92393958	-118.5929506	381000.031	5309074.496
JB-144	Surface	C	C	C3	47.92425391	-118.5897475	381240.031	5309104.496
JB-128	Surface	C	C	C4	47.92443749	-118.5894854	381260.031	5309124.496
JB-158	Surface	C	C	C5	47.92404066	-118.5921505	381060.031	5309084.496
JB-171	Surface	C	C	C6	47.92406476	-118.590411	381190.031	5309084.496
JB-301	Surface	C	Rejected	Vegetation	47.92339252	-118.5934693	380960.031	5309014.496
JB-222	Reserved	NA	C	C7	47.92375599	-118.5932127	380980.031	5309054.496
JB-235	Surface	C	C	C8	47.92379124	-118.5906704	381170.031	5309054.496
JB-50	Surface	C	Rejected	Woody vegetation	47.92508928	-118.5878989	381380.031	5309194.496

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Jones Bay-Surface (Sampled on May 2, 2011) (continued)								
JB-7	Reserved	NA	C	C9	47.92535909	-118.5879072	381380.031	5309224.496
JB-260	Surface	C	C	C10	47.92355754	-118.5945453	380880.031	5309034.496
JB-166	Surface	C	C	C11	47.92405549	-118.5910801	381140.031	5309084.496
JB-3	Surface	C	C	C12	47.92535169	-118.5884425	381340.031	5309224.496
JB-250	Surface	D	D	D1	47.92366977	-118.5929423	381000.031	5309044.496
JB-289	Surface	D	D	D2	47.92348618	-118.5932044	380980.031	5309024.496
JB-145	Surface	D	D	D3	47.92413616	-118.5917519	381090.031	5309094.496
JB-245	Surface	D	D	D4	47.92366048	-118.5936114	380950.031	5309044.496
JB-293	Surface	D	D	D5	47.92337766	-118.5945397	380880.031	5309014.496
JB-97	Surface	D	D	D6	47.92471286	-118.5890922	381290.031	5309154.496
JB-30	Surface	D	D	D7	47.92517366	-118.5883031	381350.031	5309204.496
JB-217	Surface	D	D	D8	47.92374671	-118.5938817	380930.031	5309054.496
JB-23	Surface	D	D	D9	47.92527655	-118.5873692	381420.031	5309214.496
JB-188	Surface	D	D	D10	47.92396556	-118.5910773	381140.031	5309074.496
JB-154	Surface	D	D	D11	47.9241547	-118.5904138	381190.031	5309094.496
JB-16	Surface	D	D	D12	47.9252636	-118.5883059	381350.031	5309214.496
JB-177	Surface	E	E	E1	47.92394515	-118.5925492	381030.031	5309074.496
JB-230	Surface	E	E	E2	47.92377084	-118.5921422	381060.031	5309054.496
JB-167	Surface	E	E	E3	47.92405735	-118.5909463	381150.031	5309084.496
JB-262	Surface	E	E	E4	47.92356126	-118.5942776	380900.031	5309034.496
JB-239	Surface	E	E	E5	47.92364934	-118.5944142	380890.031	5309044.496
JB-219	Surface	E	E	E6	47.92375042	-118.5936141	380950.031	5309054.496
JB-37	Surface	E	E	E7	47.92518662	-118.5873665	381420.031	5309204.496
JB-279	Surface	E	E	E8	47.9234676	-118.5945425	380880.031	5309024.496
JB-135	Surface	E	E	E9	47.92434385	-118.5897502	381240.031	5309114.496
JB-86	Surface	E	E	E10	47.92480465	-118.5889612	381300.031	5309164.496
JB-215	Surface	E	E	E11	47.92388489	-118.5904055	381190.031	5309064.496
JB-121	Surface	E	E	E12	47.92442452	-118.5904221	381190.031	5309124.496
Jones Bay-Subsurface (Sampled on May 2, 2011)								
JB-122	Subsurface	NA	Subsurface	Core E	47.92442637	-118.5902882	381200.031	5309124.496
JB-51	Subsurface	NA	Subsurface	Core B	47.92509113	-118.5877651	381390.031	5309194.496
JB-20	Subsurface	NA	Subsurface	Core A	47.925271	-118.5877706	381390.031	5309214.496
JB-181	Subsurface	NA	Subsurface	Core D	47.92395257	-118.592014	381070.031	5309074.496
JB-109	Subsurface	NA	Subsurface	Core C	47.92462292	-118.5890895	381290.031	5309144.496
Swimming Hole-Surface (Sampled on April 22, 2011)								
DM-432	Surface	A	A	A1	48.93881209	-117.7514367	444970.940	5420925.942
DM-296	Surface	A	A	A2	48.93890257	-117.7513562	444976.940	5420935.942
DM-19	Surface	A	A	A3	48.93914017	-117.7507862	445018.940	5420961.942
DM-57	Surface	A	A	A4	48.93908691	-117.7506761	445026.940	5420955.942
DM-269	Surface	A	A	A5	48.93892234	-117.7510833	444996.940	5420937.942

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Swimming Hole-Surface (Sampled on April 22, 2011) (continued)								
DM-496	Surface	A	Rejected	Submerged	48.93877842	-117.7510812	444996.940	5420921.942
DM-305	Reserved	NA	A	A6	48.93890417	-117.7511104	444994.940	5420935.942
DM-459	Surface	A	A	A7	48.93879428	-117.7514092	444972.940	5420923.942
DM-157	Surface	B	B	B1	48.93897578	-117.7511661	444990.940	5420943.942
DM-233	Surface	B	B	B2	48.93894051	-117.7510563	444998.940	5420939.942
DM-585	Surface	B	B	B3	48.93870522	-117.7512713	444982.940	5420913.942
DM-398	Surface	B	Rejected	Submerged	48.93885127	-117.7509457	445006.940	5420929.942
DM-301	Reserved	NA	B	B4	48.93890346	-117.7512196	444986.940	5420935.942
DM-493	Surface	B	Rejected	Submerged	48.93877789	-117.7511631	444990.940	5420921.942
DM-404	Reserved	NA	B	B5	48.93882972	-117.7514916	444966.940	5420927.942
DM-165	Surface	B	B	B6	48.9389772	-117.7509476	445006.940	5420943.942
DM-615	Surface	B	Rejected	Submerged	48.93866906	-117.751298	444980.940	5420909.942
DM-602	Reserved	NA	B	B7	48.93868705	-117.7512983	444980.940	5420911.942
DM-351	Surface	C	Rejected	Bedrock	48.93888849	-117.7507551	445020.940	5420933.942
DM-413	Reserved	NA	C	C1	48.93883132	-117.7512458	444984.940	5420927.942
DM-27	Surface	C	C	C2	48.93912165	-117.7508678	445012.940	5420959.942
DM-409	Surface	C	C	C3	48.93883061	-117.7513551	444976.940	5420927.942
DM-374	Surface	C	Rejected	Submerged	48.93886944	-117.7509187	445008.940	5420931.942
DM-238	Reserved	NA	C	C4	48.9389414	-117.7509198	445008.940	5420939.942
DM-366	Surface	C	Rejected	Submerged	48.93886801	-117.7511372	444992.940	5420931.942
DM-457	Reserved	NA	C	C5	48.93879392	-117.7514638	444968.940	5420923.942
DM-370	Surface	C	Rejected	Submerged	48.93886872	-117.7510279	445000.940	5420931.942
DM-282	Reserved	NA	C	C6	48.93892465	-117.7507283	445022.940	5420937.942
DM-221	Surface	C	C	C7	48.93896276	-117.7504012	445046.940	5420941.942
DM-419	Surface	D	D	D1	48.93883239	-117.751082	444996.940	5420927.942
DM-76	Surface	D	D	D2	48.93906981	-117.7505393	445036.940	5420953.942
DM-30	Surface	D	D	D3	48.93912218	-117.7507859	445018.940	5420959.942
DM-88	Surface	D	D	D4	48.93905147	-117.7505937	445032.940	5420951.942
DM-122	Surface	D	D	D5	48.93901567	-117.7505658	445034.940	5420947.942
DM-137	Surface	D	D	D6	48.93899661	-117.7507294	445022.940	5420945.942
DM-11	Surface	D	D	D7	48.93915834	-117.7507592	445020.940	5420963.942
DM-429	Surface	E	E	E1	48.93881155	-117.7515187	444964.940	5420925.942
DM-264	Surface	E	E	E2	48.93892145	-117.7512199	444986.940	5420937.942
DM-113	Surface	E	E	E3	48.93901407	-117.7508116	445016.940	5420947.942
DM-271	Surface	E	E	E4	48.93892269	-117.7510287	445000.940	5420937.942
DM-503	Surface	E	Rejected	Submerged	48.93877966	-117.75089	445010.940	5420921.942
DM-145	Reserved	NA	E	E5	48.93899803	-117.750511	445038.940	5420945.942
DM-166	Surface	E	E	E6	48.93897738	-117.7509203	445008.940	5420943.942
DM-230	Surface	E	E	E7	48.93893997	-117.7511382	444992.940	5420939.942

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Swimming Hole-Subsurface (Sampled on April 22, 2011)								
DM-538	Subsurface	NA	Subsurface	Core D	48.93874102	-117.7512991	444980.940	5420917.942
DM-559	Subsurface	NA	Subsurface	Core E	48.93872249	-117.7513808	444974.940	5420915.942
DM-179	Subsurface	NA	Subsurface	Core B	48.93897969	-117.7505653	445034.940	5420943.942
DM-49	Subsurface	NA	Subsurface	Core C	48.93908549	-117.7508946	445010.940	5420955.942
DM-322	Subsurface	NA	Rejected	Refusal	48.93890808	-117.7505096	445038.940	5420935.942
DM-258	Reserved	NA	Rejected	Refusal	48.93892038	-117.7513837	444974.940	5420937.942
DM-532	Reserved	NA	Subsurface	Core A	48.93873995	-117.751463	444968.940	5420917.942
Bossburg Flat-Surface (Sampled on April 25, 2011)								
BF-27	Surface	A	A	A1	48.75746844	-118.04864	422928.668	5401025.621
BF-138	Surface	A	A	A2	48.75710185	-118.0493807	422873.668	5400985.621
BF-140	Surface	A	A	A3	48.75710309	-118.0492446	422883.668	5400985.621
BF-154	Surface	A	A	A4	48.7570575	-118.0493117	422878.668	5400980.621
BF-122	Surface	A	A	A5	48.75714682	-118.0493816	422873.668	5400990.621
BF-330	Surface	A	A	A6	48.75632989	-118.0501809	422813.668	5400900.621
BF-282	Surface	A	A	A7	48.75660158	-118.0499825	422828.668	5400930.621
BF-66	Surface	A	A	A8	48.75733167	-118.0488412	422913.668	5401010.621
BF-132	Surface	A	A	A9	48.75715302	-118.0487014	422923.668	5400990.621
BF-103	Surface	A	A	A10	48.75724482	-118.0484992	422938.668	5401000.621
BF-263	Surface	A	A	A11	48.75669524	-118.0495763	422858.668	5400940.621
BF-229	Surface	A	A	A12	48.75683326	-118.049239	422883.668	5400955.621
BF-102	Surface	B	B	B1	48.7572442	-118.0485673	422933.668	5401000.621
BF-284	Surface	B	B	B2	48.75660282	-118.0498465	422838.668	5400930.621
BF-223	Surface	B	B	B3	48.75682954	-118.0496471	422853.668	5400955.621
BF-325	Surface	B	B	B4	48.75637548	-118.0501139	422818.668	5400905.621
BF-308	Surface	B	B	B5	48.75651473	-118.0496406	422853.668	5400920.621
BF-335	Surface	B	Rejected	Cobble	48.75628553	-118.050112	422818.668	5400895.621
BF-250	Reserved	NA	B	B6	48.75674021	-118.0495772	422858.668	5400945.621
BF-222	Surface	B	B	B7	48.75682892	-118.0497151	422848.668	5400955.621
BF-276	Surface	B	B	B8	48.75665027	-118.0495754	422858.668	5400935.621
BF-315	Surface	B	B	B9	48.75646852	-118.0497757	422843.668	5400915.621
BF-101	Surface	B	B	B10	48.75724358	-118.0486353	422928.668	5401000.621
BF-234	Surface	B	B	B11	48.75678333	-118.0497822	422843.668	5400950.621
BF-289	Surface	B	B	B12	48.75660592	-118.0495064	422863.668	5400930.621
BF-227	Surface	C	C	C1	48.75683202	-118.049375	422873.668	5400955.621
BF-249	Surface	C	C	C2	48.75673959	-118.0496452	422853.668	5400945.621
BF-197	Surface	C	C	C3	48.75692134	-118.0494449	422868.668	5400965.621
BF-288	Surface	C	C	C4	48.7566053	-118.0495744	422858.668	5400930.621
BF-285	Surface	C	C	C5	48.75660344	-118.0497785	422843.668	5400930.621
BF-10	Surface	C	C	C6	48.75755901	-118.0485738	422933.668	5401035.621
BF-192	Surface	C	C	C7	48.75697251	-118.0487657	422918.668	5400970.621

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Bossburg Flat-Surface (Sampled on April 25, 2011) (continued)								
BF-149	Surface	C	C	C8	48.75710866	-118.0486325	422928.668	5400985.621
BF-179	Surface	C	C	C9	48.75696446	-118.0496499	422853.668	5400970.621
BF-209	Surface	C	C	C10	48.75687451	-118.0496481	422853.668	5400960.621
BF-334	Surface	C	C	C11	48.75628491	-118.05018	422813.668	5400895.621
BF-13	Surface	C	C	C12	48.75756086	-118.0483698	422948.668	5401035.621
BF-325	Surface	D	D	D1	48.75637548	-118.0501139	422818.668	5400905.621
BF-190	Surface	D	D	D2	48.75697127	-118.0489017	422908.668	5400970.621
BF-36	Surface	D	D	D3	48.75742161	-118.0488431	422913.668	5401020.621
BF-305	Surface	D	D	D4	48.75651287	-118.0498446	422838.668	5400920.621
BF-191	Surface	D	D	D5	48.75697189	-118.0488337	422913.668	5400970.621
BF-300	Surface	D	Rejected	Hazardous area	48.75650978	-118.0501847	422813.668	5400920.621
BF-321	Reserved	NA	D	D6	48.75642231	-118.0499108	422833.668	5400910.621
BF-199	Surface	D	D	D7	48.75692258	-118.0493089	422878.668	5400965.621
BF-172	Surface	D	D	D8	48.75701438	-118.0491067	422893.668	5400975.621
BF-218	Surface	D	D	D9	48.75688009	-118.0490359	422898.668	5400960.621
BF-327	Surface	D	Rejected	Cobble	48.75637672	-118.0499778	422828.668	5400905.621
BF-269	Reserved	NA	D	D10	48.75664593	-118.0500515	422823.668	5400935.621
BF-241	Surface	D	D	D11	48.75678766	-118.0493061	422878.668	5400950.621
BF-126	Surface	D	D	D12	48.7571493	-118.0491095	422893.668	5400990.621
BF-215	Surface	E	E	E1	48.75687823	-118.0492399	422883.668	5400960.621
BF-137	Surface	E	E	E2	48.75710123	-118.0494487	422868.668	5400985.621
BF-48	Surface	E	E	E3	48.7573754	-118.0489782	422903.668	5401015.621
BF-251	Surface	E	E	E4	48.75674083	-118.0495092	422863.668	5400945.621
BF-304	Surface	E	E	E5	48.75651225	-118.0499126	422833.668	5400920.621
BF-45	Surface	E	E	E6	48.75742718	-118.0482309	422958.668	5401020.621
BF-326	Surface	E	E	E7	48.7563761	-118.0500459	422823.668	5400905.621
BF-253	Surface	E	E	E8	48.75674207	-118.0493732	422873.668	5400945.621
BF-296	Surface	E	E	E9	48.75655847	-118.0497775	422843.668	5400925.621
BF-133	Surface	E	E	E10	48.75715364	-118.0486334	422928.668	5400990.621
BF-239	Surface	E	E	E11	48.75678643	-118.0494421	422868.668	5400950.621
BF-322	Surface	E	E	E12	48.75642293	-118.0498427	422838.668	5400910.621
Bossburg Flat-Subsurface (Sampled on April 25, 2011)								
BF-28	Subsurface	NA	Subsurface	Core D	48.75746906	-118.0485719	422933.668	5401025.621
BF-185	Subsurface	NA	Subsurface	Core B	48.75696817	-118.0492418	422883.668	5400970.621
BF-11	Subsurface	NA	Subsurface	Core E	48.75755963	-118.0485058	422938.668	5401035.621
BF-275	Subsurface	NA	Subsurface	Core A	48.75664965	-118.0496434	422853.668	5400935.621
BF-41	Subsurface	NA	Subsurface	Core C	48.75742471	-118.048503	422938.668	5401020.621

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Evans Campground-Surface (Sampled on April 22, 2011)								
EV-116	Surface	A	A	A1	48.697617	-118.0195653	424976.532	5394343.669
EV-320	Surface	A	Rejected	Vegetation	48.69700059	-118.018058	425086.532	5394273.669
EV-499	Reserved	NA	A	A2	48.69636976	-118.0181812	425076.532	5394203.669
EV-50	Surface	A	Rejected	Cobble	48.69789405	-118.0187555	425036.532	5394373.669
EV-19	Reserved	NA	A	A3	48.69807515	-118.0186233	425046.532	5394393.669
EV-336	Surface	A	A	A4	48.69689863	-118.0194149	424986.532	5394263.669
EV-887	Surface	A	A	A5	48.69512011	-118.0170688	425156.532	5394063.669
EV-766	Surface	A	A	A6	48.6954751	-118.0176196	425116.532	5394103.669
EV-626	Surface	A	A	A7	48.69591763	-118.0184439	425056.532	5394153.669
EV-97	Surface	A	Rejected	Cobble	48.69771656	-118.0184801	425056.532	5394353.669
EV-236	Reserved	NA	A	A8	48.69726683	-118.0184711	425056.532	5394303.669
EV-259	Surface	A	A	A9	48.69717208	-118.0190128	425016.532	5394293.669
EV-889	Surface	A	A	A10	48.69512251	-118.0167971	425176.532	5394063.669
EV-799	Surface	A	A	A11	48.69539115	-118.0169384	425166.532	5394093.669
EV-42	Surface	A	A	A12	48.69788443	-118.0198426	424956.532	5394373.669
EV-262	Surface	B	B	B1	48.69717568	-118.0186051	425046.532	5394293.669
EV-851	Surface	B	B	B2	48.69520406	-118.01775	425106.532	5394073.669
EV-239	Surface	B	Rejected	Cobble	48.69727043	-118.0180634	425086.532	5394303.669
EV-310	Reserved	NA	B	B3	48.69698858	-118.0194168	424986.532	5394273.669
EV-23	Surface	B	B	B4	48.69797318	-118.0199802	424946.532	5394383.669
EV-765	Surface	B	B	B5	48.6954739	-118.0177554	425106.532	5394103.669
EV-374	Surface	B	Rejected	Cobble	48.6968231	-118.0177826	425106.532	5394253.669
EV-447	Reserved	NA	B	B6	48.69654846	-118.0183207	425066.532	5394223.669
EV-818	Surface	B	B	B7	48.6952904	-118.0181594	425076.532	5394083.669
EV-145	Surface	B	B	B8	48.69752705	-118.0195635	424976.532	5394333.669
EV-913	Surface	B	B	B9	48.69502296	-118.0178822	425096.532	5394053.669
EV-397	Surface	B	B	B10	48.69672955	-118.0181884	425076.532	5394243.669
EV-739	Surface	B	B	B11	48.69556505	-118.0176214	425116.532	5394113.669
EV-653	Surface	B	B	B12	48.69582888	-118.0183062	425066.532	5394143.669
EV-738	Surface	C	C	C1	48.69556385	-118.0177572	425106.532	5394113.669
EV-25	Surface	C	C	C2	48.69797558	-118.0197085	424966.532	5394383.669
EV-911	Surface	C	C	C3	48.69502056	-118.018154	425076.532	5394053.669
EV-691	Surface	C	C	C4	48.69575214	-118.0168098	425176.532	5394133.669
EV-290	Surface	C	C	C5	48.69708694	-118.0184674	425056.532	5394283.669
EV-450	Surface	C	Rejected	Cobble	48.69655206	-118.0179131	425096.532	5394223.669
EV-420	Reserved	NA	C	C6	48.696636	-118.0185942	425046.532	5394233.669
EV-393	Surface	C	C	C7	48.69672475	-118.0187319	425036.532	5394243.669
EV-771	Surface	C	C	C8	48.6954811	-118.0169402	425166.532	5394103.669
EV-659	Surface	C	C	C9	48.69583609	-118.0174909	425126.532	5394143.669
EV-762	Surface	C	C	C10	48.6954703	-118.018163	425076.532	5394103.669

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Evans Campground-Surface (Sampled on April 22, 2011) (continued)								
EV-391	Surface	C	C	C11	48.69672234	-118.0190037	425016.532	5394243.669
EV-174	Surface	C	C	C12	48.69743831	-118.0194258	424986.532	5394323.669
EV-550	Surface	D	D	D1	48.69618987	-118.0181776	425076.532	5394183.669
EV-177	Surface	D	D	D2	48.69744192	-118.0190182	425016.532	5394323.669
EV-209	Surface	D	D	D3	48.69735678	-118.0184729	425056.532	5394313.669
EV-741	Surface	D	D	D4	48.69556745	-118.0173496	425136.532	5394113.669
EV-915	Surface	D	D	D5	48.69502536	-118.0176105	425116.532	5394053.669
EV-115	Surface	D	D	D6	48.6976158	-118.0197012	424966.532	5394343.669
EV-652	Surface	D	D	D7	48.69582768	-118.018442	425056.532	5394143.669
EV-16	Surface	D	Rejected	Cobble	48.69807154	-118.0190309	425016.532	5394393.669
EV-31	Reserved	NA	D	D8	48.6979828	-118.0188932	425026.532	5394383.669
EV-947	Surface	D	D	D9	48.69493662	-118.0174728	425126.532	5394043.669
EV-313	Surface	D	D	D10	48.69699218	-118.0190091	425016.532	5394273.669
EV-530	Surface	D	Rejected	Cobble	48.69628582	-118.0175	425126.532	5394193.669
EV-607	Reserved	NA	D	D11	48.69601598	-118.0174946	425126.532	5394163.669
EV-125	Surface	D	Rejected	Cobble	48.69762782	-118.0183425	425066.532	5394343.669
EV-120	Reserved	NA	D	D12	48.69762181	-118.0190218	425016.532	5394343.669
EV-228	Surface	E	E	E1	48.69725721	-118.0195581	424976.532	5394303.669
EV-230	Surface	E	E	E2	48.69725962	-118.0192863	424996.532	5394303.669
EV-575	Surface	E	E	E3	48.69609872	-118.0183116	425066.532	5394173.669
EV-6	Surface	E	Rejected	Cobble	48.69816269	-118.0188969	425026.532	5394403.669
EV-33	Reserved	NA	E	E4	48.6979852	-118.0186215	425046.532	5394383.669
EV-317	Surface	E	E	E5	48.69699699	-118.0184656	425056.532	5394273.669
EV-657	Surface	E	E	E6	48.69583369	-118.0177627	425106.532	5394143.669
EV-423	Surface	E	E	E7	48.6966396	-118.0181866	425076.532	5394233.669
EV-207	Surface	E	E	E8	48.69735437	-118.0187446	425036.532	5394313.669
EV-287	Surface	E	E	E9	48.69708333	-118.0188751	425026.532	5394283.669
EV-636	Surface	E	E	E10	48.69592963	-118.0170851	425156.532	5394153.669
EV-51	Surface	E	Rejected	Cobble	48.69789525	-118.0186197	425046.532	5394373.669
EV-72	Reserved	NA	E	E11	48.69780531	-118.0186178	425046.532	5394363.669
EV-976	Surface	E	E	E12	48.69484307	-118.0178786	425096.532	5394033.669
Evans Campground-Subsurface (Sampled on April 22, 2011)								
EV-763	Subsurface	NA	Subsurface	Core E	48.6954715	-118.0180272	425086.532	5394103.669
EV-602	Subsurface	NA	Subsurface	Core C	48.69600998	-118.0181739	425076.532	5394163.669
EV-203	Subsurface	NA	Subsurface	Core A	48.69734956	-118.0192881	424996.532	5394313.669
EV-476	Subsurface	NA	Subsurface	Core D	48.69646211	-118.0179112	425096.532	5394213.669
EV-122	Subsurface	NA	Rejected	Refusal	48.69762421	-118.0187501	425036.532	5394343.669
EV-113	Reserved	NA	Subsurface	Core B	48.69761339	-118.019973	424946.532	5394343.669

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Kamloops Island-Surface (Sampled on April 24, 2011)								
KL-102	Surface	A	A	A1	48.67737183	-118.1120945	418135.181	5392188.444
KL-119	Surface	A	A	A2	48.67732489	-118.1122972	418120.181	5392183.444
KL-18	Surface	A	A	A3	48.67769253	-118.1114902	418180.181	5392223.444
KL-33	Surface	A	A	A4	48.67759931	-118.1118278	418155.181	5392213.444
KL-110	Surface	A	A	A5	48.67737707	-118.1115512	418175.181	5392188.444
KL-20	Surface	A	A	A6	48.67769384	-118.1113544	418190.181	5392223.444
KL-74	Surface	A	A	A7	48.67746571	-118.111689	418165.181	5392198.444
KL-122	Surface	B	B	B1	48.67732686	-118.1120935	418135.181	5392183.444
KL-155	Surface	B	B	B2	48.67723691	-118.1120915	418135.181	5392173.444
KL-36	Surface	B	B	B3	48.67760128	-118.1116241	418170.181	5392213.444
KL-139	Surface	B	B	B4	48.67728123	-118.1121604	418130.181	5392178.444
KL-156	Surface	B	B	B5	48.67723757	-118.1120236	418140.181	5392173.444
KL-93	Surface	B	B	B6	48.6774227	-118.1114843	418180.181	5392193.444
KL-129	Surface	B	B	B7	48.67733145	-118.1116181	418170.181	5392183.444
KL-158	Surface	C	C	C1	48.67723888	-118.1118878	418150.181	5392173.444
KL-97	Surface	C	C	C2	48.67742532	-118.1112126	418200.181	5392193.444
KL-134	Surface	C	C	C3	48.67733472	-118.1112786	418195.181	5392183.444
KL-80	Surface	C	C	C4	48.67746964	-118.1112815	418195.181	5392198.444
KL-107	Surface	C	C	C5	48.67737511	-118.1117549	418160.181	5392188.444
KL-148	Surface	C	C	C6	48.67728713	-118.1115492	418175.181	5392178.444
KL-132	Surface	C	C	C7	48.67733341	-118.1114144	418185.181	5392183.444
KL-31	Surface	D	D	D1	48.67765018	-118.1112176	418200.181	5392218.444
KL-114	Surface	D	D	D2	48.67737969	-118.1112796	418195.181	5392188.444
KL-79	Surface	D	D	D3	48.67746898	-118.1113495	418190.181	5392198.444
KL-152	Surface	D	D	D4	48.67723495	-118.1122952	418120.181	5392173.444
KL-19	Surface	D	D	D5	48.67769319	-118.1114223	418185.181	5392223.444
KL-57	Surface	D	D	D6	48.67750871	-118.1118937	418150.181	5392203.444
KL-53	Surface	D	D	D7	48.67755958	-118.1112835	418195.181	5392208.444
KL-15	Surface	E	E	E1	48.67769057	-118.111694	418165.181	5392223.444
KL-104	Surface	E	E	E2	48.67737314	-118.1119587	418145.181	5392188.444
KL-115	Surface	E	E	E3	48.67738035	-118.1112117	418200.181	5392188.444
KL-14	Surface	E	E	E4	48.67773947	-118.1112875	418195.181	5392228.444
KL-127	Surface	E	E	E5	48.67733013	-118.1117539	418160.181	5392183.444
KL-4	Surface	E	E	E6	48.67782876	-118.1113574	418190.181	5392238.444
KL-121	Surface	E	E	E7	48.6773262	-118.1121614	418130.181	5392183.444
Kamloops Island-Subsurface (Sampled on April 24, 2011)								
KL-69	Subsurface	NA	Rejected	Refusal	48.67746243	-118.1120286	418140.181	5392198.444
KL-87	Reserved	NA	Subsurface	Core B	48.67741877	-118.1118917	418150.181	5392193.444
KL-140	Subsurface	NA	Subsurface	Core A	48.67728188	-118.1120925	418135.181	5392178.444
KL-23	Subsurface	NA	Subsurface	Core E	48.67764494	-118.1117609	418160.181	5392218.444

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Kamloops Island-Subsurface (Sampled on April 24, 2011) (continued)								
KL-45	Subsurface	NA	Subsurface	Core C	48.67755434	-118.1118268	418155.181	5392208.444
KL-47	Subsurface	NA	Subsurface	Core D	48.67755565	-118.111691	418165.181	5392208.444
Welty Bay-Surface (Sampled on April 23, 2011)								
WB-394	Surface	A	A	A1	48.62871345	-118.076314	420692.771	5386741.990
WB-641	Surface	A	A	A2	48.62727304	-118.0764191	420682.771	5386581.990
WB-99	Surface	A	A	A3	48.6301221	-118.0796013	420452.771	5386901.990
WB-256	Surface	A	A	A4	48.62942667	-118.0770078	420642.771	5386821.990
WB-180	Surface	A	A	A5	48.62976995	-118.0787794	420512.771	5386861.990
WB-11	Surface	A	A	A6	48.63065923	-118.0798842	420432.771	5386961.990
WB-20	Surface	A	A	A7	48.63056929	-118.0798822	420432.771	5386951.990
WB-621	Surface	A	A	A8	48.62755809	-118.0747966	420802.771	5386611.990
WB-202	Surface	A	A	A9	48.62968381	-118.0783704	420542.771	5386851.990
WB-74	Surface	A	A	A10	48.6303147	-118.0782482	420552.771	5386921.990
WB-285	Surface	A	A	A11	48.62924678	-118.0770039	420642.771	5386801.990
WB-629	Surface	A	A	A12	48.62746181	-118.0754731	420752.771	5386601.990
WB-592	Surface	B	B	B1	48.62774051	-118.074529	420822.771	5386631.990
WB-458	Surface	B	B	B2	48.62834859	-118.0768491	420652.771	5386701.990
WB-551	Surface	B	B	B3	48.62791027	-118.0756184	420742.771	5386651.990
WB-343	Surface	B	B	B4	48.62898709	-118.0759127	420722.771	5386771.990
WB-53	Surface	B	B	B5	48.6303983	-118.0789285	420502.771	5386931.990
WB-497	Surface	B	B	B6	48.62817757	-118.0758955	420722.771	5386681.990
WB-65	Surface	B	B	B7	48.63030326	-118.0794694	420462.771	5386921.990
WB-440	Surface	B	B	B8	48.62843727	-118.0769867	420642.771	5386711.990
WB-55	Surface	B	B	B9	48.63040084	-118.0786572	420522.771	5386931.990
WB-431	Surface	B	B	B10	48.62853736	-118.0759031	420722.771	5386721.990
WB-614	Surface	B	B	B11	48.62754922	-118.0757464	420732.771	5386611.990
WB-533	Surface	B	B	B12	48.62799768	-118.0758916	420722.771	5386661.990
WB-651	Surface	C	C	C1	48.62718563	-118.0761458	420702.771	5386571.990
WB-144	Surface	C	C	C2	48.62995238	-118.0785119	420532.771	5386881.990
WB-454	Surface	C	C	C3	48.62845501	-118.0750871	420782.771	5386711.990
WB-291	Surface	C	C	C4	48.62925439	-118.0761898	420702.771	5386801.990
WB-399	Surface	C	C	C5	48.62871978	-118.0756356	420742.771	5386741.990
WB-27	Surface	C	C	C6	48.63057819	-118.0789324	420502.771	5386951.990
WB-253	Surface	C	C	C7	48.62942286	-118.0774148	420612.771	5386821.990
WB-69	Surface	C	C	C8	48.63030835	-118.0789266	420502.771	5386921.990
WB-428	Surface	C	C	C9	48.62853355	-118.0763102	420692.771	5386721.990
WB-61	Surface	C	C	C10	48.63029818	-118.0800122	420422.771	5386921.990
WB-620	Surface	C	C	C11	48.62755682	-118.0749323	420792.771	5386611.990
WB-374	Surface	C	C	C12	48.62880086	-118.0765873	420672.771	5386751.990
WB-59	Surface	D	D	D1	48.63029563	-118.0802836	420402.771	5386921.990

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Welty Bay-Surface (Sampled on April 23, 2011) (continued)								
WB-339	Surface	D	D	D2	48.62898202	-118.0764554	420682.771	5386771.990
WB-477	Surface	D	D	D3	48.62826245	-118.0764401	420682.771	5386691.990
WB-213	Surface	D	D	D4	48.62969778	-118.0768778	420652.771	5386851.990
WB-526	Surface	D	D	D5	48.6279888	-118.0768415	420652.771	5386661.990
WB-482	Surface	D	D	D6	48.62826879	-118.0757617	420732.771	5386691.990
WB-191	Surface	D	D	D7	48.62978392	-118.0772868	420622.771	5386861.990
WB-157	Surface	D	D	D8	48.62985481	-118.0793241	420472.771	5386871.990
WB-308	Surface	D	D	D9	48.62916571	-118.0760522	420712.771	5386791.990
WB-494	Surface	D	D	D10	48.62817377	-118.0763025	420692.771	5386681.990
WB-276	Surface	D	D	D11	48.62934434	-118.0761917	420702.771	5386811.990
WB-356	Surface	D	D	D12	48.6288908	-118.0765892	420672.771	5386761.990
WB-473	Surface	E	E	E1	48.62825737	-118.0769829	420642.771	5386691.990
WB-500	Surface	E	E	E2	48.62818138	-118.0754884	420752.771	5386681.990
WB-244	Surface	E	E	E3	48.62951916	-118.0767383	420662.771	5386831.990
WB-10	Surface	E	E	E4	48.63065796	-118.0800199	420422.771	5386961.990
WB-336	Surface	E	E	E5	48.62897821	-118.0768625	420652.771	5386771.990
WB-613	Surface	E	E	E6	48.62754795	-118.0758821	420722.771	5386611.990
WB-267	Surface	E	E	E7	48.62933292	-118.0774129	420612.771	5386811.990
WB-306	Surface	E	E	E8	48.62916317650	-118.07632357600	420692.771	5386791.990
WB-517	Surface	E	E	E9	48.62809016190	-118.07562218000	420742.771	5386671.990
WB-361	Surface	E	E	E10	48.62889714200	-118.07591076700	420722.771	5386761.990
WB-354	Surface	E	E	E11	48.62888826	-118.0768606	420652.771	5386761.990
WB-249	Surface	E	E	E12	48.62941779	-118.0779576	420572.771	5386821.990
Welty Bay-Subsurface (Sampled on April 23, 2011)								
WB-210	Subsurface	NA	Subsurface	Core D	48.62969397	-118.0772849	420622.771	5386851.990
WB-175	Subsurface	NA	Subsurface	Core E	48.62976359	-118.0794579	420462.771	5386861.990
WB-376	Subsurface	NA	Subsurface	Core C	48.62880339	-118.0763159	420692.771	5386751.990
WB-626	Subsurface	NA	Subsurface	Core A	48.627458	-118.0758802	420722.771	5386601.990
WB-618	Subsurface	NA	Subsurface	Core B	48.62755429	-118.0752037	420772.771	5386611.990
Kettle Falls-Surface (Sampled on April 26, 2011)								
KF-187	Surface	A	A	A1	48.59086379	-118.1240216	417115.607	5382585.470
KF-107	Surface	A	A	A2	48.59131286	-118.1240994	417110.607	5382635.470
KF-183	Surface	A	A	A3	48.59091141	-118.1237514	417135.607	5382590.470
KF-56	Surface	A	A	A4	48.59162767	-118.1241063	417110.607	5382670.470
KF-53	Surface	A	A	A5	48.59167595	-118.1237684	417135.607	5382675.470
KF-205	Surface	A	A	A6	48.59077649	-118.1237484	417135.607	5382575.470
KF-119	Surface	A	A	A7	48.59127119	-118.1237594	417135.607	5382630.470
KF-135	Surface	A	A	A8	48.59118125	-118.1237574	417135.607	5382620.470
KF-237	Surface	A	A	A9	48.5905966	-118.1237444	417135.607	5382555.470
KF-209	Surface	A	A	A10	48.59077914	-118.1234773	417155.607	5382575.470

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Kettle Falls-Surface (Sampled on April 26, 2011) (continued)								
KF-2	Surface	A	A	A11	48.59194247	-118.1241133	417110.607	5382705.470
KF-108	Surface	A	A	A12	48.59131352	-118.1240316	417115.607	5382635.470
KF-5	Surface	B	B	B1	48.59194446	-118.1239099	417125.607	5382705.470
KF-155	Surface	B	B	B2	48.59104368	-118.1240256	417115.607	5382605.470
KF-243	Surface	B	B	B3	48.59055031	-118.123879	417125.607	5382550.470
KF-203	Surface	B	B	B4	48.59077517	-118.123884	417125.607	5382575.470
KF-67	Surface	B	B	B5	48.59158468	-118.123902	417125.607	5382665.470
KF-224	Surface	B	B	B6	48.59068853	-118.1235431	417150.607	5382565.470
KF-65	Surface	B	B	B7	48.59158335	-118.1240376	417115.607	5382665.470
KF-207	Surface	B	B	B8	48.59077782	-118.1236128	417145.607	5382575.470
KF-206	Surface	B	B	B9	48.59077716	-118.1236806	417140.607	5382575.470
KF-152	Surface	B	B	B10	48.59109196	-118.1236876	417140.607	5382610.470
KF-23	Surface	B	B	B11	48.59180689	-118.1241781	417105.607	5382690.470
KF-158	Surface	B	B	B12	48.59104567	-118.1238222	417130.607	5382605.470
KF-196	Surface	C	C	C1	48.59082014	-118.123885	417125.607	5382580.470
KF-211	Surface	C	C	C2	48.5907302	-118.123883	417125.607	5382570.470
KF-82	Surface	C	C	C3	48.59149473	-118.1239	417125.607	5382655.470
KF-102	Surface	C	C	C4	48.59135915	-118.1239648	417120.607	5382640.470
KF-38	Surface	C	C	C5	48.59176655	-118.1237026	417140.607	5382685.470
KF-221	Surface	C	C	C6	48.59068655	-118.1237464	417135.607	5382565.470
KF-26	Surface	C	C	C7	48.59180888	-118.1239747	417120.607	5382690.470
KF-164	Surface	C	C	C8	48.59099937	-118.1239568	417120.607	5382600.470
KF-8	Surface	C	C	C9	48.5918975	-118.1241123	417110.607	5382700.470
KF-175	Surface	C	C	C10	48.59095638	-118.1237524	417135.607	5382595.470
KF-138	Surface	C	C	C11	48.59113297	-118.1240954	417110.607	5382615.470
KF-163	Surface	C	C	C12	48.59099871	-118.1240246	417115.607	5382600.470
KF-24	Surface	D	D	D1	48.59180756	-118.1241103	417110.607	5382690.470
KF-141	Surface	D	D	D2	48.59113495	-118.123892	417125.607	5382615.470
KF-13	Surface	D	D	D3	48.59190081	-118.1237734	417135.607	5382700.470
KF-73	Surface	D	D	D4	48.59153838	-118.1240366	417115.607	5382660.470
KF-80	Surface	D	D	D5	48.59149341	-118.1240356	417115.607	5382655.470
KF-226	Surface	D	D	D6	48.59063959	-118.1239488	417120.607	5382560.470
KF-81	Surface	D	D	D7	48.59149407	-118.1239678	417120.607	5382655.470
KF-245	Surface	D	D	D8	48.59055163	-118.1237434	417135.607	5382550.470
KF-222	Surface	D	D	D9	48.59068721	-118.1236786	417140.607	5382565.470
KF-103	Surface	D	D	D10	48.59135981	-118.123897	417125.607	5382640.470
KF-58	Surface	D	D	D11	48.59162899	-118.1239708	417120.607	5382670.470
KF-19	Surface	D	D	D12	48.59185451	-118.123908	417125.607	5382695.470
KF-112	Surface	E	E	E1	48.59131617	-118.1237604	417135.607	5382635.470
KF-147	Surface	E	E	E2	48.59108866	-118.1240266	417115.607	5382610.470

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Kettle Falls-Surface (Sampled on April 26, 2011) (continued)								
KF-120	Surface	E	E	E3	48.59127185	-118.1236916	417140.607	5382630.470
KF-59	Surface	E	E	E4	48.59162965	-118.123903	417125.607	5382670.470
KF-116	Surface	E	E	E5	48.59126921	-118.1239628	417120.607	5382630.470
KF-55	Surface	E	E	E6	48.591627	-118.1241741	417105.607	5382670.470
KF-181	Surface	E	E	E7	48.59091009	-118.123887	417125.607	5382590.470
KF-75	Surface	E	E	E8	48.59153971	-118.123901	417125.607	5382660.470
KF-16	Surface	E	E	E9	48.59185253	-118.1241113	417110.607	5382695.470
KF-90	Surface	E	E	E10	48.59145042	-118.1238312	417130.607	5382650.470
KF-233	Surface	E	E	E11	48.59064422	-118.1234743	417155.607	5382560.470
KF-61	Surface	E	E	E12	48.59163097	-118.1237674	417135.607	5382670.470
Kettle Falls-Subsurface (Sampled on April 26, 2011)								
KF-212	Subsurface	NA	Rejected	Refusal	48.59073086	-118.1238152	417130.607	5382570.470
KF-151	Reserved	NA	Subsurface	Core B	48.5910913	-118.1237554	417135.607	5382610.470
KF-97	Subsurface	NA	Subsurface	Core C	48.59140545	-118.1238302	417130.607	5382645.470
KF-220	Subsurface	NA	Rejected	Refusal	48.59068589	-118.1238142	417130.607	5382565.470
KF-241	Reserved	NA	Subsurface	Core A	48.59059925	-118.1234733	417155.607	5382555.470
KF-117	Subsurface	NA	Rejected	Refusal	48.59126987	-118.123895	417125.607	5382630.470
KF-60	Reserved	NA	Subsurface	Core D	48.59163031	-118.1238352	417130.607	5382670.470
KF-49	Subsurface	NA	Rejected	Refusal	48.5916733	-118.1240395	417115.607	5382675.470
KF-28	Reserved	NA	Subsurface	Core E	48.5918102	-118.1238392	417130.607	5382690.470
Colville Flats-Surface (Sampled on April 27, 2011)								
CF-285	Surface	A	A	A1	48.57001734740	-118.11997579100	417379.967	5380263.912
CF-770	Surface	A	A	A2	48.56916130930	-118.11548349600	417709.967	5380163.912
CF-696	Surface	A	A	A3	48.56921179	-118.1195513	417409.967	5380173.912
CF-143	Surface	A	A	A4	48.57029114	-118.1195752	417409.967	5380293.912
CF-351	Surface	A	A	A5	48.56995242	-118.1173987	417569.967	5380253.912
CF-580	Surface	A	A	A6	48.56950269	-118.1173888	417569.967	5380203.912
CF-447	Surface	A	A	A7	48.56977648	-118.1169882	417599.967	5380233.912
CF-440	Surface	A	A	A8	48.56976727	-118.1179369	417529.967	5380233.912
CF-24	Surface	A	A	A9	48.57067593	-118.117008	417599.967	5380333.912
CF-133	Surface	A	A	A10	48.57042843	-118.114698	417769.967	5380303.912
CF-1037	Surface	A	A	A11	48.56851986	-118.1166894	417619.967	5380093.912
CF-122	Surface	A	A	A12	48.57041398	-118.1161889	417659.967	5380303.912
CF-56	Surface	B	B	B1	48.5705965	-118.1159218	417679.967	5380323.912
CF-948	Surface	B	B	B2	48.56866552	-118.120217	417359.967	5380113.912
CF-364	Surface	B	B	B3	48.56996951	-118.1156368	417699.967	5380253.912
CF-282	Surface	B	B	B4	48.57001339	-118.1203824	417349.967	5380263.912
CF-155	Surface	B	B	B5	48.57030957	-118.1176777	417549.967	5380293.912
CF-269	Surface	B	B	B6	48.5701494	-118.1156408	417699.967	5380273.912
CF-673	Surface	B	B	B7	48.56932938	-118.1167072	417619.967	5380183.912

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Colville Flats-Surface (Sampled on April 27, 2011) (continued)								
CF-588	Surface	B	B	B8	48.56951321	-118.1163046	417649.967	5380203.912
CF-48	Surface	B	B	B9	48.57058599	-118.117006	417599.967	5380323.912
CF-540	Surface	B	B	B10	48.56959921	-118.1167132	417619.967	5380213.912
CF-251	Surface	B	B	B11	48.57012574	-118.1180803	417519.967	5380273.912
CF-953	Surface	B	B	B12	48.56867212	-118.1195394	417409.967	5380113.912
CF-852	Surface	C	C	C1	48.56897616	-118.1160217	417669.967	5380143.912
CF-96	Surface	C	C	C2	48.57051969	-118.1145645	417779.967	5380313.912
CF-185	Surface	C	C	C3	48.57019328	-118.1203864	417349.967	5380283.912
CF-314	Surface	C	C	C4	48.57005551	-118.1160454	417669.967	5380263.912
CF-292	Surface	C	C	C5	48.57002657	-118.1190271	417449.967	5380263.912
CF-1057	Surface	C	C	C6	48.56844174	-118.1154677	417709.967	5380083.912
CF-800	Surface	C	C	C7	48.56905428	-118.1172434	417579.967	5380153.912
CF-909	Surface	C	C	C8	48.56875943	-118.1198125	417389.967	5380123.912
CF-929	Surface	C	C	C9	48.56878576	-118.1171019	417589.967	5380123.912
CF-544	Surface	C	C	C10	48.56960447	-118.116171	417659.967	5380213.912
CF-502	Surface	C	C	C11	48.56969836	-118.1157664	417689.967	5380223.912
CF-209	Surface	C	C	C12	48.57022489	-118.1171336	417589.967	5380283.912
CF-684	Surface	D	D	D1	48.56934383	-118.1152164	417729.967	5380183.912
CF-136	Surface	D	D	D2	48.57043236	-118.1142914	417799.967	5380303.912
CF-140	Surface	D	D	D3	48.57028191	-118.1205239	417339.967	5380293.912
CF-1005	Surface	D	D	D4	48.56859534	-118.1181822	417509.967	5380103.912
CF-476	Surface	D	D	D5	48.56966415	-118.1192902	417429.967	5380223.912
CF-828	Surface	D	D	D6	48.56894459	-118.1192743	417429.967	5380143.912
CF-260	Surface	D	D	D7	48.57013757	-118.1168606	417609.967	5380273.912
CF-681	Surface	D	D	D8	48.56933989	-118.115623	417699.967	5380183.912
CF-566	Surface	D	D	D9	48.56948426	-118.1192862	417429.967	5380203.912
CF-311	Surface	D	D	D10	48.57005157	-118.116452	417639.967	5380263.912
CF-715	Surface	D	D	D11	48.5692368	-118.1169763	417599.967	5380173.912
CF-792	Surface	D	Rejected	Location refused by oversight	48.56904375	-118.1183276	417499.967	5380153.912
CF-729	Reserved	NA	D	D12	48.56910734	-118.1210401	417299.967	5380163.912
CF-309	Surface	E	E	E1	48.57004894	-118.1167231	417619.967	5380263.912
CF-58	Surface	E	E	E2	48.57059913	-118.1156507	417699.967	5380323.912
CF-554	Surface	E	E	E3	48.56946844	-118.1209126	417309.967	5380203.912
CF-23	Surface	E	E	E4	48.57067462	-118.1171435	417589.967	5380333.912
CF-274	Surface	E	E	E5	48.57015596	-118.1149631	417749.967	5380273.912
CF-21	Surface	E	E	E6	48.5707869	-118.1148414	417759.967	5380343.912
CF-289	Surface	E	E	E7	48.57002262	-118.1194337	417419.967	5380263.912
CF-93	Surface	E	E	E8	48.57051575	-118.114971	417749.967	5380313.912
CF-421	Surface	E	E	E9	48.56974224	-118.120512	417339.967	5380233.912
CF-928	Surface	E	E	E10	48.56878444	-118.1172374	417579.967	5380123.912

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Colville Flats-Surface (Sampled on April 27, 2011) (continued)								
CF-180	Surface	E	E	E11	48.57018669	-118.121064	417299.967	5380283.912
CF-265	Surface	E	E	E12	48.57014415	-118.1161829	417659.967	5380273.912
Colville Flats-Subsurface (Sampled on April 27, 2011)								
CF-629	Subsurface	NA	Subsurface	Core D	48.56941932240	-118.11670919200	417619.967	5380193.912
CF-537	Subsurface	NA	Rejected	Location refused by oversight	48.56959526960	-118.11711974200	417589.967	5380213.912
CF-617	Reserved	NA	Subsurface	Core E	48.56940353640	-118.11833553900	417499.967	5380193.912
CF-934	Subsurface	NA	Subsurface	Core C	48.56879233040	-118.11642427300	417639.967	5380123.912
CF-615	Subsurface	NA	Subsurface	Core B	48.56940090320	-118.11860659700	417479.967	5380193.912
CF-473	Subsurface	NA	Subsurface	Core A	48.56966020100	-118.11969678500	417399.967	5380223.912
Colville River-Surface (Sampled on April 28, 2011)								
CR-214	Surface	A	A	A1	48.57715199850	-118.11444016500	417799.888	5381050.989
CR-305	Surface	A	A	A2	48.57680532760	-118.11307676800	417899.888	5381010.989
CR-226	Surface	A	A	A3	48.57716773130	-118.11281356800	417919.888	5381050.989
CR-129	Surface	A	A	A4	48.57760959670	-118.11363674600	417859.888	5381100.989
CR-315	Surface	A	A	A5	48.57670882770	-118.11375253600	417849.888	5381000.989
CR-137	Surface	A	A	A6	48.57751046940	-118.11458362500	417789.888	5381090.989
CR-57	Surface	A	A	A7	48.57814271380	-118.11432636300	417809.888	5381160.989
CR-210	Surface	A	A	A8	48.57714674910	-118.11498236400	417759.888	5381050.989
CR-353	Surface	A	Rejected	Cobble	48.57645340390	-118.11225558100	417959.888	5380970.989
CR-225	Reserved	NA	A	A9	48.57716642120	-118.11294911700	417909.888	5381050.989
CR-355	Surface	A	Rejected	Cobble	48.57635952900	-118.11266025100	417929.888	5380960.989
CR-318	Reserved	NA	A	A10	48.57671276060	-118.11334589000	417879.888	5381000.989
CR-303	Surface	A	A	A11	48.57680270640	-118.11334786600	417879.888	5381010.989
CR-108	Surface	A	A	A12	48.57769036090	-118.11458758000	417789.888	5381110.989
CR-257	Surface	B	B	B1	48.57696817020	-118.11484285900	417769.888	5381030.989
CR-106	Surface	B	B	B2	48.57779342080	-118.11323404300	417889.888	5381120.989
CR-194	Surface	B	B	B3	48.57724325620	-118.11430659300	417809.888	5381060.989
CR-183	Surface	B	B	B4	48.57734369190	-118.11322416700	417889.888	5381070.989
CR-158	Surface	B	B	B5	48.57742577120	-118.11403944600	417829.888	5381080.989
CR-117	Surface	B	B	B6	48.57770216440	-118.11336761900	417879.888	5381110.989
CR-27	Surface	B	B	B7	48.57851167640	-118.11338539800	417879.888	5381200.989
CR-102	Surface	B	B	B8	48.57778817710	-118.11377624900	417849.888	5381120.989
CR-72	Surface	B	B	B9	48.57805932560	-118.11364662500	417859.888	5381150.989
CR-357	Surface	B	Rejected	Cobble	48.57636214850	-118.11238915600	417949.888	5380960.989
CR-186	Reserved	NA	B	B10	48.57734762300	-118.11281751600	417919.888	5381070.989
CR-181	Surface	B	B	B11	48.57734107040	-118.11349526800	417869.888	5381070.989
CR-14	Surface	B	B	B12	48.57869418920	-118.11311824100	417899.888	5381220.989
CR-48	Surface	C	C	C1	48.57823397140	-118.11419278800	417819.888	5381170.989
CR-341	Surface	C	C	C2	48.57663591410	-118.11198843100	417979.888	5380990.989
CR-229	Surface	C	C	C3	48.57717166100	-118.11240691800	417949.888	5381050.989

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Colville River-Surface (Sampled on April 28, 2011) (continued)								
CR-324	Surface	C	C	C4	48.57672062210	-118.11253259900	417939.888	5381000.989
CR-31	Surface	C	C	C5	48.57841517450	-118.11406118800	417829.888	5381190.989
CR-256	Surface	C	C	C6	48.57696685760	-118.11497840800	417759.888	5381030.989
CR-275	Surface	C	C	C7	48.57699176930	-118.11240297100	417949.888	5381030.989
CR-179	Surface	C	C	C8	48.57733844820	-118.11376636900	417849.888	5381070.989
CR-189	Surface	C	C	C9	48.57723669490	-118.11498434200	417759.888	5381060.989
CR-332	Surface	C	C	C10	48.57662281480	-118.11334391500	417879.888	5380990.989
CR-271	Surface	C	C	C11	48.57698652950	-118.11294516800	417909.888	5381030.989
CR-310	Surface	C	C	C12	48.57681187770	-118.11239902400	417949.888	5381010.989
CR-243	Surface	D	D	D1	48.57707123300	-118.11348934100	417869.888	5381040.989
CR-356	Surface	D	D	D2	48.57636083880	-118.11252470300	417939.888	5380960.989
CR-84	Surface	D	D	D3	48.57797200170	-118.11337354500	417879.888	5381140.989
CR-227	Surface	D	D	D4	48.57716904140	-118.11267801800	417929.888	5381050.989
CR-328	Surface	D	D	D5	48.57672586000	-118.11199040400	417979.888	5381000.989
CR-301	Surface	D	D	D6	48.57680008470	-118.11361896300	417859.888	5381010.989
CR-59	Surface	D	D	D7	48.57814533730	-118.11405525800	417829.888	5381160.989
CR-191	Surface	D	D	D8	48.57723931990	-118.11471324200	417779.888	5381060.989
CR-139	Surface	D	D	D9	48.57751309350	-118.11431252400	417809.888	5381090.989
CR-40	Surface	D	D	D10	48.57832522880	-118.11405921200	417829.888	5381180.989
CR-200	Surface	D	D	D11	48.57725112460	-118.11349329200	417869.888	5381060.989
CR-23	Surface	D	D	D12	48.57850643180	-118.11392761200	417839.888	5381200.989
CR-337	Surface	E	Rejected	Refusal	48.57663067630	-118.11253062500	417939.888	5380990.989
CR-298	Reserved	NA	E	E1	48.57690575160	-118.11199435000	417979.888	5381020.989
CR-121	Surface	E	E	E2	48.57759910290	-118.11472115300	417779.888	5381100.989
CR-188	Surface	E	E	E3	48.57735024290	-118.11254641600	417939.888	5381070.989
CR-155	Surface	E	E	E4	48.57742183580	-118.11444609700	417799.888	5381080.989
CR-73	Surface	E	E	E5	48.57806063660	-118.11351107300	417869.888	5381150.989
CR-233	Surface	E	E	E6	48.57705811600	-118.11484483600	417769.888	5381040.989
CR-199	Surface	E	E	E7	48.57724981360	-118.11362884200	417859.888	5381060.989
CR-289	Surface	E	E	E8	48.57689396290	-118.11321429200	417889.888	5381020.989
CR-16	Surface	E	E	E9	48.57859768900	-118.11379403400	417849.888	5381210.989
CR-184	Surface	E	E	E10	48.57734500240	-118.11308861700	417899.888	5381070.989
CR-347	Surface	E	Rejected	Refusal	48.57654334970	-118.11225755500	417959.888	5380980.989
CR-358	Reserved	NA	E	E11	48.57636345800	-118.11225360800	417959.888	5380960.989
CR-253	Surface	E	E	E12	48.57708433410	-118.11213384500	417969.888	5381040.989
Colville River-Subsurface (Sampled on April 28, 2011)								
CR-62	Subsurface	NA	Subsurface	Core D	48.57814927130	-118.11364860100	417859.888	5381160.989
CR-323	Subsurface	NA	Rejected	Cobble	48.57671931230	-118.11266814700	417929.888	5381000.989
CR-168	Reserved	NA	Subsurface	Core C	48.57743887880	-118.11268394000	417929.888	5381080.989
CR-269	Subsurface	NA	Rejected	Refusal	48.57698390870	-118.11321626700	417889.888	5381030.989

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Colville River-Subsurface (Sampled on April 28, 2011) (continued)								
CR-205	Reserved	NA	Subsurface	Core B	48.57725767720	-118.11281554200	417919.888	5381060.989
CR-273	Subsurface	NA	Subsurface	Core A	48.57698914970	-118.11267407000	417929.888	5381030.989
CR-10	Subsurface	NA	Subsurface	Core E	48.57868894590	-118.11366045700	417859.888	5381220.989
Bradbury-Surface (Sampled on April 29, 2011)								
BB-79	Surface	A	A	A1	48.51468365910	-118.14840682000	415190.256	5374144.502
BB-143	Surface	A	A	A2	48.51558581710	-118.14815638400	415210.256	5374244.502
BB-52	Surface	A	A	A3	48.51614977390	-118.14573164300	415390.256	5374304.502
BB-184	Surface	A	A	A4	48.51551745810	-118.14598821200	415370.256	5374234.502
BB-179	Surface	A	A	A5	48.51551071670	-118.14666513000	415320.256	5374234.502
BB-325	Surface	A	A	A6	48.51496159770	-118.14760062600	415250.256	5374174.502
BB-345	Surface	A	A	A7	48.51487030210	-118.14773397700	415240.256	5374164.502
BB-503	Surface	A	A	A8	48.51377203960	-118.14960490100	415100.256	5374044.502
BB-527	Surface	A	A	A9	48.51359485220	-118.14933007400	415120.256	5374024.502
BB-253	Surface	A	A	A10	48.51523413410	-118.14733595500	415270.256	5374204.502
BB-155	Surface	A	A	A11	48.51560201100	-118.14653177700	415330.256	5374244.502
BB-49	Surface	A	A	A12	48.51614573030	-118.14613779900	415360.256	5374304.502
BB-339	Surface	B	B	B1	48.51486219970	-118.14854626800	415180.256	5374164.502
BB-268	Surface	B	B	B2	48.51512798330	-118.14895851600	415150.256	5374194.502
BB-139	Surface	B	B	B3	48.51570004510	-118.14572150100	415390.256	5374254.502
BB-165	Surface	B	B	B4	48.51549181940	-118.14856050200	415180.256	5374234.502
BB-529	Surface	B	B	B5	48.51349273400	-118.15054644400	415030.256	5374014.502
BB-27	Surface	B	B	B6	48.51622218720	-118.14749368500	415260.256	5374314.502
BB-15	Surface	B	B	B7	48.51641017390	-118.14668543100	415320.256	5374334.502
BB-254	Surface	B	B	B8	48.51523548350	-118.14720057200	415280.256	5374204.502
BB-97	Surface	B	B	B9	48.51587589310	-118.14613171200	415360.256	5374274.502
BB-203	Surface	B	B	B10	48.51541807330	-118.14693386700	415300.256	5374224.502
BB-50	Surface	B	B	B11	48.51614707840	-118.14600241400	415370.256	5374304.502
BB-431	Surface	B	B	B12	48.51431036130	-118.14975249300	415090.256	5374104.502
BB-69	Surface	C	C	C1	48.51595235020	-118.14748759000	415260.256	5374284.502
BB-124	Surface	C	C	C2	48.51567981340	-118.14775226400	415240.256	5374254.502
BB-340	Surface	C	C	C3	48.51486355050	-118.14841088600	415190.256	5374164.502
BB-160	Surface	C	C	C4	48.51560875170	-118.14585485700	415380.256	5374244.502
BB-459	Surface	C	C	C5	48.51413317430	-118.14947766200	415110.256	5374084.502
BB-209	Surface	C	C	C6	48.51542616440	-118.14612156600	415360.256	5374224.502
BB-592	Surface	C	C	C7	48.51305382620	-118.14945324400	415110.256	5373964.502
BB-361	Surface	C	C	C8	48.51477495540	-118.14827347200	415200.256	5374154.502
BB-164	Surface	C	C	C9	48.51549046840	-118.14869588500	415170.256	5374234.502
BB-163	Surface	C	C	C10	48.51561279420	-118.14544870400	415410.256	5374244.502
BB-553	Surface	C	C	C11	48.51331554880	-118.15027161500	415050.256	5373994.502
BB-380	Surface	C	Rejected	Cobble	48.51468500980	-118.14827143900	415200.256	5374144.502

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Bradbury-Surface (Sampled on April 29, 2011) (continued)								
BB-318	Reserved	NA	C	C12	48.51495214530	-118.14854830200	415180.256	5374174.502
BB-541	Surface	D	D	D1	48.51340414150	-118.15040902900	415040.256	5374004.502
BB-169	Surface	D	D	D2	48.51549722180	-118.14801896700	415220.256	5374234.502
BB-417	Surface	D	D	D3	48.51440030700	-118.14975452800	415090.256	5374114.502
BB-342	Surface	D	D	D4	48.51486625160	-118.14814012300	415210.256	5374164.502
BB-286	Surface	D	D	D5	48.51515228230	-118.14652162800	415330.256	5374194.502
BB-230	Surface	D	D	D6	48.51532947650	-118.14679645400	415310.256	5374214.502
BB-140	Surface	D	D	D7	48.51570139260	-118.14558611700	415400.256	5374254.502
BB-387	Surface	D	D	D8	48.51458155050	-118.14962321800	415100.256	5374134.502
BB-264	Surface	D	D	D9	48.51524896870	-118.14584674200	415380.256	5374204.502
BB-131	Surface	D	D	D10	48.51568925930	-118.14680457500	415310.256	5374254.502
BB-467	Surface	D	D	D11	48.51403917200	-118.14988176600	415080.256	5374074.502
BB-20	Surface	D	D	D12	48.51631618130	-118.14708955900	415290.256	5374324.502
BB-266	Surface	E	E	E1	48.51512528020	-118.14922928100	415130.256	5374194.502
BB-555	Surface	E	E	E2	48.51331825430	-118.15000085900	415070.256	5373994.502
BB-456	Surface	E	E	E3	48.51412911770	-118.14988380200	415080.256	5374084.502
BB-3	Surface	E	E	E4	48.51658601840	-118.14709565100	415290.256	5374354.502
BB-13	Surface	E	E	E5	48.51640747610	-118.14695620300	415300.256	5374334.502
BB-563	Surface	E	E	E6	48.51322425020	-118.15040495600	415040.256	5373984.502
BB-407	Surface	E	E	E7	48.51449701220	-118.14907965900	415140.256	5374124.502
BB-378	Surface	E	E	E8	48.51468230830	-118.14854220200	415180.256	5374144.502
BB-158	Surface	E	E	E9	48.51560605590	-118.14612562500	415360.256	5374244.502
BB-60	Surface	E	E	E10	48.51605039100	-118.14667731100	415320.256	5374294.502
BB-505	Surface	E	E	E11	48.51377474350	-118.14933414400	415120.256	5374044.502
BB-311	Surface	E	E	E12	48.51494268520	-118.14949597600	415110.256	5374174.502
Bradbury-Subsurface (Sampled on April 29, 2011)								
BB-401	Subsurface	NA	Subsurface	Core C	48.51448890020	-118.14989194400	415080.256	5374124.502
BB-554	Subsurface	NA	Subsurface	Core A	48.51331690160	-118.15013623700	415060.256	5373994.502
BB-260	Subsurface	NA	Rejected	Refusal	48.51524357650	-118.14638827400	415340.256	5374204.502
BB-11	Reserved	NA	Subsurface	Core E	48.51640477770	-118.14722697600	415280.256	5374334.502
BB-445	Subsurface	NA	Subsurface	Core B	48.51422041570	-118.14975045700	415090.256	5374094.502
BB-189	Subsurface	NA	Subsurface	Core D	48.51539917160	-118.14882923500	415160.256	5374224.502
Hunters-Surface (Sampled on May 5, 2011)								
HT-1521	Surface	A	A	A1	48.12638164140	-118.23393063700	408180.124	5331083.451
HT-1171	Surface	A	A	A2	48.12748409260	-118.23180679100	408340.124	5331203.451
HT-1703	Surface	A	A	A3	48.12503384880	-118.23376396600	408190.124	5330933.451
HT-1557	Surface	A	A	A4	48.12612044750	-118.23311805500	408240.124	5331053.451
HT-1619	Surface	A	A	A5	48.12557065770	-118.23404559600	408170.124	5330993.451
HT-1569	Surface	A	A	A6	48.12593045370	-118.23405421600	408170.124	5331033.451
HT-658	Surface	A	A	A7	48.12838070220	-118.23209702200	408320.124	5331303.451

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Hunters-Surface (Sampled on May 5, 2011) (continued)								
HT-1070	Surface	A	A	A8	48.12764813880	-118.23328902200	408230.124	5331223.451
HT-1746	Surface	A	A	A9	48.12421420690	-118.23468501200	408120.124	5330843.451
HT-159	Surface	A	A	A10	48.12959749450	-118.22769104400	408650.124	5331433.451
HT-1270	Surface	A	A	A11	48.12723439280	-118.22991935300	408480.124	5331173.451
HT-1579	Surface	A	A	A12	48.12583906180	-118.23418641300	408160.124	5331023.451
HT-805	Surface	B	B	B1	48.12808922910	-118.23410594000	408170.124	5331273.451
HT-1663	Surface	B	Rejected	Refusal	48.12529792480	-118.23430783200	408150.124	5330963.451
HT-1636	Reserved	NA	B	B2	48.12548359390	-118.23377473800	408190.124	5330983.451
HT-1126	Surface	B	B	B3	48.12757404170	-118.23180894200	408340.124	5331213.451
HT-99	Surface	B	Rejected		48.12989028920	-118.22554766500	408810.124	5331463.451
HT-25	Reserved	NA	B	B4	48.13015583730	-118.22595717900	408780.124	5331493.451
HT-659	Surface	B	B	B5	48.12838214270	-118.23196266300	408330.124	5331303.451
HT-185	Surface	B	B	B6	48.12950323840	-118.22809198600	408620.124	5331423.451
HT-1004	Surface	B	B	B7	48.12787409890	-118.22899388400	408550.124	5331243.451
HT-250	Surface	B	B	B8	48.12933482230	-118.22701280200	408700.124	5331403.451
HT-1311	Surface	B	B	B9	48.12714731940	-118.22964849300	408500.124	5331163.451
HT-744	Surface	B	B	B10	48.12833964160	-118.22752666700	408660.124	5331293.451
HT-1185	Surface	B	B	B11	48.12750424010	-118.22992579700	408480.124	5331203.451
HT-1740	Surface	B	B	B12	48.12430559940	-118.23455282000	408130.124	5330853.451
HT-166	Surface	C	C	C1	48.12960753880	-118.22675050700	408720.124	5331433.451
HT-44	Surface	C	C	C2	48.13006158710	-118.22635812900	408750.124	5331483.451
HT-37	Surface	C	C	C3	48.13017302710	-118.22434481100	408900.124	5331493.451
HT-1061	Surface	C	C	C4	48.12779420440	-118.22805123500	408620.124	5331233.451
HT-674	Surface	C	C	C5	48.12840373120	-118.22994727700	408480.124	5331303.451
HT-1718	Surface	C	C	C6	48.12466250830	-118.23483014100	408110.124	5330893.451
HT-200	Surface	C	C	C7	48.12952475930	-118.22607655300	408770.124	5331423.451
HT-1617	Surface	C	C	C8	48.12556777180	-118.23431429900	408150.124	5330993.451
HT-1733	Surface	C	C	C9	48.12439266140	-118.23482367200	408110.124	5330863.451
HT-1583	Surface	C	C	C10	48.12584483240	-118.23364900400	408200.124	5331023.451
HT-876	Surface	C	C	C11	48.12802234660	-118.23195405700	408330.124	5331263.451
HT-948	Surface	C	C	C12	48.12795829910	-118.22953346300	408510.124	5331253.451
HT-49	Surface	D	Rejected	Cement boat ramp	48.13006875460	-118.22568631000	408800.124	5331483.451
HT-34	Reserved	NA	D	D1	48.13016873180	-118.22474790300	408870.124	5331493.451
HT-229	Surface	D	D	D2	48.12943624360	-118.22594004900	408780.124	5331413.451
HT-1362	Surface	D	D	D3	48.12693431320	-118.23273437100	408270.124	5331143.451
HT-1777	Surface	D	D	D4	48.12385441090	-118.23467638800	408120.124	5330803.451
HT-144	Surface	D	D	D5	48.12970322410	-118.22621519800	408760.124	5331443.451
HT-1645	Surface	D	D	D6	48.12538498730	-118.23457869000	408130.124	5330973.451
HT-1369	Surface	D	D	D7	48.12694439830	-118.23179388400	408340.124	5331143.451
HT-118	Surface	D	D	D8	48.12979030560	-118.22648606600	408740.124	5331453.451

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Hunters-Surface (Sampled on May 5, 2011) (continued)								
HT-1498	Surface	D	D	D9	48.12658892190	-118.23138221600	408370.124	5331103.451
HT-1685	Surface	D	D	D10	48.12511225330	-118.23484092300	408110.124	5330943.451
HT-81	Surface	D	D	D11	48.12999026520	-118.22460926100	408880.124	5331473.451
HT-800	Surface	D	D	D12	48.12825112750	-118.22739016400	408670.124	5331283.451
HT-512	Surface	E	E	E1	48.12736819450	-118.23422305400	408160.124	5331193.451
HT-121	Surface	E	E	E2	48.12979460700	-118.22608297700	408770.124	5331453.451
HT-956	Surface	E	E	E3	48.12796979450	-118.22845859800	408590.124	5331253.451
HT-1138	Surface	E	E	E4	48.12759131290	-118.23019665900	408460.124	5331213.451
HT-1779	Surface	E	E	E5	48.12385729760	-118.23440769400	408140.124	5330803.451
HT-685	Surface	E	E	E6	48.12841954030	-118.22846932600	408590.124	5331303.451
HT-942	Surface	E	E	E7	48.12794967090	-118.23033961100	408450.124	5331253.451
HT-128	Surface	E	E	E8	48.12980463810	-118.22514243600	408840.124	5331453.451
HT-1258	Surface	E	E	E9	48.12721712550	-118.23153162600	408360.124	5331173.451
HT-831	Surface	E	E	E10	48.12812669170	-118.23061262500	408430.124	5331273.451
HT-922	Surface	E	E	E11	48.12792086940	-118.23302676800	408250.124	5331253.451
HT-1548	Surface	E	E	E12	48.12620895470	-118.23325456200	408230.124	5331063.451
Hunters-Subsurface (Sampled on May 5, 2011)								
HT-313	Subsurface	NA	Rejected	Refusal	48.12915635850	-118.22687415500	408710.124	5331383.451
HT-304	Reserved	NA	Subsurface	Core C	48.12914344180	-118.22808340600	408620.124	5331383.451
HT-1573	Subsurface	NA	Rejected	Refusal	48.12593622360	-118.23351680600	408210.124	5331033.451
HT-410	Reserved	NA	Subsurface	Core D	48.12886641300	-118.22874877400	408570.124	5331353.451
HT-754	Subsurface	NA	Subsurface	Core A	48.12818494850	-118.23357066200	408210.124	5331283.451
HT-1295	Subsurface	NA	Rejected	Refusal	48.12712429640	-118.23179818600	408340.124	5331163.451
HT-55	Reserved	NA	Subsurface	Core E	48.13007735050	-118.22488012800	408860.124	5331483.451
HT-398	Subsurface	NA	Subsurface	Core B	48.12884916170	-118.23036109800	408450.124	5331353.451
McGuires-Surface (Sampled on May 4, 2011)								
MG-594	Surface	A	A	A1	47.98247026580	-118.35872108200	398612.161	5315245.086
MG-374	Surface	A	A	A2	47.98422634720	-118.36238569900	398342.161	5315445.086
MG-46	Surface	A	A	A3	47.98591147460	-118.36444040800	398192.161	5315635.086
MG-231	Surface	A	A	A4	47.98468561370	-118.36159366300	398402.161	5315495.086
MG-253	Surface	A	A	A5	47.98456864170	-118.36386893100	398232.161	5315485.086
MG-359	Surface	A	A	A6	47.98432582700	-118.36158419900	398402.161	5315455.086
MG-380	Surface	A	A	A7	47.98423588030	-118.36158183300	398402.161	5315445.086
MG-309	Surface	A	A	A8	47.98451524790	-118.36078506100	398462.161	5315475.086
MG-515	Surface	A	A	A9	47.98318666990	-118.35900791900	398592.161	5315325.086
MG-17	Surface	A	A	A10	47.98627285250	-118.36431591000	398202.161	5315675.086
MG-220	Surface	A	A	A11	47.98466813180	-118.36306742900	398292.161	5315495.086
MG-302	Surface	A	A	A12	47.98450413190	-118.36172290900	398392.161	5315475.086
MG-329	Surface	B	B	B1	47.98440941890	-118.36212247700	398362.161	5315465.086
MG-154	Surface	B	B	B2	47.98484802510	-118.36307216600	398292.161	5315515.086

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
McGuires-Surface (Sampled on May 4, 2011) (continued)								
MG-25	Surface	B	B	B3	47.98618449750	-118.36417955600	398212.161	5315665.086
MG-394	Surface	B	B	B4	47.98413957890	-118.36211537700	398362.161	5315435.086
MG-528	Surface	B	B	B5	47.98299250190	-118.36020896700	398502.161	5315305.086
MG-100	Surface	B	B	B6	47.98510354720	-118.36428509000	398202.161	5315545.086
MG-504	Surface	B	B	B7	47.98327661670	-118.35901028000	398592.161	5315335.086
MG-549	Surface	B	B	B8	47.98291365850	-118.35926878300	398572.161	5315295.086
MG-186	Surface	B	B	B9	47.98475966850	-118.36293581800	398302.161	5315505.086
MG-276	Surface	B	B	B10	47.98460519460	-118.36078742500	398462.161	5315485.086
MG-269	Surface	B	B	B11	47.98459407860	-118.36172527500	398392.161	5315485.086
MG-510	Surface	B	B	B12	47.98317874120	-118.35967779400	398542.161	5315325.086
MG-286	Surface	C	C	C1	47.98447869510	-118.36386656100	398232.161	5315475.086
MG-170	Surface	C	C	C2	47.98489248750	-118.35932074600	398572.161	5315515.086
MG-155	Surface	C	C	C3	47.98486868360	-118.36133043600	398422.161	5315515.086
MG-492	Surface	C	C	C4	47.98336180670	-118.35941456800	398562.161	5315345.086
MG-363	Surface	C	C	C5	47.98434328980	-118.36011044200	398512.161	5315455.086
MG-16	Surface	C	C	C6	47.98627126080	-118.36444989200	398192.161	5315675.086
MG-552	Surface	C	C	C7	47.98291841470	-118.35886686000	398602.161	5315295.086
MG-271	Surface	C	C	C8	47.98459725540	-118.36145731800	398412.161	5315485.086
MG-86	Surface	C	C	C9	47.98528344040	-118.36428983100	398202.161	5315565.086
MG-238	Surface	C	C	C10	47.98469672870	-118.36065581100	398472.161	5315495.086
MG-57	Surface	C	C	C11	47.98573317320	-118.36430168500	398202.161	5315615.086
MG-192	Surface	C	C	C12	47.98478032490	-118.36119409200	398432.161	5315505.086
MG-395	Surface	D	D	D1	47.98414116780	-118.36198139900	398372.161	5315435.086
MG-467	Surface	D	D	D2	47.98352900850	-118.36049110000	398482.161	5315365.086
MG-277	Surface	D	D	D3	47.98460678200	-118.36065344700	398472.161	5315485.086
MG-555	Surface	D	D	D4	47.98292316960	-118.35846493700	398632.161	5315295.086
MG-571	Surface	D	D	D5	47.98273376490	-118.35926406000	398572.161	5315275.086
MG-465	Surface	D	D	D6	47.98362688880	-118.35982358300	398532.161	5315375.086
MG-6	Surface	D	D	D7	47.98645433710	-118.36418666800	398212.161	5315695.086
MG-529	Surface	D	D	D8	47.98299408860	-118.36007499200	398512.161	5315305.086
MG-304	Surface	D	D	D9	47.98450730870	-118.36145495300	398412.161	5315475.086
MG-45	Surface	D	D	D10	47.98590988280	-118.36457439000	398182.161	5315635.086
MG-318	Surface	D	D	D11	47.98439193030	-118.36359623500	398252.161	5315465.086
MG-230	Surface	D	D	D12	47.98468402520	-118.36172764200	398392.161	5315495.086
MG-39	Surface	E	E	E1	47.98599823730	-118.36471074300	398172.161	5315645.086
MG-283	Surface	E	E	E2	47.98462264720	-118.35931366000	398572.161	5315485.086
MG-229	Surface	E	Rejected	Cobbles	47.98468243660	-118.36186162000	398382.161	5315495.086
MG-405	Reserved	NA	E	E3	47.98404168530	-118.36278289500	398312.161	5315425.086
MG-535	Surface	E	E	E4	47.98300360530	-118.35927114500	398572.161	5315305.086
MG-330	Surface	E	E	E5	47.98441100780	-118.36198849900	398372.161	5315465.086

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
McGuires-Surface (Sampled on May 4, 2011) (continued)								
MG-156	Surface	E	E	E6	47.98487027160	-118.36119645700	398432.161	5315515.086
MG-327	Surface	E	E	E7	47.98440624050	-118.36239043300	398342.161	5315465.086
MG-61	Surface	E	E	E8	47.98564163500	-118.36443329500	398192.161	5315605.086
MG-120	Surface	E	E	E9	47.98492842800	-118.36387841000	398232.161	5315525.086
MG-466	Surface	E	E	E10	47.98362847500	-118.35968960700	398542.161	5315375.086
MG-481	Surface	E	E	E11	47.98344858150	-118.35968488200	398542.161	5315355.086
MG-70	Surface	E	E	E12	47.98555805410	-118.36389500100	398232.161	5315595.086
McGuires-Subsurface (Sampled on May 4, 2011)								
MG-583	Subsurface	NA	Subsurface	Core A	47.98264857430	-118.35885977700	398602.161	5315265.086
MG-137	Subsurface	NA	Subsurface	Core C	47.98498084840	-118.35945708800	398562.161	5315525.086
MG-217	Subsurface	NA	Subsurface	Core D	47.98466336070	-118.36346936500	398262.161	5315495.086
MG-566	Subsurface	NA	Subsurface	Core B	47.98283163800	-118.35859655100	398622.161	5315285.086
MG-106	Subsurface	NA	Subsurface	Core E	47.98501041730	-118.36455067800	398182.161	5315535.086
Swawilla Basin-Surface (Sampled on May 1, 2011)								
SW-129	Surface	A	A	A1	47.95013082660	-118.81607587900	364400.704	5312353.527
SW-395	Surface	A	A	A2	47.94838304530	-118.81280031700	364640.704	5312153.527
SW-173	Surface	A	A	A3	47.95004936710	-118.81553728800	364440.704	5312343.527
SW-135	Surface	A	A	A4	47.95014352760	-118.81527271900	364460.704	5312353.527
SW-238	Surface	A	A	A5	47.94992871750	-118.81178292000	364720.704	5312323.527
SW-282	Surface	A	A	A6	47.94966315880	-118.81150576900	364740.704	5312293.527
SW-461	Surface	A	A	A7	47.94764459780	-118.81397983500	364550.704	5312073.527
SW-4	Surface	A	A	A8	47.95063546150	-118.81261124300	364660.704	5312403.527
SW-399	Surface	A	A	A9	47.94828466280	-118.81333259200	364600.704	5312143.527
SW-132	Surface	A	A	A10	47.95013717780	-118.81567429900	364430.704	5312353.527
SW-13	Surface	A	A	A11	47.95049477050	-118.81582076400	364420.704	5312393.527
SW-421	Surface	A	A	A12	47.94811537580	-118.81265702400	364650.704	5312123.527
SW-190	Surface	B	B	B1	47.95010646030	-118.81192306800	364710.704	5312343.527
SW-90	Surface	B	B	B2	47.95038891520	-118.81112933600	364770.704	5312373.527
SW-412	Surface	B	B	B3	47.94820319010	-118.81279402500	364640.704	5312133.527
SW-382	Surface	B	B	B4	47.94856924010	-118.81240504000	364670.704	5312173.527
SW-193	Surface	B	B	B5	47.95011279700	-118.81152148800	364740.704	5312343.527
SW-59	Surface	B	B	B6	47.95047673120	-118.81126634100	364760.704	5312383.527
SW-228	Surface	B	B	B7	47.94986316160	-118.81593256500	364410.704	5312323.527
SW-29	Surface	B	B	B8	47.95055821080	-118.81180493000	364720.704	5312393.527
SW-376	Surface	B	B	B9	47.94866339330	-118.81214047200	364690.704	5312183.527
SW-384	Surface	B	B	B10	47.94846663190	-118.81320503000	364610.704	5312163.527
SW-429	Surface	B	B	B11	47.94802544820	-118.81265387900	364650.704	5312113.527
SW-198	Surface	B	B	B12	47.95012335500	-118.81085218600	364790.704	5312343.527
SW-1	Surface	C	C	C1	47.95062912100	-118.81301282800	364630.704	5312403.527
SW-318	Surface	C	C	C2	47.94929922410	-118.81176091100	364720.704	5312253.527

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Swawilla Basin-Surface (Sampled on May 1, 2011) (continued)								
SW-149	Surface	C	C	C3	47.95017736940	-118.81313095600	364620.704	5312353.527
SW-262	Surface	C	C	C4	47.94985357200	-118.81084275900	364790.704	5312313.527
SW-388	Surface	C	C	C5	47.94847508620	-118.81266960600	364650.704	5312163.527
SW-323	Surface	C	C	C6	47.94920295900	-118.81215934000	364690.704	5312243.527
SW-7	Surface	C	C	C7	47.95064180070	-118.81220965900	364690.704	5312403.527
SW-257	Surface	C	C	C8	47.94984301410	-118.81151205700	364740.704	5312313.527
SW-419	Surface	C	C	C9	47.94811114900	-118.81292473400	364630.704	5312123.527
SW-305	Surface	C	C	C10	47.94938070150	-118.81229948800	364680.704	5312263.527
SW-427	Surface	C	C	C11	47.94802122140	-118.81292158800	364630.704	5312113.527
SW-333	Surface	C	C	C12	47.94911725650	-118.81188848000	364710.704	5312233.527
SW-15	Surface	D	D	D1	47.95052862280	-118.81367898700	364580.704	5312393.527
SW-293	Surface	D	D	D2	47.94957534310	-118.81136876700	364750.704	5312283.527
SW-75	Surface	D	D	D3	47.95035722450	-118.81313724900	364620.704	5312373.527
SW-334	Surface	D	D	D4	47.94911936880	-118.81175462300	364720.704	5312233.527
SW-34	Surface	D	D	D5	47.95040272600	-118.81595147300	364410.704	5312383.527
SW-297	Surface	D	D	D6	47.94947485450	-118.81203491600	364700.704	5312273.527
SW-466	Surface	D	Rejected	Cobble	47.94765516970	-118.81331056600	364600.704	5312073.527
SW-386	Reserved	NA	D	D7	47.94847085940	-118.81293731800	364630.704	5312163.527
SW-401	Surface	D	D	D8	47.94828889050	-118.81306488200	364620.704	5312143.527
SW-415	Surface	D	D	D9	47.94810269350	-118.81346015400	364590.704	5312123.527
SW-283	Surface	D	D	D10	47.94966527070	-118.81137191000	364750.704	5312293.527
SW-437	Surface	D	D	D11	47.94782868220	-118.81371842200	364570.704	5312093.527
SW-322	Surface	D	D	D12	47.94920084630	-118.81229319800	364680.704	5312243.527
SW-311	Surface	E	E	E1	47.94939337590	-118.81149633800	364740.704	5312263.527
SW-279	Surface	E	E	E2	47.94965682230	-118.81190734600	364710.704	5312293.527
SW-58	Surface	E	E	E3	47.95047461950	-118.81140020200	364750.704	5312383.527
SW-387	Surface	E	E	E4	47.94847297290	-118.81280346200	364640.704	5312163.527
SW-183	Surface	E	E	E5	47.95009166930	-118.81286008900	364640.704	5312343.527
SW-120	Surface	E	E	E6	47.95028842790	-118.81179549700	364720.704	5312363.527
SW-463	Surface	E	E	E7	47.94764882710	-118.81371212700	364570.704	5312073.527
SW-21	Surface	E	E	E8	47.95054130710	-118.81287582000	364640.704	5312393.527
SW-278	Surface	E	E	E9	47.94965470980	-118.81204120500	364700.704	5312293.527
SW-209	Surface	E	E	E10	47.94996790510	-118.81499869900	364480.704	5312333.527
SW-79	Surface	E	E	E11	47.95036567880	-118.81260180600	364660.704	5312373.527
SW-235	Surface	E	E	E12	47.94992237990	-118.81218449900	364690.704	5312323.527
Swawilla Basin-Subsurface (Sampled on May 1, 2011)								
SW-212	Subsurface	NA	Subsurface	Core B	47.95001019470	-118.81232150400	364680.704	5312333.527
SW-150	Subsurface	NA	Subsurface	Core C	47.95017948320	-118.81299709600	364630.704	5312353.527
SW-260	Subsurface	NA	Subsurface	Core D	47.94984934930	-118.81111047800	364770.704	5312313.527
SW-248	Subsurface	NA	Subsurface	Core A	47.94976899960	-118.81619713100	364390.704	5312313.527

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Swawilla Basin-Subsurface (Sampled on May 1, 2011) (continued)								
SW-443	Subsurface	NA	Rejected	Refusal	47.94784136620	-118.81291529600	364630.704	5312093.527
SW-372	Reserved	NA	Subsurface	Core E	47.94865494140	-118.81267589800	364650.704	5312183.527
Spring Canyon-Surface (Sampled on May 2, 2011)								
SC-213	Surface	A	A	A1	47.93597010350	-118.94000840700	355107.914	5311005.030
SC-60	Surface	A	A	A2	47.93637272440	-118.93747938300	355297.914	5311045.030
SC-363	Surface	A	A	A3	47.93575907870	-118.93651916400	355367.914	5310975.030
SC-222	Surface	A	A	A4	47.93599044830	-118.93880408200	355197.914	5311005.030
SC-63	Surface	A	A	A5	47.93637949860	-118.93707793700	355327.914	5311045.030
SC-188	Surface	A	A	A6	47.93610973440	-118.93706785800	355327.914	5311015.030
SC-183	Surface	A	A	A7	47.93609844340	-118.93773693000	355277.914	5311015.030
SC-256	Surface	A	A	A8	47.93588018230	-118.94000504200	355107.914	5310995.030
SC-283	Surface	A	A	A9	47.93594117870	-118.93639206700	355377.914	5310995.030
SC-429	Surface	A	A	A10	47.93549608520	-118.93610764800	355397.914	5310945.030
SC-361	Surface	A	A	A11	47.93575456410	-118.93678679100	355347.914	5310975.030
SC-172	Surface	A	A	A12	47.93607358940	-118.93920888700	355167.914	5311015.030
SC-131	Surface	B	B	B1	47.93618158820	-118.93814173500	355247.914	5311025.030
SC-407	Surface	B	Rejected	Refusal	47.93556343200	-118.93744913800	355297.914	5310955.030
SC-275	Reserved	NA	B	B2	47.93592311750	-118.93746258000	355297.914	5310995.030
SC-198	Surface	B	B	B3	47.93613230480	-118.93572971200	355427.914	5311015.030
SC-146	Surface	B	B	B4	47.93621545670	-118.93613451400	355397.914	5311025.030
SC-123	Surface	B	B	B5	47.93616351070	-118.93921225100	355167.914	5311025.030
SC-360	Surface	B	B	B6	47.93575230650	-118.93692060400	355337.914	5310975.030
SC-206	Surface	B	B	B7	47.93595427110	-118.94094510400	355037.914	5311005.030
SC-193	Surface	B	B	B8	47.93612102150	-118.93639878500	355377.914	5311015.030
SC-338	Surface	B	B	B9	47.93570260090	-118.93986449900	355117.914	5310975.030
SC-86	Surface	B	B	B10	47.93627828610	-118.93774365200	355277.914	5311035.030
SC-38	Surface	B	B	B11	47.93646716210	-118.93721511300	355317.914	5311055.030
SC-276	Surface	B	B	B12	47.93592537570	-118.93732876600	355307.914	5310995.030
SC-148	Surface	C	C	C1	47.93621996990	-118.93586688400	355417.914	5311025.030
SC-171	Surface	C	C	C2	47.93607132900	-118.93934270100	355157.914	5311015.030
SC-37	Surface	C	C	C3	47.93646490400	-118.93734892800	355307.914	5311055.030
SC-55	Surface	C	C	C4	47.93636143090	-118.93814845800	355247.914	5311045.030
SC-261	Surface	C	C	C5	47.93589148650	-118.93933597400	355157.914	5310995.030
SC-287	Surface	C	C	C6	47.93595020550	-118.93585681100	355417.914	5310995.030
SC-251	Surface	C	C	C7	47.93586887420	-118.94067411000	355057.914	5310995.030
SC-88	Surface	C	C	C8	47.93628280300	-118.93747602200	355297.914	5311035.030
SC-25	Surface	C	C	C9	47.93657739920	-118.93601413200	355407.914	5311065.030
SC-184	Surface	C	C	C10	47.93610070190	-118.93760311500	355287.914	5311015.030
SC-426	Surface	C	Rejected	Vegetation	47.93548931440	-118.93650908700	355367.914	5310945.030
SC-331	Reserved	NA	C	C11	47.93586479650	-118.93558582500	355437.914	5310985.030

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84) Latitude	Actual Sample Coordinates (WGS 84) Longitude	Actual Sample Coordinates (NAD 83, UTM) X	Actual Sample Coordinates (NAD 83, UTM) Y
Spring Canyon-Surface (Sampled on May 2, 2011) (continued)								
SC-36	Surface	C	C	C12	47.93646264580	-118.93748274400	355297.914	5311055.030
SC-154	Surface	D	D	D1	47.93603287860	-118.94161754100	354987.914	5311015.030
SC-418	Surface	D	D	D2	47.93558826320	-118.93597719300	355407.914	5310955.030
SC-156	Surface	D	D	D3	47.93603740460	-118.94134991300	355007.914	5311015.030
SC-87	Surface	D	D	D4	47.93628054460	-118.93760983700	355287.914	5311035.030
SC-235	Surface	D	D	D5	47.93601981300	-118.93706449800	355327.914	5311005.030
SC-68	Surface	D	D	D6	47.93639078580	-118.93640886100	355377.914	5311045.030
SC-383	Surface	D	D	D7	47.93564657790	-118.93785393800	355267.914	5310965.030
SC-263	Surface	D	D	D8	47.93589600710	-118.93906834600	355177.914	5310995.030
SC-327	Surface	D	D	D9	47.93585577100	-118.93612108100	355397.914	5310985.030
SC-258	Surface	D	D	D10	47.93588470440	-118.93973741500	355127.914	5310995.030
SC-266	Surface	D	D	D11	47.93590278680	-118.93866690500	355207.914	5310995.030
SC-289	Surface	D	D	D12	47.93595471800	-118.93558918200	355437.914	5310995.030
SC-66	Surface	E	E	E1	47.93638627140	-118.93667649200	355357.914	5311045.030
SC-379	Surface	E	E	E2	47.93563754180	-118.93838919100	355227.914	5310965.030
SC-212	Surface	E	E	E3	47.93596784220	-118.94014222100	355097.914	5311005.030
SC-20	Surface	E	E	E4	47.93656611420	-118.93668321000	355357.914	5311065.030
SC-12	Surface	E	E	E5	47.93666732060	-118.93601749000	355407.914	5311075.030
SC-102	Surface	E	E	E6	47.93631440390	-118.93560261200	355437.914	5311035.030
SC-295	Surface	E	E	E7	47.93578347670	-118.94040311800	355077.914	5310985.030
SC-422	Surface	E	E	E8	47.93559728810	-118.93544194000	355447.914	5310955.030
SC-78	Surface	E	E	E9	47.93626021230	-118.93881417000	355197.914	5311035.030
SC-149	Surface	E	E	E10	47.93622222620	-118.93573306900	355427.914	5311025.030
SC-410	Surface	E	Rejected	by M.Stifelman due to elevation	47.93557020600	-118.93704769800	355327.914	5310955.030
SC-357	Reserved	NA	E	E11	47.93574553290	-118.93732204500	355307.914	5310975.030
SC-231	Surface	E	E	E12	47.93601078050	-118.93759975500	355287.914	5311005.030
Spring Canyon-Subsurface (Sampled on May 2, 2011)								
SC-242	Subsurface	NA	Subsurface	Core D	47.93603561390	-118.93612779700	355397.914	5311005.030
SC-165	Subsurface	NA	Subsurface	Core B	47.93605776350	-118.94014558600	355097.914	5311015.030
SC-269	Subsurface	NA	Subsurface	Core C	47.93590956510	-118.93826546300	355237.914	5310995.030
SC-209	Subsurface	NA	Subsurface	Core A	47.93596105730	-118.94054366300	355067.914	5311005.030
SC-71	Subsurface	NA	Subsurface	Core E	47.93639755630	-118.93600741500	355407.914	5311045.030
Crescent Bay-Surface (Sampled on May 3, 2011)								
CS-142	Surface	A	A	A1	47.94276975310	-118.98918068900	351455.052	5311854.248
CS-194	Surface	A	A	A2	47.94272769220	-118.98901167900	351467.552	5311849.248
CS-7	Surface	A	A	A3	47.94290289170	-118.98928623700	351447.552	5311869.248
CS-100	Surface	A	A	A4	47.94281934960	-118.98891475900	351475.052	5311859.248
CS-53	Surface	A	A	A5	47.94286314960	-118.98898339800	351470.052	5311864.248
CS-140	Surface	A	A	A6	47.94276859370	-118.98924760300	351450.052	5311854.248
CS-82	Surface	A	A	A7	47.94284472720	-118.98874833700	351487.552	5311861.748

Table 3-3. 2011 Upper Columbia River Beach Sediment Sampling Locations

Station Name	Sample Type	Target Composite	Actual Composite	Comments	Actual Sample Coordinates (WGS 84)		Actual Sample Coordinates (NAD 83, UTM)	
					Latitude	Longitude	X	Y
Crescent Bay-Surface (Sampled on May 3, 2011) (continued)								
CS-185	Surface	B	B	B1	47.94275770640	-118.98857760300	351500.052	5311851.748
CS-20	Surface	B	B	B2	47.94287809310	-118.98941920100	351437.552	5311866.748
CS-74	Surface	B	B	B3	47.94284009030	-118.98901599300	351467.552	5311861.748
CS-179	Surface	B	B	B4	47.94275422910	-118.98877834400	351485.052	5311851.748
CS-36	Surface	B	B	B5	47.94285329430	-118.98955216600	351427.552	5311864.248
CS-103	Surface	B	B	B6	47.94282108840	-118.98881438900	351482.552	5311859.248
CS-101	Surface	B	B	B7	47.94281992920	-118.98888130200	351477.552	5311859.248
CS-218	Surface	C	C	C1	47.94270926980	-118.98877661900	351485.052	5311846.748
CS-66	Surface	C	C	C2	47.94283545280	-118.98928364800	351447.552	5311861.748
CS-58	Surface	C	C	C3	47.94286604760	-118.98881611400	351482.552	5311864.248
CS-134	Surface	C	C	C4	47.94280266560	-118.98857932800	351500.052	5311856.748
CS-24	Surface	C	C	C5	47.94288041210	-118.98928537400	351447.552	5311866.748
CS-106	Surface	C	C	C6	47.94282282710	-118.98871401800	351490.052	5311859.248
CS-105	Surface	C	C	C7	47.94282224750	-118.98874747500	351487.552	5311859.248
CS-44	Surface	D	D	D1	47.94285793250	-118.98928451100	351447.552	5311864.248
CS-3	Surface	D	D	D2	47.94290057270	-118.98942006400	351437.552	5311869.248
CS-204	Surface	D	D	D3	47.94273348810	-118.98867711100	351492.552	5311849.248
CS-176	Surface	D	D	D4	47.94275249030	-118.98887871400	351477.552	5311851.748
CS-71	Surface	D	D	D5	47.94283835130	-118.98911636400	351460.052	5311861.748
CS-120	Surface	D	D	D6	47.94279455140	-118.98904772400	351465.052	5311856.748
CS-10	Surface	D	D	D7	47.94290463080	-118.98918586600	351455.052	5311869.248
CS-166	Surface	E	E	E1	47.94278366290	-118.98837772400	351515.052	5311854.248
CS-190	Surface	E	E	E2	47.94276060380	-118.98841031800	351512.552	5311851.748
CS-2	Surface	E	E	E3	47.94289999290	-118.98945352100	351435.052	5311869.248
CS-119	Surface	E	E	E4	47.94279397180	-118.98908118100	351462.552	5311856.748
CS-157	Surface	E	E	E5	47.94277844740	-118.98867883600	351492.552	5311854.248
CS-205	Surface	E	E	E6	47.94273406770	-118.98864365400	351495.052	5311849.248
CS-46	Surface	E	E	E7	47.94285909190	-118.98921759700	351452.552	5311864.248
Crescent Bay-Subsurface (Sampled on May 3, 2011)								
CS-102	Subsurface	NA	Subsurface	Core C	47.94282050880	-118.98884784500	351480.052	5311859.248
CS-110	Subsurface	NA	Subsurface	Core D	47.94282514530	-118.98858019000	351500.052	5311859.248
CS-67	Subsurface	NA	Subsurface	Core E	47.94283603260	-118.98925019100	351450.052	5311861.748
CS-146	Subsurface	NA	Subsurface	Core A	47.94277207180	-118.98904686200	351465.052	5311854.248
CS-196	Subsurface	NA	Subsurface	Core B	47.94272885150	-118.98894476600	351472.552	5311849.248

Notes:

NA = not applicable

Table 3-4. 2009 Upper Columbia River Beach Sediment Samples

							Surface Grabs				Cores				Rinsate Blanks				
Station	**Date**	**Time**	**Station ID**	**Sample Number**	**Tag Number**	**Field Split / Rinsate Blank Source / Split to EPA**	**Grain Size**	**pH, TOC, Total Sulfides, Percent Moisture, TAL Metals + U (<2 mm fraction)**	**TAL Metals, IVBA (fine fractions)**	**Radionuclides**	**TAL Metals**	**Grain Size**	**pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)**	**PCB Congeners, Dioxins/Furans, PBDEs**	**TAL Metals + U**	**TOC**	**Radionuclides**	**Organics[a]**	**PCB Congeners, Dioxins/Furans, PBDEs**
Black Sand Beach (BS)																			
	Surface grab composite																		
	9/9/2009	17:02	SD-BSA-1	SN-0001	TG1-TG3	Field Split	X	X											
	9/9/2009	17:07	SD-BSA-2	SN-0002	TG4-TG6	Field Split	X	X											
	9/9/2009	18:37	SD-BSB	SN-0003	TG7-TG9		X	X											
	9/9/2009	18:20	SD-BSC	SN-0004	TG10-TG12		X	X											
	9/9/2009	18:11	SD-BSD	SN-0005	TG13-TG15		X	X											
	9/9/2009	18:30	SD-BSE	SN-0006	TG16-TG18	Split to EPA [b]	X	X	X	X									
	Individual core depth interval for TAL metals																		
	9/9/2009	18:28	CR-BSA1	SN-0007	TG19						X								
	9/9/2009	18:29	CR-BSA2	SN-0008	TG20						X								
	9/9/2009	18:30	CR-BSA3	SN-0009	TG21						X								
	9/9/2009	18:30	CR-BSB1	SN-0010	TG22						X								
	9/9/2009	18:51	CR-BSB2	SN-0011	TG23						X								
	9/9/2009	18:52	CR-BSB3	SN-0012	TG24						X								
	9/9/2009	16:40	CR-BSC1	SN-0013	TG25						X								
	9/9/2009	16:41	CR-BSC2	SN-0014	TG26						X								
	9/9/2009	16:43	CR-BSC3	SN-0015	TG27						X								
	9/9/2009	17:11	CR-BSD1	SN-0016	TG28						X								
	9/9/2009	17:12	CR-BSD2	SN-0017	TG29						X								
	9/9/2009	17:13	CR-BSD3	SN-0018	TG30						X								
	9/9/2009	17:50	CR-BSE1	SN-0019	TG31						X								
	9/9/2009	17:52	CR-BSE2	SN-0020	TG32						X								
	9/9/2009	17:53	CR-BSE3	SN-0021	TG33						X								
	Core composite																		
	9/9/2009	19:10	CR-BS1	SN-0022	TG34-TG36	Split to EPA						X	X						
	9/9/2009	19:11	CR-BS2	SN-0023	TG37-TG39							X	X						
	9/9/2009	19:12	CR-BS3	SN-0024	TG40-TG42							X	X						
	Rinsate blank																		
	9/9/2009	19:15	SDBL-901S	SN-0025	TG43-TG46	Rinsate blank									X	X	X		
Upper Columbia R.V. Park (RV)																			
	Surface grab composite																		
	9/10/2009	12:40	SD-RVA	SN-0026	TG47-TG49		X	X											
	9/10/2009	12:47	SD-RVB	SN-0027	TG50-TG52	Split to EPA	X	X											
	9/10/2009	13:42	SD-RVC	SN-0028	TG53-TG55		X	X	X										
	9/10/2009	14:45	SD-RVD	SN-0029	TG56-TG58		X	X											
	9/10/2009	15:16	SD-RVE	SN-0030	TG59-TG61		X	X											
	Individual core depth interval for TAL metals																		
	9/10/2009	13:25	CR-RVA1-1	SN-0031	TG62	Field Split					X								
	9/10/2009	13:24	CR-RVA1-2	SN-0032	TG63	Field Split					X								
	9/10/2009	13:26	CR-RVA2	SN-0033	TG64						X								
	9/10/2009	13:27	CR-RVA3	SN-0034	TG65						X								
	9/10/2009	13:44	CR-RVB1	SN-0035	TG66						X								
	9/10/2009	13:45	CR-RVB2	SN-0036	TG67						X								
	9/10/2009	13:46	CR-RVB3	SN-0037	TG68						X								
	9/10/2009	14:00	CR-RVC1	SN-0038	TG69						X								
	9/10/2009	14:01	CR-RVC2	SN-0039	TG70						X								

Table 3-4. 2009 Upper Columbia River Beach Sediment Samples

							Surface Grabs				Cores				Rinsate Blanks				
Station	**Date**	**Time**	**Station ID**	**Sample Number**	**Tag Number**	**Field Split / Rinsate Blank Source / Split to EPA**	**Grain Size**	**pH, TOC, Total Sulfides, Percent Moisture, TAL Metals + U (<2 mm fraction)**	**TAL Metals, IVBA (fine fractions)**	**Radionuclides**	**TAL Metals**	**Grain Size**	**pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)**	**PCB Congeners, Dioxins/Furans, PBDEs**	**TAL Metals + U**	**TOC**	**Radionuclides**	**Organics[a]**	**PCB Congeners, Dioxins/Furans, PBDEs**
Upper Columbia R.V. Park (RV) (continued)																			
	9/10/2009	14:02	CR-RVC3	SN-0040	TG71						X								
	9/10/2009	14:07	CR-RVD1	SN-0041	TG72						X								
	9/10/2009	14:08	CR-RVD2	SN-0042	TG73						X								
	9/10/2009	14:09	CR-RVD3	SN-0043	TG74						X								
	9/10/2009	14:22	CR-RVE1	SN-0044	TG75	Split to EPA					X								
	9/10/2009	14:23	CR-RVE2	SN-0045	TG76						X								
	9/10/2009	14:24	CR-RVE3	SN-0046	TG77						X								
	Core composite																		
	9/10/2009	14:30	CR-RV1-1	SN-0047	TG78-TG80	Field Split						X	X	X					
	9/10/2009	14:35	CR-RV1-2	SN-0048	TG81-TG83	Field Split						X	X	X					
	9/10/2009	14:40	CR-RV2	SN-0049	TG84-TG86							X	X						
	9/10/2009	14:45	CR-RV3	SN-0050	TG87-TG89							X	X						
	Rinsate blank																		
	9/10/2009	12:43	SDBL-902C	SN-0051	TG90-TG100	Rinsate blank									X	X	(X) HOLD	X	X
Northport Beach	Not sampled																		
Dalles Orchard	Not sampled																		
Onion Creek	Not sampled																		

Notes

IVBA = *in vitro* bioaccessibility assay
PAH = polycyclic aromatic hydrocarbon
PBDE = polybrominated diphenyl ethers
PCB = polychlorinated biphenyl
SN = sample number
SVOC = semivolatile organic compound
TAL = target analyte list
TOC = total organic carbon
TG = tag number
U = elemental uranium

[a] Analysis of organics for core rinsates only (PCB Aroclors, pesticides, PAHs, SVOCs, PCB congeners, dioxins, and PBDEs)

[b] EPA received a split of both the <2 mm fraction and the 2 mm to >250 µm fraction for this sample

Station ID

CR = sediment cores
SD = surface grabs
BL = rinsate blank
BS = Black Sand Beach
RV = Upper Columbia River R.V. Park
A, B, C, D, E = ID for each of five cores for each beach

For cores the first number indicates the depth interval:
1 = 0 - 15 cm
2 = 15 - 45 cm
3= 45 - 75 cm

Table 3-5. 2010 Upper Columbia River Beach Sediment Samples

							Surface Grabs				Cores				Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	pH, TOC, Total Sulfides, Percent Moisture, TAL Metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL Metals	Grain Size	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL Metals + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Northport Beach (NP)																			
Surface grab composite																			
	4/30/2010	15:55	SD-NPA	SN-0052	TG101-TG103	Split to EPA	X	X	X	X									
	4/30/2010	16:15	SD-NPB-1	SN-0053	TG104-TG106	Field Split	X	X											
	4/30/2010	16:20	SD-NPB-2	SN-0054	TG107-TG109	Field Split	X	X											
	4/30/2010	15:45	SD-NPC	SN-0055	TG110-TG112		X	X											
Individual core depth interval for TAL metals																			
	4/29/2010	15:45	CR-NPA1	SN-0056	TG113						X								
	4/29/2010	15:50	CR-NPA2	SN-0057	TG114						X								
	4/29/2010	16:00	CR-NPA3	SN-0058	TG115						X								
	4/29/2010	16:15	CR-NPB1	SN-0059	TG116						X								
	4/29/2010	16:20	CR-NPB2	SN-0060	TG117						X								
	4/29/2010	16:25	CR-NPB3	SN-0061	TG118						X								
	4/29/2010	16:35	CR-NPC1	SN-0062	TG119						X								
	4/29/2010	16:40	CR-NPC2	SN-0063	TG120						X								
	4/29/2010	16:45	CR-NPC3	SN-0064	TG121						X								
	4/29/2010	16:55	CR-NPD1	SN-0065	TG122						X								
	4/29/2010	17:00	CR-NPD2	SN-0066	TG123						X								
	4/29/2010	17:05	CR-NPD3	SN-0067	TG124						X								
	4/29/2010	17:10	CR-NPE1	SN-0068	TG125						X								
	4/29/2010	17:15	CR-NPE2	SN-0069	TG126						X								
	4/29/2010	17:20	CR-NPE3	SN-0070	TG127						X								
Core composite																			
	4/29/2010	17:25	CR-NP1	SN-0071	TG128-TG130							X	X	X					
	4/29/2010	17:30	CR-NP2	SN-0072	TG131-TG133							X	X						
	4/29/2010	17:35	CR-NP3	SN-0073	TG134-TG136							X	X						
Rinsate blank																			
	4/29/2010	13:25	SDBL-903C	SN-0074	TG137-TG147	Rinsate blank									X	X	X	X	X
Dalles Orchard (DS)																			
Surface grab composite																			
	4/29/2010	11:40	SD-DSA	SN-0075	TG148-TG150	Split to EPA	X	X											
	4/29/2010	11:45	SD-DSB	SN-0076	TG151-TG153		X	X	X	X									
	4/29/2010	11:50	SD-DSC	SN-0077	TG154-TG156		X	X											
Individual core depth interval for TAL metals																			
	4/29/2010	12:10	CR-DSA1	SN-0078	TG157						X								
	4/29/2010	12:15	CR-DSA2-1	SN-0079	TG158	Field Split					X								
	4/29/2010	12:16	CR-DSA2-2	SN-0080	TG159	Field Split					X								
	4/29/2010	12:20	CR-DSA3	SN-0081	TG160						X								
	4/29/2010	12:25	CR-DSB1	SN-0082	TG161						X								
	4/29/2010	12:30	CR-DSB2	SN-0083	TG162						X								
	4/29/2010	12:35	CR-DSB3	SN-0084	TG163						X								
	4/29/2010	12:40	CR-DSC1	SN-0085	TG164						X								
	4/29/2010	12:45	CR-DSC2	SN-0086	TG165						X								
	4/29/2010	12:50	CR-DSC3	SN-0087	TG166						X								
	4/29/2010	12:55	CR-DSD1	SN-0088	TG167						X								
	4/29/2010	13:00	CR-DSD2	SN-0089	TG168						X								
	4/29/2010	13:05	CR-DSD3	SN-0090	TG169						X								
	4/29/2010	13:10	CR-DSE1	SN-0091	TG170						X								
	4/29/2010	13:15	CR-DSE2	SN-0092	TG171						X								
	4/29/2010	13:20	CR-DSE3	SN-0093	TG172						X								
Core composite																			
	4/29/2010	13:25	CR-DS1	SN-0094	TG173-TG175							X	X						
	4/29/2010	13:30	CR-DS2-1	SN-0095	TG176-TG178	Field Split						X	X						
	4/29/2010	13:35	CR-DS2-2	SN-0096	TG179-TG181	Field Split						X	X						
	4/29/2010	13:40	CR-DS3	SN-0097	TG182-TG184							X	X						
Rinsate blank																			
	4/29/2010	9:15	SDBL-904S	SN-0098	TG185-TG188	Rinsate blank									X	X	X		

Table 3-5. 2010 Upper Columbia River Beach Sediment Samples

							Surface Grabs				Cores				Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	pH, TOC, Total Sulfides, Percent Moisture, TAL Metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL Metals	Grain Size	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL Metals + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
China Bend (CB)																			
	Surface grab composite																		
	4/30/2010	12:00	SD-CBA-1	SN-0099	TG189-TG191	Field Split	X	X											
	4/30/2010	12:05	SD-CBA-2	SN-0100	TG192-TG194	Field Split	X	X											
	4/30/2010	12:10	SD-CBB	SN-0101	TG195-TG197		X	X											
	4/30/2010	12:15	SD-CBC	SN-0102	TG198-TG200		X	X	X										
	4/30/2010	12:20	SD-CBD	SN-0103	TG201-TG203		X	X											
	4/30/2010	12:25	SD-CBE	SN-0104	TG204-TG206	Split to EPA	X	X											
	Rinsate blank																		
	4/30/2010	9:30	SDBL-905S	SN-0123	TG224-TG234	Rinsate blank									X	X	(X) HOLD		
Summer Island (SR)																			
	Surface grab composite																		
	4/27/2010	15:00	SD-SRA	SN-0124	TG235-TG237		X	X											
	4/27/2010	14:00	SD-SRB	SN-0125	TG238-TG240		X	X											
	4/27/2010	11:00	SD-SRC	SN-0126	TG241-TG242		X	X											
	4/27/2010	15:25	SD-SRD	SN-0127	TG243-TG245		X	X	X										
	4/27/2010	11:20	SD-SRE	SN-0128	TG246-TG248		X	X											
	Individual core depth interval for TAL metals																		
	4/27/2010	16:35	CR-SRA1-1	SN-0129	TG249	Field Split					X								
	4/27/2010	16:40	CR-SRA1-2	SN-0130	TG250	Field Split					X								
	4/27/2010	16:45	CR-SRA2	SN-0131	TG251						X								
	4/27/2010	16:50	CR-SRA3	SN-0132	TG252						X								
	4/27/2010	14:15	CR-SRB1	SN-0133	TG253						X								
	4/27/2010	14:20	CR-SRB2	SN-0134	TG254						X								
	4/27/2010	14:25	CR-SRB3	SN-0135	TG255						X								
	4/27/2010	17:15	CR-SRC1	SN-0136	TG256						X								
	4/27/2010	17:20	CR-SRC2	SN-0137	TG257						X								
	4/27/2010	17:25	CR-SRC3	SN-0138	TG258						X								
	4/27/2010	17:45	CR-SRD1	SN-0139	TG259						X								
	4/27/2010	17:50	CR-SRD2	SN-0140	TG260						X								
	4/27/2010	17:55	CR-SRD3	SN-0141	TG261						X								
	4/27/2010	18:00	CR-SRE1	SN-0142	TG262						X								
	4/27/2010	18:05	CR-SRE2	SN-0143	TG263						X								
	4/27/2010	18:10	CR-SRE3	SN-0144	TG264						X								
	Core composite																		
	4/27/2010	18:15	CR-SR1-1	SN-0145	TG265-TG267							X	X						
	4/27/2010	18:20	CR-SR1-2	SN-0146	TG268-TG270							X	X						
	4/27/2010	18:25	CR-SR2	SN-0147	TG271-TG273							X	X						
	4/27/2010	18:30	CR-SR3	SN-0148	TG274-TG276	Split to EPA						X	X	X					
	Rinsate blank																		
	4/27/2010	10:45	SDBL-906S	SN-0149	TG277-TG280	Rinsate blank									X	X	(X) HOLD		
Barnaby Island Campground (BC)																			
	Surface grab composite																		
	4/28/2010	13:20	SD-BCA	SN-0150	TG281-TG283		X	X											
	4/28/2010	11:45	SD-BCB	SN-0151	TG284-TG286		X	X											
	4/28/2010	13:45	SD-BCC-1	SN-0152	TG287-TG289	Field Split	X	X											
	4/28/2010	13:50	SD-BCC-2	SN-0153	TG290-TG292	Field Split	X	X											
	4/28/2010	12:15	SD-BCD	SN-0154	TG293-TG295		X	X											
	4/28/2010	16:35	SD-BCE	SN-0155	TG296-TG298		X	X	X										
	Individual core depth interval for TAL metals																		
	4/28/2010	16:00	CR-BCA1	SN-0156	TG299						X								
	4/28/2010	16:10	CR-BCA2	SN-0157	TG300						X								
	4/28/2010	16:20	CR-BCA3	SN-0158	TG301						X								
	4/28/2010	16:30	CR-BCB1	SN-0159	TG302						X								
	4/28/2010	16:40	CR-BCB2	SN-0160	TG303						X								
	4/28/2010	16:50	CR-BCB3	SN-0161	TG304						X								
	4/28/2010	17:00	CR-BCC1	SN-0162	TG305						X								

Table 3-5. 2010 Upper Columbia River Beach Sediment Samples

							Surface Grabs				Cores				Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	pH, TOC, Total Sulfides, Percent Moisture, TAL Metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL Metals	Grain Size	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL Metals + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Barnaby Island Campground (BC) (continued)																			
	4/28/2010	17:10	CR-BCC2	SN-0163	TG306						X								
	4/28/2010	17:20	CR-BCC3	SN-0164	TG307						X								
	4/28/2010	17:30	CR-BCD1	SN-0165	TG308						X								
	4/28/2010	17:40	CR-BCD2	SN-0166	TG309						X								
	4/28/2010	17:50	CR-BCD3	SN-0167	TG310						X								
	4/28/2010	18:00	CR-BCE1	SN-0168	TG311						X								
	4/28/2010	18:10	CR-BCE2	SN-0169	TG312						X								
	4/28/2010	18:20	CR-BCE3	SN-0170	TG313						X								
	Core composite																		
	4/28/2010	17:45	CR-BC1	SN-0171	TG314-TG316	Split to EPA						X	X						
	4/28/2010	17:50	CR-BC2	SN-0172	TG317-TG319							X	X						
	4/28/2010	17:55	CR-BC3	SN-0173	TG320-TG322							X	X						
	Rinsate blank																		
	4/28/2010	15:15	SDBL-907C	SN-0174	TG323-TG333	Rinsate blank									X	X	(X) HOLD	X	(X) HOLD

Notes:

IVBA = *in vitro* bioaccessibility assay
PAH = polycyclic aromatic hydrocarbon
PBDE = polybrominated diphenyl ether
PCB = polychlorinated biphenyl
SVOC = semivolatile organic compound
SN = sample number
TAL = target analyte list
TOC = total organic carbon
TG = tag number
U = elemental uranium

[a] Analysis of organics for core rinsates only (PCB Aroclors, pesticides, PAHs, SVOCs, PCB congeners, dioxins, and PBDEs)

Station ID

CR = sediment cores
SD = surface grabs

BC = Barnaby Island Campground
BL = Rinsate blank
CB = China Bend
DS = Dalles Orchard
NP = Northport Beach
SR = Summer Island
A, B, C, D, E = ID for each of five cores for each beach

For cores the first number indicates the depth interval:
1 = 0 - 15 cm
2 = 15 - 45 cm
3= 45 - 75 cm

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Swimming Hole (DM)																					
Surface grab composite																					
	4/22/2011	13:40	SD-DMA-1	SN-0200	TG1-TG3	Field Split	X	X	X												
	4/22/2011	13:41	SD-DMA-2	SN-0201	TG4-TG6	Field Split	X	X	X												
	4/22/2011	13:45	SD-DMB	SN-0202	TG7-TG9		X	X	X												
	4/22/2011	13:46	SD-DMC	SN-0203	TG10-TG12		X	X	X	X											
	4/22/2011	13:47	SD-DMD	SN-0204	TG13-TG15		X	X	X												
	4/22/2011	13:48	SD-DME	SN-0205	TG16-TG18	Split to EPA	X	X	X												
Individual core depth interval for TAL metals																					
	4/22/2011	14:50	CR-DMA1	SN-0206	TG19							X									
	4/22/2011	14:55	CR-DMA2	SN-0207	TG20							X									
	4/22/2011	15:00	CR-DMA3	SN-0208	TG21							X									
	4/22/2011	15:11	CR-DMB1	SN-0209	TG22							X									
	4/22/2011	15:13	CR-DMB2	SN-0210	TG23							X									
	4/22/2011	15:15	CR-DMB3	SN-0211	TG24							X									
	4/22/2011	15:18	CR-DMC1	SN-0212	TG25							X									
	4/22/2011	15:19	CR-DMC2	SN-0213	TG26							X									
	4/22/2011	15:20	CR-DMC3	SN-0214	TG27							X									
	4/22/2011	15:27	CR-DMD1	SN-0215	TG28							X									
	4/22/2011	15:28	CR-DMD2	SN-0216	TG29							X									
	4/22/2011	15:29	CR-DMD3	SN-0217	TG30							X									
	4/22/2011	15:42	CR-DME1	SN-0218	TG31							X									
	4/22/2011	15:43	CR-DME2	SN-0219	TG32							X									
	4/22/2011	15:44	CR-DME3	SN-0220	TG33							X									
Core composite																					
	4/22/2011	16:00	CR-DM1	SN-0221	TG34-TG36								X	X	X						
	4/22/2011	16:12	CR-DM2	SN-0222	TG37-TG39								X	X	X						
	4/22/2011	16:14	CR-DM3	SN-0223	TG40-TG42								X	X	X						
Rinsate blank																					
	4/22/2011	14:20	SDBL-910S	SN-0224	TG43-TG46	Rinsate blank											X	X			
Evans Campground (EV)																					
Surface grab composite																					
	4/22/2011	14:30	SD-EVA	SN-0225	TG47-TG49		X	X	X												
	4/22/2011	17:00	SD-EVB	SN-0226	TG50-TG52		X	X	X												
	4/22/2011	17:15	SD-EVC	SN-0227	TG53-TG55		X	X	X												
	4/22/2011	14:45	SD-EVD	SN-0228	TG56-TG58		X	X	X												
	4/22/2011	15:00	SD-EVE	SN-0229	TG59-TG61		X	X	X	X											
Individual core depth interval for TAL metals																					
	4/22/2011	18:20	CR-EVA1-1	SN-0230	TG62	Field Split						X									
	4/22/2011	18:22	CR-EVA1-2	SN-0231	TG63	Field Split						X									
	4/22/2011	18:25	CR-EVA2	SN-0232	TG64							X									
	4/22/2011	18:30	CR-EVA3	SN-0233	TG65							X									
	4/22/2011	18:40	CR-EVB1	SN-0234	TG66							X									
	4/22/2011	18:45	CR-EVB2	SN-0235	TG67							X									
	4/22/2011	18:50	CR-EVB3	SN-0236	TG68							X									
	4/22/2011	19:00	CR-EVC1	SN-0237	TG69							X									
	4/22/2011	19:05	CR-EVC2	SN-0238	TG70							X									
	4/22/2011	19:10	CR-EVC3	SN-0239	TG71	Split to EPA						X									
	4/22/2011	19:15	CR-EVD1	SN-0240	TG72							X									
	4/22/2011	19:20	CR-EVD2	SN-0241	TG73							X									
	4/22/2011	19:25	CR-EVD3	SN-0242	TG74							X									
	4/22/2011	19:30	CR-EVE1	SN-0243	TG75							X									
	4/22/2011	19:35	CR-EVE2	SN-0244	TG76							X									
	4/22/2011	19:40	CR-EVE3	SN-0245	TG77							X									
Core composite																					
	4/22/2011	19:50	CR-EV1-1	SN-0246	TG78-TG80	Field Split							X	X	X	X					
	4/22/2011	19:55	CR-EV1-2	SN-0247	TG81-TG83	Field Split							X	X	X						
	4/22/2011	19:55	CR-EV2	SN-0248	TG84-TG86								X	X	X						
	4/22/2011	20:00	CR-EV3	SN-0249	TG87-TG89								X	X	X						
Rinsate blank																					
	4/22/2011	19:30	SDBL-911C	SN-0250	TG90-TG100	Rinsate blank											X	X		X	X

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Flat Creek (FC)																					
Surface grab composite																					
	4/23/2011	12:50	SD-FCA	SN-0251	TG101-TG103	Split to EPA	X	X	X												
	4/23/2011	13:40	SD-FCB-1	SN-0252	TG104-TG106	Field Split	X	X	X												
	4/23/2011	13:45	SD-FCB-2	SN-0253	TG107-TG109	Field Split	X	X	X												
	4/23/2011	12:40	SD-FCC	SN-0254	TG110-TG112		X	X	X												
	4/23/2011	13:43	SD-FCD	SN-0255	TG113-TG115		X	X	X												
	4/23/2011	12:20	SD-FCE	SN-0256	TG116-TG118		X	X	X	X											
Individual core depth interval for TAL metals																					
	4/23/2011	14:15	CR-FCA1	SN-0257	TG119							X									
	4/23/2011	14:17	CR-FCA2	SN-0258	TG120							X									
	4/23/2011	14:19	CR-FCA3	SN-0259	TG121							X									
	4/23/2011	14:21	CR-FCB1	SN-0260	TG122							X									
	4/23/2011	14:23	CR-FCB2	SN-0261	TG123							X									
	4/23/2011	14:25	CR-FCB3	SN-0262	TG124							X									
	4/23/2011	14:27	CR-FCC1	SN-0263	TG125							X									
	4/23/2011	14:29	CR-FCC2	SN-0264	TG126							X									
	4/23/2011	14:31	CR-FCC3	SN-0265	TG127							X									
	4/23/2011	14:33	CR-FCD1	SN-0266	TG128							X									
	4/23/2011	14:35	CR-FCD2	SN-0267	TG129							X									
	4/23/2011	14:37	CR-FCD3	SN-0268	TG130							X									
	4/23/2011	14:39	CR-FCE1	SN-0269	TG131							X									
	4/23/2011	14:41	CR-FCE2	SN-0270	TG132							X									
	4/23/2011	14:43	CR-FCE3	SN-0271	TG133							X									
Core composite																					
	4/23/2011	15:36	CR-FC1	SN-0272	TG134-TG136								X	X	X	X					
	4/23/2011	15:37	CR-FC2	SN-0273	TG137-TG139								X	X	X	X					
	4/23/2011	15:38	CR-FC3	SN-0274	TG140-TG142								X	X	X	X					
Rinsate blank																					
	4/23/2011	13:56	SDBL-912S	SN-0275	TG143-TG146	Rinsate blank											X	X			
Welty Bay (WB)																					
Surface grab composite																					
	4/23/2011	13:30	SD-WBA	SN-0276	TG147-TG149		X	X	X												
	4/23/2011	13:35	SD-WBB	SN-0277	TG150-TG152		X	X	X	X											
	4/23/2011	13:40	SD-WBC	SN-0278	TG153-TG155		X	X	X												
	4/23/2011	13:45	SD-WBD	SN-0279	TG156-TG158		X	X	X												
	4/23/2011	13:55	SD-WBE	SN-0280	TG159-TG161		X	X	X												
Individual core depth interval for TAL metals																					
	4/23/2011	10:40	CR-WBA1	SN-0281	TG162	Split to EPA						X									
	4/23/2011	10:45	CR-WBA2-1	SN-0282	TG163	Field Split						X									
	4/23/2011	10:45	CR-WBA2-2	SN-0283	TG164	Field Split						X									
	4/23/2011	10:50	CR-WBA3	SN-0284	TG165							X									
	4/23/2011	10:55	CR-WBB1	SN-0285	TG166							X									
	4/23/2011	11:00	CR-WBB2	SN-0286	TG167							X									
	4/23/2011	11:05	CR-WBB3	SN-0287	TG168							X									
	4/23/2011	11:15	CR-WBC1	SN-0288	TG169							X									
	4/23/2011	11:20	CR-WBC2	SN-0289	TG170							X									
	4/23/2011	11:25	CR-WBC3	SN-0290	TG171							X									
	4/23/2011	12:00	CR-WBD1	SN-0291	TG172							X									
	4/23/2011	12:05	CR-WBD2	SN-0292	TG173							X									
	4/23/2011	12:10	CR-WBD3	SN-0293	TG174							X									
	4/23/2011	12:15	CR-WBE1	SN-0294	TG175							X									
	4/23/2011	12:20	CR-WBE2	SN-0295	TG176							X									
	4/23/2011	12:25	CR-WBE3	SN-0296	TG177							X									
Core composite																					
	4/23/2011	14:35	CR-WB1	SN-0297	TG178-TG180								X	X	X						
	4/23/2011	14:40	CR-WB2-1	SN-0298	TG181-TG183	Field Split							X	X	X						
	4/23/2011	15:45	CR-WB2-2	SN-0299	TG184-TG186	Field Split							X	X	X						
	4/23/2011	14:50	CR-WB3	SN-0300	TG187-TG189								X	X	X						
Rinsate blank																					
	4/23/2011	14:55	SDBL-913C	SN-0301	TG190-TG200	Rinsate blank											X	X		X	(X) HOLD

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Lyons Island (LY)																					
Surface grab composite																					
	4/24/2011	13:29	SD-LYA	SN-0302	TG201-TG203		X	X	X												
	4/24/2011	13:31	SD-LYB	SN-0303	TG204-TG206		X	X	X	X											
	4/24/2011	13:33	SD-LYC-1	SN-0304	TG207-TG209	Field Split Split to EPA	X	X	X												
	4/24/2011	13:35	SD-LYC-2	SN-0305	TG210-TG212	Field Split	X	X	X												
	4/24/2011	13:37	SD-LYD	SN-0306	TG213-TG215		X	X	X												
	4/24/2011	13:39	SD-LYE	SN-0307	TG-216-TG218		X	X	X												
Individual core depth interval for TAL metals																					
	4/24/2011	14:25	CR-LYA1	SN-0308	TG219							X									
	4/24/2011	14:26	CR-LYA2	SN-0309	TG220							X									
	4/24/2011	14:27	CR-LYA3	SN-0310	TG221							X									
	4/24/2011	14:40	CR-LYB1	SN-0311	TG222							X									
	4/24/2011	14:41	CR-LYB2	SN-0312	TG223							X									
	4/24/2011	14:42	CR-LYB3	SN-0313	TG224							X									
	4/24/2011	15:00	CR-LYC1	SN-0314	TG225							X									
	4/24/2011	15:01	CR-LYC2	SN-0315	TG226							X									
	4/24/2011	15:02	CR-LYC3	SN-0316	TG227							X									
	4/24/2011	15:25	CR-LYD1	SN-0317	TG228							X									
	4/24/2011	15:26	CR-LYD2	SN-0318	TG229							X									
	4/24/2011	15:27	CR-LYD3	SN-0319	TG230							X									
	4/24/2011	15:40	CR-LYE1	SN-0320	TG231							X									
	4/24/2011	15:41	CR-LYE2	SN-0321	TG232							X									
	4/24/2011	15:41	CR-LYE3 [d]	SN-0322	TG233																
Core composite																					
	4/24/2011	15:55	CR-LY1	SN-0323	TG234-TG236								X	X	X						
	4/24/2011	15:56	CR-LY2	SN-0324	TG237-TG239								X	X	X						
	4/24/2011	15:57	CR-LY3	SN-0325	TG240-TG242								X	X	X						
Rinsate blank																					
	4/24/2011	13:55	SDBL-914S	SN-0326	TG243-TG246	Rinsate blank											X	X			
Kamloops Island (KL)																					
Surface grab composite																					
	4/24/2011	12:00	SD-KLA	SN-0327	TG247-TG249		X	X	X												
	4/24/2011	12:45	SD-KLB	SN-0328	TG250-TG252		X	X	X	X											
	4/24/2011	11:50	SD-KLC	SN-0329	TG253-TG255		X	X	X												
	4/24/2011	13:45	SD-KLD	SN-0330	TG256-TG258		X	X	X												
	4/24/2011	13:50	SD-KLE	SN-0331	TG259-TG261		X	X	X												
Individual core depth interval for TAL metals																					
	4/24/2011	10:30	CR-KLA1	SN-0332	TG262							X									
	4/24/2011	10:35	CR-KLA2	SN-0333	TG263							X									
	4/24/2011	10:40	CR-KLA3-1	SN-0334	TG264	Field Split						X									
	4/24/2011	10:45	CR-KLA3-2	SN-0335	TG265	Field Split						X									
	4/24/2011	11:20	CR-KLB1	SN-0336	TG266							X									
	4/24/2011	11:25	CR-KLB2	SN-0337	TG267							X									
	4/24/2011	11:30	CR-KLB3	SN-0338	TG268							X									
	4/24/2011	11:40	CR-KLC1	SN-0339	TG269							X									
	4/24/2011	11:45	CR-KLC2	SN-0340	TG270	Split to EPA						X									
	4/24/2011	11:50	CR-KLC3	SN-0341	TG271							X									
	4/24/2011	12:40	CR-KLD1	SN-0342	TG272							X									
	4/24/2011	12:45	CR-KLD2	SN-0343	TG273							X									
	4/24/2011	12:50	CR-KLD3	SN-0344	TG274							X									
	4/24/2011	13:00	CR-KLE1	SN-0345	TG275							X									
	4/24/2011	13:05	CR-KLE2	SN-0346	TG276							X									
	4/24/2011	13:10	CR-KLE3	SN-0347	TG277							X									
Core composite																					
	4/24/2011	13:40	CR-KL1	SN-0348	TG278-TG280								X	X	X						
	4/24/2011	13:45	CR-KL2	SN-0349	TG281-TG283								X	X	X						
	4/24/2011	13:50	CR-KL3-1	SN-0350	TG284-TG286	Field Split							X	X	X						
	4/24/2011	13:55	CR-KL3-2	SN-0351	TG287-TG289	Field Split							X	X	X						
Rinsate blank																					
	4/24/2011	14:15	SDBL-915C	SN-0352	TG290-TG300	Rinsate blank											X	X		X	(X) HOLD

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
AA Campground (AA)																					
Surface grab composite																					
	4/25/2011	13:40	SD-AAA	SN-0353	TG301-TG303		X	X	X												
	4/25/2011	13:43	SD-AAB	SN-0354	TG304-TG306		X	X	X												
	4/25/2011	13:46	SD-AAC	SN-0355	TG307-TG309		X	X	X												
	4/25/2011	13:49	SD-AAD-1	SN-0356	TG310-TG312	Field Split	X	X	X												
	4/25/2011	13:51	SD-AAD-2	SN-0357	TG313-TG315	Field Split	X	X	X												
	4/25/2011	13:54	SD-AAE	SN-0358	TG316-TG318		X	X	X	X	X										
Individual core depth interval for TAL metals																					
	4/25/2011	14:30	CR-AAA1	SN-0359	TG319	Split to EPA						X									
	4/25/2011	14:31	CR-AAA2	SN-0360	TG320							X									
	4/25/2011	14:32	CR-AAA3	SN-0361	TG321							X									
	4/25/2011	14:50	CR-AAB1	SN-0362	TG322							X									
	4/25/2011	14:51	CR-AAB2	SN-0363	TG323							X									
	4/25/2011	14:52	CR-AAB3	SN-0364	TG324							X									
	4/25/2011	15:10	CR-AAC1	SN-0365	TG325							X									
	4/25/2011	15:11	CR-AAC2	SN-0366	TG326							X									
	4/25/2011	15:12	CR-AAC3	SN-0367	TG327							X									
	4/25/2011	15:25	CR-AAD1	SN-0368	TG328							X									
	4/25/2011	15:26	CR-AAD2	SN-0369	TG329							X									
	4/25/2011	15:27	CR-AAD3	SN-0370	TG330							X									
	4/25/2011	15:44	CR-AAE1	SN-0371	TG331							X									
	4/25/2011	15:45	CR-AAE2	SN-0372	TG332							X									
	4/25/2011	15:46	CR-AAE3	SN-0373	TG333							X									
Core composite																					
	4/25/2011	15:50	CR-AA1	SN-0374	TG334-TG336								X	X	X						
	4/25/2011	15:52	CR-AA2	SN-0375	TG337-TG339								X	X	X						
	4/25/2011	15:54	CR-AA3	SN-0376	TG340-TG342								X	X	X						
Rinsate blank																					
	4/25/2011	14:25	SDBL-916S	SN-0377	TG343-TG346	Rinsate blank											X	X	X		
Bossburg Flat (BF)																					
Surface grab composite																					
	4/25/2011	11:20	SD-BFA	SN-0378	TG347-TG349	Split to EPA	X	X	X												
	4/25/2011	14:15	SD-BFB	SN-0379	TG350-TG352		X	X	X												
	4/25/2011	11:30	SD-BFC	SN-0380	TG353-TG355		X	X	X	X											
	4/25/2011	14:35	SD-BFD	SN-0381	TG356-TG358		X	X	X												
	4/25/2011	14:00	SD-BFE	SN-0382	TG359-TG361		X	X	X												
Individual core depth interval for TAL metals																					
	4/25/2011	11:15	CR-BFA1	SN-0383	TG362							X									
	4/25/2011	11:20	CR-BFA2	SN-0384	TG363							X									
	4/25/2011	11:25	CR-BFA3	SN-0385	TG364							X									
	4/25/2011	11:45	CR-BFB1-1	SN-0386	TG365	Field Split						X									
	4/25/2011	11:50	CR-BFB1-2	SN-0387	TG366	Field Split						X									
	4/25/2011	11:55	CR-BFB2	SN-0388	TG367							X									
	4/25/2011	12:05	CR-BFB3	SN-0389	TG368							X									
	4/25/2011	12:20	CR-BFC1	SN-0390	TG369							X									
	4/25/2011	12:25	CR-BFC2	SN-0391	TG370							X									
	4/25/2011	12:30	CR-BFC3	SN-0392	TG371							X									
	4/25/2011	12:40	CR-BFD1	SN-0393	TG372							X									
	4/25/2011	12:50	CR-BFD2	SN-0394	TG373							X									
	4/25/2011	13:00	CR-BFD3	SN-0395	TG374							X									
	4/25/2011	13:15	CR-BFE1	SN-0396	TG375							X									
	4/25/2011	13:25	CR-BFE2	SN-0397	TG376							X									
	4/25/2011	13:35	CR-BFE3	SN-0398	TG377							X									
Core composite																					
	4/25/2011	14:20	CR-BF1-1	SN-0399	TG378-TG380								X	X	X	X					
	4/25/2011	14:22	CR-BF1-2	SN-0400	TG381-TG383								X	X	X	X					
	4/25/2011	14:25	CR-BF2	SN-0401	TG384-TG386								X	X	X						
	4/25/2011	14:30	CR-BF3	SN-0402	TG387-TG389								X	X	X						
Rinsate blank																					
	4/25/2011	15:15	SDBL-917C	SN-0403	TG390-TG400	Rinsate blank											X	X		X	X

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Nez Perce (NZ)																					
Surface grab composite																					
	4/26/2011	14:10	SD-NZA	SN-0404	TG401-TG403		X	X	X												
	4/26/2011	14:14	SD-NZB	SN-0405	TG404-TG406	Split to EPA	X	X	X												
	4/26/2011	14:28	SD-NZC	SN-0406	TG407-TG409		X	X	X												
	4/26/2011	14:34	SD-NZD	SN-0407	TG410-TG412		X	X	X												
	4/26/2011	14:40	SD-NZE-1	SN-0408	TG413-TG415	Field Split	X	X	X	X											
	4/26/2011	14:41	SD-NZE-2	SN-0409	TG416-TG418	Field Split	X	X	X	X											
Individual core depth interval for TAL metals																					
	4/26/2011	15:15	CR-NZA1	SN-0410	TG419							X									
	4/26/2011	15:16	CR-NZA2	SN-0411	TG420							X									
	4/26/2011	15:17	CR-NZA3	SN-0412	TG421							X									
	4/26/2011	15:33	CR-NZB1	SN-0413	TG422							X									
	4/26/2011	15:34	CR-NZB2	SN-0414	TG423							X									
	4/26/2011	15:35	CR-NZB3	SN-0415	TG424							X									
	4/26/2011	15:45	CR-NZC1	SN-0416	TG425							X									
	4/26/2011	15:46	CR-NZC2	SN-0417	TG426							X									
	4/26/2011	15:47	CR-NZC3	SN-0418	TG427							X									
	4/26/2011	16:00	CR-NZD1	SN-0419	TG428							X									
	4/26/2011	16:01	CR-NZD2	SN-0420	TG429							X									
	4/26/2011	16:02	CR-NZD3	SN-0421	TG430							X									
	4/26/2011	16:20	CR-NZE1	SN-0422	TG431							X									
	4/26/2011	16:21	CR-NZE2	SN-0423	TG432							X									
	4/26/2011	16:22	CR-NZE3	SN-0424	TG433							X									
Core composite																					
	4/26/2011	16:25	CR-NZ1	SN-0425	TG434-TG436								X	X	X						
	4/26/2011	16:26	CR-NZ2	SN-0426	TG437-TG439								X	X	X						
	4/26/2011	16:27	CR-NZ3	SN-0427	TG440-TG442								X	X	X						
Rinsate blank																					
	4/26/2011	15:00	SDBL-918S	SN-0428	TG443-TG446	Rinsate blank											X	X			
Kettle Falls Marina (KF)																					
Surface grab composite																					
	4/26/2011	12:45	SD-KFA	SN-0429	TG447-TG449		X	X	X												
	4/26/2011	13:00	SD-KFB	SN-0430	TG450-TG452		X	X	X												
	4/26/2011	13:05	SD-KFC	SN-0431	TG453-TG455		X	X	X												
	4/26/2011	12:55	SD-KFD	SN-0432	TG456-TG458		X	X	X												
	4/26/2011	14:45	SD-KFE	SN-0433	TG459-TG461		X	X	X	X	X										
Individual core depth interval for TAL metals																					
	4/26/2011	11:05	CR-KFA1	SN-0434	TG462							X									
	4/26/2011	11:15	CR-KFA2	SN-0435	TG463							X									
	4/26/2011	11:25	CR-KFA3	SN-0436	TG464							X									
	4/26/2011	11:35	CR-KFB1	SN-0437	TG465	Split to EPA						X									
	4/26/2011	11:45	CR-KFB2-1	SN-0438	TG466	Field Split						X									
	4/26/2011	11:50	CR-KFB2-2	SN-0439	TG467	Field Split						X									
	4/26/2011	11:55	CR-KFB3	SN-0440	TG468							X									
	4/26/2011	12:25	CR-KFC1	SN-0441	TG469							X									
	4/26/2011	12:35	CR-KFC2	SN-0442	TG470							X									
	4/26/2011	12:45	CR-KFC3	SN-0443	TG471							X									
	4/26/2011	13:15	CR-KFD1	SN-0444	TG472							X									
	4/26/2011	13:25	CR-KFD2	SN-0445	TG473							X									
	4/26/2011	13:35	CR-KFD3	SN-0446	TG474							X									
	4/26/2011	13:45	CR-KFE1	SN-0447	TG475							X									
	4/26/2011	13:55	CR-KFE2	SN-0448	TG476							X									
	4/26/2011	14:05	CR-KFE3	SN-0449	TG477							X									
Core composite																					
	4/26/2011	14:20	CR-KF1	SN-0450	TG478-TG480								X	X	X						
	4/26/2011	14:25	CR-KF2-1	SN-0451	TG481-TG483								X	X	X						
	4/26/2011	14:30	CR-KF2-2	SN-0452	TG484-TG486								X	X	X						
	4/26/2011	14:15	CR-KF3	SN-0453	TG487-TG489								X	X	X						
Rinsate blank																					
	4/26/2011	14:50	SDBL-919C	SN-0454	TG490-TG500	Rinsate blank											X	X		X	(X) HOLD

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Colville Flats (CF)																					
Surface grab composite																					
	4/27/2011	13:00	SD-CFA-1	SN-0455	TG501-TG503	Field Split	X	X	X	X											
	4/27/2011	13:05	SD-CFA-2	SN-0456	TG504-TG506	Field Split	X	X	X	X											
	4/27/2011	14:45	SD-CFB	SN-0457	TG507-TG509		X	X	X												
	4/27/2011	12:30	SD-CFC	SN-0458	TG510-TG512		X	X	X												
	4/27/2011	15:00	SD-CFD	SN-0459	TG513-TG515		X	X	X												
	4/27/2011	15:05	SD-CFE	SN-0460	TG516-TG518	Split to EPA	X	X	X												
Individual core depth interval for TAL metals																					
	4/27/2011	12:20	CR-CFA1	SN-0461	TG519							X									
	4/27/2011	12:30	CR-CFA2	SN-0462	TG520							X									
	4/27/2011	12:40	CR-CFA3	SN-0463	TG521							X									
	4/27/2011	12:50	CR-CFB1	SN-0464	TG522							X									
	4/27/2011	13:00	CR-CFB2	SN-0465	TG523							X									
	4/27/2011	13:10	CR-CFB3	SN-0466	TG524							X									
	4/27/2011	13:20	CR-CFC1	SN-0467	TG525							X									
	4/27/2011	13:30	CR-CFC2	SN-0468	TG526							X									
	4/27/2011	13:40	CR-CFC3	SN-0469	TG527							X									
	4/27/2011	13:55	CR-CFD1	SN-0470	TG528							X									
	4/27/2011	14:05	CR-CFD2	SN-0471	TG529							X									
	4/27/2011	14:15	CR-CFD3	SN-0472	TG530							X									
	4/27/2011	14:25	CR-CFE1	SN-0473	TG531							X									
	4/27/2011	14:35	CR-CFE2	SN-0474	TG532							X									
	4/27/2011	14:45	CR-CFE3	SN-0475	TG533							X									
Core composite																					
	4/27/2011	15:15	CR-CF1	SN-0476	TG534-TG536								X	X	X	X					
	4/27/2011	15:25	CR-CF2	SN-0477	TG537-TG539								X	X	X						
	4/27/2011	15:35	CR-CF3	SN-0478	TG540-TG542								X	X	X						
Rinsate blank																					
	4/27/2011	15:30	SDBL-920S	SN-0479	TG543-TG546	Rinsate blank											X	X			
Wilmont Creek (WC)																					
Surface grab composite																					
	4/28/2011	13:42	SD-WCA	SN-0480	TG547-TG549		X	X	X												
	4/28/2011	13:44	SD-WCB	SN-0481	TG550-TG552		X	X	X												
	4/28/2011	13:46	SD-WCC	SN-0482	TG553-TG555		X	X	X	X	X										
	4/28/2011	13:48	SD-WCD	SN-0483	TG556-TG558		X	X	X												
	4/28/2011	13:50	SD-WCE	SN-0484	TG559-TG561		X	X	X												
Individual core depth interval for TAL metals																					
	4/28/2011	14:35	CR-WCA1	SN-0485	TG562							X									
	4/28/2011	14:36	CR-WCA2	SN-0486	TG563							X									
	4/28/2011	14:37	CR-WCA3	SN-0487	TG564							X									
	4/28/2011	14:55	CR-WCB1	SN-0488	TG565							X									
	4/28/2011	14:56	CR-WCB2	SN-0489	TG566							X									
	4/28/2011	14:57	CR-WCB3-1	SN-0490	TG567	Field Split						X									
	4/28/2011	14:58	CR-WCB3-2	SN-0491	TG568	Field Split						X									
	4/28/2011	15:13	CR-WCC1	SN-0492	TG569							X									
	4/28/2011	15:14	CR-WCC2	SN-0493	TG570							X									
	4/28/2011	15:15	CR-WCC3	SN-0494	TG571							X									
	4/28/2011	15:30	CR-WCD1	SN-0495	TG572							X									
	4/28/2011	15:31	CR-WCD2	SN-0496	TG573							X									
	4/28/2011	15:32	CR-WCD3	SN-0497	TG574							X									
	4/28/2011	15:48	CR-WCE1	SN-0498	TG575							X									
	4/28/2011	15:49	CR-WCE2	SN-0499	TG576							X									
	4/28/2011	15:50	CR-WCE3	SN-0500	TG577							X									
Core composite																					
	4/28/2011	15:51	CR-WC1	SN-0501	TG578-TG580								X	X	X						
	4/28/2011	15:52	CR-WC2	SN-0502	TG581-TG583								X	X	X						
	4/28/2011	15:53	CR-WC3-1	SN-0503	TG584-TG586	Field Split Split to EPA							X	X	X						
	4/28/2011	15:54	CR-WC3-2	SN-0504	TG587-TG589	Field Split							X	X	X						
Rinsate blank																					
	4/28/2011	16:00	SDBL-921C	SN-0505	TG590-TG600	Rinsate blank											X	X		X	(X) HOLD

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Colville River (CR)																					
Surface grab composite																					
	4/28/2011	11:35	SD-CRA	SN-0506	TG601-TG603		X	X	X												
	4/28/2011	13:50	SD-CRB-1	SN-0507	TG604-TG606	Field Split	X	X	X												
	4/28/2011	13:55	SD-CRB-2	SN-0508	TG607-TG609	Field Split Split to EPA	X	X	X												
	4/28/2011	12:25	SD-CRC	SN-0509	TG610-TG612		X	X	X												
	4/28/2011	14:00	SD-CRD	SN-0510	TG613-TG615		X	X	X	X											
	4/28/2011	14:10	SD-CRE	SN-0511	TG616-TG618		X	X	X												
Individual core depth interval for TAL metals																					
	4/28/2011	12:15	CR-CRA1	SN-0512	TG619							X									
	4/28/2011	12:25	CR-CRA2	SN-0513	TG620							X									
	4/28/2011	12:35	CR-CRA3	SN-0514	TG621							X									
	4/28/2011	12:45	CR-CRB1	SN-0515	TG622							X									
	4/28/2011	12:55	CR-CRB2	SN-0516	TG623							X									
	4/28/2011	13:05	CR-CRB3	SN-0517	TG624							X									
	4/28/2011	13:15	CR-CRC1	SN-0518	TG625							X									
	4/28/2011	13:25	CR-CRC2	SN-0519	TG626							X									
	4/28/2011	13:35	CR-CRC3	SN-0520	TG627							X									
	4/28/2011	13:45	CR-CRD1	SN-0521	TG628							X									
	4/28/2011	13:55	CR-CRD2	SN-0522	TG629							X									
	4/28/2011	14:05	CR-CRD3	SN-0523	TG630							X									
	4/28/2011	14:15	CR-CRE1	SN-0524	TG631							X									
	4/28/2011	14:25	CR-CRE2	SN-0525	TG632							X									
	4/28/2011	14:35	CR-CRE3	SN-0526	TG633							X									
Core composite																					
	4/28/2011	14:30	CR-CR1	SN-0527	TG634-TG636								X	X	X						
	4/28/2011	14:40	CR-CR2	SN-0528	TG637-TG639								X	X	X						
	4/28/2011	14:51	CR-CR3	SN-0529	TG640-TG642								X	X	X						
Rinsate blank																					
	4/28/2011	15:05	SDBL-922S	SN-0530	TG643-TG646	Rinsate blank											X	X			
Enterprise (EN)																					
Surface grab composite																					
	4/29/2011	13:34	SD-ENA	SN-0531	TG647-TG649		X	X	X												
	4/29/2011	13:36	SD-ENB	SN-0532	TG650-TG652		X	X	X												
	4/29/2011	13:38	SD-ENC	SN-0533	TG653-TG655	Split to EPA [b]	X	X	X	X											
	4/29/2011	13:40	SD-END	SN-0534	TG656-TG658		X	X	X												
	4/29/2011	13:42	SD-ENE	SN-0535	TG659-TG661		X	X	X												
Individual core depth interval for TAL metals																					
	4/29/2011	14:28	CR-ENA1	SN-0536	TG662							X									
	4/29/2011	14:29	CR-ENA2	SN-0537	TG663							X									
	4/29/2011	14:30	CR-ENA3	SN-0538	TG664							X									
	4/29/2011	14:45	CR-ENB1	SN-0539	TG665							X									
	4/29/2011	14:46	CR-ENB2	SN-0540	TG666							X									
	4/29/2011	14:47	CR-ENB3	SN-0541	TG667							X									
	4/29/2011	15:01	CR-ENC1-1	SN-0542	TG668	Field Split						X									
	4/29/2011	15:02	CR-ENC1-2	SN-0543	TG669	Field Split						X									
	4/29/2011	15:03	CR-ENC2	SN-0544	TG670							X									
	4/29/2011	15:04	CR-ENC3	SN-0545	TG671							X									
	4/29/2011	15:13	CR-END1	SN-0546	TG672							X									
	4/29/2011	15:14	CR-END2	SN-0547	TG673							X									
	4/29/2011	15:15	CR-END3	SN-0548	TG674							X									
	4/29/2011	15:23	CR-ENE1	SN-0549	TG675							X									
	4/29/2011	15:24	CR-ENE2	SN-0550	TG676							X									
	4/29/2011	15:25	CR-ENE3	SN-0551	TG677							X									
Core composite																					
	4/29/2011	15:28	CR-EN1-1	SN-0552	TG678-TG680	Field Split							X	X	X						
	4/29/2011	15:29	CR-EN1-2	SN-0553	TG681-TG683	Field Split							X	X	X						
	4/29/2011	15:30	CR-EN2	SN-0554	TG684-TG686								X	X	X						
	4/29/2011	15:31	CR-EN3	SN-0555	TG687-TG689								X	X	X						
Rinsate blank																					
	4/29/2011	15:40	SDBL-923C	SN-0556	TG690-TG700	Rinsate blank											X	X		X	(X) HOLD

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Bradbury (BB)																					
Surface grab composite																					
	4/29/2011	12:00	SD-BBA	SN-0557	TG701-TG703		X	X	X	X											
	4/29/2011	14:20	SD-BBB	SN-0558	TG704-TG706		X	X	X												
	4/29/2011	14:30	SD-BBC-1	SN-0559	TG707-TG709	Field Split	X	X	X												
	4/29/2011	14:35	SD-BBC-2	SN-0560	TG710-TG712	Field Split	X	X	X												
	4/29/2011	14:25	SD-BBD	SN-0561	TG713-TG715		X	X	X												
	4/29/2011	14:30	SD-BBE	SN-0562	TG716-TG718		X	X	X												
Individual core depth interval for TAL metals																					
	4/29/2011	11:45	CR-BBA1	SN-0563	TG719							X									
	4/29/2011	11:55	CR-BBA2	SN-0564	TG720							X									
	4/29/2011	12:05	CR-BBA3	SN-0565	TG721	Split to EPA						X									
	4/29/2011	12:15	CR-BBB1	SN-0566	TG722							X									
	4/29/2011	12:25	CR-BBB2	SN-0567	TG723							X									
	4/29/2011	12:35	CR-BBB3	SN-0568	TG724							X									
	4/29/2011	12:45	CR-BBC1	SN-0569	TG725							X									
	4/29/2011	12:55	CR-BBC2	SN-0570	TG726							X									
	4/29/2011	13:05	CR-BBC3	SN-0571	TG727							X									
	4/29/2011	13:15	CR-BBD1	SN-0572	TG728							X									
	4/29/2011	13:25	CR-BBD2	SN-0573	TG729							X									
	4/29/2011	13:35	CR-BBD3	SN-0574	TG730							X									
	4/29/2011	13:45	CR-BBE1	SN-0575	TG731							X									
	4/29/2011	13:55	CR-BBE2	SN-0576	TG732							X									
	4/29/2011	14:05	CR-BBE3	SN-0577	TG733							X									
Core composite																					
	4/29/2011	15:00	CR-BB1	SN-0578	TG734-TG736								X	X	X						
	4/29/2011	15:05	CR-BB2	SN-0579	TG737-TG739								X	X	X						
	4/29/2011	15:10	CR-BB3	SN-0580	TG740-TG742								X	X	X						
Rinsate blank																					
	4/29/2011	15:30	SDBL-924S	SN-0581	TG743-TG746	Rinsate blank											X	X			
Naborlee (NA)																					
Surface grab composite																					
	4/30/2011	12:47	SD-NAA	SN-0582	TG747-TG749		X	X	X												
	4/30/2011	12:48	SD-NAB	SN-0583	TG750-TG752		X	X	X												
	4/30/2011	12:49	SD-NAC	SN-0584	TG753-TG755		X	X	X												
	4/30/2011	12:50	SD-NAD	SN-0585	TG756-TG758		X	X	X												
	4/30/2011	12:51	SD-NAE	SN-0586	TG759-TG761		X	X	X	X											
Individual core depth interval for TAL metals																					
	4/30/2011	13:28	CR-NAA1	SN-0587	TG762							X									
	4/30/2011	13:29	CR-NAA2	SN-0588	TG763							X									
	4/30/2011	13:30	CR-NAA3	SN-0589	TG764							X									
	4/30/2011	13:43	CR-NAB1	SN-0590	TG765							X									
	4/30/2011	13:44	CR-NAB2	SN-0591	TG766							X									
	4/30/2011	13:45	CR-NAB3	SN-0592	TG767							X									
	4/30/2011	13:55	CR-NAC1	SN-0593	TG768							X									
	4/30/2011	13:56	CR-NAC2-1	SN-0594	TG769	Field Split						X									
	4/30/2011	13:57	CR-NAC2-2	SN-0595	TG770	Field Split						X									
	4/30/2011	13:58	CR-NAC3	SN-0596	TG771							X									
	4/30/2011	14:13	CR-NAD1	SN-0597	TG772	Split to EPA						X									
	4/30/2011	14:14	CR-NAD2	SN-0598	TG773							X									
	4/30/2011	14:15	CR-NAD3	SN-0599	TG774							X									
	4/30/2011	14:27	CR-NAE1	SN-0600	TG775							X									
	4/30/2011	14:28	CR-NAE2	SN-0601	TG776							X									
	4/30/2011	14:29	CR-NAE3	SN-0602	TG777							X									
Core composite																					
	4/30/2011	14:32	CR-NA1	SN-0603	TG778-TG780								X	X	X						
	4/30/2011	14:33	CR-NA2-1	SN-0604	TG781-TG783	Field Split							X	X	X						
	4/30/2011	14:34	CR-NA2-2	SN-0605	TG784-TG786	Field Split							X	X	X						
	4/30/2011	14:35	CR-NA3	SN-0606	TG787-TG789								X	X	X						
Rinsate blank																					
	4/30/2011	14:45	SDBL-925C	SN-0607	TG790-TG800	Rinsate blank											X	X		X	(X) HOLD

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs						Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Mitchell Point (MP)																						
Surface grab composite																						
	5/1/2011	12:34	SD-MPA	SN-0608	TG801-TG803		X	X	X													
	5/1/2011	12:35	SD-MPB	SN-0609	TG804-TG806		X	X	X													
	5/1/2011	12:36	SD-MPC	SN-0610	TG807-TG809		X	X	X													
	5/1/2011	12:37	SD-MPD-1	SN-0611	TG810-TG812	Field Split	X	X	X													
	5/1/2011	12:38	SD-MPD-2	SN-0612	TG813-TG815	Field Split	X	X	X													
	5/1/2011	12:39	SD-MPE	SN-0613	TG816-TG818		X	X	X	X												
Individual core depth interval for TAL metals																						
	5/1/2011	13:25	CR-MPA1	SN-0614	TG819							X										
	5/1/2011	13:26	CR-MPA2	SN-0615	TG820							X										
	5/1/2011	13:27	CR-MPA3	SN-0616	TG821							X										
	5/1/2011	13:43	CR-MPB1	SN-0617	TG822							X										
	5/1/2011	13:44	CR-MPB2	SN-0618	TG823							X										
	5/1/2011	13:45	CR-MPB3	SN-0619	TG824							X										
	5/1/2011	13:57	CR-MPC1	SN-0620	TG825							X										
	5/1/2011	13:58	CR-MPC2	SN-0621	TG826							X										
	5/1/2011	13:59	CR-MPC3	SN-0622	TG827							X										
	5/1/2011	14:13	CR-MPD1	SN-0623	TG828							X										
	5/1/2011	14:14	CR-MPD2	SN-0624	TG829							X										
	5/1/2011	14:15	CR-MPD3	SN-0625	TG830							X										
	5/1/2011	14:28	CR-MPE1	SN-0626	TG831							X										
	5/1/2011	14:29	CR-MPE2	SN-0627	TG832							X										
	5/1/2011	14:30	CR-MPE3	SN-0628	TG833							X										
Core composite																						
	5/1/2011	14:35	CR-MP1	SN-0629	TG834-TG836								X	X		X						
	5/1/2011	14:36	CR-MP2	SN-0630	TG837-TG839	Split to EPA							X	X		X						
	5/1/2011	14:37	CR-MP3	SN-0631	TG840-TG842								X	X		X						
Rinsate blank																						
	5/1/2011	12:58	SDBL-926S	SN-0632	TG843-TG846	Rinsate blank												X	X			
Swawilla Basin (SW)																						
Surface grab composite																						
	5/1/2011	12:40	SD-SWA	SN-0633	TG847-TG849		X	X	X													
	5/1/2011	14:45	SD-SWB	SN-0634	TG850-TG852		X	X	X													
	5/1/2011	13:20	SD-SWC	SN-0635	TG853-TG855		X	X	X	X												
	5/1/2011	15:10	SD-SWD	SN-0636	TG856-TG858		X	X	X													
	5/1/2011	15:25	SD-SWE	SN-0637	TG859-TG861		X	X	X													
Individual core depth interval for TAL metals																						
	5/1/2011	13:15	CR-SWA1	SN-0638	TG862							X										
	5/1/2011	13:25	CR-SWA2	SN-0639	TG863							X										
	5/1/2011	13:35	CR-SWA3	SN-0640	TG864							X										
	5/1/2011	13:45	CR-SWB1	SN-0641	TG865							X										
	5/1/2011	13:55	CR-SWB2	SN-0642	TG866							X										
	5/1/2011	14:05	CR-SWB3	SN-0643	TG867	Split to EPA						X										
	5/1/2011	15:15	CR-SWC1	SN-0644	TG868							X										
	5/1/2011	14:25	CR-SWC2	SN-0645	TG869							X										
	5/1/2011	14:35	CR-SWC3-1	SN-0646	TG870	Field Split						X										
	5/1/2011	14:40	CR-SWC3-2	SN-0647	TG871	Field Split						X										
	5/1/2011	14:45	CR-SWD1	SN-0648	TG872							X										
	5/1/2011	14:55	CR-SWD2	SN-0649	TG873							X										
	5/1/2011	15:05	CR-SWD3	SN-0650	TG874							X										
	5/1/2011	15:15	CR-SWE1	SN-0651	TG875							X										
	5/1/2011	15:25	CR-SWE2	SN-0652	TG876							X										
	5/1/2011	15:35	CR-SWE3	SN-0653	TG877							X										
Core composite																						
	5/1/2011	15:30	CR-SW1	SN-0654	TG878-TG880								X	X		X						
	5/1/2011	15:40	CR-SW2	SN-0655	TG881-TG883								X	X		X						
	5/1/2011	15:35	CR-SW3-1	SN-0656	TG884-TG886	Field Split							X	X		X						
	5/1/2011	15:40	CR-SW3-2	SN-0657	TG887-TG889	Field Split							X	X		X						
Rinsate blank																						
	5/1/2011	15:15	SDBL-927C	SN-0658	TG890-TG900	Rinsate blank												X	X		X	(X) HOLD

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Jones Bay (JB)																					
Surface grab composite																					
	5/2/2011	13:12	SD-JBA	SN-0659	TG901-TG903		X	X	X												
	5/2/2011	13:13	SD-JBB	SN-0660	TG904-TG906		X	X	X	X											
	5/2/2011	13:14	SD-JBC	SN-0661	TG907-TG909		X	X	X												
	5/2/2011	13:15	SD-JBD	SN-0662	TG910-TG912		X	X	X												
	5/2/2011	13:10	SD-JBE-1	SN-0663	TG913-TG915	Field Split	X	X	X												
	5/2/2011	13:11	SD-JBE-2	SN-0664	TG916-TG918	Field Split	X	X	X												
Individual core depth interval for TAL metals																					
	5/2/2011	13:58	CR-JBA1	SN-0665	TG919							X									
	5/2/2011	13:59	CR-JBA2	SN-0666	TG920							X									
	5/2/2011	14:00	CR-JBA3	SN-0667	TG921							X									
	5/2/2011	14:13	CR-JBB1	SN-0668	TG922							X									
	5/2/2011	14:14	CR-JBB2	SN-0669	TG923							X									
	5/2/2011	14:15	CR-JBB3	SN-0670	TG924							X									
	5/2/2011	14:23	CR-JBC1	SN-0671	TG925							X									
	5/2/2011	14:24	CR-JBC2	SN-0672	TG926							X									
	5/2/2011	14:25	CR-JBC3	SN-0673	TG927							X									
	5/2/2011	14:33	CR-JBD1	SN-0674	TG928							X									
	5/2/2011	14:34	CR-JBD2	SN-0675	TG929							X									
	5/2/2011	14:35	CR-JBD3	SN-0676	TG930	Split to EPA						X									
	5/2/2011	14:45	CR-JBE1	SN-0677	TG931							X									
	5/2/2011	14:46	CR-JBE2	SN-0678	TG932							X									
	5/2/2011	14:47	CR-JBE3	SN-0679	TG933							X									
Core composite																					
	5/2/2011	14:52	CR-JB1	SN-0680	TG934-TG936								X	X		X					
	5/2/2011	14:53	CR-JB2	SN-0681	TG937-TG939								X	X		X					
	5/2/2011	14:54	CR-JB3	SN-0682	TG940-TG942								X	X		X					
Rinsate blank																					
	5/2/2011	13:30	SDBL-928S	SN-0683	TG943-TG946	Rinsate blank											X	X			
Spring Canyon (SC)																					
Surface grab composite																					
	5/2/2011	11:00	SD-SCA	SN-0684	TG947-TG949		X	X	X												
	5/2/2011	13:09	SD-SCB	SN-0685	TG950-TG952		X	X	X												
	5/2/2011	11:35	SD-SCC	SN-0686	TG953-TG955		X	X	X												
	5/2/2011	14:30	SD-SCD	SN-0687	TG956-TG958		X	X	X												
	5/2/2011	13:11	SD-SCE	SN-0688	TG959-TG961		X	X	X	X	X										
Individual core depth interval for TAL metals																					
	5/2/2011	11:00	CR-SCA1	SN-0689	TG962							X									
	5/2/2011	11:10	CR-SCA2	SN-0690	TG963							X									
	5/2/2011	11:20	CR-SCA3	SN-0691	TG964							X									
	5/2/2011	11:30	CR-SCB1	SN-0692	TG965							X									
	5/2/2011	11:40	CR-SCB2	SN-0693	TG966							X									
	5/2/2011	11:50	CR-SCB3	SN-0694	TG967							X									
	5/2/2011	12:05	CR-SCC1	SN-0695	TG968							X									
	5/2/2011	12:15	CR-SCC2	SN-0696	TG969							X									
	5/2/2011	12:20	CR-SCC3	SN-0697	TG970							X									
	5/2/2011	12:30	CR-SCD1-1	SN-0698	TG971	Field Split						X									
	5/2/2011	12:35	CR-SCD1-2	SN-0699	TG972	Field Split						X									
	5/2/2011	12:40	CR-SCD2	SN-0700	TG973							X									
	5/2/2011	12:50	CR-SCD3	SN-0701	TG974							X									
	5/2/2011	13:00	CR-SCE1	SN-0702	TG975							X									
	5/2/2011	13:10	CR-SCE2	SN-0703	TG976							X									
	5/2/2011	13:20	CR-SCE3	SN-0704	TG977							X									
Core composite																					
	5/2/2011	13:15	CR-SC1-1	SN-0705	TG978-TG980	Field Split							X	X		X					
	5/2/2011	13:15	CR-SC1-2	SN-0706	TG981-TG983	Field Split Split to EPA							X	X		X					
	5/2/2011	13:25	CR-SC2	SN-0707	TG984-TG986								X	X		X					
	5/2/2011	13:20	CR-SC3	SN-0708	TG987-TG989								X	X		X					
Rinsate blank																					
	5/2/2011	14:25	SDBL-929C	SN-0709	TG990-TG1000	Rinsate blank											X	X		X	(X) HOLD

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Whitestone Campground (WS)																					
Surface grab composite																					
	5/3/2011	12:10	SD-WSA-1	SN-0710	TG1001-TG1003	Field Split	X	X	X												
	5/3/2011	12:11	SD-WSA-2	SN-0711	TG1004-TG1006	Field Split	X	X	X												
	5/3/2011	12:12	SD-WSB	SN-0712	TG1007-TG1009		X	X	X												
	5/3/2011	12:13	SD-WSC	SN-0713	TG1010-TG1012		X	X	X												
	5/3/2011	12:14	SD-WSD	SN-0714	TG1013-TG1015		X	X	X	X											
	5/3/2011	12:15	SD-WSE	SN-0715	TG1016-TG1018		X	X	X												
Individual core depth interval for TAL metals																					
	5/3/2011	12:50	CR-WSA1	SN-0716	TG1019							X									
	5/3/2011	12:51	CR-WSA2	SN-0717	TG1020							X									
	5/3/2011	12:52	CR-WSA3	SN-0718	TG1021							X									
	5/3/2011	13:03	CR-WSB1	SN-0719	TG1022	Split to EPA						X									
	5/3/2011	13:04	CR-WSB2	SN-0720	TG1023							X									
	5/3/2011	13:05	CR-WSB3	SN-0721	TG1024							X									
	5/3/2011	13:14	CR-WSC1	SN-0722	TG1025							X									
	5/3/2011	13:15	CR-WSC2	SN-0723	TG1026							X									
	5/3/2011	13:16	CR-WSC3	SN-0724	TG1027							X									
	5/3/2011	13:25	CR-WSD1	SN-0725	TG1028							X									
	5/3/2011	13:26	CR-WSD2	SN-0726	TG1029							X									
	5/3/2011	13:27	CR-WSD3	SN-0727	TG1030							X									
	5/3/2011	13:42	CR-WSE1	SN-0728	TG1031							X									
	5/3/2011	13:43	CR-WSE2	SN-0729	TG1032							X									
	5/3/2011	13:44	CR-WSE3	SN-0730	TG1033							X									
Core composite																					
	5/3/2011	13:50	CR-WS1	SN-0731	TG1034-TG1036								X	X	X						
	5/3/2011	13:51	CR-WS2	SN-0732	TG1037-TG1039								X	X	X						
	5/3/2011	13:52	CR-WS3	SN-0733	TG1040-TG1042								X	X	X						
Rinsate blank																					
	5/3/2011	12:40	SDBL-930S	SN-0734	TG1043-TG1046	Rinsate blank											X	X			
Crescent Bay (CS)																					
Surface grab composite																					
	5/3/2011	10:30	SD-CSA	SN-0735	TG1047-TG1049		X	X	X	X											
	5/3/2011	11:50	SD-CSB	SN-0736	TG1050-TG1052	Split to EPA	X	X	X												
	5/3/2011	10:55	SD-CSC	SN-0737	TG1053-TG1055		X	X	X												
	5/3/2011	11:55	SD-CSD	SN-0738	TG1056-TG1058		X	X	X												
	5/3/2011	12:00	SD-CSE	SN-0739	TG1059-TG1061		X	X	X												
Individual core depth interval for TAL metals																					
	5/3/2011	11:00	CR-CSA1	SN-0740	TG1062							X									
	5/3/2011	11:10	CR-CSA2	SN-0741	TG1063							X									
	5/3/2011	11:20	CR-CSA3	SN-0742	TG1064							X									
	5/3/2011	11:30	CR-CSB1	SN-0743	TG1065							X									
	5/3/2011	11:40	CR-CSB2	SN-0744	TG1066							X									
	5/3/2011	11:50	CR-CSB3	SN-0745	TG1067							X									
	5/3/2011	12:00	CR-CSC1	SN-0746	TG1068							X									
	5/3/2011	12:10	CR-CSC2	SN-0747	TG1069							X									
	5/3/2011	12:20	CR-CSC3	SN-0748	TG1070							X									
	5/3/2011	12:30	CR-CSD1	SN-0749	TG1071							X									
	5/3/2011	12:40	CR-CSD2-1	SN-0750	TG1072	Field Split						X									
	5/3/2011	12:45	CR-CSD2-2	SN-0751	TG1073	Field Split						X									
	5/3/2011	12:50	CR-CSD3	SN-0752	TG1074							X									
	5/3/2011	13:00	CR-CSE1	SN-0753	TG1075							X									
	5/3/2011	13:10	CR-CSE2	SN-0754	TG1076							X									
	5/3/2011	13:20	CR-CSE3	SN-0755	TG1077							X									
Core composite																					
	5/3/2011	12:55	CR-CS1	SN-0756	TG1078-TG1080								X	X	X						
	5/3/2011	13:05	CR-CS2-1	SN-0757	TG1081-TG1083	Field Split							X	X	X						
	5/3/2011	13:00	CR-CS2-2	SN-0758	TG1084-TG1086	Field Split							X	X	X						
	5/3/2011	13:15	CR-CS3	SN-0759	TG1087-TG1089								X	X	X						
Rinsate blank																					
	5/3/2011	12:45	SDBL-931C	SN-0760	TG1090-TG1100	Rinsate blank											X	X		X	(X) HOLD

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Hawk Creek (HC)																					
Surface grab composite																					
	5/4/2011	12:22	SD-HCA	SN-0761	TG1101-TG1103		X	X	X												
	5/4/2011	12:23	SD-HCB-1	SN-0762	TG1104-TG1106	Field Split	X	X	X	X											
	5/4/2011	12:24	SD-HCB-2	SN-0763	TG1107-TG1109	Field Split Split to EPA [c]	X	X	X	X											
	5/4/2011	12:25	SD-HCC	SN-0764	TG1110-TG1112		X	X	X												
	5/4/2011	12:26	SD-HCD	SN-0765	TG1113-TG1115		X	X	X												
	5/4/2011	12:27	SD-HCE	SN-0766	TG1116-TG1118		X	X	X												
Individual core depth interval for TAL metals																					
	5/4/2011	13:10	CR-HCA1	SN-0767	TG1119							X									
	5/4/2011	13:11	CR-HCA2	SN-0768	TG1120							X									
	5/4/2011	13:12	CR-HCA3	SN-0769	TG1121							X									
	5/4/2011	13:20	CR-HCB1	SN-0770	TG1122							X									
	5/4/2011	13:21	CR-HCB2	SN-0771	TG1123							X									
	5/4/2011	13:22	CR-HCB3	SN-0772	TG1124							X									
	5/4/2011	13:35	CR-HCC1	SN-0773	TG1125							X									
	5/4/2011	13:36	CR-HCC2	SN-0774	TG1126							X									
	5/4/2011	13:37	CR-HCC3	SN-0775	TG1127							X									
	5/4/2011	13:58	CR-HCD1	SN-0776	TG1128							X									
	5/4/2011	13:59	CR-HCD2	SN-0777	TG1129							X									
	5/4/2011	14:00	CR-HCD3	SN-0778	TG1130							X									
	5/4/2011	14:13	CR-HCE1	SN-0779	TG1131							X									
	5/4/2011	14:14	CR-HCE2	SN-0780	TG1132							X									
	5/4/2011	14:15	CR-HCE3	SN-0781	TG1133							X									
Core composite																					
	5/4/2011	14:16	CR-HC1	SN-0782	TG1134-TG1136								X	X	X						
	5/4/2011	14:17	CR-HC2	SN-0783	TG1137-TG1139								X	X	X						
	5/4/2011	14:18	CR-HC3	SN-0784	TG1140-TG1142								X	X	X						
Rinsate blank																					
	5/4/2011	12:46	SDBL-932S	SN-0785	TG1143-TG1146	Rinsate blank											X	X			
Hunters (HT)																					
Surface grab composite																					
	5/4/2011	13:25	SD-HTA	SN-0786	TG1147-TG1149	Split to EPA	X	X	X												
	5/4/2011	15:44	SD-HTB	SN-0787	TG1150-TG1152		X	X	X												
	5/4/2011	13:15	SD-HTC	SN-0788	TG1153-TG1155		X	X	X												
	5/4/2011	16:05	SD-HTD	SN-0789	TG1156-TG1158		X	X	X	X											
	5/4/2011	16:45	SD-HTE	SN-0790	TG1159-TG1161		X	X	X												
Individual core depth interval for TAL metals																					
	5/4/2011	14:00	CR-HTA1	SN-0791	TG1162							X									
	5/4/2011	14:10	CR-HTA2	SN-0792	TG1163							X									
	5/4/2011	14:20	CR-HTA3	SN-0793	TG1164							X									
	5/4/2011	14:30	CR-HTB1	SN-0794	TG1165							X									
	5/4/2011	14:40	CR-HTB2	SN-0795	TG1166							X									
	5/4/2011	14:50	CR-HTB3	SN-0796	TG1167							X									
	5/4/2011	15:00	CR-HTC1	SN-0797	TG1168							X									
	5/4/2011	15:10	CR-HTC2	SN-0798	TG1169							X									
	5/4/2011	15:20	CR-HTC3	SN-0799	TG1170							X									
	5/4/2011	15:30	CR-HTD1	SN-0800	TG1171							X									
	5/4/2011	15:40	CR-HTD2	SN-0801	TG1172							X									
	5/4/2011	15:50	CR-HTD3-1	SN-0802	TG1173	Field Split						X									
	5/4/2011	15:50	CR-HTD3-2	SN-0803	TG1174	Field Split						X									
	5/4/2011	16:00	CR-HTE1	SN-0804	TG1175							X									
	5/4/2011	16:10	CR-HTE2	SN-0805	TG1176							X									
	5/4/2011	16:20	CR-HTE3	SN-0806	TG1177							X									
Core composite																					
	5/4/2011	17:00	CR-HT1	SN-0807	TG1178-TG1180								X	X	X						
	5/4/2011	17:10	CR-HT2	SN-0808	TG1181-TG1183								X	X	X						
	5/4/2011	17:25	CR-HT3-1	SN-0809	TG1184-TG1186								X	X	X						
	5/4/2011	17:30	CR-HT3-2	SN-0810	TG1187-TG1189								X	X	X						
Rinsate blank																					
	5/4/2011	16:30	SDBL-933C	SN-0811	TG1190-TG1200	Rinsate blank											X	X		X	(X) HOLD

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
Seven Bays (SB)																					
Surface grab composite																					
	5/5/2011	12:15	SD-SBA	SN-0812	TG1201-TG1203		X	X	X												
	5/5/2011	12:16	SD-SBB	SN-0813	TG1204-TG1206		X	X	X												
	5/5/2011	12:17	SD-SBC-1	SN-0814	TG1207-TG1209	Field Split	X	X	X	X	X										
	5/5/2011	12:18	SD-SBC-2	SN-0815	TG1210-TG1212	Field Split Split to EPA [c]	X	X	X	X	X										
	5/5/2011	12:19	SD-SBD	SN-0816	TG1213-TG1215		X	X	X												
	5/5/2011	12:20	SD-SBE	SN-0817	TG1216-TG1218		X	X	X												
Individual core depth interval for TAL metals																					
	5/5/2011	13:00	CR-SBA1	SN-0818	TG1219							X									
	5/5/2011	13:01	CR-SBA2	SN-0819	TG1220							X									
	5/5/2011	13:02	CR-SBA3	SN-0820	TG1221							X									
	5/5/2011	13:13	CR-SBB1	SN-0821	TG1222							X									
	5/5/2011	13:14	CR-SBB2	SN-0822	TG1223							X									
	5/5/2011	13:15	CR-SBB3	SN-0823	TG1224							X									
	5/5/2011	13:22	CR-SBC1	SN-0824	TG1225							X									
	5/5/2011	13:23	CR-SBC2	SN-0825	TG1226							X									
	5/5/2011	13:24	CR-SBC3	SN-0826	TG1227							X									
	5/5/2011	13:33	CR-SBD1	SN-0827	TG1228							X									
	5/5/2011	13:34	CR-SBD2	SN-0828	TG1229							X									
	5/5/2011	13:35	CR-SBD3	SN-0829	TG1230							X									
	5/5/2011	13:50	CR-SBE1	SN-0830	TG1231							X									
	5/5/2011	13:51	CR-SBE2	SN-0831	TG1232							X									
	5/5/2011	13:52	CR-SBE3	SN-0832	TG1233							X									
Core composite																					
	5/5/2011	14:00	CR-SB1	SN-0833	TG1234-TG1236								X	X	X						
	5/5/2011	14:01	CR-SB2	SN-0834	TG1237-TG1239								X	X	X						
	5/5/2011	14:02	CR-SB3	SN-0835	TG1240-TG1242								X	X	X						
Rinsate blank																					
	5/5/2011	12:42	SDBL-934S	SN-0836	TG1243-TG1246	Rinsate blank											X	X	X		
McGuires (MG)																					
Surface grab composite																					
	5/5/2011	12:55	SD-MGA	SN-0837	TG1247-TG1249		X	X	X												
	5/5/2011	15:15	SD-MGB	SN-0838	TG1250-TG1252		X	X	X												
	5/5/2011	13:15	SD-MGC	SN-0839	TG1253-TG1255		X	X	X												
	5/5/2011	16:05	SD-MGD	SN-0840	TG1256-TG1258		X	X	X												
	5/5/2011	15:30	SD-MGE	SN-0841	TG1259-TG1261		X	X	X	X											
Individual core depth interval for TAL metals																					
	5/5/2011	12:45	CR-MGA1	SN-0842	TG1262	Field Split						X									
	5/5/2011	12:55	CR-MGA2	SN-0843	TG1263	Field Split Split to EPA						X									
	5/5/2011	13:05	CR-MGA3	SN-0844	TG1264							X									
	5/5/2011	13:15	CR-MGB1	SN-0845	TG1265							X									
	5/5/2011	13:25	CR-MGB2	SN-0846	TG1266							X									
	5/5/2011	13:35	CR-MGB3	SN-0847	TG1267							X									
	5/5/2011	13:45	CR-MGC1	SN-0848	TG1268							X									
	5/5/2011	13:55	CR-MGC2	SN-0849	TG1269							X									
	5/5/2011	14:05	CR-MGC3	SN-0850	TG1270							X									
	5/5/2011	14:15	CR-MGD1	SN-0851	TG1271							X									
	5/5/2011	14:25	CR-MGD2	SN-0852	TG1272							X									
	5/5/2011	14:35	CR-MGD3	SN-0853	TG1273							X									
	5/5/2011	14:45	CR-MGE1-1	SN-0854	TG1274	Field Split						X									
	5/5/2011	14:50	CR-MGE1-2	SN-0855	TG1275	Field Split						X									
	5/5/2011	14:55	CR-MGE2	SN-0856	TG1276							X									
	5/5/2011	15:05	CR-MGE3	SN-0857	TG1277							X									
Core composite																					
	5/5/2011	15:50	CR-MG1-1	SN-0858	TG1278-TG1280								X	X	X						
	5/5/2011	15:55	CR-MG1-2	SN-0859	TG1281-TG1283								X	X	X						
	5/5/2011	16:00	CR-MG2	SN-0860	TG1284-TG1286								X	X	X						
	5/5/2011	15:45	CR-MG3	SN-0861	TG1287-TG1289								X	X	X						

Table 3-6. 2011 Upper Columbia River Beach Sediment Samples

							Surface Grabs					Cores					Rinsate Blanks				
Station	Date	Time	Station ID	Sample Number	Tag Number	Field Split / Rinsate Blank Source / Split to EPA	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, TAL metals + U (<2 mm fraction)	TAL Metals, IVBA (fine fractions)	Radionuclides	TAL	Grain Size	Archive	pH, TOC, Total Sulfides, Percent Moisture, U, Aroclors, Pesticides, SVOCs, PAHs (<2 mm fraction)	PCB Congeners, Dioxins/Furans, PBDEs	TAL + U	TOC	Radionuclides	Organics [a]	PCB Congeners, Dioxins/Furans, PBDEs
McGuires (MG) (continued)																					
	Rinsate blank																				
	5/5/2011	16:15	SDBL-935C	SN-0862	TG1290-TG1300	Rinsate blank											X	X		X	(X) HOLD

Notes:

IVBA = *in vitro* bioaccessibility assay
PAH = polycyclic aromatic hydrocarbon
PBDE = polybrominated diphenyl ethers
PCB = polychlorinated biphenyl
SN = sample number
SVOC = semivolatile organic compound
TAL = target analyte list
TOC = total organic carbon
TG = tag number
U = elemental uranium

[a] Rinsate organics for cores only (PCB Aroclors, pesticides, PAHs, SVOCs, PCB congeners, dioxins, and PBDEs).

[b] EPA received a split of the 63 to 125 µm fraction for this sample.

[c] EPA received a split of the 125 to 250 µm fraction for thess samples.

[d] CR-LYE, 45-75 cm core sample, was not collected. Core log states there was 0% recovery after approximately 45cm (location LY-88).

Station ID

CR = sediment cores
SD = surface grabs

AA = AA Campground 2 Beach
BF = Bossburg Flat Beach
BB = Bradbury Beach
BL = Rinsate blank
CF = Colville Flats Beach
CR = Colville River Beach
CS = Crescent Bay Beach
EN = Enterprise Beach
EV = Evans Campground Beach
FC = Flat Creek Beach
HT = Hunters Beach
JB = Jones Bay Beach
KL = Kamloops Island Beach
KF = Kettle Falls Marina Beach
LY = Lyons Island Beach
MG = McGuire's Beach
MP = Mitchell Point Beach
HC = Mouth of Hawk Creek Beach
NA = Naborlee Beach
NZ = Nez Perce Creek Beach
SB = Seven Bays Beach
SC = Spring Canyon Beach
SW = Swawilla Basin Beach
DM = Swimming Hole Beach
RV = Upper Columbia River R.V. Park
WB = Welty Bay Beach
WS = Whitestone Campground Beach
WC = Wilmont Creek Beach

For cores the first number indicates the depth interval:
1 = 0 - 15 cm
2 = 15 - 45 cm
3= 45 - 75 cm

Table 3-7. 2009 Upper Columbia River Beach Sediment Sample Summary

Sample Type and Analysis	Samples	Field Sample Splits[a]	Field Rinsate Blanks	Total Number of Field Samples
Surface Sediments (0 –15 cm)				
Conventionals[b]	10	1	1 [c]	12
Metals	10	1	1	12
Radionuclides	1		1	2
Radionuclides (archive)	9	1		10
IVBA and Fine Fractions	2			2
Core Sediments (0–15 cm)				
Conventionals[b]	2	1	1 [d]	4
Metals	10	1	1 [d]	12
Radionuclides (archive)	2	1	1 [d]	4
PCB Aroclors	2	1	1 [d]	4
Pesticides	2	1	1 [d]	4
SVOCs	2	1	1 [d]	4
PAHs	2	1	1 [d]	4
PCB Congeners	1	1	1 [d]	4
Dioxins/Furans	1	1	1 [d]	4
PBDEs	1	1	1 [d]	4
Core Sediments (15–45 cm)				
Conventionals[b]	2			2
Metals	10			10
Radionuclides (archive)	2			2
PCB Aroclors	2			2
Pesticides	2			2
SVOCs	2			2
PAHs	2			2
PCB Congeners				0
Dioxins/Furans				0
PBDEs				0
Core Sediments (45–75 cm)				
Conventionals[b]	2			2
Metals	10			10
Radionuclides (archive)	2			2
PCB Aroclors	2			2
Pesticides	2			2
SVOCs	2			2
PAHs	2			2
PCB Congeners				0
Dioxins/Furans				0
PBDEs				0

Notes:

IVBA = *in vitro* bioaccessibility assay

PAH = polycyclic aromatic hydrocarbon

PBDE = polybrominated diphenyl ether

PCB = polychlorinated biphenyl

SVOC = semivolatile organic compound

[a] Field splits for EPA are not included in this summary sample count. Refer to Table 3-4 to locate EPA splits.

[b] Total solids, grain size, total organic carbon, pH, and total sulfides.

[c] Total organic carbon only.

[d] Field rinsate blanks are associated with core sediments from all depth intervals.

Table 3-8. 2010 Upper Columbia River Beach Sediment Sample Summary

Sample Type	Samples	Field Sample Splits[a]	Field Rinsate Blanks	Total Number of Field Samples
Surface Sediments (0–15 cm)				
Conventionals[b]	21	3	3	27
Metals	21	3	3	27
Radionuclides	2		2	4
Radionuclides (archive)	19			19
IVBA and Fine Fractions	5			5
Core Sediments (0–15 cm) [c]				
Conventionals[b]	4	1	2 [d]	7
Metals	20	1	2 [d]	23
Radionuclides (archive)	4	1	1 [d]	6
PCB Aroclors	4	1	2 [d]	7
Pesticides	4	1	2 [d]	7
SVOCs	4	1	2 [d]	7
PAHs	4	1	2 [d]	7
PCB Congeners	1		1 [d]	2
Dioxins/Furans	1		1 [d]	2
PBDEs	1		1 [d]	2
Core Sediments (15–45 cm) [e]				
Conventionals[b]	4	1		5
Metals	20	1		21
Radionuclides (archive)	4	1		5
PCB Aroclors	4	1		5
Pesticides	4	1		5
SVOCs	4	1		5
PAHs	4	1		5
PCB Congeners				0
Dioxins/Furans				0
PBDEs				0
Core Sediments (45–75 cm) [f]				
Conventionals[b]	4			4
Metals	20			20
Radionuclides (archive)	4			4
PCB Aroclors	4			4
Pesticides	4			4
SVOCs	4			4
PAHs	4			4
PCB Congeners	1			1
Dioxins/Furans	1			1
PBDEs	1			1

Notes:

IVBA = *in vitro* bioaccessibility assay

PAH = polycyclic aromatic hydrocarbon

PBDE = polybrominated diphenyl ether

PCB = polychlorinated biphenyl

SVOC = semivolatile organic compound

[a] Field splits for EPA are not included in this summary sample count. Refer to Table 3-5 to locate EPA splits.

[b] Total solids, grain size, total organic carbon, pH, and total sulfides.

[c] Cores from Summer Island were sectioned from 0 to 24 cm.

[d] Field rinsate blanks are associated with core sediments from all depth intervals.

[e] Cores from Summer Island were sectioned from 24 to 51 cm.

[f] Cores from Summer Island were sectioned from 51 to 76 cm.

Table 3-9. 2011 Upper Columbia River Beach Sediment Sample Summary

Sample Type	Samples	Field Sample Splits[a]	Field Rinsate Blanks	Total Number of Field Samples
Surface Sediments (0–15 cm)				
Conventionals[b]	135	13	13	161
Metals	135	13	13	161
Radionuclides	3		2	5
Radionuclides (archive)				0
IVBA and Fine Fractions	26	4		30
Core Sediments (0–15 cm)				
Conventionals[b]	26	5	13 [c]	44
Metals	130	5	13 [c]	148
Radionuclides (archive)	26	5		31
PCB Aroclors	26	5	13 [c]	44
Pesticides	26	5	13 [c]	44
SVOCs	26	5	13 [c]	44
PAHs	26	5	13 [c]	44
PCB Congeners	4	1	2 [c]	7
Dioxins/Furans	4	1	2 [c]	7
PBDEs	4	1	2 [c]	7
Core Sediments (15–45 cm)				
Conventionals[b]	26	4		30
Metals	130	4		134
Radionuclides (archive)	26	4		30
PCB Aroclors	26	4		30
Pesticides	26	4		30
SVOCs	26	4		30
PAHs	26	4		30
PCB Congeners	1			1
Dioxins/Furans	1			1
PBDEs	1			1
Core Sediments (45–75 cm)				
Conventionals[b]	26	4		30
Metals[d]	129	4		133
Radionuclides (archive)	26	4		30
PCB Aroclors	26	4		30
Pesticides	26	4		30
SVOCs	26	4		30
PAHs	26	4		30
PCB Congeners	1			1
Dioxins/Furans	1			1
PBDEs	1			1

Notes:

IVBA = *in vitro* bioaccessibility assay

PAH = polycyclic aromatic hydrocarbon

PBDE = polybrominated diphenyl ether

PCB = polychlorinated biphenyl

SVOC = semivolatile organic compound

[a] Field splits for EPA are not included in this summary sample count. Refer to Table 3-6 to locate EPA splits.

[b] Total solids, grain size, total organic carbon, pH, and total sulfides.

[c] Field rinsate blanks are associated with core sediments from all depth intervals.

[d] The 45-75 cm core sample count for metals analysis is 129 instead of 130 due to CR-LYE, which was not collected. Core log states there was 0% recovery after approximately 45cm (location LY-88).

Table 3-10. Summary of Total Organic Carbon Analyses in Beach Sediment Core Composite Samples (2009-2011)

Study	Material Analyzed	Sample Number	Station ID	Field Split	TOC, %	TOC > 1%	Analyzed for PCB Congeners, Dioxins/ Furans, and PBDEs
Teck 2009 Beach Sediment							
	Sediment <2mm	SN-0022	CR-BS1		0.76	No	No
	Sediment <2mm	SN-0023	CR-BS2		0.22	No	No
	Sediment <2mm	SN-0024	CR-BS3		0.44	No	No
	Sediment <2mm	SN-0047	CR-RV1-1	Field Split	1.56	Yes	Yes
	Sediment <2mm	SN-0048	CR-RV1-2	Field Split	1.46	Yes	Yes
	Sediment <2mm	SN-0049	CR-RV2		0.87	No	No
	Sediment <2mm	SN-0050	CR-RV3		0.67	No	No
Teck 2010 Beach Sediment							
	Sediment <2mm	SN-0071	CR-NP1		1.10	Yes	Yes
	Sediment <2mm	SN-0072	CR-NP2		0.54	No	No
	Sediment <2mm	SN-0073	CR-NP3		0.10	No	No
	Sediment <2mm	SN-0094	CR-DS1		0.66	No	No
	Sediment <2mm	SN-0095	CR-DS2-1	Field Split	0.53	No	No
	Sediment <2mm	SN-0096	CR-DS2-2	Field Split	0.52	No	No
	Sediment <2mm	SN-0097	CR-DS3		0.50	No	No
	Sediment <2mm	SN-0145	CR-SR1-1	Field Split	0.49	No	No
	Sediment <2mm	SN-0146	CR-SR1-2	Field Split	0.44	No	No
	Sediment <2mm	SN-0147	CR-SR2		0.15	No	No
	Sediment <2mm	SN-0148	CR-SR3		1.06	Yes	Yes
	Sediment <2mm	SN-0171	CR-BC1		0.26	No	No
	Sediment <2mm	SN-0172	CR-BC2		0.11	No	No
	Sediment <2mm	SN-0173	CR-BC3		0.37	No	No
Teck 2011 Beach Sediment							
	Sediment <2mm	SN-0221	CR-DM1		0.23	No	No
	Sediment <2mm	SN-0222	CR-DM2		0.28	No	No
	Sediment <2mm	SN-0223	CR-DM3		0.47	No	No
	Sediment <2mm	SN-0246	CR-EV1-1	Field Split	0.98	No	Yes [a]
	Sediment <2mm	SN-0247	CR-EV1-2	Field Split	0.58	No	No
	Sediment <2mm	SN-0248	CR-EV2		0.43	No	No
	Sediment <2mm	SN-0249	CR-EV3		0.67	No	No
	Sediment <2mm	SN-0272	CR-FC1		1.82	Yes	Yes
	Sediment <2mm	SN-0273	CR-FC2		1.23	Yes	Yes
	Sediment <2mm	SN-0274	CR-FC3		1.29	Yes	Yes
	Sediment <2mm	SN-0297	CR-WB1		0.77	No	No

Table 3-10. Summary of Total Organic Carbon Analyses in Beach Sediment Core Composite Samples (2009-2011)

Study	Material Analyzed	Sample Number	Station ID	Field Split	TOC, %	TOC > 1%	Analyzed for PCB Congeners, Dioxins/ Furans, and PBDEs
Teck 2011 Beach Sediment (continued)							
	Sediment <2mm	SN-0298	CR-WB2-1	Field Split	0.45	No	No
	Sediment <2mm	SN-0299	CR-WB2-2	Field Split	0.44	No	No
	Sediment <2mm	SN-0300	CR-WB3		0.65	No	No
	Sediment <2mm	SN-0323	CR-LY1		0.99	No	No
	Sediment <2mm	SN-0324	CR-LY2		0.67	No	No
	Sediment <2mm	SN-0325	CR-LY3		0.38	No	No
	Sediment <2mm	SN-0348	CR-KL1		0.94	No	No
	Sediment <2mm	SN-0349	CR-KL2		0.81	No	No
	Sediment <2mm	SN-0350	CR-KL3-1	Field Split	0.79	No	No
	Sediment <2mm	SN-0351	CR-KL3-2	Field Split	0.85	No	No
	Sediment <2mm	SN-0374	CR-AA1		0.11	No	No
	Sediment <2mm	SN-0375	CR-AA2		0.07	No	No
	Sediment <2mm	SN-0376	CR-AA3		0.06	No	No
	Sediment <2mm	SN-0399	CR-BF1-1	Field Split	1.06	Yes	Yes
	Sediment <2mm	SN-0400	CR-BF1-2	Field Split	1.70	Yes	Yes
	Sediment <2mm	SN-0401	CR-BF2		0.56	No	No
	Sediment <2mm	SN-0402	CR-BF3		0.18	No	No
	Sediment <2mm	SN-0425	CR-NZ1		0.04	No	No
	Sediment <2mm	SN-0426	CR-NZ2		0.06	No	No
	Sediment <2mm	SN-0427	CR-NZ3		0.15	No	No
	Sediment <2mm	SN-0450	CR-KF1		0.04	No	No
	Sediment <2mm	SN-0451	CR-KF2-1	Field Split	0.07	No	No
	Sediment <2mm	SN-0452	CR-KF2-2	Field Split	0.08	No	No
	Sediment <2mm	SN-0453	CR-KF3		0.05	No	No
	Sediment <2mm	SN-0476	CR-CF1		1.01	Yes	Yes
	Sediment <2mm	SN-0477	CR-CF2		0.49	No	No
	Sediment <2mm	SN-0478	CR-CF3		0.38	No	No
	Sediment <2mm	SN-0501	CR-WC1		0.22	No	No
	Sediment <2mm	SN-0502	CR-WC2		0.34	No	No
	Sediment <2mm	SN-0503	CR-WC3-1	Field Split	0.48	No	No
	Sediment <2mm	SN-0504	CR-WC3-2	Field Split	0.37	No	No
	Sediment <2mm	SN-0527	CR-CR1		0.12	No	No
	Sediment <2mm	SN-0528	CR-CR2		0.14	No	No
	Sediment <2mm	SN-0529	CR-CR3		0.14	No	No
	Sediment <2mm	SN-0552	CR-EN1-1	Field Split	0.25	No	No

Table 3-10. Summary of Total Organic Carbon Analyses in Beach Sediment Core Composite Samples (2009-2011)

Study	Material Analyzed	Sample Number	Station ID	Field Split	TOC, %	TOC > 1%	Analyzed for PCB Congeners, Dioxins/ Furans, and PBDEs
Teck 2011 Beach Sediment (continued)							
	Sediment <2mm	SN-0553	CR-EN1-2	Field Split	0.11	No	No
	Sediment <2mm	SN-0554	CR-EN2		0.06	No	No
	Sediment <2mm	SN-0555	CR-EN3		0.06	No	No
	Sediment <2mm	SN-0578	CR-BB1		0.06	No	No
	Sediment <2mm	SN-0579	CR-BB2		0.29	No	No
	Sediment <2mm	SN-0580	CR-BB3		0.50	No	No
	Sediment <2mm	SN-0603	CR-NA1		0.28	No	No
	Sediment <2mm	SN-0604	CR-NA2-1	Field Split	0.16	No	No
	Sediment <2mm	SN-0605	CR-NA2-2	Field Split	0.20	No	No
	Sediment <2mm	SN-0606	CR-NA3		0.10	No	No
	Sediment <2mm	SN-0629	CR-MP1		0.15	No	No
	Sediment <2mm	SN-0630	CR-MP2		0.15	No	No
	Sediment <2mm	SN-0631	CR-MP3		0.16	No	No
	Sediment <2mm	SN-0654	CR-SW1		0.05	No	No
	Sediment <2mm	SN-0655	CR-SW2		0.06	No	No
	Sediment <2mm	SN-0656	CR-SW3-1	Field Split	0.04	No	No
	Sediment <2mm	SN-0657	CR-SW3-2	Field Split	0.03	No	No
	Sediment <2mm	SN-0680	CR-JB1		0.07	No	No
	Sediment <2mm	SN-0681	CR-JB2		0.08	No	No
	Sediment <2mm	SN-0682	CR-JB3		0.06	No	No
	Sediment <2mm	SN-0705	CR-SC1-1	Field Split	0.07	No	No
	Sediment <2mm	SN-0706	CR-SC1-2	Field Split	0.06	No	No
	Sediment <2mm	SN-0707	CR-SC2		0.15	No	No
	Sediment <2mm	SN-0708	CR-SC3		0.12	No	No
	Sediment <2mm	SN-0731	CR-WS1		0.08	No	No
	Sediment <2mm	SN-0732	CR-WS2		0.09	No	No
	Sediment <2mm	SN-0733	CR-WS3		0.09	No	No
	Sediment <2mm	SN-0756	CR-CS1		0.07	No	No
	Sediment <2mm	SN-0757	CR-CS2-1	Field Split	0.06	No	No
	Sediment <2mm	SN-0758	CR-CS2-2	Field Split	0.06	No	No
	Sediment <2mm	SN-0759	CR-CS3		0.05	No	No
	Sediment <2mm	SN-0782	CR-HC1		0.02	No	No
	Sediment <2mm	SN-0783	CR-HC2		0.03	No	No
	Sediment <2mm	SN-0784	CR-HC3		0.03	No	No
	Sediment <2mm	SN-0807	CR-HT1		0.43	No	No

Table 3-10. Summary of Total Organic Carbon Analyses in Beach Sediment Core Composite Samples (2009-2011)

Study	Material Analyzed	Sample Number	Station ID	Field Split	TOC, %	TOC > 1%	Analyzed for PCB Congeners, Dioxins/ Furans, and PBDEs
Teck 2011 Beach Sediment (continued)							
	Sediment <2mm	SN-0808	CR-HT2		0.48	No	No
	Sediment <2mm	SN-0809	CR-HT3-1	Field Split	0.58	No	No
	Sediment <2mm	SN-0810	CR-HT3-2	Field Split	0.66	No	No
	Sediment <2mm	SN-0833	CR-SB1		0.03	No	No
	Sediment <2mm	SN-0834	CR-SB2		0.02	No	No
	Sediment <2mm	SN-0835	CR-SB3		0.03	No	No
	Sediment <2mm	SN-0858	CR-MG1-1	Field Split	0.11	No	No
	Sediment <2mm	SN-0859	CR-MG1-2	Field Split	0.09	No	No
	Sediment <2mm	SN-0860	CR-MG2		0.07	No	No
	Sediment <2mm	SN-0861	CR-MG3		0.07	No	No

Notes:

Includes rejected and non-reportable data.

PCB = polychlorinated biphenyl

PBDE = polybrominated diphenyl ether

SN = sample number

TOC = total organic carbon

[a] Analyses for PCB congeners, dioxins/furans, and PDBEs were initiated based upon preliminary TOC results, which indicated the TOC was greater than 1%. The final TOC result is presented here. Refer to Section 3.11.3 for further details.

Station ID

CR = sediment cores

AA = AA Campground 2 Beach
BF = Bossburg Flat Beach
BB = Bradbury Beach
BC = Barnaby Island Campground
BS = Black Sand Beach
CF = Colville Flats Beach
CR = Colville River Beach
CS = Crescent Bay Beach
DS = Dalles Orchard
EN = Enterprise Beach
EV = Evans Campground Beach
FC = Flat Creek Beach
HT = Hunters Beach
JB = Jones Bay Beach
KL = Kamloops Island Beach
KF = Kettle Falls Marina Beach
LY = Lyons Island Beach
MG = McGuire's Beach
MP = Mitchell Point Beach
HC = Mouth of Hawk Creek Beach
NA = Naborlee Beach
NP = Northport Beach
NZ = Nez Perce Creek Beach
SB = Seven Bays Beach
SC = Spring Canyon Beach
SR = Summer Island
SW = Swawilla Basin Beach
DM = Swimming Hole Beach
RV = Upper Columbia River R.V. Park
WB = Welty Bay Beach
WS = Whitestone Campground Beach
WC = Wilmont Creek Beach

For cores the first number indicates the depth interval:

1 = 0 - 15 cm
2 = 15 - 45 cm
3= 45 - 75 cm

Table 4-1. 2009 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

							Count of Accepted Results Laboratory Flags														Count of Accepted Results Validator (ESI) Flags											Laboratory Flags, % of Accepted Results														Validator (ESI) Flags, % of Accepted Results										
Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags	A	B	C	C J K	C K	C U	EMP C	J	J K	K	N*	Q	U	Ui	C	C EMPC	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ	A	B	C	C J K	C K	C U	EMP C	J	J K	K	N*	Q	U	Ui	C	C EMPC	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ
CAS	Organic carbon	Sediment <2mm	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	pH	Sediment <2mm	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Solids	Sediment <2mm	49	0 (0%)	49 (100%)	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sulfide	Sediment <2mm	18	0 (0%)	18 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
SGS NC	1,2,3,4,6,7,8-Heptachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	1,2,3,4,6,7,8-Heptachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	50	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0
SGS NC	1,2,3,4,7,8,9-Heptachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	1,2,3,4,7,8-Hexachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	1,2,3,4,7,8-Hexachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0
SGS NC	1,2,3,6,7,8-Hexachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	1,2,3,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0
SGS NC	1,2,3,7,8,9-Hexachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	1,2,3,7,8,9-Hexachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	1,2,3,7,8-Pentachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0
SGS NC	1,2,3,7,8-Pentachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	2,3,4,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0
SGS NC	2,3,4,7,8-Pentachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0
SGS NC	2,3,7,8-Tetrachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	2,3,7,8-Tetrachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	Octachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	Octachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	Tetrachlorodibenzodioxin (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0
SGS NC	Tetrachlorodibenzofuran (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0
SGS NC	Pentachlorodibenzodioxin (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0
SGS NC	Pentachlorodibenzofuran (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
SGS NC	Hexachlorodibenzodioxin (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0
SGS NC	Hexachlorodibenzofuran (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
SGS NC	Heptachlorodibenzodioxin (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
SGS NC	Heptachlorodibenzofuran (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
SGS NC	Dioxin/Furan TEQ using WHO 2005 TEFs ND=0 DL	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Dioxin/FuranTEQ using WHO 2005 TEFs ND=1/2 DL	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Clay	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Coarse Gravel	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Coarse sand	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobbles	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Fine Gravel	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Fine Sand	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Medium Sand	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Medium Gravel	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Silt	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Very Coarse Gravel	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Very Coarse Sand	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Very Fine Gravel	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Very fine sand	Sediment	18	0 (0%)	18 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Aluminum	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Aluminum	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Aluminum	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Aluminum	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Aluminum	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Antimony	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Antimony	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Antimony	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Antimony	Sediment <2mm	42	0 (0%)	42 (100%)	11	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0	0	0	0	0	0	73.8	0	0	0	0
CAS	Antimony	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Arsenic	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Arsenic	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Arsenic	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Arsenic	Sediment <2mm	42	0 (0%)	42 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Arsenic	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Beryllium	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Beryllium	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Beryllium	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Beryllium	Sediment <2mm	42	0 (0%)	42 (100%)	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11.9	0	0	0	0
CAS	Beryllium	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cadmium	Sediment 125-250µm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Cadmium	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Cadmium	Sediment 63-125µm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Cadmium	Sediment <2mm	42	0 (0%)	42 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Cadmium	Sediment <63µm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Calcium	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Calcium	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Calcium	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Calcium	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Calcium	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Chromium	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Chromium	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Chromium	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Chromium	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Chromium	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobalt	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobalt	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-1. 2009 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

							Count of Accepted Results Laboratory Flags														Count of Accepted Results Validator (ESI) Flags											Laboratory Flags, % of Accepted Results														Validator (ESI) Flags, % of Accepted Results										
Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags	A	B	C	C J K	C K	C U	EMP C	J	J K	K	N*	Q	U	Ui	C	C EMPC	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ	A	B	C	C J K	C K	C U	EMP C	J	J K	K	N*	Q	U	Ui	C	C EMPC	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ
CAS	Cobalt	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobalt	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobalt	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Copper	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Copper	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Copper	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Copper	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Copper	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead	Sediment <2mm	42	0 (0%)	42 (100%)	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73.8	0	0	0	0
CAS	Lead	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Magnesium	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Magnesium	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Magnesium	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Magnesium	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Magnesium	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Manganese	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Manganese	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Manganese	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Manganese	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Manganese	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Mercury	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Mercury	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Mercury	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Mercury	Sediment <2mm	42	0 (0%)	42 (100%)	39	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2.4	0	0	0	0	0	0	0	0	0	0	0	0	7.1	0	0	0	0
CAS	Mercury	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Nickel	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Nickel	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Nickel	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Nickel	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Nickel	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Potassium	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Potassium	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Potassium	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Potassium	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Potassium	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Selenium	Sediment 125-250µm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Selenium	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0
CAS	Selenium	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Selenium	Sediment <2mm	42	0 (0%)	42 (100%)	33	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	1	0	0	0	0	0	0	0	0	21.4	0	0	0	0	0	0	0	0	0	0	0	0	19	0	0	2.4	0
CAS	Selenium	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Silver	Sediment 125-250µm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Silver	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Silver	Sediment 63-125µm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Silver	Sediment <2mm	42	0 (0%)	42 (100%)	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38.1	0	0	0	0
CAS	Silver	Sediment <63µm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Sodium	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sodium	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sodium	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sodium	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sodium	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Thallium	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Thallium	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0
CAS	Thallium	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Thallium	Sediment <2mm	42	0 (0%)	42 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.8	0	0	23.8	0
CAS	Thallium	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Uranium	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Uranium	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Uranium	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Uranium	Sediment <2mm	18	0 (0%)	18 (100%)	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11.1	0	0	0	0
CAS	Uranium	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Vanadium	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Vanadium	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Vanadium	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Vanadium	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Vanadium	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Zinc	Sediment 125-250µm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Zinc	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Zinc	Sediment 63-125µm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Zinc	Sediment <2mm	42	0 (0%)	42 (100%)	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Zinc	Sediment <63µm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Arsenic, %	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Arsenic, %	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Arsenic, %	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Arsenic, %	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead, %	Sediment 125-250µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead, %	Sediment 250µm-2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead, %	Sediment 63-125µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead, %	Sediment <63µm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-1. 2009 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

							Count of Accepted Results Laboratory Flags														Count of Accepted Results Validator (ESI) Flags											Laboratory Flags, % of Accepted Results														Validator (ESI) Flags, % of Accepted Results										
Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags	A	B	C	C J K	C K	C U	EMP C	J	J K	K	N*	Q	U	Ui	C	C EMPC	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ	A	B	C	C J K	C K	C U	EMP C	J	J K	K	N*	Q	U	Ui	C	C EMPC	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ
CAS	1,1'-Biphenyl	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2-Methylnaphthalene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	6	0	0	0	0	1	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	85.7	0	0	0	0	14.3	0	0	0	0	0	0	0	85.7	0	14.3	0	0
CAS	Acenaphthene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Acenaphthylene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Anthracene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Benzo[a]anthracene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	2	0	0	0	0	5	0	0	0	0	0	0	0	2	0	5	0	0	0	0	0	0	0	0	0	28.6	0	0	0	0	71.4	0	0	0	0	0	0	0	28.6	0	71.4	0	0
CAS	Benzo[a]pyrene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	1	0	0	0	0	6	0	0	0	0	0	0	0	1	0	6	0	0	0	0	0	0	0	0	0	14.3	0	0	0	0	85.7	0	0	0	0	0	0	0	14.3	0	85.7	0	0
CAS	Benzo[b]fluoranthene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	2	0	0	0	0	5	0	0	0	0	0	0	0	2	0	5	0	0	0	0	0	0	0	0	0	28.6	0	0	0	0	71.4	0	0	0	0	0	0	0	28.6	0	71.4	0	0
CAS	Benzo[g,h,i]perylene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	1	0	0	0	0	6	0	0	0	0	0	0	0	1	0	6	0	0	0	0	0	0	0	0	0	14.3	0	0	0	0	85.7	0	0	0	0	0	0	0	14.3	0	85.7	0	0
CAS	Benzo[k]fluoranthene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Chrysene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	2	0	0	0	0	5	0	0	0	0	0	0	0	2	0	5	0	0	0	0	0	0	0	0	0	28.6	0	0	0	0	71.4	0	0	0	0	0	0	0	28.6	0	71.4	0	0
CAS	Dibenzo[a,h]anthracene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Dibenzofuran	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Fluoranthene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	4	0	0	0	0	3	0	0	0	0	0	0	0	4	0	3	0	0	0	0	0	0	0	0	0	57.1	0	0	0	0	42.9	0	0	0	0	0	0	0	57.1	0	42.9	0	0
CAS	Fluorene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Indeno[1,2,3-cd]pyrene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Naphthalene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	6	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0	85.7	0	0	0	0	14.3	0	0	0	0	0	0	0	0	0	14.3	85.7	0
CAS	Phenanthrene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	3	0	0	0	0	4	0	0	0	0	0	0	0	3	0	4	0	0	0	0	0	0	0	0	0	42.9	0	0	0	0	57.1	0	0	0	0	0	0	0	42.9	0	57.1	0	0
CAS	Pyrene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	3	0	0	0	0	4	0	0	0	0	0	0	0	3	0	4	0	0	0	0	0	0	0	0	0	42.9	0	0	0	0	57.1	0	0	0	0	0	0	0	42.9	0	57.1	0	0
SGS NC	PBDE 17, 25 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	50
SGS NC	PBDE 28, 33 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	50
SGS NC	PBDE 47	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PBDE 49	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50
SGS NC	PBDE 66	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50
SGS NC	PBDE 71	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50
SGS NC	PBDE 85	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 99	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PBDE 100	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	50
SGS NC	PBDE 128	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 138, 166 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 153	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 154	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 183	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 184	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 190	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 191	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 203	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 206	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50
SGS NC	PBDE 209	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Aroclor 1016	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	Aroclor 1221	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	Aroclor 1232	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	Aroclor 1242	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	Aroclor 1248	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	Aroclor 1254	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	Aroclor 1260	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	Aroclor 1262	Sediment <2mm	6	0 (0%)	6 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Aroclor 1268	Sediment <2mm	6	0 (0%)	6 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 1	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0
SGS NC	PCB 2	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
SGS NC	PCB 3	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0
SGS NC	PCB 4	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 5	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 6	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0
SGS NC	PCB 7	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 8	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 9	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 10	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 11	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 12, 13 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0	50	0	50	0	0	0	0	0	0	0
SGS NC	PCB 14	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 15	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0
SGS NC	PCB 16	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
SGS NC	PCB 17	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 18, 30 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0
SGS NC	PCB 19	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 20, 28 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	50	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 21, 33 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	50	0
SGS NC	PCB 22	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0
SGS NC	PCB 23	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 24	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 25	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0	0	50	50	0	0
SGS NC	PCB 26, 29 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0
SGS NC	PCB 27	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	50	0	0	50	0	0
SGS NC	PCB 31	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0
SGS NC	PCB 32	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
SGS NC	PCB 34	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 35	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 36	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 37	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 38	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 39	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 40, 71 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 41	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 42	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 43	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0

Table 4-1. 2009 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags														Count of Accepted Results Validator (ESI) Flags											Laboratory Flags, % of Accepted Results														Validator (ESI) Flags, % of Accepted Results										
							A	B	C	C J K	C K	C U	EMP C	J	J K	K	N*	Q	U	Ui	C	C EMPC	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ	A	B	C	C J K	C K	C U	EMP C	J	J K	K	N*	Q	U	Ui	C	C EMPC	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ
SGS NC	PCB 44, 47, 65 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 45, 51 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0
SGS NC	PCB 46	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 48	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 49, 69 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0
SGS NC	PCB 50, 53 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0
SGS NC	PCB 52	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 54	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 55	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 56	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 57	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 58	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 59, 62, 75 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 60	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 61, 70, 74, 76 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	50	0
SGS NC	PCB 63	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 64	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 66	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 67	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 68	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 72	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 73	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 77	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 78	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 79	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 80	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 81	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 82	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 83	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 84	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 85, 116, 117 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 86, 87, 97, 108, 119, 125 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0	0	0	0	0	0	0
SGS NC	PCB 88, 91 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 89	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 90, 101, 113 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 92	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 93, 100 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 94	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 95	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0
SGS NC	PCB 96	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 98, 102 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 99	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 103	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 104	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 105	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0
SGS NC	PCB 106	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 107, 124 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 109	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 110, 115 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 111	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 112	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 114	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 118	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 120	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 121	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 122	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 123	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 126	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 127	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 128, 166 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 129, 138, 163 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 130	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 131	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 132	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 133	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 134	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 135, 151 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0
SGS NC	PCB 136	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 137	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 139, 140 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 141	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 142	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 143	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 144	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 145	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 146	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 147, 149 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0
SGS NC	PCB 148	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 150	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 152	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 153, 168 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 154	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 155	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 156, 157 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 158	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 159	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0

Table 4-1. 2009 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags														Count of Accepted Results Validator (ESI) Flags											Laboratory Flags, % of Accepted Results														Validator (ESI) Flags, % of Accepted Results										
							A	B	C	C J K	C K	C U	EMP C	J	J K	K	N*	Q	U	Ui	C	C EMPC	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ	A	B	C	C J K	C K	C U	EMP C	J	J K	K	N*	Q	U	Ui	C	C EMPC	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ
SGS NC	PCB 160	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 161	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 162	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 164	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 165	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 167	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 169	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 170	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0
SGS NC	PCB 171, 173 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 172	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 174	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0
SGS NC	PCB 175	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 176	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 177	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 178	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 179	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 180, 193 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 181	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 182	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 183, 185 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 184	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 186	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 187	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 188	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 189	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 190	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 191	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 192	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 194	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 195	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 196	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 197, 200 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 198, 199 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0
SGS NC	PCB 201	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 202	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	50	0	0	50	0	0
SGS NC	PCB 203	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
SGS NC	PCB 204	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 205	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 206	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0
SGS NC	PCB 207	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 208	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 209	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Monochlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Dichlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Trichlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Tetrachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Pentachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Hexachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Heptachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Octachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Nonachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Decachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Total PCBs	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB TEQ using WHO 2005 TEFs ND=0 DL	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB TEQ using WHO 2005 TEFs ND=1/2 DL	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	2,4'-DDD	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,4'-DDE	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	2,4'-DDT	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4,4'-DDD	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85.7	14.3	0	0	0	0	0	0	0	0	100	0	0
CAS	4,4'-DDE	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4,4'-DDT	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Aldrin	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	alpha-Benzenehexachloride	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	alpha-Chlordane	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	beta-BHC	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Chlordane	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	cis-Nonachlor	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	delta-BHC	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Dieldrin	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Endosulfan I	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Endosulfan II	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Endosulfan sulfate	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Endrin	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Endrin aldehyde	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Endrin ketone	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	gamma-BHC	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	gamma-Chlordane	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Heptachlor	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Heptachlor epoxide	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Methoxychlor	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Mirex	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Oxychlordane	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Toxaphene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71.4	28.6	0	0	0	0	0	0	0	0	100	0	0
CAS	trans-Nonachlor	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
PACE	Radium-226	Sediment <2mm	1	0 (0%)	1 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PACE	Uranium-238	Sediment <2mm	1	0 (0%)	1 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-1. 2009 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags														Count of Accepted Results Validator (ESI) Flags																Laboratory Flags, % of Accepted Results														Validator (ESI) Flags, % of Accepted Results													
							A	B	C	C J K	C K	C U	EMP C	J	J K	K	N*	Q	U	Ui	C	C EMPC	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ	A	B	C	C J K	C K	C U	EMP C	J	J K	K	N*	Q	U	Ui	C	C EMPC	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ
CAS	1,2,4-Trichlorobenzene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	1,2-Dichlorobenzene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	1,3-Dichlorobenzene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	4	0	3	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	57.1	0	42.9
CAS	1,4-Dichlorobenzene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	2,2'-oxybis(1-Chloropropane)	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100
CAS	2,4,5-Trichlorophenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,4,6-Trichlorophenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,4-Dichlorophenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,4-Dimethylphenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100
CAS	2,4-Dinitrophenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,4-Dinitrotoluene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,6-Dinitrotoluene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2-Chloronaphthalene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2-Chlorophenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	2-Methylphenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100
CAS	2-Nitroaniline	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2-Nitrophenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	3,3'-Dichlorobenzidine	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	3-Nitroaniline	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4,6-Dinitro-2-methylphenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4-Bromophenyl-phenylether	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4-Chloro-3-methylphenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	4-Chloroaniline	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4-Chlorophenyl-phenyl ether	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4-Methylphenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100
CAS	4-Nitroaniline	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4-Nitrophenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100
CAS	Acetophenone	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	28.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
CAS	Benzaldehyde	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Benzoic acid	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100
CAS	Benzyl alcohol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Benzyl n-butyl phthalate	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Bis(2-chloroethoxy)methane	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Bis(2-chloroethyl)ether	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Bis(2-ethylhexyl)phthalate	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	14.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0
CAS	Caprolactam	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100
CAS	Carbazole	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Diethyl phthalate	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	1	0	5	0	1	0	0	0	0	0	0	0	0	0	0	85.7	0	0	0	0	0	0	0	14.3	0	71.4	0	14.3
CAS	Dimethyl phthalate	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Di-n-butyl phthalate	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Di-n-octylphthalate	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Hexachlorobenzene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100
CAS	Hexachlorobutadiene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Hexachlorocyclopentadiene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100
CAS	Hexachloroethane	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100
CAS	Isophorone	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Nitrobenzene	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	N-Nitrosodi-n-propylamine	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	N-Nitrosodiphenylamine	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Pentachlorophenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	5	0	2	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	71.4	0	28.6
CAS	Phenol	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	3	0	0	0	0	4	0	0	0	0	0	0	0	3	0	3	0	1	0	0	0	0	0	0	42.9	0	0	0	57.1	0	0	0	0	0	0	0	42.9	0	42.9	0	14.3

Notes:

Data exclude lab replicates, non-reportable data, and QC sample data.

Field replicate results are included separately from the parent samples.

ESI

C	The reported result represents the total concentration of the co-eluting congeners.
EMPC	Chromatographic peaks are present in the expected retention time window; however, the peaks do not meet all of the conditions required for a positive identification. The detection limit represents the estimated maximum possible concentration if the compound was present.
J	Quantitation is approximate due to limitations identified during the QA review (data validation).
U	This analyte was not detected at or above the associated detection limit.
U*	This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.
UJ	This analyte was not detected, but the detection limit is probably higher due to a low bias identified during the QA review.

CAS

*	The result is an outlier. See case narrative.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
J	The result is an estimated value that was detected outside the quanitition range.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.

SGS NC

A	Amount detected is less than the lower calibration limit.
B	Analyte was detected in the lab method blank at a level above the reporting limit.
C	Data refers to the first of the co-eluting congeners.
EMPC	Estimated maximum possible concentration.
J	The amount detected is below the Low Calibration Limit.
K	Data is being reported with a failing ratio and should be considered as an estimated value.
Q	Indicates the presence of a quantitative interference. This situation generally results in an underestimation of the affected analyte(s).
U	Identified a compound as not being detected.

Table 4-2. 2010 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags																	Count of Accepted Results Validator (ESI) Flags												Laboratory Flags, % of Accepted Results																	Validator (ESI) Flags, % of Accepted Results											
							*	A	B	C	C J	C J K	C K	C U	DPE	J	J K	JP	K	N	Q	U	Ui	C	C EMP C	C J	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ	*	A	B	C	C J	C J K	C K	C U	DPE	J	J K	JP	K	N	Q	U	Ui	C	C EMPC	C J	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ
CAS	Organic carbon	Sediment <2mm	38	0 (0%)	38 (100%)	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.3	0	0	0	0	0	0	0	0	23.7	0	5.3	0	0
CAS	pH	Sediment <2mm	38	0 (0%)	38 (100%)	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Solids	Sediment <2mm	100	0 (0%)	100 (100%)	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sulfide	Sediment <2mm	38	0 (0%)	38 (100%)	24	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	9	0	0	0	0	0	0	0	0	5	0	9	0	0	0	0	0	0	0	0	0	0	0	2.6	0	0	0	0	0	23.7	0	0	0	0	0	0	0	0	13.2	0	23.7	0	0
SGS NC	1,2,3,4,6,7,8-Heptachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0
SGS NC	1,2,3,4,6,7,8-Heptachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	1,2,3,4,7,8,9-Heptachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	1,2,3,4,7,8-Hexachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0
SGS NC	1,2,3,4,7,8-Hexachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	1,2,3,6,7,8-Hexachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	1,2,3,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	1,2,3,7,8,9-Hexachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0
SGS NC	1,2,3,7,8,9-Hexachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	1,2,3,7,8-Pentachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	1,2,3,7,8-Pentachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0
SGS NC	2,3,4,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	2,3,4,7,8-Pentachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0
SGS NC	2,3,7,8-Tetrachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0
SGS NC	2,3,7,8-Tetrachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Octachlorodibenzodioxin	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0
SGS NC	Octachlorodibenzofuran	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	Tetrachlorodibenzodioxin (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Tetrachlorodibenzofuran (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Pentachlorodibenzodioxin (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Pentachlorodibenzofuran (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Hexachlorodibenzodioxin (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Hexachlorodibenzofuran (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Heptachlorodibenzodioxin (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Heptachlorodibenzofuran (Total)	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Dioxin/Furan TEQ using WHO 2005 TEFs ND=0 DL	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Dioxin/Furan TEQ using WHO 2005 TEFs ND=1/2 DL	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Clay	Sediment	36	0 (0%)	36 (100%)	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55.6	0	0	0	0
CAS	Coarse Gravel	Sediment	36	0 (0%)	36 (100%)	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Coarse sand	Sediment	36	0 (0%)	36 (100%)	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobbles	Sediment	36	0 (0%)	36 (100%)	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Fine Gravel	Sediment	36	0 (0%)	36 (100%)	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75	0	0	0	0
CAS	Fine Sand	Sediment	36	0 (0%)	36 (100%)	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Medium Sand	Sediment	36	0 (0%)	36 (100%)	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0
CAS	Medium Gravel	Sediment	36	0 (0%)	36 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16.7	0	0	0	0
CAS	Silt	Sediment	36	0 (0%)	36 (100%)	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0
CAS	Very Coarse Gravel	Sediment	36	0 (0%)	36 (100%)	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Very Coarse Sand	Sediment	36	0 (0%)	36 (100%)	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0
CAS	Very Fine Gravel	Sediment	36	0 (0%)	36 (100%)	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72.2	0	0	0	0
CAS	Very fine sand	Sediment	36	0 (0%)	36 (100%)	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75	0	0	0	0
CAS	Aluminum	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Aluminum	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Aluminum	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Aluminum	Sediment <2mm	86	0 (0%)	86 (100%)	71	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.4	0	0	0	0
CAS	Aluminum	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Antimony	Sediment 125-250µm	5	0 (0%)	5 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Antimony	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Antimony	Sediment 63-125µm	5	0 (0%)	5 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Antimony	Sediment <2mm	86	0 (0%)	86 (100%)	10	0	0	0	0	0	0	0	0	0	9	0	0	0	16	0	0	0	0	0	0	0	0	0	0	59	0	0	3	0	0	0	0	0	0	0	0	0	0	10.5	0	0	0	18.6	0	0	0	0	0	0	0	0	0	0	68.6	0	0	3.5	0
CAS	Antimony	Sediment <63µm	5	0 (0%)	5 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Arsenic	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Arsenic	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Arsenic	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Arsenic	Sediment <2mm	86	0 (0%)	86 (100%)	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60.5	0	0	0	0
CAS	Arsenic	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment <2mm	86	0 (0%)	86 (100%)	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Beryllium	Sediment 125-250µm	5	0 (0%)	5 (100%)	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Beryllium	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Beryllium	Sediment 63-125µm	5	0 (0%)	5 (100%)	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Beryllium	Sediment <2mm	86	0 (0%)	86 (100%)	70	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	2.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.6	0	0	0	0
CAS	Beryllium	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cadmium	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cadmium	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cadmium	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cadmium	Sediment <2mm	86	0 (0%)	86 (100%)	44	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48.8	0	0	0	0
CAS	Cadmium	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Calcium	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Calcium	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Calcium	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Calcium	Sediment <2mm	86	0 (0%)	86 (100%)	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Calcium	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Chromium	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Chromium	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-2. 2010 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

							Count of Accepted Results Laboratory Flags																	Count of Accepted Results Validator (ESI) Flags												Laboratory Flags, % of Accepted Results																	Validator (ESI) Flags, % of Accepted Results											
Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags	*	A	B	C	C J	C J K	C K	C U	DP E	J	J K	JP	K	N	Q	U	Ui	C	C EMP C	C J	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ	*	A	B	C	C J	C J K	C K	C U	DPE	J	J K	JP	K	N	Q	U	Ui	C	C EMPC	C J	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ
CAS	Chromium	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Chromium	Sediment <2mm	86	0 (0%)	86 (100%)	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.3	0	0	0	0
CAS	Chromium	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobalt	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobalt	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobalt	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobalt	Sediment <2mm	86	0 (0%)	86 (100%)	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobalt	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Copper	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Copper	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Copper	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Copper	Sediment <2mm	86	0 (0%)	86 (100%)	71	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.4	0	0	0	0
CAS	Copper	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment <2mm	86	0 (0%)	86 (100%)	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead	Sediment <2mm	86	0 (0%)	86 (100%)	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33.7	0	0	0	0
CAS	Lead	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Magnesium	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Magnesium	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Magnesium	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Magnesium	Sediment <2mm	86	0 (0%)	86 (100%)	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Magnesium	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Manganese	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Manganese	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Manganese	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Manganese	Sediment <2mm	86	0 (0%)	86 (100%)	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12.8	0	0	0	0
CAS	Manganese	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Mercury	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Mercury	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Mercury	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Mercury	Sediment <2mm	86	0 (0%)	86 (100%)	34	0	0	0	0	0	0	0	0	0	29	0	0	0	0	0	3	0	0	0	0	0	0	0	0	49	0	3	0	0	0	0	0	0	0	0	0	0	0	33.7	0	0	0	0	0	3.5	0	0	0	0	0	0	0	0	57	0	3.5	0	0
CAS	Mercury	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Nickel	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Nickel	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Nickel	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Nickel	Sediment <2mm	86	0 (0%)	86 (100%)	55	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0
CAS	Nickel	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Potassium	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Potassium	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Potassium	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Potassium	Sediment <2mm	86	0 (0%)	86 (100%)	75	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12.8	0	0	0	0	0	0	0	0	0	0	12.8	0	0	0	0
CAS	Potassium	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Selenium	Sediment 125-250µm	5	0 (0%)	5 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	20	60	0
CAS	Selenium	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	20	20	0
CAS	Selenium	Sediment 63-125µm	5	0 (0%)	5 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	20	80	0
CAS	Selenium	Sediment <2mm	86	0 (0%)	86 (100%)	37	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	35	0	0	0	0	0	0	0	0	1	0	35	13	0	0	0	0	0	0	0	0	0	0	5.8	0	0	0	0	0	40.7	0	0	0	0	0	0	0	0	1.2	0	40.7	15.1	0
CAS	Selenium	Sediment <63µm	5	0 (0%)	5 (100%)	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0
CAS	Silver	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Silver	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Silver	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Silver	Sediment <2mm	86	0 (0%)	86 (100%)	71	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.4	0	0	0	0
CAS	Silver	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sodium	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sodium	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sodium	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sodium	Sediment <2mm	86	0 (0%)	86 (100%)	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sodium	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Thallium	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Thallium	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Thallium	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Thallium	Sediment <2mm	86	0 (0%)	86 (100%)	70	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.5	0
CAS	Thallium	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Uranium	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Uranium	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Uranium	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Uranium	Sediment <2mm	38	0 (0%)	38 (100%)	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Uranium	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Vanadium	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Vanadium	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Vanadium	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Vanadium	Sediment <2mm	86	0 (0%)	86 (100%)	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.4	0	0	0	0
CAS	Vanadium	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Zinc	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Zinc	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-2. 2010 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

							Count of Accepted Results Laboratory Flags																	Count of Accepted Results Validator (ESI) Flags												Laboratory Flags, % of Accepted Results																	Validator (ESI) Flags, % of Accepted Results											
Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags	*	A	B	C	C J	C J K	C K	C U	DP E	J	J K	JP	K	N	Q	U	Ui	C	C EMP C	C J	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ	*	A	B	C	C J	C J K	C K	C U	DPE	J	J K	JP	K	N	Q	U	Ui	C	C EMPC	C J	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ
CAS	Zinc	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Zinc	Sediment <2mm	86	0 (0%)	86 (100%)	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Zinc	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Arsenic, %	Sediment 125-250µm	5	0 (0%)	5 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80	0	0	20	0
CAS	Arsenic, %	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80	0	0	20	0
CAS	Arsenic, %	Sediment 63-125µm	5	0 (0%)	5 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Arsenic, %	Sediment <63µm	5	0 (0%)	5 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
CAS	Lead, %	Sediment 125-250µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead, %	Sediment 250µm-2mm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead, %	Sediment 63-125µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead, %	Sediment <63µm	5	0 (0%)	5 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	1,1'-Biphenyl	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2-Methylnaphthalene	Sediment <2mm	14	0 (0%)	14 (100%)	7	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	5	0	0	0	0	0	0	0	0	2	0	5	0	0	0	0	0	0	0	0	0	0	0	14.3	0	0	0	0	0	35.7	0	0	0	0	0	0	0	0	14.3	0	35.7	0	0
CAS	Acenaphthene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Acenaphthylene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Anthracene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	100
CAS	Benzo[a]anthracene	Sediment <2mm	14	0 (0%)	14 (100%)	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	11	0	0	0	0	0	0	0	0	2	0	11	0	0	0	0	0	0	0	0	0	0	0	14.3	0	0	0	0	0	78.6	0	0	0	0	0	0	0	0	14.3	0	78.6	0	0
CAS	Benzo[a]pyrene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	11	0	0	0	0	0	0	0	0	3	0	11	0	0	0	0	0	0	0	0	0	0	0	21.4	0	0	0	0	0	78.6	0	0	0	0	0	0	0	0	21.4	0	78.6	0	0
CAS	Benzo[b]fluoranthene	Sediment <2mm	14	0 (0%)	14 (100%)	3	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	7	0	0	0	0	0	0	0	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0	0	0	50	0	0	0	0	0	0	0	0	28.6	0	50	0	0
CAS	Benzo[g,h,i]perylene	Sediment <2mm	14	0 (0%)	14 (100%)	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	10	0	0	0	0	0	0	0	0	3	0	10	0	0	0	0	0	0	0	0	0	0	0	21.4	0	0	0	0	0	71.4	0	0	0	0	0	0	0	0	21.4	0	71.4	0	0
CAS	Benzo[k]fluoranthene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	13	0	0	0	0	0	0	0	0	1	0	0	0	13	0	0	0	0	0	0	0	0	0	7.1	0	0	0	0	0	92.9	0	0	0	0	0	0	0	0	7.1	0	0	0	92.9
CAS	Chrysene	Sediment <2mm	14	0 (0%)	14 (100%)	2	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	6	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	42.9	0	0	0	0	0	42.9	0	0	0	0	0	0	0	0	42.9	0	42.9	0	0
CAS	Dibenzo[a,h]anthracene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Dibenzofuran	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	11	0	0	0	0	0	0	0	0	3	0	11	0	0	0	0	0	0	0	0	0	0	0	21.4	0	0	0	0	0	78.6	0	0	0	0	0	0	0	0	21.4	0	78.6	0	0
CAS	Fluoranthene	Sediment <2mm	14	0 (0%)	14 (100%)	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	8	0	0	0	0	0	0	0	0	3	0	8	0	0	0	0	0	0	0	0	0	0	0	21.4	0	0	0	0	0	57.1	0	0	0	0	0	0	0	0	21.4	0	57.1	0	0
CAS	Fluorene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Indeno[1,2,3-cd]pyrene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	12	0	0	0	0	0	0	0	0	2	0	12	0	0	0	0	0	0	0	0	0	0	0	14.3	0	0	0	0	0	85.7	0	0	0	0	0	0	0	0	14.3	0	85.7	0	0
CAS	Naphthalene	Sediment <2mm	14	0 (0%)	14 (100%)	5	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	3	0	0	0	0	0	0	0	0	0	0	57.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42.9	0	0	21.4	0
CAS	Phenanthrene	Sediment <2mm	14	0 (0%)	14 (100%)	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35.7	0	0	0	0	0	0	0	0	0	0	35.7	0	0
CAS	Pyrene	Sediment <2mm	14	0 (0%)	14 (100%)	3	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	7	0	0	0	0	0	0	0	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0	0	0	50	0	0	0	0	0	0	0	0	28.6	0	50	0	0
SGS NC	PBDE 17, 25 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0
SGS NC	PBDE 28, 33 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PBDE 47	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0
SGS NC	PBDE 49	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0
SGS NC	PBDE 66	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0
SGS NC	PBDE 71	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 85	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0
SGS NC	PBDE 99	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PBDE 100	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0
SGS NC	PBDE 128	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 138, 166 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 153	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PBDE 154	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PBDE 183	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PBDE 184	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 190	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 191	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 203	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 206	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PBDE 209	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0
CAS	Aroclor 1016	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Aroclor 1221	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Aroclor 1232	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Aroclor 1242	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Aroclor 1248	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Aroclor 1254	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Aroclor 1260	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Aroclor 1262	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Aroclor 1268	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
SGS NC	PCB 1	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0
SGS NC	PCB 2	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	50	0	0	50	0	0
SGS NC	PCB 3	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0
SGS NC	PCB 4	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0
SGS NC	PCB 5	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0
SGS NC	PCB 6	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 7	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0
SGS NC	PCB 8	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0
SGS NC	PCB 9	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0
SGS NC	PCB 10	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	50	0	0
SGS NC	PCB 11	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 12, 13 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0
SGS NC	PCB 14	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 15	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 16	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	50	0	0
SGS NC	PCB 17	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0
SGS NC	PCB 18, 30 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	50	0
SGS NC	PCB 19	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	50	0	0	0	0	0	0	0	0	50	0	50	0	0
SGS NC	PCB 20, 28 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 21, 33 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 22	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0

Table 4-2. 2010 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags																	Count of Accepted Results Validator (ESI) Flags												Laboratory Flags, % of Accepted Results																	Validator (ESI) Flags, % of Accepted Results											
							*	A	B	C	C J	C J K	C K	C U	DP E	J	J K	JP	K	N	Q	U	Ui	C	C EMP C	C J	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ	*	A	B	C	C J	C J K	C K	C U	DPE	J	J K	JP	K	N	Q	U	Ui	C	C EMPC	C J	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ
SGS NC	PCB 23	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 24	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 25	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	50	0	0	0	0	0	0	0	0	50	0	50	0	0
SGS NC	PCB 26, 29 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0	0	0	0	0	0
SGS NC	PCB 27	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 31	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 32	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0
SGS NC	PCB 34	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 35	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	50	0	0	0	0	0	0	0	0	0	50	50	0	0
SGS NC	PCB 36	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 37	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 38	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 39	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 40, 71 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0
SGS NC	PCB 41	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 42	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 43	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 44, 47, 65 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 45, 51 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0
SGS NC	PCB 46	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 48	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 49, 69 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0	0	0	0	0	0	0	0
SGS NC	PCB 50, 53 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0
SGS NC	PCB 52	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 54	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 55	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 56	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0
SGS NC	PCB 57	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 58	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 59, 62, 75 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 60	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0
SGS NC	PCB 61,70,74, 76 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	50	0	0	0	0	0	0
SGS NC	PCB 63	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 64	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0
SGS NC	PCB 66	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 67	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 68	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 72	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 73	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 77	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	50	0	0	50	0	0
SGS NC	PCB 78	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 79	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 80	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 81	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 82	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	50	0	0	50	0	0
SGS NC	PCB 83	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 84	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	50	0	0	50	0	0
SGS NC	PCB 85, 116, 117 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0
SGS NC	PCB 86, 87, 97, 108, 119, 125 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	0
SGS NC	PCB 88, 91 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0
SGS NC	PCB 89	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 90, 101, 113 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	50	0	0	0	0	0	0
SGS NC	PCB 92	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 93, 100 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 94	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 95	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 96	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 98, 102 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 99	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 103	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 104	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 105	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 106	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 107, 124 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 109	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 110, 115 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 111	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 112	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 114	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 118	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 120	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 121	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 122	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 123	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 126	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 127	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 128, 166 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0
SGS NC	PCB 129, 138, 163 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 130	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 131	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0

Table 4-2. 2010 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags																	Count of Accepted Results Validator (ESI) Flags												Laboratory Flags, % of Accepted Results																	Validator (ESI) Flags, % of Accepted Results											
							*	A	B	C	C J	C J K	C K	C U	DP E	J	J K	JP	K	N	Q	U	Ui	C	C EMP C	C J	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ	*	A	B	C	C J	C J K	C K	C U	DPE	J	J K	JP	K	N	Q	U	Ui	C	C EMPC	C J	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ
SGS NC	PCB 132	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 133	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 134	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 135, 151 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 136	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 137	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 139, 140 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 141	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 142	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 143	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 144	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	50	0	0	50	0	0
SGS NC	PCB 145	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 146	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 147, 149 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 148	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 150	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 152	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 153, 168 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 154	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 155	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 156, 157 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0
SGS NC	PCB 158	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 159	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 160	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 161	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 162	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 164	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 165	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 167	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 169	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 170	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 171, 173 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0
SGS NC	PCB 172	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 174	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 175	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 176	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 177	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 178	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 179	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 180, 193 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	50	0	50	0	0	0	0	0	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	0	0
SGS NC	PCB 181	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 182	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 183, 185 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0
SGS NC	PCB 184	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 186	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 187	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0
SGS NC	PCB 188	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 189	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 190	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 191	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 192	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 194	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 195	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 196	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 197, 200 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0
SGS NC	PCB 198, 199 coelution	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0	50	0	0	0	0	0	0	0
SGS NC	PCB 201	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 202	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 203	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 204	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 205	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 206	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 207	Sediment <2mm	2	0 (0%)	2 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
SGS NC	PCB 208	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	PCB 209	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	50	0	0
SGS NC	Monochlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Dichlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Trichlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Tetrachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Pentachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Hexachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Heptachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Octachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Nonachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Decachlorobiphenyl homologs	Sediment <2mm	2	0 (0%)	2 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Total PCBs	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB TEQ using WHO 2005 TEFs ND=0 DL	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB TEQ using WHO 2005 TEFs ND=1/2 DL	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	2,4'-DDD	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	12	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	2,4'-DDE	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	12	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	85.7	0	14.3

Table 4-2. 2010 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags																	Count of Accepted Results Validator (ESI) Flags												Laboratory Flags, % of Accepted Results																	Validator (ESI) Flags, % of Accepted Results											
							*	A	B	C	C J	C J K	C K	C U	DP E	J	J K	JP	K	N	Q	U	Ui	C	C EMP C	C J	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ	*	A	B	C	C J	C J K	C K	C U	DPE	J	J K	JP	K	N	Q	U	Ui	C	C EMPC	C J	C J EMP C	C U	C U*	EMP C	J	J EMP C	U	U*	UJ
CAS	2,4'-DDT	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	12	1	0	0	0	0	0	0	0	1	0	11	0	2	0	0	0	0	0	0	0	0	0	7.1	0	0	0	0	0	85.7	7.1	0	0	0	0	0	0	0	7.1	0	78.6	0	14.3
CAS	4,4'-DDD	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	4,4'-DDE	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	12	0	0	0	0	0	0	0	0	2	0	11	0	1	0	0	0	0	0	0	0	0	0	14.3	0	0	0	0	0	85.7	0	0	0	0	0	0	0	0	14.3	0	78.6	0	7.1
CAS	4,4'-DDT	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	13	0	0	0	0	0	0	0	0	1	0	12	0	1	0	0	0	0	0	0	0	0	0	0	0	7.1	0	0	0	92.9	0	0	0	0	0	0	0	0	7.1	0	85.7	0	7.1
CAS	Aldrin	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	alpha-Benzenehexachloride	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	12	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	85.7	0	14.3
CAS	alpha-Chlordane	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	beta-BHC	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	13	0	0	0	0	0	0	0	0	1	0	12	0	1	0	0	0	0	0	0	0	0	0	7.1	0	0	0	0	0	92.9	0	0	0	0	0	0	0	0	7.1	0	85.7	0	7.1
CAS	Chlordane	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	cis-Nonachlor	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	delta-BHC	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Dieldrin	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Endosulfan I	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Endosulfan II	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Endosulfan sulfate	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Endrin	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Endrin aldehyde	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Endrin ketone	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	gamma-BHC	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	gamma-Chlordane	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Heptachlor	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Heptachlor epoxide	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Methoxychlor	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Mirex	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Oxychlordane	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	1	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92.9	7.1	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Toxaphene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	1	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92.9	7.1	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	trans-Nonachlor	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
PACE	Radium-226	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PACE	Uranium-238	Sediment <2mm	2	0 (0%)	2 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	1,2,4-Trichlorobenzene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	1,2-Dichlorobenzene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	1,3-Dichlorobenzene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	1,4-Dichlorobenzene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,2'-oxybis(1-Chloropropane)	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,4,5-Trichlorophenol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,4,6-Trichlorophenol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,4-Dichlorophenol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,4-Dimethylphenol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,4-Dinitrophenol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,4-Dinitrotoluene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2,6-Dinitrotoluene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2-Chloronaphthalene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2-Chlorophenol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2-Methylphenol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2-Nitroaniline	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	2-Nitrophenol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	3,3'-Dichlorobenzidine	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	3-Nitroaniline	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4,6-Dinitro-2-methylphenol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4-Bromophenyl-phenylether	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4-Chloro-3-methylphenol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4-Chloroaniline	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4-Chlorophenyl-phenyl ether	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4-Methylphenol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4-Nitroaniline	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	4-Nitrophenol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Acetophenone	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	12	0	0	0	0	0	0	0	0	0	0	78.6	0	0	0	0	0	14.3	0	0	0	0	0	0	0	0	0	0	14.3	85.7	0
CAS	Benzaldehyde	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	13	0	0	0	0	0	0	0	0	1	0	13	0	0	0	0	0	0	0	0	0	0	0	7.1	0	0	0	0	0	92.9	0	0	0	0	0	0	0	0	7.1	0	92.9	0	0
CAS	Benzoic acid	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Benzyl alcohol	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Benzyl n-butyl phthalate	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	12	0	0	0	0	0	0	0	0	2	0	12	0	0	0	0	0	0	0	0	0	0	0	14.3	0	0	0	0	0	85.7	0	0	0	0	0	0	0	0	14.3	0	85.7	0	0
CAS	Bis(2-chloroethoxy)methane	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Bis(2-chloroethyl)ether	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Bis(2-ethylhexyl)phthalate	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	1	0	0	0	0	0	0	0	0	11	0	1	2	0	0	0	0	0	0	0	0	0	0	92.9	0	0	0	0	0	7.1	0	0	0	0	0	0	0	0	78.6	0	7.1	14.3	0
CAS	Caprolactam	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Carbazole	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Diethyl phthalate	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	13	0	0	0	0	0	0	0	0	1	0	13	0	0	0	0	0	0	0	0	0	0	0	7.1	0	0	0	0	0	92.9	0	0	0	0	0	0	0	0	7.1	0	92.9	0	0
CAS	Dimethyl phthalate	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
CAS	Di-n-butyl phthalate	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Di-n-octylphthalate	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14.3	85.7	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Hexachlorobenzene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	13	0	0	0	0	0	0	0	0	1	0	10	0	3	0	0	0	0	0	0	0	0	0	7.1	0	0	0	0	0	92.9	0	0	0	0	0	0	0	0	7.1	0	71.4	0	21.4
CAS	Hexachlorobutadiene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	92.9	0	7.1
CAS	Hexachlorocyclopentadiene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Hexachloroethane	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Isophorone	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Nitrobenzene	Sediment <2mm	14	0 (0%)	14 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	100	0	0

Table 4-2. 2010 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed	Reject Results	Accepted Results	Count of Results with No Flags
CAS	N-Nitrosodi-n-propylamine	Sediment <2mm	14	0 (0%)	14 (100%)	0
CAS	N-Nitrosodiphenylamine	Sediment <2mm	14	0 (0%)	14 (100%)	0
CAS	Pentachlorophenol	Sediment <2mm	14	0 (0%)	14 (100%)	0
CAS	Phenol	Sediment <2mm	14	0 (0%)	14 (100%)	0

Count of Accepted Results Laboratory Flags

Lab	Analyte Name	*	A	B	C	C J	C J K	C K	C U	DPE	J	J K	JP	K	N	Q	U	Ui
CAS	N-Nitrosodi-n-propylamine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0
CAS	N-Nitrosodiphenylamine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0
CAS	Pentachlorophenol	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0
CAS	Phenol	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0

Count of Accepted Results Validator (ESI) Flags

Lab	Analyte Name	C	C EMPC	C J	C J EMPC	C U	C U*	EMPC	J	J EMPC	U	U*	UJ
CAS	N-Nitrosodi-n-propylamine	0	0	0	0	0	0	0	0	0	14	0	0
CAS	N-Nitrosodiphenylamine	0	0	0	0	0	0	0	0	0	14	0	0
CAS	Pentachlorophenol	0	0	0	0	0	0	0	0	0	14	0	0
CAS	Phenol	0	0	0	0	0	0	0	0	0	0	14	0

Laboratory Flags, % of Accepted Results

Lab	Analyte Name	*	A	B	C	C J	C J K	C K	C U	DPE	J	J K	JP	K	N	Q	U	Ui
CAS	N-Nitrosodi-n-propylamine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
CAS	N-Nitrosodiphenylamine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
CAS	Pentachlorophenol	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
CAS	Phenol	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0

Validator (ESI) Flags, % of Accepted Results

Lab	Analyte Name	C	C EMPC	C J	C J EMPC	C U	C U*	EMPC	J	J EMPC	U	U*	UJ
CAS	N-Nitrosodi-n-propylamine	0	0	0	0	0	0	0	0	0	100	0	0
CAS	N-Nitrosodiphenylamine	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Pentachlorophenol	0	0	0	0	0	0	0	0	0	100	0	0
CAS	Phenol	0	0	0	0	0	0	0	0	0	0	100	0

Notes:

Data exclude lab replicates, non-reportable data, and QC sample data.
Field replicate results are included separately from the parent samples.

ESI

C	The reported result represents the total concentration of the co-eluting congeners.
EMPC	Chromatographic peaks are present in the expected retention time window; however, the peaks do not meet all of the conditions required for a positive identification. The detection limit represents the estimated maximum possible concentration if the compound was present.
J	Quantitation is approximate due to limitations identified during the QA review (data validation).
U	This analyte was not detected at or above the associated detection limit.
U*	This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.
UJ	This analyte was not detected, but the detection limit is probably higher due to a low bias identified during the QA review.

CAS

*	The result is an outlier. See case narrative.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
J	The result is an estimated value that was detected outside the quanitition range.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.

SGS NC

A	Amount detected is less than the lower calibration limit.
B	Analyte was detected in the lab method blank at a level about the reporting limit.
C	Data refers to the first of the co-eluting congeners.
DPE	Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s).
J	The amount detected is between the method detection limit and the lower calibration limit.
K	Data is being reported with a failing ratio and should be considered as an estimated value.
Q	Indicates the presence of a quantitative interference. This situation generally results in an underestimation of the affected analyte(s).
U	Undetected.

Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed [a]	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags										Count of Accepted Results Validator (ESI) Flags				Laboratory Flags, % of Accepted Results										Validator (ESI) Flags, % of Accepted Results			
							*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ	*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ
CAS	Organic carbon	Sediment <2mm	234	0 (0%)	234 (100%)	170	0	0	0	30	0	0	0	0	1	0	63	1	0	0	0	0	0	12.8	0	0	0	0	0.4	0	26.9	0.4	0	0
CAS	pH	Sediment <2mm	234	0 (0%)	234 (100%)	223	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	4.7	0	0	0
CAS	Solids	Sediment <2mm	636	0 (0%)	636 (100%)	634	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0
CAS	Solids	Sediment <250µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sulfide	Sediment <2mm	234	0 (0%)	234 (100%)	59	0	0	0	61	0	0	0	0	82	0	93	53	0	29	0	0	0	26.1	0	0	0	0	35	0	39.7	22.6	0	12.4
SGS NC	1,2,3,4,6,7,8-Heptachlorodibenzodioxin	Sediment <2mm	7	0 (0%)	7 (100%)	6	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	14.3	0	0	0	0	0	0	0	0	14.3	0	0
SGS NC	1,2,3,4,6,7,8-Heptachlorodibenzofuran	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	6	1	0	0	0	0	0	6	1	0	0	0	0	0	85.7	14.3	0	0	0	0	0	85.7	14.3	0	0
SGS NC	1,2,3,4,7,8,9-Heptachlorodibenzofuran	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	0	0	0	0	6	0	1	6	0	0	0	0	0	14.3	0	0	0	0	85.7	0	14.3	85.7	0	0
SGS NC	1,2,3,4,7,8-Hexachlorodibenzodioxin	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	3	0	0	0	0	4	0	3	4	0	0	0	0	0	42.9	0	0	0	0	57.1	0	42.9	57.1	0	0
SGS NC	1,2,3,4,7,8-Hexachlorodibenzofuran	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	2	0	0	0	4	0	1	6	0	0	0	0	0	14.3	28.6	0	0	0	57.1	0	14.3	85.7	0	0
SGS NC	1,2,3,6,7,8-Hexachlorodibenzodioxin	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	2	1	0	0	0	4	0	2	5	0	0	0	0	0	28.6	14.3	0	0	0	57.1	0	28.6	71.4	0	0
SGS NC	1,2,3,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	3	0	0	0	0	4	0	3	4	0	0	0	0	0	42.9	0	0	0	0	57.1	0	42.9	57.1	0	0
SGS NC	1,2,3,7,8,9-Hexachlorodibenzodioxin	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	2	0	0	0	4	0	1	6	0	0	0	0	0	14.3	28.6	0	0	0	57.1	0	14.3	85.7	0	0
SGS NC	1,2,3,7,8,9-Hexachlorodibenzofuran	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	2	0	0	0	4	0	1	6	0	0	0	0	0	14.3	28.6	0	0	0	57.1	0	14.3	85.7	0	0
SGS NC	1,2,3,7,8-Pentachlorodibenzofuran	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	2	1	0	0	0	4	0	2	5	0	0	0	0	0	28.6	14.3	0	0	0	57.1	0	28.6	71.4	0	0
SGS NC	1,2,3,7,8-Pentachlorodibenzo-dioxin	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	3	0	0	0	4	0	0	7	0	0	0	0	0	0	42.9	0	0	0	57.1	0	0	100	0	0
SGS NC	2,3,4,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	2	0	0	0	4	0	1	6	0	0	0	0	0	14.3	28.6	0	0	0	57.1	0	14.3	85.7	0	0
SGS NC	2,3,4,7,8-Pentachlorodibenzofuran	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	4	1	0	0	0	2	0	4	3	0	0	0	0	0	57.1	14.3	0	0	0	28.6	0	57.1	42.9	0	0
SGS NC	2,3,7,8-Tetrachlorodibenzodioxin	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	1	1	1	0	0	0	4	0	1	6	0	0	0	0	14.3	14.3	14.3	0	0	0	57.1	0	14.3	85.7	0	0
SGS NC	2,3,7,8-Tetrachlorodibenzofuran	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Octachlorodibenzodioxin	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Octachlorodibenzofuran	Sediment <2mm	7	0 (0%)	7 (100%)	2	0	0	0	4	1	0	0	0	0	0	4	1	0	0	0	0	0	57.1	14.3	0	0	0	0	0	57.1	14.3	0	0
SGS NC	Tetrachlorodibenzodioxin (Total)	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	2	0	0	0	0	5	0	2	5	0	0	0	0	0	28.6	0	0	0	0	71.4	0	28.6	71.4	0	0
SGS NC	Tetrachlorodibenzofuran (Total)	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Pentachlorodibenzodioxin (Total)	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	0	0	0	0	6	0	1	6	0	0	0	0	0	14.3	0	0	0	0	85.7	0	14.3	85.7	0	0
SGS NC	Pentachlorodibenzofuran (Total)	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	6	0	0	0	0	0	0	6	0	0	0	0	0	0	85.7	0	0	0	0	0	0	85.7	0	0	0
SGS NC	Hexachlorodibenzodioxin (Total)	Sediment <2mm	7	0 (0%)	7 (100%)	3	0	0	0	4	0	0	0	0	0	0	4	0	0	0	0	0	0	57.1	0	0	0	0	0	0	57.1	0	0	0
SGS NC	Hexachlorodibenzofuran (Total)	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	5	0	0	0	0	1	0	5	1	0	0	0	0	0	71.4	0	0	0	0	14.3	0	71.4	14.3	0	0
SGS NC	Heptachlorodibenzodioxin (Total)	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Heptachlorodibenzofuran (Total)	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	28.6	0	0	0	0	0	0	28.6	0	0	0
SGS NC	Dioxin/Furan TEQ using WHO 2005 TEFs ND=0 DL	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Dioxin/Furan TEQ using WHO 2005 TEFs ND=1/2 DL	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Clay	Sediment	234	0 (0%)	234 (100%)	228	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	2.6	0	0	0
CAS	Coarse Gravel	Sediment	234	0 (0%)	234 (100%)	232	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0.4
CAS	Coarse sand	Sediment	234	0 (0%)	234 (100%)	205	0	0	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	12.4	0	0	0
CAS	Cobbles	Sediment	234	0 (0%)	234 (100%)	234	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Fine Gravel	Sediment	234	0 (0%)	234 (100%)	61	0	0	0	0	0	0	0	0	0	0	146	0	0	27	0	0	0	0	0	0	0	0	0	0	62.4	0	0	11.5
CAS	Fine Sand	Sediment	234	0 (0%)	234 (100%)	214	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	8.5	0	0	0
CAS	Medium Sand	Sediment	234	0 (0%)	234 (100%)	232	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	0	0	0
CAS	Medium Gravel	Sediment	234	0 (0%)	234 (100%)	174	0	0	0	0	0	0	0	0	0	0	19	0	0	41	0	0	0	0	0	0	0	0	0	0	8.1	0	0	17.5
CAS	Silt	Sediment	234	0 (0%)	234 (100%)	232	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	0	0	0
CAS	Very Coarse Gravel	Sediment	234	0 (0%)	234 (100%)	232	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0.4
CAS	Very Coarse Sand	Sediment	234	0 (0%)	234 (100%)	203	0	0	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	13.2	0	0	0
CAS	Very Fine Gravel	Sediment	234	0 (0%)	234 (100%)	149	0	0	0	0	0	0	0	0	0	0	85	0	0	0	0	0	0	0	0	0	0	0	0	0	36.3	0	0	0
CAS	Very fine sand	Sediment	234	0 (0%)	234 (100%)	230	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1.7	0	0	0
CAS	Aluminum	Sediment 125-250µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Aluminum	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Aluminum	Sediment 63-125µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Aluminum	Sediment <2mm	545	0 (0%)	545 (100%)	541	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0	0	0
CAS	Aluminum	Sediment <63µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Antimony	Sediment 125-250µm	30	0 (0%)	30 (100%)	4	1	0	0	0	0	0	0	0	0	0	21	0	5	0	3.3	0	0	0	0	0	0	0	0	0	70	0	16.7	0

Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed [a]	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags										Count of Accepted Results Validator (ESI) Flags				Laboratory Flags, % of Accepted Results										Validator (ESI) Flags, % of Accepted Results			
							*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ	*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ
CAS	Antimony	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	3	1	0	0	0	0	0	0	0	0	0	23	0	4	0	3.3	0	0	0	0	0	0	0	0	0	76.7	0	13.3	0
CAS	Antimony	Sediment 63-125µm	30	0 (0%)	30 (100%)	3	1	0	0	0	0	0	0	0	0	0	21	0	6	0	3.3	0	0	0	0	0	0	0	0	0	70	0	20	0
CAS	Antimony	Sediment <2mm	545	0 (0%)	545 (100%)	29	0	0	0	19	0	0	0	0	1	0	449	0	66	1	0	0	0	3.5	0	0	0	0	0.2	0	82.4	0	12.1	0.2
CAS	Antimony	Sediment <63µm	30	0 (0%)	30 (100%)	5	1	0	0	0	0	0	0	0	0	0	25	0	0	0	3.3	0	0	0	0	0	0	0	0	0	83.3	0	0	0
CAS	Arsenic	Sediment 125-250µm	30	0 (0%)	30 (100%)	25	5	0	0	0	0	0	0	0	0	0	5	0	0	0	16.7	0	0	0	0	0	0	0	0	0	16.7	0	0	0
CAS	Arsenic	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	25	5	0	0	0	0	0	0	0	0	0	5	0	0	0	16.7	0	0	0	0	0	0	0	0	0	16.7	0	0	0
CAS	Arsenic	Sediment 63-125µm	30	0 (0%)	30 (100%)	25	5	0	0	0	0	0	0	0	0	0	5	0	0	0	16.7	0	0	0	0	0	0	0	0	0	16.7	0	0	0
CAS	Arsenic	Sediment <2mm	552	0 (0%)	552 (100%)	399	57	0	0	0	0	0	0	0	0	0	115	0	0	0	10.3	0	0	0	0	0	0	0	0	0	20.8	0	0	0
CAS	Arsenic	Sediment <63µm	30	0 (0%)	30 (100%)	23	5	0	0	0	0	0	0	0	0	0	7	0	0	0	16.7	0	0	0	0	0	0	0	0	0	23.3	0	0	0
CAS	Arsenic	Sediment <250µm	25	0 (0%)	25 (100%)	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0
CAS	Barium	Sediment 125-250µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment 63-125µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Barium	Sediment <2mm	545	0 (0%)	545 (100%)	469	0	0	0	0	0	0	0	31	0	0	76	0	0	0	0	0	0	0	0	0	0	5.7	0	0	13.9	0	0	0
CAS	Barium	Sediment <63µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Beryllium	Sediment 125-250µm	30	0 (0%)	30 (100%)	25	0	0	0	1	0	0	0	0	0	0	5	0	0	0	0	0	0	3.3	0	0	0	0	0	0	16.7	0	0	0
CAS	Beryllium	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
CAS	Beryllium	Sediment 63-125µm	30	0 (0%)	30 (100%)	27	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0
CAS	Beryllium	Sediment <2mm	545	0 (0%)	545 (100%)	470	0	0	0	0	0	0	0	0	0	0	75	0	0	0	0	0	0	0	0	0	0	0	0	0	13.8	0	0	0
CAS	Beryllium	Sediment <63µm	30	0 (0%)	30 (100%)	20	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	33.3	0	0	0
CAS	Cadmium	Sediment 125-250µm	30	0 (0%)	30 (100%)	25	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	16.7	0	0	0
CAS	Cadmium	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	24	0	0	0	0	0	0	0	0	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	16.7	0	3.3	0
CAS	Cadmium	Sediment 63-125µm	30	0 (0%)	30 (100%)	25	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	16.7	0	0	0
CAS	Cadmium	Sediment <2mm	552	0 (0%)	552 (100%)	335	84	0	0	0	0	0	0	0	0	0	128	0	39	0	15.2	0	0	0	0	0	0	0	0	0	23.2	0	7.1	0
CAS	Cadmium	Sediment <63µm	30	0 (0%)	30 (100%)	25	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	16.7	0	0	0
CAS	Calcium	Sediment 125-250µm	30	0 (0%)	30 (100%)	20	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	33.3	0	0	33.3	0	0	0
CAS	Calcium	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	20	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	33.3	0	0	33.3	0	0	0
CAS	Calcium	Sediment 63-125µm	30	0 (0%)	30 (100%)	20	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	33.3	0	0	33.3	0	0	0
CAS	Calcium	Sediment <2mm	545	0 (0%)	545 (100%)	382	15	0	0	0	0	0	0	86	0	0	148	0	0	0	2.8	0	0	0	0	0	0	15.8	0	0	27.2	0	0	0
CAS	Calcium	Sediment <63µm	30	0 (0%)	30 (100%)	18	0	0	0	0	0	0	0	10	0	0	12	0	0	0	0	0	0	0	0	0	0	33.3	0	0	40	0	0	0
CAS	Chromium	Sediment 125-250µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Chromium	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Chromium	Sediment 63-125µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Chromium	Sediment <2mm	552	0 (0%)	552 (100%)	514	16	0	0	0	0	0	0	0	0	0	22	0	0	0	2.9	0	0	0	0	0	0	0	0	0	4	0	0	0
CAS	Chromium	Sediment <63µm	30	0 (0%)	30 (100%)	28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
CAS	Cobalt	Sediment 125-250µm	30	0 (0%)	30 (100%)	29	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3.3	0	0	0
CAS	Cobalt	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobalt	Sediment 63-125µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Cobalt	Sediment <2mm	545	0 (0%)	545 (100%)	525	14	0	0	0	0	0	0	0	0	0	20	0	0	0	2.6	0	0	0	0	0	0	0	0	0	3.7	0	0	0
CAS	Cobalt	Sediment <63µm	30	0 (0%)	30 (100%)	28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
CAS	Copper	Sediment 125-250µm	30	0 (0%)	30 (100%)	27	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0
CAS	Copper	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	29	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3.3	0	0	0
CAS	Copper	Sediment 63-125µm	30	0 (0%)	30 (100%)	27	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0
CAS	Copper	Sediment <2mm	545	0 (0%)	545 (100%)	510	16	0	0	0	0	0	0	0	0	0	35	0	0	0	2.9	0	0	0	0	0	0	0	0	0	6.4	0	0	0
CAS	Copper	Sediment <63µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment 125-250µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment 63-125µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Iron	Sediment <2mm	545	0 (0%)	545 (100%)	453	0	0	0	0	0	0	0	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	0	0	16.9	0	0	0
CAS	Iron	Sediment <63µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Lead	Sediment 125-250µm	30	0 (0%)	30 (100%)	24	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0

Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed [a]	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags										Count of Accepted Results Validator (ESI) Flags				Laboratory Flags, % of Accepted Results										Validator (ESI) Flags, % of Accepted Results			
							*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ	*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ
CAS	Lead	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	24	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0
CAS	Lead	Sediment 63-125µm	30	0 (0%)	30 (100%)	22	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	26.7	0	0	0
CAS	Lead	Sediment <2mm	552	0 (0%)	552 (100%)	489	26	0	0	0	0	0	0	0	0	0	37	0	0	0	4.7	0	0	0	0	0	0	0	0	0	6.7	0	0	0
CAS	Lead	Sediment <63µm	30	0 (0%)	30 (100%)	22	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	26.7	0	0	0
CAS	Lead	Sediment <250µm	35	0 (0%)	35 (100%)	0	0	0	0	0	0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0
CAS	Magnesium	Sediment 125-250µm	30	0 (0%)	30 (100%)	25	0	0	0	0	0	0	0	5	0	0	4	0	0	0	0	0	0	0	0	0	0	16.7	0	0	13.3	0	0	0
CAS	Magnesium	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	25	0	0	0	0	0	0	0	5	0	0	4	0	0	0	0	0	0	0	0	0	0	16.7	0	0	13.3	0	0	0
CAS	Magnesium	Sediment 63-125µm	30	0 (0%)	30 (100%)	25	0	0	0	0	0	0	0	5	0	0	4	0	0	0	0	0	0	0	0	0	0	16.7	0	0	13.3	0	0	0
CAS	Magnesium	Sediment <2mm	545	0 (0%)	545 (100%)	460	0	0	0	0	0	0	0	53	0	0	85	0	0	0	0	0	0	0	0	0	0	9.7	0	0	15.6	0	0	0
CAS	Magnesium	Sediment <63µm	30	0 (0%)	30 (100%)	25	0	0	0	0	0	0	0	5	0	0	4	0	0	0	0	0	0	0	0	0	0	16.7	0	0	13.3	0	0	0
CAS	Manganese	Sediment 125-250µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Manganese	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Manganese	Sediment 63-125µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Manganese	Sediment <2mm	545	0 (0%)	545 (100%)	422	11	0	0	0	0	0	0	0	0	0	123	0	0	0	2	0	0	0	0	0	0	0	0	0	22.6	0	0	0
CAS	Manganese	Sediment <63µm	30	0 (0%)	30 (100%)	28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
CAS	Mercury	Sediment 125-250µm	30	0 (0%)	30 (100%)	10	0	0	0	15	0	0	0	0	5	0	11	5	4	0	0	0	0	50	0	0	0	0	16.7	0	36.7	16.7	13.3	0
CAS	Mercury	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	10	0	0	0	15	0	0	0	0	5	0	11	5	4	0	0	0	0	50	0	0	0	0	16.7	0	36.7	16.7	13.3	0
CAS	Mercury	Sediment 63-125µm	30	0 (0%)	30 (100%)	9	0	0	0	17	0	0	0	0	2	0	15	2	4	0	0	0	0	56.7	0	0	0	0	6.7	0	50	6.7	13.3	0
CAS	Mercury	Sediment <2mm	545	0 (0%)	545 (100%)	150	0	0	0	339	0	0	0	0	28	0	367	28	0	0	0	0	0	62.2	0	0	0	0	5.1	0	67.3	5.1	0	0
CAS	Mercury	Sediment <63µm	30	0 (0%)	30 (100%)	25	0	0	0	5	0	0	0	0	0	0	5	0	0	0	0	0	0	16.7	0	0	0	0	0	0	16.7	0	0	0
CAS	Nickel	Sediment 125-250µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Nickel	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Nickel	Sediment 63-125µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Nickel	Sediment <2mm	545	0 (0%)	545 (100%)	440	0	0	0	0	0	0	0	0	0	0	105	0	0	0	0	0	0	0	0	0	0	0	0	0	19.3	0	0	0
CAS	Nickel	Sediment <63µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Potassium	Sediment 125-250µm	30	0 (0%)	30 (100%)	25	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	16.7	0	0	16.7	0	0	0
CAS	Potassium	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	25	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	16.7	0	0	16.7	0	0	0
CAS	Potassium	Sediment 63-125µm	30	0 (0%)	30 (100%)	25	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	16.7	0	0	16.7	0	0	0
CAS	Potassium	Sediment <2mm	545	0 (0%)	545 (100%)	526	0	0	0	0	0	0	0	15	0	0	19	0	0	0	0	0	0	0	0	0	0	2.8	0	0	3.5	0	0	0
CAS	Potassium	Sediment <63µm	30	0 (0%)	30 (100%)	25	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	16.7	0	0	16.7	0	0	0
CAS	Selenium	Sediment 125-250µm	30	0 (0%)	30 (100%)	0	0	0	0	5	0	0	0	0	25	0	5	25	0	0	0	0	0	16.7	0	0	0	0	83.3	0	16.7	83.3	0	0
CAS	Selenium	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	0	0	0	0	4	0	0	0	0	26	0	4	26	0	0	0	0	0	13.3	0	0	0	0	86.7	0	13.3	86.7	0	0
CAS	Selenium	Sediment 63-125µm	30	0 (0%)	30 (100%)	0	0	0	0	5	0	0	0	0	25	0	5	25	0	0	0	0	0	16.7	0	0	0	0	83.3	0	16.7	83.3	0	0
CAS	Selenium	Sediment <2mm	552	0 (0%)	552 (100%)	21	0	0	0	101	0	0	0	0	419	0	112	419	0	0	0	0	0	18.3	0	0	0	0	75.9	0	20.3	75.9	0	0
CAS	Selenium	Sediment <63µm	30	0 (0%)	30 (100%)	2	0	0	0	11	0	0	0	0	17	0	11	17	0	0	0	0	0	36.7	0	0	0	0	56.7	0	36.7	56.7	0	0
CAS	Silver	Sediment 125-250µm	30	0 (0%)	30 (100%)	8	0	0	0	1	0	0	0	0	0	0	0	0	22	0	0	0	0	3.3	0	0	0	0	0	0	0	0	73.3	0
CAS	Silver	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	6	0	0	0	1	0	0	0	0	0	0	2	0	22	0	0	0	0	3.3	0	0	0	0	0	0	6.7	0	73.3	0
CAS	Silver	Sediment 63-125µm	30	0 (0%)	30 (100%)	13	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	56.7	0
CAS	Silver	Sediment <2mm	545	0 (0%)	545 (100%)	445	15	0	0	4	0	0	0	0	0	0	38	0	47	0	2.8	0	0	0.7	0	0	0	0	0	0	7	0	8.6	0
CAS	Silver	Sediment <63µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sodium	Sediment 125-250µm	30	0 (0%)	30 (100%)	28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
CAS	Sodium	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sodium	Sediment 63-125µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Sodium	Sediment <2mm	545	0 (0%)	545 (100%)	465	0	0	0	11	0	0	0	0	0	0	80	0	0	0	0	0	0	2	0	0	0	0	0	0	14.7	0	0	0
CAS	Sodium	Sediment <63µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Thallium	Sediment 125-250µm	30	0 (0%)	30 (100%)	20	0	0	0	0	0	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0	0	0	0	20	0	13.3	0
CAS	Thallium	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	20	0	0	0	0	0	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0	0	0	0	20	0	13.3	0
CAS	Thallium	Sediment 63-125µm	30	0 (0%)	30 (100%)	18	0	0	0	0	0	0	0	0	0	0	8	0	4	0	0	0	0	0	0	0	0	0	0	0	26.7	0	13.3	0
CAS	Thallium	Sediment <2mm	552	0 (0%)	552 (100%)	401	20	0	0	0	0	0	0	0	0	0	85	0	48	0	3.6	0	0	0	0	0	0	0	0	0	15.4	0	8.7	0
CAS	Thallium	Sediment <63µm	30	0 (0%)	30 (100%)	24	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0
CAS	Uranium	Sediment 125-250µm	30	0 (0%)	30 (100%)	15	15	0	0	0	0	0	0	0	0	0	15	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0

Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed [a]	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags										Count of Accepted Results Validator (ESI) Flags				Laboratory Flags, % of Accepted Results										Validator (ESI) Flags, % of Accepted Results			
							*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ	*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ
CAS	Uranium	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	15	15	0	0	0	0	0	0	0	0	0	15	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0
CAS	Uranium	Sediment 63-125µm	30	0 (0%)	30 (100%)	15	15	0	0	0	0	0	0	0	0	0	15	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0
CAS	Uranium	Sediment <2mm	234	0 (0%)	234 (100%)	152	58	0	0	0	0	0	0	0	0	0	62	0	0	0	24.8	0	0	0	0	0	0	0	0	0	26.5	0	0	0
CAS	Uranium	Sediment <63µm	30	0 (0%)	30 (100%)	15	15	0	0	0	0	0	0	0	0	0	15	0	0	0	50	0	0	0	0	0	0	0	0	0	50	0	0	0
CAS	Vanadium	Sediment 125-250µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Vanadium	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Vanadium	Sediment 63-125µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Vanadium	Sediment <2mm	552	0 (0%)	552 (100%)	518	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	6.2	0	0	0
CAS	Vanadium	Sediment <63µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Zinc	Sediment 125-250µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Zinc	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Zinc	Sediment 63-125µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Zinc	Sediment <2mm	545	0 (0%)	545 (100%)	541	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0	0	0
CAS	Zinc	Sediment <63µm	30	0 (0%)	30 (100%)	28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
CAS	Arsenic, %	Sediment 125-250µm	30	0 (0%)	30 (100%)	28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
CAS	Arsenic, %	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	26	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	13.3	0	0	0
CAS	Arsenic, %	Sediment 63-125µm	30	0 (0%)	30 (100%)	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	Arsenic, %	Sediment <63µm	30	0 (0%)	30 (100%)	26	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	13.3	0	0	0
CAS	Lead, %	Sediment 125-250µm	30	0 (0%)	30 (100%)	28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
CAS	Lead, %	Sediment 250µm-2mm	30	0 (0%)	30 (100%)	28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
CAS	Lead, %	Sediment 63-125µm	30	0 (0%)	30 (100%)	28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
CAS	Lead, %	Sediment <63µm	30	0 (0%)	30 (100%)	28	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
CAS	1,1'-Biphenyl	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	9	0	0	0	0	82	0	9	81	0	1	0	0	0	9.9	0	0	0	0	90.1	0	9.9	89	0	1.1
CAS	2-Methylnaphthalene	Sediment <2mm	91	0 (0%)	91 (100%)	14	0	0	0	11	0	0	0	0	66	0	11	66	0	0	0	0	0	12.1	0	0	0	0	72.5	0	12.1	72.5	0	0
CAS	Acenaphthene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	91	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
CAS	Acenaphthylene	Sediment <2mm	91	0 (0%)	91 (100%)	1	0	0	0	2	0	0	0	0	88	0	2	86	0	2	0	0	0	2.2	0	0	0	0	96.7	0	2.2	94.5	0	2.2
CAS	Anthracene	Sediment <2mm	91	0 (0%)	91 (100%)	1	0	0	0	6	0	0	0	0	84	0	6	84	0	0	0	0	0	6.6	0	0	0	0	92.3	0	6.6	92.3	0	0
CAS	Benzo[a]anthracene	Sediment <2mm	91	0 (0%)	91 (100%)	8	0	0	0	10	0	0	0	0	71	0	12	71	0	0	0	0	0	11	0	0	0	0	78	0	13.2	78	0	0
CAS	Benzo[a]pyrene	Sediment <2mm	91	0 (0%)	91 (100%)	7	0	0	0	10	0	0	0	0	71	0	13	71	0	0	0	0	0	11	0	0	0	0	78	0	14.3	78	0	0
CAS	Benzo[b]fluoranthene	Sediment <2mm	91	0 (0%)	91 (100%)	14	0	0	0	5	0	0	0	0	69	0	8	69	0	0	0	0	0	5.5	0	0	0	0	75.8	0	8.8	75.8	0	0
CAS	Benzo[g,h,i]perylene	Sediment <2mm	91	0 (0%)	91 (100%)	12	0	0	0	6	0	0	0	0	70	0	9	70	0	0	0	0	0	6.6	0	0	0	0	76.9	0	9.9	76.9	0	0
CAS	Benzo[k]fluoranthene	Sediment <2mm	91	0 (0%)	91 (100%)	5	0	0	0	6	0	0	0	0	78	0	8	78	0	0	0	0	0	6.6	0	0	0	0	85.7	0	8.8	85.7	0	0
CAS	Chrysene	Sediment <2mm	91	0 (0%)	91 (100%)	11	0	0	0	7	0	0	0	0	70	0	10	70	0	0	0	0	0	7.7	0	0	0	0	76.9	0	11	76.9	0	0
CAS	Dibenzo[a,h]anthracene	Sediment <2mm	91	0 (0%)	91 (100%)	1	0	0	0	4	0	0	0	0	86	0	4	85	0	1	0	0	0	4.4	0	0	0	0	94.5	0	4.4	93.4	0	1.1
CAS	Dibenzofuran	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	13	0	0	0	0	78	0	13	77	0	1	0	0	0	14.3	0	0	0	0	85.7	0	14.3	84.6	0	1.1
CAS	Fluoranthene	Sediment <2mm	91	0 (0%)	91 (100%)	15	0	0	0	5	0	0	0	0	68	0	8	68	0	0	0	0	0	5.5	0	0	0	0	74.7	0	8.8	74.7	0	0
CAS	Fluorene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	11	0	0	0	0	80	0	11	80	0	0	0	0	0	12.1	0	0	0	0	87.9	0	12.1	87.9	0	0
CAS	Indeno[1,2,3-cd]pyrene	Sediment <2mm	91	0 (0%)	91 (100%)	7	0	0	0	9	0	0	0	0	73	0	11	72	0	1	0	0	0	9.9	0	0	0	0	80.2	0	12.1	79.1	0	1.1
CAS	Naphthalene	Sediment <2mm	91	0 (0%)	91 (100%)	15	0	0	0	24	0	0	0	0	52	0	23	52	1	0	0	0	0	26.4	0	0	0	0	57.1	0	25.3	57.1	1.1	0
CAS	Phenanthrene	Sediment <2mm	91	0 (0%)	91 (100%)	16	0	0	0	0	0	0	0	0	72	0	3	71	0	1	0	0	0	0	0	0	0	0	79.1	0	3.3	78	0	1.1
CAS	Pyrene	Sediment <2mm	91	0 (0%)	91 (100%)	15	0	0	0	10	0	0	1	0	62	0	14	62	0	0	0	0	0	11	0	0	1.1	0	68.1	0	15.4	68.1	0	0
SGS NC	PBDE 17, 25 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	4	3	0	0	0	0	0	4	3	0	0	0	0	0	57.1	42.9	0	0	0	0	0	57.1	42.9	0	0
SGS NC	PBDE 28, 33 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	5	2	0	0	0	0	0	0	2	5	0	0	0	0	71.4	28.6	0	0	0	0	0	0	28.6	71.4	0
SGS NC	PBDE 47	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	3	0	0	0	0	0	0	0	0	3	0	0	0	0	42.9	0	0	0	0	0	0	0	0	42.9	0	0	0
SGS NC	PBDE 49	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	14.3	0	0	0	0	0	0	0	14.3	14.3	0	0
SGS NC	PBDE 66	Sediment <2mm	7	0 (0%)	7 (100%)	2	0	0	2	0	1	0	0	0	0	0	2	3	0	0	0	0	28.6	0	14.3	0	0	0	0	0	28.6	42.9	0	0
SGS NC	PBDE 71	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	4	1	0	0	0	2	0	4	3	0	0	0	0	0	57.1	14.3	0	0	0	28.6	0	57.1	42.9	0	0
SGS NC	PBDE 85	Sediment <2mm	7	0 (0%)	7 (100%)	3	0	0	0	1	1	0	0	0	0	0	3	1	0	0	0	0	0	14.3	14.3	0	0	0	0	0	42.9	14.3	0	0
SGS NC	PBDE 99	Sediment <2mm	7	0 (0%)	7 (100%)	3	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	28.6	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	PBDE 100	Sediment <2mm	7	0 (0%)	7 (100%)	4	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	42.9	0	0	0
SGS NC	PBDE 128	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0

Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed [a]	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags										Count of Accepted Results Validator (ESI) Flags				Laboratory Flags, % of Accepted Results									Validator (ESI) Flags, % of Accepted Results			
							*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ	*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ
SGS NC	PBDE 138, 166 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	1	0	3	0	0	0	1	0	2	4	0	1	0	0	14.3	0	42.9	0	0	0	14.3	0	28.6	57.1	0	14.3
SGS NC	PBDE 153	Sediment <2mm	7	0 (0%)	7 (100%)	2	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	71.4	0	0	0
SGS NC	PBDE 154	Sediment <2mm	7	0 (0%)	7 (100%)	4	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	42.9	0	0	0
SGS NC	PBDE 183	Sediment <2mm	7	0 (0%)	7 (100%)	2	0	0	0	3	2	0	0	0	0	0	3	2	0	0	0	0	0	42.9	28.6	0	0	0	0	0	42.9	28.6	0	0
SGS NC	PBDE 184	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	1	0	0	0	5	0	1	6	0	0	0	0	0	14.3	14.3	0	0	0	71.4	0	14.3	85.7	0	0
SGS NC	PBDE 190	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PBDE 191	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PBDE 203	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	2	2	0	0	0	3	0	2	0	0	5	0	0	0	28.6	28.6	0	0	0	42.9	0	28.6	0	0	71.4
SGS NC	PBDE 206	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	2	0	0	0	0	0	5	0	0	0	0	7	0	0	28.6	0	0	0	0	0	71.4	0	0	0	0	100
SGS NC	PBDE 209	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	3	0	0	0	0	0	1	0	3	0	0	4	0	0	42.9	0	0	0	0	0	14.3	0	42.9	0	0	57.1
CAS	Aroclor 1016	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Aroclor 1221	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Aroclor 1232	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Aroclor 1242	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Aroclor 1248	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Aroclor 1254	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	2	0	0	0	0	88	1	2	88	0	1	0	0	0	2.2	0	0	0	0	96.7	1.1	2.2	96.7	0	1.1
CAS	Aroclor 1260	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	4	0	0	0	0	87	0	4	86	0	1	0	0	0	4.4	0	0	0	0	95.6	0	4.4	94.5	0	1.1
CAS	Aroclor 1262	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Aroclor 1268	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
SGS NC	PCB 1	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	85.7	0
SGS NC	PCB 2	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	0	0	0	0	0	0	0	0	7	0	0	0	0	14.3	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 3	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	85.7	0
SGS NC	PCB 4	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 5	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	1	0	0	0	6	0	0	7	0	0	0	0	0	0	14.3	0	0	0	85.7	0	0	100	0	0
SGS NC	PCB 6	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	4	0	0	0	0	0	0	0	0	4	3	0	0	0	57.1	0	0	0	0	0	0	0	0	57.1	42.9	0
SGS NC	PCB 7	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	0	1	0	0	0	5	0	0	6	0	0	0	0	0	0	14.3	0	0	0	71.4	0	0	85.7	0	0
SGS NC	PCB 8	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	85.7	0
SGS NC	PCB 9	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	1	1	2	0	0	0	3	0	1	6	0	0	0	0	14.3	14.3	28.6	0	0	0	42.9	0	14.3	85.7	0	0
SGS NC	PCB 10	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	3	1	0	0	0	3	0	0	4	3	0	0	0	0	42.9	14.3	0	0	0	42.9	0	0	57.1	42.9	0
SGS NC	PCB 11	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 12, 13 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	2	0	0	0	2	2	0	0	0	1	0	2	3	0	0	0	0	0	28.6	28.6	0	0	0	14.3	0	28.6	42.9	0	0
SGS NC	PCB 14	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 15	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0
SGS NC	PCB 16	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	1	0	0	0	0	0	0	0	0	1	5	0	0	0	14.3	0	0	0	0	0	0	0	0	14.3	71.4	0
SGS NC	PCB 17	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 18, 30 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	85.7	0
SGS NC	PCB 19	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	28.6	0	0	0	0	0	0	0	0	28.6	0	0
SGS NC	PCB 20, 28 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	71.4	0
SGS NC	PCB 21, 33 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	85.7	0
SGS NC	PCB 22	Sediment <2mm	7	0 (0%)	7 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	71.4	0
SGS NC	PCB 23	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	1	0	0	0	6	0	0	7	0	0	0	0	0	0	14.3	0	0	0	85.7	0	0	100	0	0
SGS NC	PCB 24	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	1	0	0	0	5	0	1	6	0	0	0	0	0	14.3	14.3	0	0	0	71.4	0	14.3	85.7	0	0
SGS NC	PCB 25	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 26, 29 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 27	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	5	0	0	0	0	0	0	0	0	7	0	0	0	0	71.4	0	0	0	0	0	0	0	0	100	0
SGS NC	PCB 31	Sediment <2mm	7	0 (0%)	7 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	71.4	0
SGS NC	PCB 32	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	85.7	0
SGS NC	PCB 34	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	1	0	0	0	6	0	0	7	0	0	0	0	0	0	14.3	0	0	0	85.7	0	0	100	0	0
SGS NC	PCB 35	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	3	0	0	0	0	3	0	0	3	4	0	0	0	0	42.9	0	0	0	0	42.9	0	0	42.9	57.1	0
SGS NC	PCB 36	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 37	Sediment <2mm	7	0 (0%)	7 (100%)	2	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	71.4	0

Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed [a]	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags										Count of Accepted Results Validator (ESI) Flags				Laboratory Flags, % of Accepted Results										Validator (ESI) Flags, % of Accepted Results			
							*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ	*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ
SGS NC	PCB 38	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	0	0	0	0	6	0	1	6	0	0	0	0	0	14.3	0	0	0	0	85.7	0	14.3	85.7	0	0
SGS NC	PCB 39	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 40, 71 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0
SGS NC	PCB 41	Sediment <2mm	7	0 (0%)	7 (100%)	3	0	0	1	3	0	0	0	0	0	0	3	1	0	0	0	0	14.3	42.9	0	0	0	0	0	0	42.9	14.3	0	0
SGS NC	PCB 42	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0
SGS NC	PCB 43	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	4	1	0	0	0	1	0	4	2	0	0	0	0	0	57.1	14.3	0	0	0	14.3	0	57.1	28.6	0	0
SGS NC	PCB 44, 47, 65 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	14.3	0
SGS NC	PCB 45, 51 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	14.3	14.3	0	0	0	0	0	14.3	14.3	0	0
SGS NC	PCB 46	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	1	3	3	0	0	0	0	0	3	4	0	0	0	0	14.3	42.9	42.9	0	0	0	0	0	42.9	57.1	0	0
SGS NC	PCB 48	Sediment <2mm	7	0 (0%)	7 (100%)	6	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	14.3	0	0	0	0	0	0	0	0	14.3	0	0
SGS NC	PCB 49, 69 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0
SGS NC	PCB 50, 53 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	0	2	0	0	0	0	0	0	2	4	0	0	0	0	0	28.6	0	0	0	0	0	0	28.6	57.1	0
SGS NC	PCB 52	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 54	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	3	0	0	0	0	4	0	3	4	0	0	0	0	0	42.9	0	0	0	0	57.1	0	42.9	57.1	0	0
SGS NC	PCB 55	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 56	Sediment <2mm	7	0 (0%)	7 (100%)	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	14.3	0
SGS NC	PCB 57	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	1	0	0	0	6	0	0	7	0	0	0	0	0	0	14.3	0	0	0	85.7	0	0	100	0	0
SGS NC	PCB 58	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	0	0	0	0	6	0	1	6	0	0	0	0	0	14.3	0	0	0	0	85.7	0	14.3	85.7	0	0
SGS NC	PCB 59, 62, 75 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	6	1	0	0	0	0	0	6	1	0	0	0	0	0	85.7	14.3	0	0	0	0	0	85.7	14.3	0	0
SGS NC	PCB 60	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 61,70,74, 76 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 63	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	3	3	0	0	0	0	0	3	3	0	0	0	0	0	42.9	42.9	0	0	0	0	0	42.9	42.9	0	0
SGS NC	PCB 64	Sediment <2mm	7	0 (0%)	7 (100%)	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	14.3	0
SGS NC	PCB 66	Sediment <2mm	7	0 (0%)	7 (100%)	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	14.3	0
SGS NC	PCB 67	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	1	4	1	0	0	0	0	0	4	2	0	0	0	0	14.3	57.1	14.3	0	0	0	0	0	57.1	28.6	0	0
SGS NC	PCB 68	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	2	1	0	0	0	4	0	2	5	0	0	0	0	0	28.6	14.3	0	0	0	57.1	0	28.6	71.4	0	0
SGS NC	PCB 72	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	2	1	0	0	0	4	0	2	5	0	0	0	0	0	28.6	14.3	0	0	0	57.1	0	28.6	71.4	0	0
SGS NC	PCB 73	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	0	0	0	0	6	0	1	6	0	0	0	0	0	14.3	0	0	0	0	85.7	0	14.3	85.7	0	0
SGS NC	PCB 77	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 78	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 79	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	0	0	0	0	6	0	1	6	0	0	0	0	0	14.3	0	0	0	0	85.7	0	14.3	85.7	0	0
SGS NC	PCB 80	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	0	1	0	0	0	5	0	0	6	0	0	0	0	0	0	14.3	0	0	0	71.4	0	0	85.7	0	0
SGS NC	PCB 81	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 82	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 83	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	28.6	0	0	0	0	0	0	0	0	28.6	0	0
SGS NC	PCB 84	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 85, 116, 117 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 86, 87, 97, 108, 119, 125 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 88, 91 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 89	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	3	2	0	0	0	1	0	3	3	0	0	0	0	0	42.9	28.6	0	0	0	14.3	0	42.9	42.9	0	0
SGS NC	PCB 90, 101, 113 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 92	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 93, 100 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	2	0	0	0	0	5	0	2	5	0	0	0	0	0	28.6	0	0	0	0	71.4	0	28.6	71.4	0	0
SGS NC	PCB 94	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	3	1	0	0	0	3	0	3	4	0	0	0	0	0	42.9	14.3	0	0	0	42.9	0	42.9	57.1	0	0
SGS NC	PCB 95	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 96	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	4	2	0	0	0	0	0	4	2	0	0	0	0	0	57.1	28.6	0	0	0	0	0	57.1	28.6	0	0
SGS NC	PCB 98, 102 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	3	0	0	0	1	3	0	0	0	0	0	1	3	0	0	0	0	0	14.3	42.9	0	0	0	0	0	14.3	42.9	0	0
SGS NC	PCB 99	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 103	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	2	2	0	0	0	2	0	2	4	0	0	0	0	0	28.6	28.6	0	0	0	28.6	0	28.6	57.1	0	0
SGS NC	PCB 104	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 105	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed [a]	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags										Count of Accepted Results Validator (ESI) Flags				Laboratory Flags, % of Accepted Results										Validator (ESI) Flags, % of Accepted Results			
							*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ	*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ
SGS NC	PCB 106	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 107, 124 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 109	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 110, 115 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 111	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 112	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 114	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	28.6	0	0	0	0	0	0	0	0	28.6	0	0
SGS NC	PCB 118	Sediment <2mm	7	0 (0%)	7 (100%)	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	14.3	0	0	0	0
SGS NC	PCB 120	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	2	2	0	0	0	3	0	2	5	0	0	0	0	0	28.6	28.6	0	0	0	42.9	0	28.6	71.4	0	0
SGS NC	PCB 121	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 122	Sediment <2mm	7	0 (0%)	7 (100%)	2	0	0	1	3	1	0	0	0	0	0	3	2	0	0	0	0	14.3	42.9	14.3	0	0	0	0	0	42.9	28.6	0	0
SGS NC	PCB 123	Sediment <2mm	7	0 (0%)	7 (100%)	4	0	0	1	2	0	0	0	0	0	0	2	1	0	0	0	0	14.3	28.6	0	0	0	0	0	0	28.6	14.3	0	0
SGS NC	PCB 126	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	4	1	0	0	0	2	0	4	3	0	0	0	0	0	57.1	14.3	0	0	0	28.6	0	57.1	42.9	0	0
SGS NC	PCB 127	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 128, 166 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 129, 138, 163 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 130	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 131	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 132	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 133	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 134	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 135, 151 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 136	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 137	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 139, 140 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	3	0	0	1	2	1	0	0	0	0	0	2	2	0	0	0	0	14.3	28.6	14.3	0	0	0	0	0	28.6	28.6	0	0
SGS NC	PCB 141	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 142	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 143	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 144	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 145	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	2	0	0	0	5	0	0	7	0	0	0	0	0	0	28.6	0	0	0	71.4	0	0	100	0	0
SGS NC	PCB 146	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 147, 149 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 148	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	1	0	0	0	5	0	1	6	0	0	0	0	0	14.3	14.3	0	0	0	71.4	0	14.3	85.7	0	0
SGS NC	PCB 150	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	1	0	0	0	5	0	1	6	0	0	0	0	0	14.3	14.3	0	0	0	71.4	0	14.3	85.7	0	0
SGS NC	PCB 152	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	1	0	0	0	5	0	1	6	0	0	0	0	0	14.3	14.3	0	0	0	71.4	0	14.3	85.7	0	0
SGS NC	PCB 153, 168 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 154	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	1	0	1	0	0	0	0	0	0	2	0	0	0	0	14.3	0	14.3	0	0	0	0	0	0	28.6	0	0
SGS NC	PCB 155	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	0	0	0	0	6	0	1	6	0	0	0	0	0	14.3	0	0	0	0	85.7	0	14.3	85.7	0	0
SGS NC	PCB 156, 157 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 158	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 159	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 160	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 161	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 162	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	1	0	0	0	6	0	0	7	0	0	0	0	0	0	14.3	0	0	0	85.7	0	0	100	0	0
SGS NC	PCB 164	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 165	Sediment <2mm	7	0 (0%)	7 (100%)	2	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	71.4	0	0	71.4	0	0
SGS NC	PCB 167	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 169	Sediment <2mm	7	0 (0%)	7 (100%)	1	0	0	0	0	1	0	0	0	5	0	0	6	0	0	0	0	0	0	14.3	0	0	0	71.4	0	0	85.7	0	0
SGS NC	PCB 170	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 171, 173 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 172	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed [a]	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags										Count of Accepted Results Validator (ESI) Flags				Laboratory Flags, % of Accepted Results										Validator (ESI) Flags, % of Accepted Results			
							*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ	*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ
SGS NC	PCB 174	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 175	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 176	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 177	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 178	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 179	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 180, 193 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 181	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	1	0	0	0	5	0	1	6	0	0	0	0	0	14.3	14.3	0	0	0	71.4	0	14.3	85.7	0	0
SGS NC	PCB 182	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	1	0	0	0	5	0	1	6	0	0	0	0	0	14.3	14.3	0	0	0	71.4	0	14.3	85.7	0	0
SGS NC	PCB 183, 185 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 184	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 186	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 187	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 188	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	1	0	0	0	0	6	0	1	6	0	0	0	0	0	14.3	0	0	0	0	85.7	0	14.3	85.7	0	0
SGS NC	PCB 189	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 190	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 191	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB 192	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 194	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	PCB 195	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	PCB 196	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	PCB 197, 200 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	PCB 198, 199 coelution	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	PCB 201	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	PCB 202	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	PCB 203	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	PCB 204	Sediment <2mm	7	0 (0%)	7 (100%)	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	100	0	0	100	0	0
SGS NC	PCB 205	Sediment <2mm	7	0 (0%)	7 (100%)	4	0	0	1	1	0	0	0	0	0	0	2	0	0	1	0	0	14.3	14.3	0	0	0	0	0	28.6	0	0	14.3
SGS NC	PCB 206	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	PCB 207	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	PCB 208	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	PCB 209	Sediment <2mm	7	0 (0%)	7 (100%)	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6	0	0	0
SGS NC	Monochlorobiphenyl homologs	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Dichlorobiphenyl homologs	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Trichlorobiphenyl homologs	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Tetrachlorobiphenyl homologs	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Pentachlorobiphenyl homologs	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Hexachlorobiphenyl homologs	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Heptachlorobiphenyl homologs	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Octachlorobiphenyl homologs	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Nonachlorobiphenyl homologs	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Decachlorobiphenyl homologs	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	Total PCBs	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB TEQ using WHO 2005 TEFs ND=0 DL	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SGS NC	PCB TEQ using WHO 2005 TEFs ND=1/2 DL	Sediment <2mm	7	0 (0%)	7 (100%)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	2,4'-DDD	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	1	0	0	0	0	87	3	1	89	0	1	0	0	0	1.1	0	0	0	0	95.6	3.3	1.1	97.8	0	1.1
CAS	2,4'-DDE	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	89	2	0	89	0	2	0	0	0	0	0	0	0	0	97.8	2.2	0	97.8	0	2.2
CAS	2,4'-DDT	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	1	0	2	0	0	85	3	3	87	0	1	0	0	0	1.1	0	2.2	0	0	93.4	3.3	3.3	95.6	0	1.1
CAS	4,4'-DDD	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	58	33	0	90	0	1	0	0	0	0	0	0	0	0	63.7	36.3	0	98.9	0	1.1
CAS	4,4'-DDE	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	2	0	6	0	0	39	44	8	82	0	1	0	0	0	2.2	0	6.6	0	0	42.9	48.4	8.8	90.1	0	1.1
CAS	4,4'-DDT	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	2	0	2	0	0	86	1	4	86	0	1	0	0	0	2.2	0	2.2	0	0	94.5	1.1	4.4	94.5	0	1.1

Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed [a]	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags										Count of Accepted Results Validator (ESI) Flags				Laboratory Flags, % of Accepted Results										Validator (ESI) Flags, % of Accepted Results			
							*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ	*	B	EMP C	J	J EMP C	JP	JX	N	U	Ui	J	U	U*	UJ
CAS	Aldrin	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	alpha-Benzenehexachloride	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	alpha-Chlordane	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	1	0	0	0	0	50	40	1	89	0	1	0	0	0	1.1	0	0	0	0	54.9	44	1.1	97.8	0	1.1
CAS	beta-BHC	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Chlordane	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	63	28	0	90	0	1	0	0	0	0	0	0	0	0	69.2	30.8	0	98.9	0	1.1
CAS	cis-Nonachlor	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	87	4	0	89	0	2	0	0	0	0	0	0	0	0	95.6	4.4	0	97.8	0	2.2
CAS	delta-BHC	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Dieldrin	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	90	1	0	90	0	1	0	0	0	0	0	0	0	0	98.9	1.1	0	98.9	0	1.1
CAS	Endosulfan I	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	89	2	0	90	0	1	0	0	0	0	0	0	0	0	97.8	2.2	0	98.9	0	1.1
CAS	Endosulfan II	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Endosulfan sulfate	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	87	4	0	90	0	1	0	0	0	0	0	0	0	0	95.6	4.4	0	98.9	0	1.1
CAS	Endrin	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	90	1	0	90	0	1	0	0	0	0	0	0	0	0	98.9	1.1	0	98.9	0	1.1
CAS	Endrin aldehyde	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	90	1	0	90	0	1	0	0	0	0	0	0	0	0	98.9	1.1	0	98.9	0	1.1
CAS	Endrin ketone	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	86	5	0	90	0	1	0	0	0	0	0	0	0	0	94.5	5.5	0	98.9	0	1.1
CAS	gamma-BHC	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	4	0	0	0	0	87	0	2	86	2	1	0	0	0	4.4	0	0	0	0	95.6	0	2.2	94.5	2.2	1.1
CAS	gamma-Chlordane	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	2	0	0	0	0	86	3	2	88	0	1	0	0	0	2.2	0	0	0	0	94.5	3.3	2.2	96.7	0	1.1
CAS	Heptachlor	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Heptachlor epoxide	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	89	2	0	90	0	1	0	0	0	0	0	0	0	0	97.8	2.2	0	98.9	0	1.1
CAS	Methoxychlor	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	86	5	0	90	0	1	0	0	0	0	0	0	0	0	94.5	5.5	0	98.9	0	1.1
CAS	Oxychlordane	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	39	52	0	90	0	1	0	0	0	0	0	0	0	0	42.9	57.1	0	98.9	0	1.1
CAS	Toxaphene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	62	29	0	90	0	1	0	0	0	0	0	0	0	0	68.1	31.9	0	98.9	0	1.1
CAS	trans-Nonachlor	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
PACE	Radium-226	Sediment <2mm	6	0 (0%)	6 (100%)	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PACE	Uranium-238	Sediment <2mm	6	0 (0%)	6 (100%)	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CAS	1,2,4-Trichlorobenzene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	1,2-Dichlorobenzene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	1,3-Dichlorobenzene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	1,4-Dichlorobenzene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	89	0	2	0	0	0	0	0	0	0	0	100	0	0	97.8	0	2.2
CAS	2,2'-oxybis(1-Chloropropane)	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	2,4,5-Trichlorophenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	2,4,6-Trichlorophenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	2,4-Dichlorophenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	2,4-Dimethylphenol	Sediment <2mm	91	21 (23%)	70 (77%)	0	0	0	0	0	0	0	0	0	70	0	0	69	0	1	0	0	0	0	0	0	0	0	100	0	0	98.6	0	1.4
CAS	2,4-Dinitrophenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	2,4-Dinitrotoluene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	2,6-Dinitrotoluene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	2-Chloronaphthalene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	2-Chlorophenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	89	0	2	0	0	0	0	0	0	0	0	100	0	0	97.8	0	2.2
CAS	2-Methylphenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	2-Nitroaniline	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	2-Nitrophenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	3,3'-Dichlorobenzidine	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	3-Nitroaniline	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	4,6-Dinitro-2-methylphenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	4-Bromophenyl-phenylether	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	4-Chloro-3-methylphenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	89	0	2	0	0	0	0	0	0	0	0	100	0	0	97.8	0	2.2
CAS	4-Chloroaniline	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	4-Chlorophenyl-phenyl ether	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	4-Methylphenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	7	0	0	0	0	84	0	7	83	0	1	0	0	0	7.7	0	0	0	0	92.3	0	7.7	91.2	0	1.1
CAS	4-Nitroaniline	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	4-Nitrophenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1

Table 4-3. 2011 Beach Sediment Summary of Qualifiers for Primary and Field Replicate Samples

Lab	Analyte Name	Sample Material Analyzed	Number of Samples Analyzed [a]	Reject Results	Accepted Results	Count of Results with No Flags	Count of Accepted Results Laboratory Flags										Count of Accepted Results Validator (ESI) Flags				Laboratory Flags, % of Accepted Results										Validator (ESI) Flags, % of Accepted Results			
							*	B	EMPC	J	JEMPC	JP	JX	N	U	Ui	J	U	U*	UJ	*	B	EMPC	J	JEMPC	JP	JX	N	U	Ui	J	U	U*	UJ
CAS	Acetophenone	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	10	0	0	0	0	81	0	10	80	0	1	0	0	0	11	0	0	0	0	89	0	11	87.9	0	1.1
CAS	Benzaldehyde	Sediment <2mm	91	0 (0%)	91 (100%)	3	0	0	0	7	0	0	0	0	81	0	7	80	0	1	0	0	0	7.7	0	0	0	0	89	0	7.7	87.9	0	1.1
CAS	Benzoic acid	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	3	0	0	0	0	88	0	3	87	0	1	0	0	0	3.3	0	0	0	0	96.7	0	3.3	95.6	0	1.1
CAS	Benzyl alcohol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	2	0	0	0	0	89	0	2	88	0	1	0	0	0	2.2	0	0	0	0	97.8	0	2.2	96.7	0	1.1
CAS	Benzyl n-butyl phthalate	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	6	0	0	0	0	85	0	6	84	0	1	0	0	0	6.6	0	0	0	0	93.4	0	6.6	92.3	0	1.1
CAS	Bis(2-chloroethoxy)methane	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Bis(2-chloroethyl)ether	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Bis(2-ethylhexyl)phthalate	Sediment <2mm	91	0 (0%)	91 (100%)	1	0	0	0	42	0	0	0	0	48	0	1	47	41	1	0	0	0	46.2	0	0	0	0	52.7	0	1.1	51.6	45.1	1.1
CAS	Caprolactam	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Carbazole	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	5	0	0	0	0	86	0	5	85	0	1	0	0	0	5.5	0	0	0	0	94.5	0	5.5	93.4	0	1.1
CAS	Diethyl phthalate	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	3	0	0	0	0	88	0	3	87	0	1	0	0	0	3.3	0	0	0	0	96.7	0	3.3	95.6	0	1.1
CAS	Dimethyl phthalate	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	86	0	0	0	0	5	0	14	5	72	0	0	0	0	94.5	0	0	0	0	5.5	0	15.4	5.5	79.1	0
CAS	Di-n-butyl phthalate	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Di-n-octylphthalate	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Hexachlorobenzene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	3	0	0	0	0	88	0	3	87	0	1	0	0	0	3.3	0	0	0	0	96.7	0	3.3	95.6	0	1.1
CAS	Hexachlorobutadiene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	48	0	43	0	0	0	0	0	0	0	0	100	0	0	52.7	0	47.3
CAS	Hexachlorocyclopentadiene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	79	0	12	0	0	0	0	0	0	0	0	100	0	0	86.8	0	13.2
CAS	Hexachloroethane	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Isophorone	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Nitrobenzene	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	N-Nitrosodi-n-propylamine	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	N-Nitrosodiphenylamine	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Pentachlorophenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	0	0	0	0	0	91	0	0	90	0	1	0	0	0	0	0	0	0	0	100	0	0	98.9	0	1.1
CAS	Phenol	Sediment <2mm	91	0 (0%)	91 (100%)	0	0	0	0	55	0	0	0	0	36	0	43	36	12	0	0	0	0	60.4	0	0	0	0	39.6	0	47.3	39.6	13.2	0

Notes:
Data exclude lab replicates, non-reportable data, and QC sample data.
Field replicate results are included separately from the parent samples.

ESI

J	Quantitation is approximate due to limitations identified during the quality assurance review (data validation).
R	Unusable result; analyte may or may not be present in this sample.
U	This analyte was not detected at or above the associated detection limit.
U*	This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.
UJ	This analyte was not detected, but the detection limit is probably higher due to a low bias identified during the quality assurance review.

CAS

*	The result is an outlier. See case narrative.
i	The method reporting limit/method detection limit (MRL/MDL) or level of quantitation/level of detection (LOQ/LOD) is elevated due to a matrix interference.
J	The result is an estimated value that was detected outside the quanitition range.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
P	The gas chromatography (GC) or high performance liquid chromatography (HPLC) confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
X	See case narrative.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.

SGS NC

B	Analyte was detected in the Lab Method Blank at a level above the LOQ.
EMPC	Estimated maximum possible concentration due to ion ratio failure.
J	The amount detected is between the method detection limit and the lower calibration limit.
U	Undetected (report as ND or < LOD).

[a] The number of samples analyzed for seven of the metals (arsenic, cadmium, chromium, lead, selenium, thallium, vanadium) in the <2mm sediment fraction is higher than the other metals analyses because the lab reported metals data that was not requested on the COC.

Table 4-4. Summary of Rejected 2009 Beach Sediment Data

Location ID	Station ID	Sample Collection Date/Time	Upper Depth	Lower Depth	Depth Units	Media Analyzed	Basis	Analyte	Concentration	Units	Lab Qualifier	Validator Qualifier	Detection Limit	Reporting Limit
RinseBlank	SDBL-902C	2009-09-10 00:00:00	--	--	--	Rinse Water	Total	PBDE 128	2540	pg/L		R	2540	2540
RinseBlank	SDBL-902C	2009-09-10 00:00:00	--	--	--	Rinse Water	Total	PBDE 183	182	pg/L		R	182	220
RinseBlank	SDBL-902C	2009-09-10 00:00:00	--	--	--	Rinse Water	Total	PBDE 184	155	pg/L		R	155	220
RinseBlank	SDBL-902C	2009-09-10 00:00:00	--	--	--	Rinse Water	Total	PBDE 190	487	pg/L		R	487	487
RinseBlank	SDBL-902C	2009-09-10 00:00:00	--	--	--	Rinse Water	Total	PBDE 191	369	pg/L		R	369	369
RinseBlank	SDBL-902C	2009-09-10 00:00:00	--	--	--	Rinse Water	Total	PBDE 203	296	pg/L		R	296	296
RinseBlank	SDBL-902C	2009-09-10 00:00:00	--	--	--	Rinse Water	Total	PBDE 206	1320	pg/L		R	1320	1320
RinseBlank	SDBL-902C	2009-09-10 00:00:00	--	--	--	Rinse Water	Total	PBDE 209	8570	pg/L		R	8570	8570

Notes:

See text in Section 4 for explanation of data rejected during the validation assessment.

R = unusable result

Station ID

SD = surface grab

BL = rinsate blank

Table 4-5. Summary of Rejected 2011 Beach Sediment Data

Location ID	Station ID	Sample Collection Date/Time	Upper Depth	Lower Depth	Depth Units	Media Analyzed	Basis	Analyte	Concentration	Units	Lab Qualifier	Validator Qualifier	Detection Limit	Reporting Limit
CR-DM	CR-DM1	2011-04-22 00:00:00	0	15	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	30
CR-DM	CR-DM2	2011-04-22 00:00:00	15	45	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	31
CR-DM	CR-DM3	2011-04-22 00:00:00	45	75	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	34
CR-EV	CR-EV1-1	2011-04-22 00:00:00	0	15	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	37
CR-EV	CR-EV1-2	2011-04-22 00:00:00	0	15	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	33
CR-EV	CR-EV2	2011-04-22 00:00:00	15	45	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	33
CR-EV	CR-EV3	2011-04-22 00:00:00	45	75	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	31
CR-FC	CR-FC1	2011-04-23 00:00:00	0	15	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	28	µg/kg	U	R	28	210
CR-FC	CR-FC2	2011-04-23 00:00:00	15	45	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	38
CR-FC	CR-FC3	2011-04-23 00:00:00	45	75	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	34
CR-KL	CR-KL1	2011-04-24 00:00:00	0	15	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	50
CR-KL	CR-KL2	2011-04-24 00:00:00	15	45	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	50
CR-KL	CR-KL3-1	2011-04-24 00:00:00	45	75	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.6	µg/kg	U	R	5.6	51
CR-KL	CR-KL3-2	2011-04-24 00:00:00	45	75	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	50
CR-LY	CR-LY1	2011-04-24 00:00:00	0	15	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	50
CR-LY	CR-LY2	2011-04-24 00:00:00	15	45	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.6	µg/kg	U	R	5.6	51
CR-LY	CR-LY3	2011-04-24 00:00:00	45	75	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	50
CR-WB	CR-WB1	2011-04-23 00:00:00	0	15	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	36
CR-WB	CR-WB2-1	2011-04-23 00:00:00	15	45	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	33
CR-WB	CR-WB2-2	2011-04-23 00:00:00	15	45	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	32
CR-WB	CR-WB3	2011-04-23 00:00:00	45	75	cm	Sediment <2mm	DryWt	2,4-Dimethylphenol	5.5	µg/kg	U	R	5.5	33
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	2,4-Dimethylphenol	2.2	µg/L	U	R	2.2	3.9
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	2,4-Dimethylphenol	2.2	µg/L	U	R	2.2	3.9
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	2,4-Dimethylphenol	2.2	µg/L	U	R	2.2	4
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	2,4-Dimethylphenol	2.2	µg/L	U	R	2.2	3.9
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	2,4-Dimethylphenol	2.2	µg/L	U	R	2.2	4
QC	SDBL-913C	2011-04-23 00:00:00	--	--	cm	Rinse Water	Total	2,4-Dimethylphenol	2.2	µg/L	U	R	2.2	4
QC	SDBL-917C	2011-04-25 00:00:00	--	--	cm	Rinse Water	Total	2,4-Dimethylphenol	2.2	µg/L	U	R	2.2	4
QC	SDBL-919C	2011-04-26 00:00:00	--	--	cm	Rinse Water	Total	2,4-Dimethylphenol	2.2	µg/L	U	R	2.2	4
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	3,3'-Dichlorobenzidine	0.45	µg/L	U	R	0.45	2.1
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	3,3'-Dichlorobenzidine	0.48	µg/L	U	R	0.48	2.2
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	3,3'-Dichlorobenzidine	0.43	µg/L	U	R	0.43	2
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	3,3'-Dichlorobenzidine	0.43	µg/L	U	R	0.43	2
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	3,3'-Dichlorobenzidine	0.44	µg/L	U	R	0.44	2.1
QC	SDBL-921C	2011-04-28 00:00:00	--	--	cm	Rinse Water	Total	3,3'-Dichlorobenzidine	0.45	µg/L	U	R	0.45	2.1
QC	SDBL-923C	2011-04-29 00:00:00	--	--	cm	Rinse Water	Total	3,3'-Dichlorobenzidine	0.43	µg/L	U	R	0.43	2
QC	SDBL-925C	2011-04-30 00:00:00	--	--	cm	Rinse Water	Total	3,3'-Dichlorobenzidine	0.44	µg/L	U	R	0.44	2.1
QC	SDBL-927C	2011-05-01 00:00:00	--	--	cm	Rinse Water	Total	3,3'-Dichlorobenzidine	0.43	µg/L	U	R	0.43	2
QC	SDBL-933C	2011-05-05 00:00:00	--	--	cm	Rinse Water	Total	3,3'-Dichlorobenzidine	0.48	µg/L	U	R	0.48	2.3
QC	SDBL-935C	2011-05-04 00:00:00	--	--	cm	Rinse Water	Total	3,3'-Dichlorobenzidine	0.47	µg/L	U	R	0.47	2.2
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	4-Chloroaniline	0.026	µg/L	U	R	0.026	0.21
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	4-Chloroaniline	0.028	µg/L	U	R	0.028	0.22
LAB	LabRinseBlank	--	--	--	--	Rinse Water	Total	4-Chloroaniline	0.027	µg/L	U	R	0.027	0.21
QC	SDBL-929C	2011-05-02 00:00:00	--	--	cm	Rinse Water	Total	4-Chloroaniline	0.025	µg/L	U	R	0.025	0.2
QC	SDBL-931C	2011-05-03 00:00:00	--	--	cm	Rinse Water	Total	4-Chloroaniline	0.027	µg/L	U	R	0.027	0.22
QC	SDBL-933C	2011-05-05 00:00:00	--	--	cm	Rinse Water	Total	4-Chloroaniline	0.028	µg/L	U	R	0.028	0.23
QC	SDBL-935C	2011-05-04 00:00:00	--	--	cm	Rinse Water	Total	4-Chloroaniline	0.027	µg/L	U	R	0.027	0.22

Notes:

See text in Section 4 for explanation of data rejected during the validation assessment.

R = unusable result

U = analyte was not detected at or above the associated detection limit

Station ID

CR = sediment cores
SD = surface grabs
BL = rinsate blank

DM = Swimming Hole Beach
EV = Evans Campground Beach
FC = Flat Creek Beach

KL = Kamloops Island Beach
LY = Lyons Island Beach
WB = Welty Bay Beach

For cores the first number indicates the depth interval:

1 = 0 - 15 cm
2 = 15 - 45 cm
3= 45 - 75 cm

Table 5-1. Summary of Chemicals of Interest Measured in 2009 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Conventional Parameters and Nutrients														
Organic carbon	Sediment <2mm	%	dry	16	16	0.219	0.91	1.62	--	--	--	0.219	0.91	1.62
pH, lab	Sediment <2mm	S.U.	wet	16	16	7.68	8.01	8.46	--	--	--	7.68	8.01	8.46
Solids	Sediment <2mm	%	wet	46	46	90.2	96.6	99.7	--	--	--	90.2	96.6	99.7
Sulfide	Sediment <2mm	mg/kg	dry	16	16	39	205	450	--	--	--	39	205	450
Grain Size														
Cobbles	Sediment	%	dry	16	16	0	0	0	--	--	--	0	0	0
Very Coarse Gravel	Sediment	%	dry	16	16	0	0	0	--	--	--	0	0	0
Coarse Gravel	Sediment	%	dry	16	16	0	0	0	--	--	--	0	0	0
Medium Gravel	Sediment	%	dry	16	16	0	3	15.4	--	--	--	0	3	15.4
Fine Gravel	Sediment	%	dry	16	16	0	4	14.7	--	--	--	0	4	14.7
Very Fine Gravel	Sediment	%	dry	16	16	0	2	6.6	--	--	--	0	2	6.6
Very Coarse Sand	Sediment	%	dry	16	16	0	1	4.8	--	--	--	0	1	4.8
Coarse sand	Sediment	%	dry	16	16	0.6	15.1	41.7	--	--	--	0.6	15.1	41.7
Medium Sand	Sediment	%	dry	16	16	22.9	36.6	58.2	--	--	--	22.9	36.6	58.2
Fine Sand	Sediment	%	dry	16	16	8.41	27.6	50.3	--	--	--	8.41	27.6	50.3
Very Fine sand	Sediment	%	dry	16	16	1.64	7.1	14.2	--	--	--	1.64	7.1	14.2
Silt	Sediment	%	dry	16	16	0.68	2.9	6.35	--	--	--	0.68	2.9	6.35
Clay	Sediment	%	dry	16	16	0	0.2	0.33	--	--	--	0	0.2	0.33
Metals and Metalloids														
Aluminum	Sediment <2mm	mg/kg	dry	40	40	5340	12700	24200	--	--	--	5340	12700	24200
Aluminum	Sediment <63µm	mg/kg	dry	2	2	10600	11800	12900	--	--	--	10600	11800	12900
Aluminum	Sediment 63-125µm	mg/kg	dry	2	2	4480	5880	7280	--	--	--	4480	5880	7280
Aluminum	Sediment 125-250µm	mg/kg	dry	2	2	4800	5600	6390	--	--	--	4800	5600	6390
Aluminum	Sediment 250µm-2mm	mg/kg	dry	2	2	6780	11500	16200	--	--	--	6780	11500	16200
Antimony	Sediment <2mm	mg/kg	dry	40	40	4.19	29.1	86.3	--	--	--	4.19	29.1	86.3
Antimony	Sediment <63µm	mg/kg	dry	2	2	13.8	17.3	20.7	--	--	--	13.8	17.3	20.7
Antimony	Sediment 63-125µm	mg/kg	dry	2	2	9.04	12.2	15.3	--	--	--	9.04	12.2	15.3
Antimony	Sediment 125-250µm	mg/kg	dry	2	2	14.3	27.5	40.6	--	--	--	14.3	27.5	40.6
Antimony	Sediment 250µm-2mm	mg/kg	dry	2	2	11.8	27	42.1	--	--	--	11.8	27	42.1
Arsenic	Sediment <2mm	mg/kg	dry	40	40	3.68	13.8	29.4	--	--	--	3.68	13.8	29.4
Arsenic	Sediment <63µm	mg/kg	dry	2	2	37.8	38.9	39.9	--	--	--	37.8	38.9	39.9
Arsenic	Sediment 63-125µm	mg/kg	dry	2	2	8.5	12.2	15.9	--	--	--	8.5	12.2	15.9
Arsenic	Sediment 125-250µm	mg/kg	dry	2	2	8.19	15.7	23.3	--	--	--	8.19	15.7	23.3
Arsenic	Sediment 250µm-2mm	mg/kg	dry	2	2	7.02	14.2	21.3	--	--	--	7.02	14.2	21.3
Barium	Sediment <2mm	mg/kg	dry	40	40	168	1000	2240	--	--	--	168	1000	2240
Barium	Sediment <63µm	mg/kg	dry	2	2	1340	1420	1500	--	--	--	1340	1420	1500
Barium	Sediment 63-125µm	mg/kg	dry	2	2	741	749	756	--	--	--	741	749	756
Barium	Sediment 125-250µm	mg/kg	dry	2	2	419	468	516	--	--	--	419	468	516
Barium	Sediment 250µm-2mm	mg/kg	dry	2	2	279	613	947	--	--	--	279	613	947
Beryllium	Sediment <2mm	mg/kg	dry	40	40	0.12	0.5	1.38	--	--	--	0.12	0.5	1.38
Beryllium	Sediment <63µm	mg/kg	dry	2	2	0.51	0.52	0.53	--	--	--	0.51	0.52	0.53
Beryllium	Sediment 63-125µm	mg/kg	dry	2	2	0.22	0.245	0.27	--	--	--	0.22	0.245	0.27
Beryllium	Sediment 125-250µm	mg/kg	dry	2	2	0.17	0.22	0.27	--	--	--	0.17	0.22	0.27
Beryllium	Sediment 250µm-2mm	mg/kg	dry	2	2	0.26	0.45	0.64	--	--	--	0.26	0.45	0.64
Cadmium	Sediment <2mm	mg/kg	dry	40	40	0.983	3.1	8.32	--	--	--	0.983	3.1	8.32
Cadmium	Sediment <63µm	mg/kg	dry	2	2	15.2	21.7	28.2	--	--	--	15.2	21.7	28.2

Table 5-1. Summary of Chemicals of Interest Measured in 2009 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Metals and Metalloids (continued)														
Cadmium	Sediment 63-125µm	mg/kg	dry	2	2	5.15	5.32	5.49	--	--	--	5.15	5.32	5.49
Cadmium	Sediment 125-250µm	mg/kg	dry	2	2	2.11	2.59	3.07	--	--	--	2.11	2.59	3.07
Cadmium	Sediment 250µm-2mm	mg/kg	dry	2	2	1.31	2.01	2.7	--	--	--	1.31	2.01	2.7
Calcium	Sediment <2mm	mg/kg	dry	40	40	19200	47200	77000	--	--	--	19200	47200	77000
Calcium	Sediment <63µm	mg/kg	dry	2	2	40900	53500	66000	--	--	--	40900	53500	66000
Calcium	Sediment 63-125µm	mg/kg	dry	2	2	56600	57400	58200	--	--	--	56600	57400	58200
Calcium	Sediment 125-250µm	mg/kg	dry	2	2	39800	44400	49000	--	--	--	39800	44400	49000
Calcium	Sediment 250µm-2mm	mg/kg	dry	2	2	31800	37400	42900	--	--	--	31800	37400	42900
Chromium	Sediment <2mm	mg/kg	dry	40	40	12	62	154	--	--	--	12	62	154
Chromium	Sediment <63µm	mg/kg	dry	2	2	31.3	33.5	35.7	--	--	--	31.3	33.5	35.7
Chromium	Sediment 63-125µm	mg/kg	dry	2	2	21.7	23.6	25.4	--	--	--	21.7	23.6	25.4
Chromium	Sediment 125-250µm	mg/kg	dry	2	2	19.9	29	38	--	--	--	19.9	29	38
Chromium	Sediment 250µm-2mm	mg/kg	dry	2	2	19	44.3	69.6	--	--	--	19	44.3	69.6
Cobalt	Sediment <2mm	mg/kg	dry	40	40	5.2	25	68.2	--	--	--	5.2	25	68.2
Cobalt	Sediment <63µm	mg/kg	dry	2	2	11.6	12.6	13.5	--	--	--	11.6	12.6	13.5
Cobalt	Sediment 63-125µm	mg/kg	dry	2	2	6.1	6.75	7.4	--	--	--	6.1	6.75	7.4
Cobalt	Sediment 125-250µm	mg/kg	dry	2	2	7.4	8.6	9.8	--	--	--	7.4	8.6	9.8
Cobalt	Sediment 250µm-2mm	mg/kg	dry	2	2	9.3	18.3	27.2	--	--	--	9.3	18.3	27.2
Copper	Sediment <2mm	mg/kg	dry	40	40	194	1140	3040	--	--	--	194	1140	3040
Copper	Sediment <63µm	mg/kg	dry	2	2	486	495	503	--	--	--	486	495	503
Copper	Sediment 63-125µm	mg/kg	dry	2	2	150	201	252	--	--	--	150	201	252
Copper	Sediment 125-250µm	mg/kg	dry	2	2	222	338	454	--	--	--	222	338	454
Copper	Sediment 250µm-2mm	mg/kg	dry	2	2	339	820	1300	--	--	--	339	820	1300
Iron	Sediment <2mm	mg/kg	dry	40	40	32900	109000	245000	--	--	--	32900	109000	245000
Iron	Sediment <63µm	mg/kg	dry	2	2	53800	60100	66300	--	--	--	53800	60100	66300
Iron	Sediment 63-125µm	mg/kg	dry	2	2	29700	32900	36100	--	--	--	29700	32900	36100
Iron	Sediment 125-250µm	mg/kg	dry	2	2	30900	37000	43100	--	--	--	30900	37000	43100
Iron	Sediment 250µm-2mm	mg/kg	dry	2	2	43200	88000	133000	--	--	--	43200	88000	133000
Lead	Sediment <2mm	mg/kg	dry	40	40	161	294	564	--	--	--	161	294	564
Lead	Sediment <63µm	mg/kg	dry	2	2	971	1040	1110	--	--	--	971	1040	1110
Lead	Sediment 63-125µm	mg/kg	dry	2	2	226	281	336	--	--	--	226	281	336
Lead	Sediment 125-250µm	mg/kg	dry	2	2	188	210	232	--	--	--	188	210	232
Lead	Sediment 250µm-2mm	mg/kg	dry	2	2	254	435	615	--	--	--	254	435	615
Magnesium	Sediment <2mm	mg/kg	dry	40	40	5760	11700	35600	--	--	--	5760	11700	35600
Magnesium	Sediment <63µm	mg/kg	dry	2	2	24000	26400	28800	--	--	--	24000	26400	28800
Magnesium	Sediment 63-125µm	mg/kg	dry	2	2	29400	30400	31400	--	--	--	29400	30400	31400
Magnesium	Sediment 125-250µm	mg/kg	dry	2	2	18200	20700	23200	--	--	--	18200	20700	23200
Magnesium	Sediment 250µm-2mm	mg/kg	dry	2	2	6410	9100	11800	--	--	--	6410	9100	11800
Manganese	Sediment <2mm	mg/kg	dry	40	40	696	2060	4570	--	--	--	696	2060	4570
Manganese	Sediment <63µm	mg/kg	dry	2	2	734	776	817	--	--	--	734	776	817
Manganese	Sediment 63-125µm	mg/kg	dry	2	2	367	441	515	--	--	--	367	441	515
Manganese	Sediment 125-250µm	mg/kg	dry	2	2	550	620	690	--	--	--	550	620	690
Manganese	Sediment 250µm-2mm	mg/kg	dry	2	2	870	1610	2340	--	--	--	870	1610	2340
Mercury	Sediment <2mm	mg/kg	dry	40	40	0.018	0.158	0.841	--	--	--	0.018	0.158	0.841
Mercury	Sediment <63µm	mg/kg	dry	2	2	1.53	1.6	1.67	--	--	--	1.53	1.6	1.67
Mercury	Sediment 63-125µm	mg/kg	dry	2	2	0.227	0.28	0.332	--	--	--	0.227	0.28	0.332

Table 5-1. Summary of Chemicals of Interest Measured in 2009 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Metals and Metalloids (continued)														
Mercury	Sediment 125-250µm	mg/kg	dry	2	2	0.11	0.115	0.119	--	--	--	0.11	0.115	0.119
Mercury	Sediment 250µm-2mm	mg/kg	dry	2	2	0.03	0.0535	0.077	--	--	--	0.03	0.0535	0.077
Nickel	Sediment <2mm	mg/kg	dry	40	40	6.89	10	13.6	--	--	--	6.89	10	13.6
Nickel	Sediment <63µm	mg/kg	dry	2	2	31.8	32.2	32.6	--	--	--	31.8	32.2	32.6
Nickel	Sediment 63-125µm	mg/kg	dry	2	2	12.9	15.6	18.2	--	--	--	12.9	15.6	18.2
Nickel	Sediment 125-250µm	mg/kg	dry	2	2	9.26	11.7	14.1	--	--	--	9.26	11.7	14.1
Nickel	Sediment 250µm-2mm	mg/kg	dry	2	2	8.38	9.3	10.2	--	--	--	8.38	9.3	10.2
Potassium	Sediment <2mm	mg/kg	dry	40	40	878	2180	4190	--	--	--	878	2180	4190
Potassium	Sediment <63µm	mg/kg	dry	2	2	1240	1490	1740	--	--	--	1240	1490	1740
Potassium	Sediment 63-125µm	mg/kg	dry	2	2	625	850	1080	--	--	--	625	850	1080
Potassium	Sediment 125-250µm	mg/kg	dry	2	2	717	856	995	--	--	--	717	856	995
Potassium	Sediment 250µm-2mm	mg/kg	dry	2	2	1090	1880	2670	--	--	--	1090	1880	2670
Selenium	Sediment <2mm	mg/kg	dry	40	39	0.7	1.83	3.25	0.45	0.45	0.45	0.45	1.8	3.25
Selenium	Sediment <63µm	mg/kg	dry	2	2	1.9	2.25	2.6	--	--	--	1.9	2.25	2.6
Selenium	Sediment 63-125µm	mg/kg	dry	2	2	0.8	0.85	0.9	--	--	--	0.8	0.85	0.9
Selenium	Sediment 125-250µm	mg/kg	dry	2	2	0.7	0.75	0.8	--	--	--	0.7	0.75	0.8
Selenium	Sediment 250µm-2mm	mg/kg	dry	2	2	1	1.7	2.4	--	--	--	1	1.7	2.4
Silver	Sediment <2mm	mg/kg	dry	40	40	0.415	2.45	6.4	--	--	--	0.415	2.45	6.4
Silver	Sediment <63µm	mg/kg	dry	2	2	4.26	4.46	4.65	--	--	--	4.26	4.46	4.65
Silver	Sediment 63-125µm	mg/kg	dry	2	2	1.62	1.83	2.03	--	--	--	1.62	1.83	2.03
Silver	Sediment 125-250µm	mg/kg	dry	2	2	1.25	1.81	2.37	--	--	--	1.25	1.81	2.37
Silver	Sediment 250µm-2mm	mg/kg	dry	2	2	0.866	1.66	2.46	--	--	--	0.866	1.66	2.46
Sodium	Sediment <2mm	mg/kg	dry	40	40	253	1000	2490	--	--	--	253	1000	2490
Sodium	Sediment <63µm	mg/kg	dry	2	2	176	210	244	--	--	--	176	210	244
Sodium	Sediment 63-125µm	mg/kg	dry	2	2	121	164	206	--	--	--	121	164	206
Sodium	Sediment 125-250µm	mg/kg	dry	2	2	205	263	321	--	--	--	205	263	321
Sodium	Sediment 250µm-2mm	mg/kg	dry	2	2	349	740	1140	--	--	--	349	740	1140
Thallium	Sediment <2mm	mg/kg	dry	40	30	0.069	0.159	0.384	0.024	0.0332	0.0455	0.024	0.128	0.384
Thallium	Sediment <63µm	mg/kg	dry	2	2	0.606	0.617	0.627	--	--	--	0.606	0.617	0.627
Thallium	Sediment 63-125µm	mg/kg	dry	2	2	0.244	0.282	0.319	--	--	--	0.244	0.282	0.319
Thallium	Sediment 125-250µm	mg/kg	dry	2	2	0.145	0.147	0.148	--	--	--	0.145	0.147	0.148
Thallium	Sediment 250µm-2mm	mg/kg	dry	2	2	0.062	0.0795	0.097	--	--	--	0.062	0.0795	0.097
Uranium	Sediment <2mm	mg/kg	dry	16	16	2.23	3.5	4.87	--	--	--	2.23	3.5	4.87
Uranium	Sediment <63µm	mg/kg	dry	2	2	5.72	6.25	6.78	--	--	--	5.72	6.25	6.78
Uranium	Sediment 63-125µm	mg/kg	dry	2	2	4.5	4.52	4.53	--	--	--	4.5	4.52	4.53
Uranium	Sediment 125-250µm	mg/kg	dry	2	2	3.75	4.13	4.5	--	--	--	3.75	4.13	4.5
Uranium	Sediment 250µm-2mm	mg/kg	dry	2	2	2.49	2.87	3.24	--	--	--	2.49	2.87	3.24
Vanadium	Sediment <2mm	mg/kg	dry	40	40	19.2	33.6	50.8	--	--	--	19.2	33.6	50.8
Vanadium	Sediment <63µm	mg/kg	dry	2	2	49.7	51.7	53.7	--	--	--	49.7	51.7	53.7
Vanadium	Sediment 63-125µm	mg/kg	dry	2	2	45.9	46.7	47.4	--	--	--	45.9	46.7	47.4
Vanadium	Sediment 125-250µm	mg/kg	dry	2	2	33.6	41.1	48.6	--	--	--	33.6	41.1	48.6
Vanadium	Sediment 250µm-2mm	mg/kg	dry	2	2	21.6	30.5	39.4	--	--	--	21.6	30.5	39.4
Zinc	Sediment <2mm	mg/kg	dry	40	40	3600	9300	19300	--	--	--	3600	9300	19300
Zinc	Sediment <63µm	mg/kg	dry	2	2	2920	4440	5950	--	--	--	2920	4440	5950
Zinc	Sediment 63-125µm	mg/kg	dry	2	2	1570	1690	1800	--	--	--	1570	1690	1800
Zinc	Sediment 125-250µm	mg/kg	dry	2	2	2690	2700	2700	--	--	--	2690	2700	2700
Zinc	Sediment 250µm-2mm	mg/kg	dry	2	2	4190	8500	12800	--	--	--	4190	8500	12800

Table 5-1. Summary of Chemicals of Interest Measured in 2009 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
IVBA Assay for Lead and Arsenic														
Arsenic, %	Sediment <63µm	%	dry	2	2	9.57	11.5	13.4	--	--	--	9.57	11.5	13.4
Arsenic, %	Sediment 63-125µm	%	dry	2	2	22.5	24.5	26.4	--	--	--	22.5	24.5	26.4
Arsenic, %	Sediment 125-250µm	%	dry	2	2	18	27.1	36.1	--	--	--	18	27.1	36.1
Arsenic, %	Sediment 250µm-2mm	%	dry	2	2	30.2	34.6	39	--	--	--	30.2	34.6	39
Lead, %	Sediment <63µm	%	dry	2	2	48.5	49.7	50.9	--	--	--	48.5	49.7	50.9
Lead, %	Sediment 63-125µm	%	dry	2	2	53.3	60.5	67.7	--	--	--	53.3	60.5	67.7
Lead, %	Sediment 125-250µm	%	dry	2	2	65.9	67.8	69.7	--	--	--	65.9	67.8	69.7
Lead, %	Sediment 250µm-2mm	%	dry	2	2	46.2	57.8	69.3	--	--	--	46.2	57.8	69.3
Dioxin/Furans														
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.57	0.57	0.57	0.57	0.57	0.57
1,2,3,4,6,7,8-Heptachlorodibenzofuran	Sediment <2mm	pg/g	dry	1	1	0.266	0.266	0.266	--	--	--	0.266	0.266	0.266
1,2,3,4,7,8,9-Heptachlorodibenzofuran	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.081	0.081	0.081	0.081	0.081	0.081
1,2,3,4,7,8-Hexachlorodibenzodioxin	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.065	0.065	0.065	0.065	0.065	0.065
1,2,3,4,7,8-Hexachlorodibenzofuran	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.0735	0.0735	0.0735	0.0735	0.0735	0.0735
1,2,3,6,7,8-Hexachlorodibenzodioxin	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.063	0.063	0.063	0.063	0.063	0.063
1,2,3,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	pg/g	dry	1	1	0.123	0.123	0.123	--	--	--	0.123	0.123	0.123
1,2,3,7,8,9-Hexachlorodibenzodioxin	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.066	0.066	0.066	0.066	0.066	0.066
1,2,3,7,8,9-Hexachlorodibenzofuran	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.052	0.052	0.052	0.052	0.052	0.052
1,2,3,7,8-Pentachlorodibenzodioxin	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.0398	0.0398	0.0398	0.0398	0.0398	0.0398
1,2,3,7,8-Pentachlorodibenzofuran	Sediment <2mm	pg/g	dry	1	1	0.123	0.123	0.123	--	--	--	0.123	0.123	0.123
2,3,4,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.0484	0.0484	0.0484	0.0484	0.0484	0.0484
2,3,4,7,8-Pentachlorodibenzofuran	Sediment <2mm	pg/g	dry	1	1	0.0755	0.0755	0.0755	--	--	--	0.0755	0.0755	0.0755
2,3,7,8-Tetrachlorodibenzodioxin	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.0308	0.0308	0.0308	0.0308	0.0308	0.0308
2,3,7,8-Tetrachlorodibenzofuran	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.229	0.229	0.229	0.229	0.229	0.229
Octachlorodibenzodioxin	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.87	2.87	2.87	2.87	2.87	2.87
Octachlorodibenzofuran	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.134	0.134	0.134	0.134	0.134	0.134
Total tetrachlorodibenzodioxins	Sediment <2mm	pg/g	dry	1	1	0.0797	0.0797	0.0797	--	--	--	0.0797	0.0797	0.0797
Total tetrachlorodibenzofurans	Sediment <2mm	pg/g	dry	1	1	0.82	0.82	0.82	--	--	--	0.82	0.82	0.82
Total pentachlorodibenzodioxins	Sediment <2mm	pg/g	dry	1	1	0.0797	0.0797	0.0797	--	--	--	0.0797	0.0797	0.0797
Total pentachlorodibenzofurans	Sediment <2mm	pg/g	dry	1	1	0.434	0.434	0.434	--	--	--	0.434	0.434	0.434
Total hexachlorodibenzodioxins	Sediment <2mm	pg/g	dry	1	1	0.253	0.253	0.253	--	--	--	0.253	0.253	0.253
Total hexachlorodibenzofurans	Sediment <2mm	pg/g	dry	1	1	0.483	0.483	0.483	--	--	--	0.483	0.483	0.483
Total heptachlorodibenzodioxins	Sediment <2mm	pg/g	dry	1	1	1.15	1.15	1.15	--	--	--	1.15	1.15	1.15
Total heptachlorodibenzofurans	Sediment <2mm	pg/g	dry	1	1	0.536	0.536	0.536	--	--	--	0.536	0.536	0.536
Dioxin/Furan TEQ using WHO 2005 TEFs ND=0 DL	Sediment <2mm	pg/g	dry	1	1	0.098	0.098	0.098	--	--	--	0.098	0.098	0.098
Dioxin/Furan TEQ using WHO 2005 TEFs ND=1/2 DL	Sediment <2mm	pg/g	dry	1	1	0.425	0.425	0.425	--	--	--	0.425	0.425	0.425
Radionuclides														
Radium-226	Sediment <2mm	pCi/g	dry	1	1	1.73	1.73	1.73	--	--	--	1.73	1.73	1.73
Uranium-238	Sediment <2mm	pCi/g	dry	1	1	2.06	2.06	2.06	--	--	--	2.06	2.06	2.06
Semivolatile Organic Compounds														
1,2,4-Trichlorobenzene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.3	1.3	1.3	1.3	1.3	1.3
1,2-Dichlorobenzene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.45	1.45	1.45	1.45	1.45	1.45
1,3-Dichlorobenzene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.5	1.5	1.5	1.5	1.5	1.5
1,4-Dichlorobenzene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.45	1.45	1.45	1.45	1.45	1.45
2,2'-oxybis(1-Chloropropane)	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.3	1.3	1.3	1.3	1.3	1.3

Table 5-1. Summary of Chemicals of Interest Measured in 2009 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Semivolatile Organic Compounds (continued)														
2,4,5-Trichlorophenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
2,4,6-Trichlorophenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.7	0.7	0.7	0.7	0.7	0.7
2,4-Dichlorophenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.5	0.5	0.5	0.5	0.5	0.5
2,4-Dimethylphenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	2.75	2.75	2.75	2.75	2.75	2.75
2,4-Dinitrophenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	8.5	8.5	8.5	8.5	8.5	8.5
2,4-Dinitrotoluene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
2,6-Dinitrotoluene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1	1	1	1	1	1
2-Chloronaphthalene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.8	0.8	0.8	0.8	0.8	0.8
2-Chlorophenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1	1	1	1	1	1
2-Methylphenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
2-Nitroaniline	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.6	1.6	1.6	1.6	1.6	1.6
2-Nitrophenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
3,3'-Dichlorobenzidine	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.85	1.85	1.85	1.85	1.85	1.85
3-Nitroaniline	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.25	1.25	1.25	1.25	1.25	1.25
4,6-Dinitro-2-methylphenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.7	0.7	0.7	0.7	0.7	0.7
4-Bromophenyl-phenylether	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.8	0.8	0.8	0.8	0.8	0.8
4-Chloro-3-methylphenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.7	0.7	0.7	0.7	0.7	0.7
4-Chloroaniline	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.95	0.95	0.95	0.95	0.95	0.95
4-Chlorophenyl-phenyl ether	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.7	0.7	0.7	0.7	0.7	0.7
4-Methylphenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
4-Nitroaniline	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.9	0.9	0.9	0.9	0.9	0.9
4-Nitrophenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	9	9	9	9	9	9
Acetophenone	Sediment <2mm	µg/kg	dry	6	0	--	--	--	22	26.5	32	22	26.5	32
Benzaldehyde	Sediment <2mm	µg/kg	dry	6	0	--	--	--	3.85	3.85	3.85	3.85	3.85	3.85
Benzoic acid	Sediment <2mm	µg/kg	dry	6	0	--	--	--	48	48	48	48	48	48
Benzyl alcohol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Benzyl n-butyl phthalate	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.6	1.6	1.6	1.6	1.6	1.6
Bis(2-chloroethoxy)methane	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
Bis(2-chloroethyl)ether	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.95	0.95	0.95	0.95	0.95	0.95
Bis(2-ethylhexyl)phthalate	Sediment <2mm	µg/kg	dry	6	4	205	469	840	49	87	125	49	342	840
Caprolactam	Sediment <2mm	µg/kg	dry	6	0	--	--	--	9.5	9.5	9.5	9.5	9.5	9.5
Carbazole	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.65	0.65	0.65	0.65	0.65	0.65
Diethyl phthalate	Sediment <2mm	µg/kg	dry	6	1	25.3	25.3	25.3	0.65	0.65	0.65	0.65	4.8	25.3
Dimethyl phthalate	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.5	0.5	0.5	0.5	0.5	0.5
Di-n-butyl phthalate	Sediment <2mm	µg/kg	dry	6	0	--	--	--	3.95	3.95	3.95	3.95	3.95	3.95
Di-n-octylphthalate	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.85	0.85	0.85	0.85	0.85	0.85
Hexachlorobenzene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.1	0.1	0.1	0.1	0.1	0.1
Hexachlorobutadiene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.105	0.105	0.105	0.105	0.105	0.105
Hexachlorocyclopentadiene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	14.5	14.5	14.5	14.5	14.5	14.5
Hexachloroethane	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.55	1.55	1.55	1.55	1.55	1.55
Isophorone	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.5	0.5	0.5	0.5	0.5	0.5
Nitrobenzene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.1	1.1	1.1	1.1	1.1	1.1
N-Nitrosodi-n-propylamine	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.2	1.2	1.2	1.2	1.2	1.2
N-Nitrosodiphenylamine	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.8	0.8	0.8	0.8	0.8	0.8
Pentachlorophenol	Sediment <2mm	µg/kg	dry	6	0	--	--	--	10	10	10	10	10	10
Phenol	Sediment <2mm	µg/kg	dry	6	3	1.7	2.23	2.8	1	1	1	1	1.62	2.8

Table 5-1. Summary of Chemicals of Interest Measured in 2009 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Polycyclic Aromatic Hydrocarbons														
1,1'-Biphenyl	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.95	0.95	0.95	0.95	0.95	0.95
2-Methylnaphthalene	Sediment <2mm	µg/kg	dry	6	5	0.57	1.01	1.5	0.23	0.23	0.23	0.23	0.88	1.5
Acenaphthene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.25	0.25	0.25	0.25	0.25	0.25
Acenaphthylene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.28	0.28	0.28	0.28	0.28	0.28
Anthracene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.275	0.275	0.275	0.275	0.275	0.275
Benzo[a]anthracene	Sediment <2mm	µg/kg	dry	6	2	1	1.2	1.4	0.36	0.36	0.36	0.36	0.64	1.4
Benzo[a]pyrene	Sediment <2mm	µg/kg	dry	6	1	1.7	1.7	1.7	0.38	0.38	0.38	0.38	0.6	1.7
Benzo[b]fluoranthene	Sediment <2mm	µg/kg	dry	6	2	1.2	1.65	2.1	0.46	0.46	0.46	0.46	0.86	2.1
Benzo[g,h,i]perylene	Sediment <2mm	µg/kg	dry	6	1	1.1	1.1	1.1	0.425	0.425	0.425	0.425	0.54	1.1
Benzo[k]fluoranthene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.435	0.435	0.435	0.435	0.435	0.435
Chrysene	Sediment <2mm	µg/kg	dry	6	2	1.5	1.65	1.8	0.4	0.4	0.4	0.4	0.82	1.8
Dibenzo[a,h]anthracene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.4	0.4	0.4	0.4	0.4	0.4
Dibenzofuran	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.6	0.6	0.6	0.6	0.6	0.6
Fluoranthene	Sediment <2mm	µg/kg	dry	6	3	1.15	2.08	2.7	0.49	0.49	0.49	0.49	1.29	2.7
Fluorene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.305	0.305	0.305	0.305	0.305	0.305
Indeno[1,2,3-cd]pyrene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.435	0.435	0.435	0.435	0.435	0.435
Naphthalene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.3	0.409	0.55	0.3	0.409	0.55
Phenanthrene	Sediment <2mm	µg/kg	dry	6	3	1.05	1.62	2.4	0.7	0.7	0.7	0.7	1.16	2.4
Pyrene	Sediment <2mm	µg/kg	dry	6	3	0.575	1.76	2.4	0.38	0.38	0.38	0.38	1.07	2.4
Pesticides														
2,4'-DDD	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.065	0.065	0.065	0.065	0.065	0.065
2,4'-DDE	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.08	0.08	0.08	0.08	0.08	0.08
2,4'-DDT	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.029	0.029	0.029	0.029	0.029	0.029
4,4'-DDD	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.055	0.0592	0.08	0.055	0.0592	0.08
4,4'-DDE	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.055	0.055	0.055	0.055	0.055	0.055
4,4'-DDT	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.085	0.085	0.085	0.085	0.085	0.085
Aldrin	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.08	0.08	0.08	0.08	0.08	0.08
alpha-Benzenehexachloride	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.055	0.055	0.055	0.055	0.055	0.055
alpha-Chlordane	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.05	0.05	0.05	0.05	0.05	0.05
beta-BHC	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.09	0.09	0.09	0.09	0.09	0.09
Chlordane	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.95	0.95	0.95	0.95	0.95	0.95
cis-Nonachlor	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06
delta-BHC	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.037	0.037	0.037	0.037	0.037	0.037
Dieldrin	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.07	0.07	0.07	0.07	0.07	0.07
Endosulfan I	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.0315	0.0315	0.0315	0.0315	0.0315	0.0315
Endosulfan II	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.07	0.07	0.07	0.07	0.07	0.07
Endosulfan sulfate	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.055	0.055	0.055	0.055	0.055	0.055
Endrin	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.047	0.047	0.047	0.047	0.047	0.047
Endrin aldehyde	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06
Endrin ketone	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.0465	0.0465	0.0465	0.0465	0.0465	0.0465
gamma-BHC	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.04	0.04	0.04	0.04	0.04	0.04
gamma-Chlordane	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.045	0.045	0.045	0.045	0.045	0.045
Heptachlor	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06
Heptachlor epoxide	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.042	0.042	0.042	0.042	0.042	0.042
Methoxychlor	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.095	0.095	0.095	0.095	0.095	0.095

Table 5-1. Summary of Chemicals of Interest Measured in 2009 Beach Sediment (Primary and field replicate samples averaged)

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Pesticides (continued)														
Mirex	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.0495	0.0495	0.0495	0.0495	0.0495	0.0495
Oxychlordane	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.0425	0.0425	0.0425	0.0425	0.0425	0.0425
Toxaphene	Sediment <2mm	µg/kg	dry	6	0	--	--	--	2.4	4.2	13	2.4	4.2	13
trans-Nonachlor	Sediment <2mm	µg/kg	dry	6	0	--	--	--	0.0435	0.0435	0.0435	0.0435	0.0435	0.0435
Aroclors														
Aroclor 1016	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1221	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1232	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1242	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1248	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1254	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1260	Sediment <2mm	µg/kg	dry	6	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1262	Sediment <2mm	µg/kg	dry	5	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1268	Sediment <2mm	µg/kg	dry	5	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Polychlorinated Biphenyls														
PCB 1	Sediment <2mm	pg/g	dry	1	1	1.36	1.36	1.36	--	--	--	1.36	1.36	1.36
PCB 2	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.515	0.515	0.515	0.515	0.515	0.515
PCB 3	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.1	1.1	1.1	1.1	1.1	1.1
PCB 4	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
PCB 5	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.52	0.52	0.52	0.52	0.52	0.52
PCB 6	Sediment <2mm	pg/g	dry	1	1	1.9	1.9	1.9	--	--	--	1.9	1.9	1.9
PCB 7	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.448	0.448	0.448	0.448	0.448	0.448
PCB 8	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.82	2.82	2.82	2.82	2.82	2.82
PCB 9	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.48	0.48	0.48	0.48	0.48	0.48
PCB 10	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.835	0.835	0.835	0.835	0.835	0.835
PCB 11	Sediment <2mm	pg/g	dry	1	0	--	--	--	8	8	8	8	8	8
PCB 12, 13 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.88	0.88	0.88	0.88	0.88	0.88
PCB 14	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.46	0.46	0.46	0.46	0.46	0.46
PCB 15	Sediment <2mm	pg/g	dry	1	1	3.18	3.18	3.18	--	--	--	3.18	3.18	3.18
PCB 16	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.89	0.89	0.89	0.89	0.89	0.89
PCB 17	Sediment <2mm	pg/g	dry	1	1	1.71	1.71	1.71	--	--	--	1.71	1.71	1.71
PCB 18, 30 coelution	Sediment <2mm	pg/g	dry	1	1	3.87	3.87	3.87	--	--	--	3.87	3.87	3.87
PCB 19	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.54	0.54	0.54	0.54	0.54	0.54
PCB 20, 28 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.69	2.69	2.69	2.69	2.69	2.69
PCB 21, 33 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.57	1.57	1.57	1.57	1.57	1.57
PCB 22	Sediment <2mm	pg/g	dry	1	1	1.84	1.84	1.84	--	--	--	1.84	1.84	1.84
PCB 23	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.45	0.45	0.45	0.45	0.45	0.45
PCB 24	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.57	0.57	0.57	0.57	0.57	0.57
PCB 25	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.387	0.387	0.387	0.387	0.387	0.387
PCB 26, 29 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.71	0.71	0.71	0.71	0.71	0.71
PCB 27	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.51	0.51	0.51	0.51	0.51	0.51
PCB 31	Sediment <2mm	pg/g	dry	1	1	4	4	4	--	--	--	4	4	4
PCB 32	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
PCB 34	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.5	0.5	0.5	0.5	0.5	0.5
PCB 35	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.57	0.57	0.57	0.57	0.57	0.57
PCB 36	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.515	0.515	0.515	0.515	0.515	0.515

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Polychlorinated Biphenyls (continued)														
PCB 37	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.34	1.34	1.34	1.34	1.34	1.34
PCB 38	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.555	0.555	0.555	0.555	0.555	0.555
PCB 39	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.525	0.525	0.525	0.525	0.525	0.525
PCB 40, 71 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.84	1.84	1.84	1.84	1.84	1.84
PCB 41	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.7	2.7	2.7	2.7	2.7	2.7
PCB 42	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.81	1.81	1.81	1.81	1.81	1.81
PCB 43	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.26	2.26	2.26	2.26	2.26	2.26
PCB 44, 47, 65 coelution	Sediment <2mm	pg/g	dry	1	1	5.65	5.65	5.65	--	--	--	5.65	5.65	5.65
PCB 45, 51 coelution	Sediment <2mm	pg/g	dry	1	1	1.64	1.64	1.64	--	--	--	1.64	1.64	1.64
PCB 46	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.61	0.61	0.61	0.61	0.61	0.61
PCB 48	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.08	2.08	2.08	2.08	2.08	2.08
PCB 49, 69 coelution	Sediment <2mm	pg/g	dry	1	1	2.76	2.76	2.76	--	--	--	2.76	2.76	2.76
PCB 50, 53 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.605	0.605	0.605	0.605	0.605	0.605
PCB 52	Sediment <2mm	pg/g	dry	1	1	9.3	9.3	9.3	--	--	--	9.3	9.3	9.3
PCB 54	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.23	0.23	0.23	0.23	0.23	0.23
PCB 55	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.87	0.87	0.87	0.87	0.87	0.87
PCB 56	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.99	0.99	0.99	0.99	0.99	0.99
PCB 57	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.92	0.92	0.92	0.92	0.92	0.92
PCB 58	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.94	0.94	0.94	0.94	0.94	0.94
PCB 59, 62, 75 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.57	1.57	1.57	1.57	1.57	1.57
PCB 60	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.97	0.97	0.97	0.97	0.97	0.97
PCB 61, 70, 74, 76 coelution	Sediment <2mm	pg/g	dry	1	1	7.6	7.6	7.6	--	--	--	7.6	7.6	7.6
PCB 63	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.91	0.91	0.91	0.91	0.91	0.91
PCB 64	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.35	1.35	1.35	1.35	1.35	1.35
PCB 66	Sediment <2mm	pg/g	dry	1	1	4.36	4.36	4.36	--	--	--	4.36	4.36	4.36
PCB 67	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.785	0.785	0.785	0.785	0.785	0.785
PCB 68	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.85	0.85	0.85	0.85	0.85	0.85
PCB 72	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.92	0.92	0.92	0.92	0.92	0.92
PCB 73	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.59	1.59	1.59	1.59	1.59	1.59
PCB 77	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
PCB 78	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.97	0.97	0.97	0.97	0.97	0.97
PCB 79	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.84	0.84	0.84	0.84	0.84	0.84
PCB 80	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.86	0.86	0.86	0.86	0.86	0.86
PCB 81	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
PCB 82	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.63	2.63	2.63	2.63	2.63	2.63
PCB 83	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.94	2.94	2.94	2.94	2.94	2.94
PCB 84	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.74	2.74	2.74	2.74	2.74	2.74
PCB 85, 116, 117 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.03	2.03	2.03	2.03	2.03	2.03
PCB 86, 87, 97, 108, 119, 125 coelution	Sediment <2mm	pg/g	dry	1	1	6.5	6.5	6.5	--	--	--	6.5	6.5	6.5
PCB 88, 91 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.51	2.51	2.51	2.51	2.51	2.51
PCB 89	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.59	2.59	2.59	2.59	2.59	2.59
PCB 90, 101, 113 coelution	Sediment <2mm	pg/g	dry	1	1	13.4	13.4	13.4	--	--	--	13.4	13.4	13.4
PCB 92	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.6	2.6	2.6	2.6	2.6	2.6
PCB 93, 100 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.47	2.47	2.47	2.47	2.47	2.47
PCB 94	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.61	2.61	2.61	2.61	2.61	2.61
PCB 95	Sediment <2mm	pg/g	dry	1	0	--	--	--	4.46	4.46	4.46	4.46	4.46	4.46
PCB 96	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.493	0.493	0.493	0.493	0.493	0.493

Table 5-1. Summary of Chemicals of Interest Measured in 2009 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Polychlorinated Biphenyls (continued)														
PCB 98, 102 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.32	2.32	2.32	2.32	2.32	2.32
PCB 99	Sediment <2mm	pg/g	dry	1	1	4.75	4.75	4.75	--	--	--	4.75	4.75	4.75
PCB 103	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.23	2.23	2.23	2.23	2.23	2.23
PCB 104	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.274	0.274	0.274	0.274	0.274	0.274
PCB 105	Sediment <2mm	pg/g	dry	1	1	4.54	4.54	4.54	--	--	--	4.54	4.54	4.54
PCB 106	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.31	1.31	1.31	1.31	1.31	1.31
PCB 107, 124 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.42	1.42	1.42	1.42	1.42	1.42
PCB 109	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.38	1.38	1.38	1.38	1.38	1.38
PCB 110, 115 coelution	Sediment <2mm	pg/g	dry	1	1	15.9	15.9	15.9	--	--	--	15.9	15.9	15.9
PCB 111	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.81	1.81	1.81	1.81	1.81	1.81
PCB 112	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.65	1.65	1.65	1.65	1.65	1.65
PCB 114	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.5	1.5	1.5	1.5	1.5	1.5
PCB 118	Sediment <2mm	pg/g	dry	1	1	15.1	15.1	15.1	--	--	--	15.1	15.1	15.1
PCB 120	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.71	1.71	1.71	1.71	1.71	1.71
PCB 121	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.79	1.79	1.79	1.79	1.79	1.79
PCB 122	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.54	1.54	1.54	1.54	1.54	1.54
PCB 123	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.48	1.48	1.48	1.48	1.48	1.48
PCB 126	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.73	1.73	1.73	1.73	1.73	1.73
PCB 127	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.46	1.46	1.46	1.46	1.46	1.46
PCB 128, 166 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.22	3.22	3.22	3.22	3.22	3.22
PCB 129, 138, 163 coelution	Sediment <2mm	pg/g	dry	1	1	25.7	25.7	25.7	--	--	--	25.7	25.7	25.7
PCB 130	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.98	3.98	3.98	3.98	3.98	3.98
PCB 131	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.44	3.44	3.44	3.44	3.44	3.44
PCB 132	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.79	3.79	3.79	3.79	3.79	3.79
PCB 133	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.81	3.81	3.81	3.81	3.81	3.81
PCB 134	Sediment <2mm	pg/g	dry	1	0	--	--	--	4.01	4.01	4.01	4.01	4.01	4.01
PCB 135, 151 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.14	2.14	2.14	2.14	2.14	2.14
PCB 136	Sediment <2mm	pg/g	dry	1	1	1.75	1.75	1.75	--	--	--	1.75	1.75	1.75
PCB 137	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.67	3.67	3.67	3.67	3.67	3.67
PCB 139, 140 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.36	3.36	3.36	3.36	3.36	3.36
PCB 141	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.2	3.2	3.2	3.2	3.2	3.2
PCB 142	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.7	3.7	3.7	3.7	3.7	3.7
PCB 143	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.96	3.96	3.96	3.96	3.96	3.96
PCB 144	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.32	1.32	1.32	1.32	1.32	1.32
PCB 145	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.11	1.11	1.11	1.11	1.11	1.11
PCB 146	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.11	3.11	3.11	3.11	3.11	3.11
PCB 147, 149 coelution	Sediment <2mm	pg/g	dry	1	1	8.8	8.8	8.8	--	--	--	8.8	8.8	8.8
PCB 148	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.32	1.32	1.32	1.32	1.32	1.32
PCB 150	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.01	1.01	1.01	1.01	1.01	1.01
PCB 152	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.02	1.02	1.02	1.02	1.02	1.02
PCB 153, 168 coelution	Sediment <2mm	pg/g	dry	1	1	22	22	22	--	--	--	22	22	22
PCB 154	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.07	1.07	1.07	1.07	1.07	1.07
PCB 155	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.64	0.64	0.64	0.64	0.64	0.64
PCB 156, 157 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.13	1.13	1.13	1.13	1.13	1.13
PCB 158	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.54	2.54	2.54	2.54	2.54	2.54
PCB 159	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.91	0.91	0.91	0.91	0.91	0.91
PCB 160	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.8	2.8	2.8	2.8	2.8	2.8

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Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Polychlorinated Biphenyls (continued)														
PCB 161	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.67	2.67	2.67	2.67	2.67	2.67
PCB 162	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.89	0.89	0.89	0.89	0.89	0.89
PCB 164	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.57	2.57	2.57	2.57	2.57	2.57
PCB 165	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.97	2.97	2.97	2.97	2.97	2.97
PCB 167	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.01	1.01	1.01	1.01	1.01	1.01
PCB 169	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.81	0.81	0.81	0.81	0.81	0.81
PCB 170	Sediment <2mm	pg/g	dry	1	1	4.35	4.35	4.35	--	--	--	4.35	4.35	4.35
PCB 171, 173 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.26	2.26	2.26	2.26	2.26	2.26
PCB 172	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.36	2.36	2.36	2.36	2.36	2.36
PCB 174	Sediment <2mm	pg/g	dry	1	1	3.82	3.82	3.82	--	--	--	3.82	3.82	3.82
PCB 175	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.09	1.09	1.09	1.09	1.09	1.09
PCB 176	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.83	0.83	0.83	0.83	0.83	0.83
PCB 177	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.18	2.18	2.18	2.18	2.18	2.18
PCB 178	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.14	1.14	1.14	1.14	1.14	1.14
PCB 179	Sediment <2mm	pg/g	dry	1	1	1.83	1.83	1.83	--	--	--	1.83	1.83	1.83
PCB 180, 193 coelution	Sediment <2mm	pg/g	dry	1	1	14.3	14.3	14.3	--	--	--	14.3	14.3	14.3
PCB 181	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.26	2.26	2.26	2.26	2.26	2.26
PCB 182	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.99	0.99	0.99	0.99	0.99	0.99
PCB 183, 185 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.4	2.4	2.4	2.4	2.4	2.4
PCB 184	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.78	0.78	0.78	0.78	0.78	0.78
PCB 186	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.84	0.84	0.84	0.84	0.84	0.84
PCB 187	Sediment <2mm	pg/g	dry	1	1	9.9	9.9	9.9	--	--	--	9.9	9.9	9.9
PCB 188	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.83	0.83	0.83	0.83	0.83	0.83
PCB 189	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.449	0.449	0.449	0.449	0.449	0.449
PCB 190	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.86	1.86	1.86	1.86	1.86	1.86
PCB 191	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.78	1.78	1.78	1.78	1.78	1.78
PCB 192	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.85	1.85	1.85	1.85	1.85	1.85
PCB 194	Sediment <2mm	pg/g	dry	1	1	4.83	4.83	4.83	--	--	--	4.83	4.83	4.83
PCB 195	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.26	1.26	1.26	1.26	1.26	1.26
PCB 196	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.11	1.11	1.11	1.11	1.11	1.11
PCB 197, 200 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.81	0.81	0.81	0.81	0.81	0.81
PCB 198, 199 coelution	Sediment <2mm	pg/g	dry	1	1	6.8	6.8	6.8	--	--	--	6.8	6.8	6.8
PCB 201	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.82	0.82	0.82	0.82	0.82	0.82
PCB 202	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.09	1.09	1.09	1.09	1.09	1.09
PCB 203	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.42	2.42	2.42	2.42	2.42	2.42
PCB 204	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.84	0.84	0.84	0.84	0.84	0.84
PCB 205	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.785	0.785	0.785	0.785	0.785	0.785
PCB 206	Sediment <2mm	pg/g	dry	1	1	8.4	8.4	8.4	--	--	--	8.4	8.4	8.4
PCB 207	Sediment <2mm	pg/g	dry	1	0	--	--	--	1	1	1	1	1	1
PCB 208	Sediment <2mm	pg/g	dry	1	1	2.27	2.27	2.27	--	--	--	2.27	2.27	2.27
PCB 209	Sediment <2mm	pg/g	dry	1	1	3.24	3.24	3.24	--	--	--	3.24	3.24	3.24
Monochlorobiphenyl homologs	Sediment <2mm	pg/g	dry	1	1	5.79	5.79	5.79	--	--	--	5.79	5.79	5.79
Dichlorobiphenyl homologs	Sediment <2mm	pg/g	dry	1	1	32.4	32.4	32.4	--	--	--	32.4	32.4	32.4
Trichlorobiphenyl homologs	Sediment <2mm	pg/g	dry	1	1	33.7	33.7	33.7	--	--	--	33.7	33.7	33.7
Tetrachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	1	1	32.6	32.6	32.6	--	--	--	32.6	32.6	32.6
Pentachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	1	1	72.6	72.6	72.6	--	--	--	72.6	72.6	72.6

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Polychlorinated Biphenyls (continued)														
Hexachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	1	1	67.1	67.1	67.1	--	--	--	67.1	67.1	67.1
Heptachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	1	1	36.2	36.2	36.2	--	--	--	36.2	36.2	36.2
Octachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	1	1	20.4	20.4	20.4	--	--	--	20.4	20.4	20.4
Nonachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	1	1	11.9	11.9	11.9	--	--	--	11.9	11.9	11.9
Decachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	1	1	3.24	3.24	3.24	--	--	--	3.24	3.24	3.24
Total PCBs	Sediment <2mm	pg/g	dry	1	1	315	315	315	--	--	--	315	315	315
PCB TEQ using WHO 2005 TEFs ND=0 DL	Sediment <2mm	pg/g	dry	1	1	0.000629	0.000629	0.000629	--	--	--	0.000629	0.000629	0.000629
PCB TEQ using WHO 2005 TEFs ND=1/2 DL	Sediment <2mm	pg/g	dry	1	1	0.271	0.271	0.271	--	--	--	0.271	0.271	0.271
Polybrominated Diphenyl Ethers														
PBDE 17, 25 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.56	1.56	1.56	1.56	1.56	1.56
PBDE 28, 33 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.807	0.807	0.807	0.807	0.807	0.807
PBDE 47	Sediment <2mm	pg/g	dry	1	0	--	--	--	20.2	20.2	20.2	20.2	20.2	20.2
PBDE 49	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.65	1.65	1.65	1.65	1.65	1.65
PBDE 66	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.97	2.97	2.97	2.97	2.97	2.97
PBDE 71	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.8	3.8	3.8	3.8	3.8	3.8
PBDE 85	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.82	2.82	2.82	2.82	2.82	2.82
PBDE 99	Sediment <2mm	pg/g	dry	1	0	--	--	--	9.6	9.6	9.6	9.6	9.6	9.6
PBDE 100	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.12	1.12	1.12	1.12	1.12	1.12
PBDE 128	Sediment <2mm	pg/g	dry	1	0	--	--	--	7.6	7.6	7.6	7.6	7.6	7.6
PBDE 138, 166 coelution	Sediment <2mm	pg/g	dry	1	0	--	--	--	4.41	4.41	4.41	4.41	4.41	4.41
PBDE 153	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.47	1.47	1.47	1.47	1.47	1.47
PBDE 154	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.41	1.41	1.41	1.41	1.41	1.41
PBDE 183	Sediment <2mm	pg/g	dry	1	0	--	--	--	1	1	1	1	1	1
PBDE 184	Sediment <2mm	pg/g	dry	1	0	--	--	--	0.85	0.85	0.85	0.85	0.85	0.85
PBDE 190	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.69	2.69	2.69	2.69	2.69	2.69
PBDE 191	Sediment <2mm	pg/g	dry	1	0	--	--	--	2.04	2.04	2.04	2.04	2.04	2.04
PBDE 203	Sediment <2mm	pg/g	dry	1	0	--	--	--	1.39	1.39	1.39	1.39	1.39	1.39
PBDE 206	Sediment <2mm	pg/g	dry	1	0	--	--	--	6.8	6.8	6.8	6.8	6.8	6.8
PBDE 209	Sediment <2mm	pg/g	dry	1	0	--	--	--	3.2	3.2	3.2	3.2	3.2	3.2

Notes:

Data were averaged over method and field replicates. Concentrations have been rounded to three significant figures.

Data exclude rejected data, non-reportable data and quality control sample data.

-- = no results available

DL = detection limit

ND = not detected

TEF = toxic equivalency factor

TEQ = toxicity equivalent

WHO = World Health Organization

[a] Calculated with non-detected results at one-half of the detection limit.

Table 5-2. Summary of Chemicals of Interest Measured in 2010 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Conventional Parameters and Nutrients														
Organic carbon	Sediment <2mm	%	dry	33	32	0.097	0.8	2.29	0.01	0.01	0.01	0.01	0.77	2.29
pH, lab	Sediment <2mm	SU	dry	17	17	7.45	7.84	8.38	--	--	--	7.45	7.84	8.38
pH, lab	Sediment <2mm	SU	wet	16	16	6.29	7.22	8.14	--	--	--	6.29	7.22	8.14
Solids	Sediment <2mm	%	wet	93	93	58	87.4	98.2	--	--	--	58	87.4	98.2
Sulfide	Sediment <2mm	mg/kg	dry	33	25	0.36	74	294	0.105	0.115	0.13	0.105	56	294
Grain Size														
Cobbles	Sediment	%	dry	32	32	0	0	0	--	--	--	0	0	0
Very Coarse Gravel	Sediment	%	dry	32	32	0	0	0	--	--	--	0	0	0
Coarse Gravel	Sediment	%	dry	32	32	0	0.5	17.4	--	--	--	0	0.5	17.4
Medium Gravel	Sediment	%	dry	32	32	0	3	14.6	--	--	--	0	3	14.6
Fine Gravel	Sediment	%	dry	32	32	0	3	13.8	--	--	--	0	3	13.8
Very Fine Gravel	Sediment	%	dry	32	32	0	2	6.19	--	--	--	0	2	6.19
Very Coarse Sand	Sediment	%	dry	32	32	0.02	3.6	12	--	--	--	0.02	3.6	12
Coarse Sand	Sediment	%	dry	32	32	0.71	13.9	43.6	--	--	--	0.71	13.9	43.6
Medium Sand	Sediment	%	dry	32	32	2.78	22.4	59.9	--	--	--	2.78	22.4	59.9
Fine Sand	Sediment	%	dry	32	32	4.37	20.5	47.7	--	--	--	4.37	20.5	47.7
Very Fine Sand	Sediment	%	dry	32	32	1.82	13.6	38.6	--	--	--	1.82	13.6	38.6
Silt	Sediment	%	dry	32	32	1.34	13.3	41.1	--	--	--	1.34	13.3	41.1
Clay	Sediment	%	dry	32	32	0	1	3.42	--	--	--	0	1	3.42
Metals and Metalloids														
Aluminum	Sediment <2mm	mg/kg	dry	81	81	2830	9700	16800	--	--	--	2830	9700	16800
Aluminum	Sediment <63µm	mg/kg	dry	5	5	16000	19900	30700	--	--	--	16000	19900	30700
Aluminum	Sediment 63-125µm	mg/kg	dry	5	5	4860	6060	8960	--	--	--	4860	6060	8960
Aluminum	Sediment 125-250µm	mg/kg	dry	5	5	4240	6700	10500	--	--	--	4240	6700	10500
Aluminum	Sediment 250µm-2mm	mg/kg	dry	5	5	6030	13600	20300	--	--	--	6030	13600	20300
Antimony	Sediment <2mm	mg/kg	dry	81	79	0.016	9.1	80.8	0.0435	0.0453	0.047	0.016	8.9	80.8
Antimony	Sediment <63µm	mg/kg	dry	5	5	0.365	16.8	55.7	--	--	--	0.365	16.8	55.7
Antimony	Sediment 63-125µm	mg/kg	dry	5	5	0.053	6.3	22.7	--	--	--	0.053	6.3	22.7
Antimony	Sediment 125-250µm	mg/kg	dry	5	5	0.05	9.2	28.3	--	--	--	0.05	9.2	28.3
Antimony	Sediment 250µm-2mm	mg/kg	dry	5	5	0.059	18.4	46.8	--	--	--	0.059	18.4	46.8
Arsenic	Sediment <2mm	mg/kg	dry	81	81	0.69	5.4	19.3	--	--	--	0.69	5.4	19.3
Arsenic	Sediment <63µm	mg/kg	dry	5	5	3.97	20.9	54	--	--	--	3.97	20.9	54
Arsenic	Sediment 63-125µm	mg/kg	dry	5	5	1.03	5.1	13	--	--	--	1.03	5.1	13
Arsenic	Sediment 125-250µm	mg/kg	dry	5	5	0.96	5.2	11.3	--	--	--	0.96	5.2	11.3
Arsenic	Sediment 250µm-2mm	mg/kg	dry	5	5	1.71	8.6	16.5	--	--	--	1.71	8.6	16.5
Barium	Sediment <2mm	mg/kg	dry	81	81	32.7	360	1730	--	--	--	32.7	360	1730
Barium	Sediment <63µm	mg/kg	dry	5	5	205	960	2260	--	--	--	205	960	2260
Barium	Sediment 63-125µm	mg/kg	dry	5	5	55.1	500	1100	--	--	--	55.1	500	1100
Barium	Sediment 125-250µm	mg/kg	dry	5	5	43.5	259	555	--	--	--	43.5	259	555
Barium	Sediment 250µm-2mm	mg/kg	dry	5	5	61.1	570	1010	--	--	--	61.1	570	1010
Beryllium	Sediment <2mm	mg/kg	dry	81	81	0.11	0.373	0.79	--	--	--	0.11	0.373	0.79
Beryllium	Sediment <63µm	mg/kg	dry	5	5	0.65	0.806	0.99	--	--	--	0.65	0.806	0.99
Beryllium	Sediment 63-125µm	mg/kg	dry	5	5	0.17	0.204	0.23	--	--	--	0.17	0.204	0.23
Beryllium	Sediment 125-250µm	mg/kg	dry	5	5	0.15	0.244	0.34	--	--	--	0.15	0.244	0.34
Beryllium	Sediment 250µm-2mm	mg/kg	dry	5	5	0.17	0.394	0.53	--	--	--	0.17	0.394	0.53
Cadmium	Sediment <2mm	mg/kg	dry	81	81	0.057	1.89	6.47	--	--	--	0.057	1.89	6.47
Cadmium	Sediment <63µm	mg/kg	dry	5	5	2.42	13.1	33.2	--	--	--	2.42	13.1	33.2

Table 5-2. Summary of Chemicals of Interest Measured in 2010 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Metals and Metalloids (continued)														
Cadmium	Sediment 63-125µm	mg/kg	dry	5	5	0.417	2.26	4.23	--	--	--	0.417	2.26	4.23
Cadmium	Sediment 125-250µm	mg/kg	dry	5	5	0.321	2.16	3.32	--	--	--	0.321	2.16	3.32
Cadmium	Sediment 250µm-2mm	mg/kg	dry	5	5	0.549	2.27	4.39	--	--	--	0.549	2.27	4.39
Calcium	Sediment <2mm	mg/kg	dry	81	81	1630	17300	55300	--	--	--	1630	17300	55300
Calcium	Sediment <63µm	mg/kg	dry	5	5	3580	21100	49500	--	--	--	3580	21100	49500
Calcium	Sediment 63-125µm	mg/kg	dry	5	5	3740	23400	52800	--	--	--	3740	23400	52800
Calcium	Sediment 125-250µm	mg/kg	dry	5	5	1440	18700	43200	--	--	--	1440	18700	43200
Calcium	Sediment 250µm-2mm	mg/kg	dry	5	5	1860	26500	42800	--	--	--	1860	26500	42800
Chromium	Sediment <2mm	mg/kg	dry	81	81	4.87	20.7	88.4	--	--	--	4.87	20.7	88.4
Chromium	Sediment <63µm	mg/kg	dry	5	5	17.2	36.1	62.8	--	--	--	17.2	36.1	62.8
Chromium	Sediment 63-125µm	mg/kg	dry	5	5	6.53	10.8	15.9	--	--	--	6.53	10.8	15.9
Chromium	Sediment 125-250µm	mg/kg	dry	5	5	4.47	14	24.6	--	--	--	4.47	14	24.6
Chromium	Sediment 250µm-2mm	mg/kg	dry	5	5	5.35	28.9	52	--	--	--	5.35	28.9	52
Cobalt	Sediment <2mm	mg/kg	dry	81	81	2.1	8.7	42.9	--	--	--	2.1	8.7	42.9
Cobalt	Sediment <63µm	mg/kg	dry	5	5	7.2	14.9	24.9	--	--	--	7.2	14.9	24.9
Cobalt	Sediment 63-125µm	mg/kg	dry	5	5	2.9	5.1	8.1	--	--	--	2.9	5.1	8.1
Cobalt	Sediment 125-250µm	mg/kg	dry	5	5	2	7.1	12.8	--	--	--	2	7.1	12.8
Cobalt	Sediment 250µm-2mm	mg/kg	dry	5	5	3	16.1	29.5	--	--	--	3	16.1	29.5
Copper	Sediment <2mm	mg/kg	dry	81	81	5.9	300	2120	--	--	--	5.9	300	2120
Copper	Sediment <63µm	mg/kg	dry	5	5	28	490	1300	--	--	--	28	490	1300
Copper	Sediment 63-125µm	mg/kg	dry	5	5	8.3	93	258	--	--	--	8.3	93	258
Copper	Sediment 125-250µm	mg/kg	dry	5	5	5.7	178	477	--	--	--	5.7	178	477
Copper	Sediment 250µm-2mm	mg/kg	dry	5	5	9.2	650	1320	--	--	--	9.2	650	1320
Iron	Sediment <2mm	mg/kg	dry	81	81	5800	41000	160000	--	--	--	5800	41000	160000
Iron	Sediment <63µm	mg/kg	dry	5	5	19000	53000	112000	--	--	--	19000	53000	112000
Iron	Sediment 63-125µm	mg/kg	dry	5	5	13000	21200	41300	--	--	--	13000	21200	41300
Iron	Sediment 125-250µm	mg/kg	dry	5	5	7040	26600	55400	--	--	--	7040	26600	55400
Iron	Sediment 250µm-2mm	mg/kg	dry	5	5	11200	81000	146000	--	--	--	11200	81000	146000
Lead	Sediment <2mm	mg/kg	dry	81	81	2.1	180	741	--	--	--	2.1	180	741
Lead	Sediment <63µm	mg/kg	dry	5	5	92.4	770	1780	--	--	--	92.4	770	1780
Lead	Sediment 63-125µm	mg/kg	dry	5	5	23.4	131	206	--	--	--	23.4	131	206
Lead	Sediment 125-250µm	mg/kg	dry	5	5	22.9	161	240	--	--	--	22.9	161	240
Lead	Sediment 250µm-2mm	mg/kg	dry	5	5	37	406	791	--	--	--	37	406	791
Magnesium	Sediment <2mm	mg/kg	dry	81	81	1590	6000	14100	--	--	--	1590	6000	14100
Magnesium	Sediment <63µm	mg/kg	dry	5	5	4310	11500	20200	--	--	--	4310	11500	20200
Magnesium	Sediment 63-125µm	mg/kg	dry	5	5	2190	12300	25200	--	--	--	2190	12300	25200
Magnesium	Sediment 125-250µm	mg/kg	dry	5	5	1640	8800	15800	--	--	--	1640	8800	15800
Magnesium	Sediment 250µm-2mm	mg/kg	dry	5	5	3170	5400	6720	--	--	--	3170	5400	6720
Manganese	Sediment <2mm	mg/kg	dry	81	81	90.3	730	3100	--	--	--	90.3	730	3100
Manganese	Sediment <63µm	mg/kg	dry	5	5	367	880	1790	--	--	--	367	880	1790
Manganese	Sediment 63-125µm	mg/kg	dry	5	5	110	257	502	--	--	--	110	257	502
Manganese	Sediment 125-250µm	mg/kg	dry	5	5	80.6	435	992	--	--	--	80.6	435	992
Manganese	Sediment 250µm-2mm	mg/kg	dry	5	5	133	1610	2880	--	--	--	133	1610	2880
Mercury	Sediment <2mm	mg/kg	dry	81	78	0.002	0.137	0.876	0.001	0.001	0.001	0.001	0.132	0.876
Mercury	Sediment <63µm	mg/kg	dry	5	5	0.16	1.71	5.05	--	--	--	0.16	1.71	5.05
Mercury	Sediment 63-125µm	mg/kg	dry	5	5	0.033	0.79	3.41	--	--	--	0.033	0.79	3.41
Mercury	Sediment 125-250µm	mg/kg	dry	5	5	0.027	0.158	0.441	--	--	--	0.027	0.158	0.441
Mercury	Sediment 250µm-2mm	mg/kg	dry	5	5	0.021	0.138	0.467	--	--	--	0.021	0.138	0.467

Table 5-2. Summary of Chemicals of Interest Measured in 2010 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Metals and Metalloids (continued)														
Nickel	Sediment <2mm	mg/kg	dry	81	81	5.35	9.8	18.4	--	--	--	5.35	9.8	18.4
Nickel	Sediment <63µm	mg/kg	dry	5	5	18.4	28.4	39.4	--	--	--	18.4	28.4	39.4
Nickel	Sediment 63-125µm	mg/kg	dry	5	5	8.6	12.1	15.6	--	--	--	8.6	12.1	15.6
Nickel	Sediment 125-250µm	mg/kg	dry	5	5	5.93	10.9	13.9	--	--	--	5.93	10.9	13.9
Nickel	Sediment 250µm-2mm	mg/kg	dry	5	5	7.23	10.5	13.4	--	--	--	7.23	10.5	13.4
Potassium	Sediment <2mm	mg/kg	dry	81	81	529	1470	3540	--	--	--	529	1470	3540
Potassium	Sediment <63µm	mg/kg	dry	5	5	1560	1760	1980	--	--	--	1560	1760	1980
Potassium	Sediment 63-125µm	mg/kg	dry	5	5	776	870	1010	--	--	--	776	870	1010
Potassium	Sediment 125-250µm	mg/kg	dry	5	5	627	1000	1110	--	--	--	627	1000	1110
Potassium	Sediment 250µm-2mm	mg/kg	dry	5	5	895	2250	4000	--	--	--	895	2250	4000
Selenium	Sediment <2mm	mg/kg	dry	81	35	0.05	1.19	2.3	0.015	0.03	0.145	0.015	0.53	2.3
Selenium	Sediment <63µm	mg/kg	dry	5	3	0.54	2.11	4.1	0.09	0.42	0.75	0.09	1.44	4.1
Selenium	Sediment 63-125µm	mg/kg	dry	5	0	--	--	--	0.015	0.178	0.55	0.015	0.178	0.55
Selenium	Sediment 125-250µm	mg/kg	dry	5	1	0.71	0.71	0.71	0.015	0.106	0.175	0.015	0.227	0.71
Selenium	Sediment 250µm-2mm	mg/kg	dry	5	3	1.5	1.73	2	0.015	0.06	0.105	0.015	1.06	2
Silver	Sediment <2mm	mg/kg	dry	81	81	0.024	0.75	6.86	--	--	--	0.024	0.75	6.86
Silver	Sediment <63µm	mg/kg	dry	5	5	0.233	3.8	10.4	--	--	--	0.233	3.8	10.4
Silver	Sediment 63-125µm	mg/kg	dry	5	5	0.063	0.72	2.01	--	--	--	0.063	0.72	2.01
Silver	Sediment 125-250µm	mg/kg	dry	5	5	0.044	0.87	2.08	--	--	--	0.044	0.87	2.08
Silver	Sediment 250µm-2mm	mg/kg	dry	5	5	0.036	1.35	2.43	--	--	--	0.036	1.35	2.43
Sodium	Sediment <2mm	mg/kg	dry	81	81	63	390	1690	--	--	--	63	390	1690
Sodium	Sediment <63µm	mg/kg	dry	5	5	212	255	316	--	--	--	212	255	316
Sodium	Sediment 63-125µm	mg/kg	dry	5	5	188	220	260	--	--	--	188	220	260
Sodium	Sediment 125-250µm	mg/kg	dry	5	5	109	231	435	--	--	--	109	231	435
Sodium	Sediment 250µm-2mm	mg/kg	dry	5	5	166	870	1760	--	--	--	166	870	1760
Thallium	Sediment <2mm	mg/kg	dry	81	78	0.035	0.222	0.804	0.027	0.0413	0.0505	0.027	0.215	0.804
Thallium	Sediment <63µm	mg/kg	dry	5	5	0.522	0.87	1.2	--	--	--	0.522	0.87	1.2
Thallium	Sediment 63-125µm	mg/kg	dry	5	5	0.194	0.334	0.446	--	--	--	0.194	0.334	0.446
Thallium	Sediment 125-250µm	mg/kg	dry	5	5	0.152	0.302	0.501	--	--	--	0.152	0.302	0.501
Thallium	Sediment 250µm-2mm	mg/kg	dry	5	5	0.065	0.206	0.436	--	--	--	0.065	0.206	0.436
Uranium	Sediment <2mm	mg/kg	dry	33	33	0.388	2.02	8.64	--	--	--	0.388	2.02	8.64
Uranium	Sediment <63µm	mg/kg	dry	5	5	1.48	3.17	4.97	--	--	--	1.48	3.17	4.97
Uranium	Sediment 63-125µm	mg/kg	dry	5	5	0.685	1.81	3.6	--	--	--	0.685	1.81	3.6
Uranium	Sediment 125-250µm	mg/kg	dry	5	5	0.319	1.74	3.66	--	--	--	0.319	1.74	3.66
Uranium	Sediment 250µm-2mm	mg/kg	dry	5	5	0.374	1.82	2.75	--	--	--	0.374	1.82	2.75
Vanadium	Sediment <2mm	mg/kg	dry	81	81	7.82	18.5	34.7	--	--	--	7.82	18.5	34.7
Vanadium	Sediment <63µm	mg/kg	dry	5	5	23.9	31.4	38.7	--	--	--	23.9	31.4	38.7
Vanadium	Sediment 63-125µm	mg/kg	dry	5	5	9.33	14.2	19.3	--	--	--	9.33	14.2	19.3
Vanadium	Sediment 125-250µm	mg/kg	dry	5	5	6.59	13.5	16.4	--	--	--	6.59	13.5	16.4
Vanadium	Sediment 250µm-2mm	mg/kg	dry	5	5	11.4	23.2	40.4	--	--	--	11.4	23.2	40.4
Zinc	Sediment <2mm	mg/kg	dry	81	81	18.4	3000	11800	--	--	--	18.4	3000	11800
Zinc	Sediment <63µm	mg/kg	dry	5	5	263	3770	9580	--	--	--	263	3770	9580
Zinc	Sediment 63-125µm	mg/kg	dry	5	5	93.5	940	2100	--	--	--	93.5	940	2100
Zinc	Sediment 125-250µm	mg/kg	dry	5	5	79.1	1840	4580	--	--	--	79.1	1840	4580
Zinc	Sediment 250µm-2mm	mg/kg	dry	5	5	104	7100	15400	--	--	--	104	7100	15400

Table 5-2. Summary of Chemicals of Interest Measured in 2010 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
IVBA Assay for Lead and Arsenic														
Arsenic, %	Sediment <63µm	%	dry	5	5	17.7	22.3	30.2	--	--	--	17.7	22.3	30.2
Arsenic, %	Sediment 63-125µm	%	dry	5	5	24.3	29.2	37.3	--	--	--	24.3	29.2	37.3
Arsenic, %	Sediment 125-250µm	%	dry	5	4	30.4	35.7	46.9	6.75	6.75	6.75	6.75	29.9	46.9
Arsenic, %	Sediment 250µm-2mm	%	dry	5	4	21	41.2	60.1	1.17	1.17	1.17	1.17	33.2	60.1
Lead, %	Sediment <63µm	%	dry	5	5	52.5	67.7	81	--	--	--	52.5	67.7	81
Lead, %	Sediment 63-125µm	%	dry	5	5	49.1	54.8	63.6	--	--	--	49.1	54.8	63.6
Lead, %	Sediment 125-250µm	%	dry	5	5	47.6	59.9	69.4	--	--	--	47.6	59.9	69.4
Lead, %	Sediment 250µm-2mm	%	dry	5	5	23.3	47.4	63.3	--	--	--	23.3	47.4	63.3
Dioxin/Furans														
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	Sediment <2mm	pg/g	dry	2	2	1.92	3.89	5.86	--	--	--	1.92	3.89	5.86
1,2,3,4,6,7,8-Heptachlorodibenzofuran	Sediment <2mm	pg/g	dry	2	0	--	--	--	1.22	1.52	1.82	1.22	1.52	1.82
1,2,3,4,7,8,9-Heptachlorodibenzofuran	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.63	0.668	0.705	0.63	0.668	0.705
1,2,3,4,7,8-Hexachlorodibenzodioxin	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.68	0.718	0.755	0.68	0.718	0.755
1,2,3,4,7,8-Hexachlorodibenzofuran	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.905	1.01	1.11	0.905	1.01	1.11
1,2,3,6,7,8-Hexachlorodibenzodioxin	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.775	0.88	0.985	0.775	0.88	0.985
1,2,3,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.92	1.02	1.12	0.92	1.02	1.12
1,2,3,7,8,9-Hexachlorodibenzodioxin	Sediment <2mm	pg/g	dry	2	1	1.21	1.21	1.21	0.439	0.439	0.439	0.439	0.82	1.21
1,2,3,7,8,9-Hexachlorodibenzofuran	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.426	0.505	0.585	0.426	0.505	0.585
1,2,3,7,8-Pentachlorodibenzodioxin	Sediment <2mm	pg/g	dry	2	1	1	1	1	0.87	0.87	0.87	0.87	0.94	1
1,2,3,7,8-Pentachlorodibenzofuran	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.695	0.8	0.905	0.695	0.8	0.905
2,3,4,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.411	0.501	0.59	0.411	0.501	0.59
2,3,4,7,8-Pentachlorodibenzofuran	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.505	0.59	0.675	0.505	0.59	0.675
2,3,7,8-Tetrachlorodibenzodioxin	Sediment <2mm	pg/g	dry	2	1	0.333	0.333	0.333	0.151	0.151	0.151	0.151	0.242	0.333
2,3,7,8-Tetrachlorodibenzofuran	Sediment <2mm	pg/g	dry	2	2	0.629	0.97	1.32	--	--	--	0.629	0.97	1.32
Octachlorodibenzodioxin	Sediment <2mm	pg/g	dry	2	1	25.7	25.7	25.7	2.25	2.25	2.25	2.25	14	25.7
Octachlorodibenzofuran	Sediment <2mm	pg/g	dry	2	0	--	--	--	1.35	1.93	2.51	1.35	1.93	2.51
Total tetrachlorodibenzodioxins	Sediment <2mm	pg/g	dry	2	2	0.302	0.318	0.333	--	--	--	0.302	0.318	0.333
Total tetrachlorodibenzofurans	Sediment <2mm	pg/g	dry	2	2	2.4	2.64	2.88	--	--	--	2.4	2.64	2.88
Total pentachlorodibenzodioxins	Sediment <2mm	pg/g	dry	2	2	1	1.72	2.43	--	--	--	1	1.72	2.43
Total pentachlorodibenzofurans	Sediment <2mm	pg/g	dry	2	2	3.21	3.54	3.87	--	--	--	3.21	3.54	3.87
Total hexachlorodibenzodioxins	Sediment <2mm	pg/g	dry	2	2	2.03	4.64	7.25	--	--	--	2.03	4.64	7.25
Total hexachlorodibenzofurans	Sediment <2mm	pg/g	dry	2	2	5.38	6.87	8.35	--	--	--	5.38	6.87	8.35
Total heptachlorodibenzodioxins	Sediment <2mm	pg/g	dry	2	2	3.39	7.6	11.9	--	--	--	3.39	7.6	11.9
Total heptachlorodibenzofurans	Sediment <2mm	pg/g	dry	2	2	4.74	4.9	5.05	--	--	--	4.74	4.9	5.05
Dioxin/Furan TEQ using WHO 2005 TEFs ND=0 DL	Sediment <2mm	pg/g	dry	2	2	1.45	1.93	2.4	--	--	--	1.45	1.93	2.4
Dioxin/Furan TEQ using WHO 2005 TEFs ND=1/2 DL	Sediment <2mm	pg/g	dry	2	2	2.7	2.96	3.22	--	--	--	2.7	2.96	3.22
Radionuclides														
Radium-226	Sediment <2mm	pCi/g	dry	2	2	0.799	1.62	2.44	--	--	--	0.799	1.62	2.44
Uranium-238	Sediment <2mm	pCi/g	dry	2	2	1.12	1.15	1.17	--	--	--	1.12	1.15	1.17
Semivolatile Organic Compounds														
1,2,4-Trichlorobenzene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.3	1.3	1.3	1.3	1.3	1.3
1,2-Dichlorobenzene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.45	1.45	1.45	1.45	1.45	1.45
1,3-Dichlorobenzene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.5	1.5	1.5	1.5	1.5	1.5
1,4-Dichlorobenzene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.45	1.45	1.45	1.45	1.45	1.45
2,2'-oxybis(1-Chloropropane)	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.3	1.3	1.3	1.3	1.3	1.3
2,4,5-Trichlorophenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
2,4,6-Trichlorophenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.7	0.7	0.7	0.7	0.7	0.7

Table 5-2. Summary of Chemicals of Interest Measured in 2010 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Semivolatile Organic Compounds (continued)														
2,4-Dichlorophenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.5	0.5	0.5	0.5	0.5	0.5
2,4-Dimethylphenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	2.75	2.75	2.75	2.75	2.75	2.75
2,4-Dinitrophenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	8.5	8.5	8.5	8.5	8.5	8.5
2,4-Dinitrotoluene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
2,6-Dinitrotoluene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1	1	1	1	1	1
2-Chloronaphthalene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.8	0.8	0.8	0.8	0.8	0.8
2-Chlorophenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1	1	1	1	1	1
2-Methylphenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
2-Nitroaniline	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.6	1.6	1.6	1.6	1.6	1.6
2-Nitrophenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
3,3'-Dichlorobenzidine	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.85	1.85	1.85	1.85	1.85	1.85
3-Nitroaniline	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.25	1.25	1.25	1.25	1.25	1.25
4,6-Dinitro-2-methylphenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.7	0.7	0.7	0.7	0.7	0.7
4-Bromophenyl-phenylether	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.8	0.8	0.8	0.8	0.8	0.8
4-Chloro-3-methylphenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.7	0.7	0.7	0.7	0.7	0.7
4-Chloroaniline	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.95	0.95	0.95	0.95	0.95	0.95
4-Chlorophenyl-phenyl ether	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.7	0.7	0.7	0.7	0.7	0.7
4-Methylphenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
4-Nitroaniline	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.9	0.9	0.9	0.9	0.9	0.9
4-Nitrophenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	9	9	9	9	9	9
Acetophenone	Sediment <2mm	µg/kg	dry	12	0	--	--	--	6	8.9	21	6	8.9	21
Benzaldehyde	Sediment <2mm	µg/kg	dry	12	1	7.9	7.9	7.9	3.85	3.85	3.85	3.85	4.19	7.9
Benzoic acid	Sediment <2mm	µg/kg	dry	12	0	--	--	--	48	48	48	48	48	48
Benzyl alcohol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Benzyl n-butyl phthalate	Sediment <2mm	µg/kg	dry	12	2	3.4	4.8	6.2	1.6	1.6	1.6	1.6	2.13	6.2
Bis(2-chloroethoxy)methane	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.75	0.75	0.75	0.75	0.75	0.75
Bis(2-chloroethyl)ether	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.95	0.95	0.95	0.95	0.95	0.95
Bis(2-ethylhexyl)phthalate	Sediment <2mm	µg/kg	dry	12	9	9.05	25.7	63	3.5	8.3	11.5	3.5	21.4	63
Caprolactam	Sediment <2mm	µg/kg	dry	12	0	--	--	--	9.5	9.5	9.5	9.5	9.5	9.5
Carbazole	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.65	0.65	0.65	0.65	0.65	0.65
Diethyl phthalate	Sediment <2mm	µg/kg	dry	12	1	1.18	1.18	1.18	0.65	0.65	0.65	0.65	0.69	1.18
Dimethyl phthalate	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.9	1.48	2.75	0.9	1.48	2.75
Di-n-butyl phthalate	Sediment <2mm	µg/kg	dry	12	0	--	--	--	3.95	3.95	3.95	3.95	3.95	3.95
Di-n-octylphthalate	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.85	11.2	33.5	0.85	11.2	33.5
Hexachlorobenzene	Sediment <2mm	µg/kg	dry	12	1	0.38	0.38	0.38	0.1	0.1	0.1	0.1	0.123	0.38
Hexachlorobutadiene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.105	0.105	0.105	0.105	0.105	0.105
Hexachlorocyclopentadiene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	14.5	14.5	14.5	14.5	14.5	14.5
Hexachloroethane	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.55	1.55	1.55	1.55	1.55	1.55
Isophorone	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.5	0.5	0.5	0.5	0.5	0.5
Nitrobenzene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.1	1.1	1.1	1.1	1.1	1.1
N-Nitrosodi-n-propylamine	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.2	1.2	1.2	1.2	1.2	1.2
N-Nitrosodiphenylamine	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.8	0.8	0.8	0.8	0.8	0.8
Pentachlorophenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	10	10	10	10	10	10
Phenol	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1	2.09	3.35	1	2.09	3.35

Table 5-2. Summary of Chemicals of Interest Measured in 2010 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Polycyclic Aromatic Hydrocarbons														
1,1'-Biphenyl	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.95	0.95	0.95	0.95	0.95	0.95
2-Methylnaphthalene	Sediment <2mm	µg/kg	dry	12	7	1	2.66	5.5	0.23	0.23	0.23	0.23	1.65	5.5
Acenaphthene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.38	0.38	0.38	0.38	0.38	0.38
Acenaphthylene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.295	0.295	0.295	0.295	0.295	0.295
Anthracene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.29	0.29	0.29	0.29	0.29	0.29
Benzo[a]anthracene	Sediment <2mm	µg/kg	dry	12	3	1.1	1.53	2	0.36	0.36	0.36	0.36	0.65	2
Benzo[a]pyrene	Sediment <2mm	µg/kg	dry	12	3	1.2	1.37	1.7	0.38	0.38	0.38	0.38	0.63	1.7
Benzo[b]fluoranthene	Sediment <2mm	µg/kg	dry	12	5	1.08	1.9	3.2	0.46	0.46	0.46	0.46	1.06	3.2
Benzo[g,h,i]perylene	Sediment <2mm	µg/kg	dry	12	4	0.703	1.28	1.8	0.425	0.425	0.425	0.425	0.71	1.8
Benzo[k]fluoranthene	Sediment <2mm	µg/kg	dry	12	1	1.5	1.5	1.5	0.435	0.435	0.435	0.435	0.52	1.5
Chrysene	Sediment <2mm	µg/kg	dry	12	6	0.92	1.83	3.1	0.4	0.4	0.4	0.4	1.11	3.1
Dibenzo[a,h]anthracene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.4	0.4	0.4	0.4	0.4	0.4
Dibenzofuran	Sediment <2mm	µg/kg	dry	12	2	0.95	1.18	1.4	0.6	0.6	0.6	0.6	0.7	1.4
Fluoranthene	Sediment <2mm	µg/kg	dry	12	5	0.8	2.71	5.2	0.49	0.49	0.49	0.49	1.41	5.2
Fluorene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.305	0.305	0.305	0.305	0.305	0.305
Indeno[1,2,3-cd]pyrene	Sediment <2mm	µg/kg	dry	12	2	1.1	1.25	1.4	0.435	0.435	0.435	0.435	0.57	1.4
Naphthalene	Sediment <2mm	µg/kg	dry	12	9	0.61	1.31	2.7	0.34	0.68	0.9	0.34	1.15	2.7
Phenanthrene	Sediment <2mm	µg/kg	dry	12	7	1.5	2.41	3.4	0.7	0.7	0.7	0.7	1.7	3.4
Pyrene	Sediment <2mm	µg/kg	dry	12	5	0.86	2.59	5	0.38	0.38	0.38	0.38	1.3	5
Pesticides														
2,4'-DDD	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.065	0.065	0.065	0.065	0.065	0.065
2,4'-DDE	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.08	0.08	0.08	0.08	0.08	0.08
2,4'-DDT	Sediment <2mm	µg/kg	dry	12	1	0.054	0.054	0.054	0.029	0.0297	0.0365	0.029	0.0317	0.054
4,4'-DDD	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.055	0.055	0.055	0.055	0.055	0.055
4,4'-DDE	Sediment <2mm	µg/kg	dry	12	2	0.2	0.27	0.34	0.055	0.055	0.055	0.055	0.091	0.34
4,4'-DDT	Sediment <2mm	µg/kg	dry	12	1	0.36	0.36	0.36	0.085	0.085	0.085	0.085	0.108	0.36
Aldrin	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.08	0.08	0.08	0.08	0.08	0.08
alpha-Benzenehexachloride	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.055	0.055	0.055	0.055	0.055	0.055
alpha-Chlordane	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.05	0.05	0.05	0.05	0.05	0.05
beta-BHC	Sediment <2mm	µg/kg	dry	12	1	0.16	0.16	0.16	0.09	0.09	0.09	0.09	0.096	0.16
Chlordane	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.95	0.95	0.95	0.95	0.95	0.95
cis-Nonachlor	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06
delta-BHC	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.037	0.037	0.037	0.037	0.037	0.037
Dieldrin	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.07	0.07	0.07	0.07	0.07	0.07
Endosulfan I	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.0315	0.0315	0.0315	0.0315	0.0315	0.0315
Endosulfan II	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.07	0.07	0.07	0.07	0.07	0.07
Endosulfan sulfate	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.055	0.055	0.055	0.055	0.055	0.055
Endrin	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.047	0.047	0.047	0.047	0.047	0.047
Endrin aldehyde	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06
Endrin ketone	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.0465	0.0465	0.0465	0.0465	0.0465	0.0465
gamma-BHC	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.04	0.04	0.04	0.04	0.04	0.04
gamma-Chlordane	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.045	0.045	0.045	0.045	0.045	0.045
Heptachlor	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06
Heptachlor epoxide	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.042	0.042	0.042	0.042	0.042	0.042
Methoxychlor	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.095	0.095	0.095	0.095	0.095	0.095
Mirex	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.0495	0.0495	0.0495	0.0495	0.0495	0.0495

Table 5-2. Summary of Chemicals of Interest Measured in 2010 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Pesticides (continued)														
Oxychlordane	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.0425	0.044	0.06	0.0425	0.044	0.06
Toxaphene	Sediment <2mm	µg/kg	dry	12	0	--	--	--	2.4	2.42	2.6	2.4	2.42	2.6
trans-Nonachlor	Sediment <2mm	µg/kg	dry	12	0	--	--	--	0.0435	0.0435	0.0435	0.0435	0.0435	0.0435
Aroclors														
Aroclor 1016	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1221	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1232	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1242	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1248	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1254	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1260	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1262	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1268	Sediment <2mm	µg/kg	dry	12	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Polychlorinated Biphenyls														
PCB 1	Sediment <2mm	pg/g	dry	2	1	24.6	24.6	24.6	0.292	0.292	0.292	0.292	12.4	24.6
PCB 2	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.139	0.89	1.64	0.139	0.89	1.64
PCB 3	Sediment <2mm	pg/g	dry	2	2	0.9	5.6	10.2	--	--	--	0.9	5.6	10.2
PCB 4	Sediment <2mm	pg/g	dry	2	1	5.15	5.15	5.15	0.745	0.745	0.745	0.745	2.95	5.15
PCB 5	Sediment <2mm	pg/g	dry	2	1	1.56	1.56	1.56	0.116	0.116	0.116	0.116	0.84	1.56
PCB 6	Sediment <2mm	pg/g	dry	2	2	1.25	2.33	3.41	--	--	--	1.25	2.33	3.41
PCB 7	Sediment <2mm	pg/g	dry	2	1	1.63	1.63	1.63	0.105	0.105	0.105	0.105	0.87	1.63
PCB 8	Sediment <2mm	pg/g	dry	2	1	9.41	9.41	9.41	1.2	1.2	1.2	1.2	5.31	9.41
PCB 9	Sediment <2mm	pg/g	dry	2	1	2.06	2.06	2.06	0.165	0.165	0.165	0.165	1.11	2.06
PCB 10	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.074	0.143	0.213	0.074	0.143	0.213
PCB 11	Sediment <2mm	pg/g	dry	2	0	--	--	--	5.05	5.38	5.7	5.05	5.38	5.7
PCB 12, 13 coelution	Sediment <2mm	pg/g	dry	2	1	0.905	0.905	0.905	0.452	0.452	0.452	0.452	0.679	0.905
PCB 14	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.0595	0.0655	0.0715	0.0595	0.0655	0.0715
PCB 15	Sediment <2mm	pg/g	dry	2	0	--	--	--	1.73	1.74	1.76	1.73	1.74	1.76
PCB 16	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.304	0.405	0.505	0.304	0.405	0.505
PCB 17	Sediment <2mm	pg/g	dry	2	1	1.63	1.63	1.63	0.675	0.675	0.675	0.675	1.15	1.63
PCB 18, 30 coelution	Sediment <2mm	pg/g	dry	2	0	--	--	--	1.05	1.11	1.18	1.05	1.11	1.18
PCB 19	Sediment <2mm	pg/g	dry	2	1	0.625	0.625	0.625	0.4	0.4	0.4	0.4	0.513	0.625
PCB 20, 28 coelution	Sediment <2mm	pg/g	dry	2	2	3.93	4.06	4.19	--	--	--	3.93	4.06	4.19
PCB 21, 33 coelution	Sediment <2mm	pg/g	dry	2	2	1.95	1.98	2.01	--	--	--	1.95	1.98	2.01
PCB 22	Sediment <2mm	pg/g	dry	2	1	1.72	1.72	1.72	0.805	0.805	0.805	0.805	1.26	1.72
PCB 23	Sediment <2mm	pg/g	dry	2	1	1.48	1.48	1.48	0.359	0.359	0.359	0.359	0.92	1.48
PCB 24	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.143	0.272	0.401	0.143	0.272	0.401
PCB 25	Sediment <2mm	pg/g	dry	2	1	0.862	0.862	0.862	0.104	0.104	0.104	0.104	0.483	0.862
PCB 26, 29 coelution	Sediment <2mm	pg/g	dry	2	1	1.38	1.38	1.38	0.356	0.356	0.356	0.356	0.87	1.38
PCB 27	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.137	0.259	0.382	0.137	0.259	0.382
PCB 31	Sediment <2mm	pg/g	dry	2	0	--	--	--	1.78	1.9	2.02	1.78	1.9	2.02
PCB 32	Sediment <2mm	pg/g	dry	2	1	1.15	1.15	1.15	0.39	0.39	0.39	0.39	0.77	1.15
PCB 34	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.132	0.251	0.37	0.132	0.251	0.37
PCB 35	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.156	0.196	0.236	0.156	0.196	0.236
PCB 36	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.144	0.173	0.203	0.144	0.173	0.203
PCB 37	Sediment <2mm	pg/g	dry	2	0	--	--	--	1.5	1.81	2.12	1.5	1.81	2.12
PCB 38	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.155	0.187	0.219	0.155	0.187	0.219

Table 5-2. Summary of Chemicals of Interest Measured in 2010 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Polychlorinated Biphenyls (continued)														
PCB 39	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.147	0.177	0.207	0.147	0.177	0.207
PCB 40, 71 coelution	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.82	0.98	1.13	0.82	0.98	1.13
PCB 41	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.78	1.16	1.54	0.78	1.16	1.54
PCB 42	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.595	0.89	1.18	0.595	0.89	1.18
PCB 43	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.74	1.1	1.47	0.74	1.1	1.47
PCB 44, 47, 65 coelution	Sediment <2mm	pg/g	dry	2	2	3.28	4.48	5.67	--	--	--	3.28	4.48	5.67
PCB 45, 51 coelution	Sediment <2mm	pg/g	dry	2	1	0.885	0.885	0.885	0.407	0.407	0.407	0.407	0.646	0.885
PCB 46	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.287	0.297	0.308	0.287	0.297	0.308
PCB 48	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.64	0.95	1.26	0.64	0.95	1.26
PCB 49, 69 coelution	Sediment <2mm	pg/g	dry	2	2	1.78	2.15	2.51	--	--	--	1.78	2.15	2.51
PCB 50, 53 coelution	Sediment <2mm	pg/g	dry	2	1	0.687	0.687	0.687	0.306	0.306	0.306	0.306	0.496	0.687
PCB 52	Sediment <2mm	pg/g	dry	2	2	3.32	5.53	7.73	--	--	--	3.32	5.53	7.73
PCB 54	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.133	0.138	0.143	0.133	0.138	0.143
PCB 55	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.325	0.384	0.443	0.325	0.384	0.443
PCB 56	Sediment <2mm	pg/g	dry	2	1	2.02	2.02	2.02	1.51	1.51	1.51	1.51	1.77	2.02
PCB 57	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.32	0.378	0.436	0.32	0.378	0.436
PCB 58	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.321	0.38	0.438	0.321	0.38	0.438
PCB 59, 62, 75 coelution	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.485	0.723	0.96	0.485	0.723	0.96
PCB 60	Sediment <2mm	pg/g	dry	2	1	1.31	1.31	1.31	0.975	0.975	0.975	0.975	1.14	1.31
PCB 61, 70, 74, 76 coelution	Sediment <2mm	pg/g	dry	2	1	13.8	13.8	13.8	2.44	2.44	2.44	2.44	8.1	13.8
PCB 63	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.3	0.355	0.409	0.3	0.355	0.409
PCB 64	Sediment <2mm	pg/g	dry	2	1	1.31	1.31	1.31	1.18	1.18	1.18	1.18	1.25	1.31
PCB 66	Sediment <2mm	pg/g	dry	2	2	3.68	5.15	6.61	--	--	--	3.68	5.15	6.61
PCB 67	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.281	0.332	0.384	0.281	0.332	0.384
PCB 68	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.291	0.344	0.397	0.291	0.344	0.397
PCB 72	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.341	0.402	0.464	0.341	0.402	0.464
PCB 73	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.471	0.701	0.93	0.471	0.701	0.93
PCB 77	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.343	0.444	0.545	0.343	0.444	0.545
PCB 78	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.328	0.388	0.448	0.328	0.388	0.448
PCB 79	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.269	0.318	0.367	0.269	0.318	0.367
PCB 80	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.287	0.339	0.391	0.287	0.339	0.391
PCB 81	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.34	0.384	0.428	0.34	0.384	0.428
PCB 82	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.97	1.16	1.36	0.97	1.16	1.36
PCB 83	Sediment <2mm	pg/g	dry	2	0	--	--	--	1.05	1.1	1.15	1.05	1.1	1.15
PCB 84	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.975	1.95	2.93	0.975	1.95	2.93
PCB 85, 116, 117 coelution	Sediment <2mm	pg/g	dry	2	1	4.15	4.15	4.15	0.725	0.725	0.725	0.725	2.44	4.15
PCB 86, 87, 97, 108, 119, 125 coelution	Sediment <2mm	pg/g	dry	2	1	19.9	19.9	19.9	2.43	2.43	2.43	2.43	11.2	19.9
PCB 88, 91 coelution	Sediment <2mm	pg/g	dry	2	1	2.78	2.78	2.78	0.895	0.895	0.895	0.895	1.84	2.78
PCB 89	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.925	0.97	1.02	0.925	0.97	1.02
PCB 90, 101, 113 coelution	Sediment <2mm	pg/g	dry	2	1	23.6	23.6	23.6	1.67	1.67	1.67	1.67	12.6	23.6
PCB 92	Sediment <2mm	pg/g	dry	2	1	4.88	4.88	4.88	0.875	0.875	0.875	0.875	2.88	4.88
PCB 93, 100 coelution	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.905	0.95	0.995	0.905	0.95	0.995
PCB 94	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.95	1	1.05	0.95	1	1.05
PCB 95	Sediment <2mm	pg/g	dry	2	2	2.05	9.1	16.2	--	--	--	2.05	9.1	16.2
PCB 96	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.33	0.365	0.4	0.33	0.365	0.4
PCB 98, 102 coelution	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.84	0.883	0.925	0.84	0.883	0.925
PCB 99	Sediment <2mm	pg/g	dry	2	1	8.99	8.99	8.99	0.73	0.73	0.73	0.73	4.86	8.99
PCB 103	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.88	0.925	0.97	0.88	0.925	0.97

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Polychlorinated Biphenyls (continued)														
PCB 104	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.166	0.193	0.22	0.166	0.193	0.22
PCB 105	Sediment <2mm	pg/g	dry	2	2	1.14	4.52	7.89	--	--	--	1.14	4.52	7.89
PCB 106	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.422	0.636	0.85	0.422	0.636	0.85
PCB 107, 124 coelution	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.424	0.639	0.855	0.424	0.639	0.855
PCB 109	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.397	0.598	0.8	0.397	0.598	0.8
PCB 110, 115 coelution	Sediment <2mm	pg/g	dry	2	2	3.13	14.6	26	--	--	--	3.13	14.6	26
PCB 111	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.645	0.678	0.71	0.645	0.678	0.71
PCB 112	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.665	0.698	0.73	0.665	0.698	0.73
PCB 114	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.494	0.699	0.905	0.494	0.699	0.905
PCB 118	Sediment <2mm	pg/g	dry	2	2	2.28	11.6	20.9	--	--	--	2.28	11.6	20.9
PCB 120	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.62	0.65	0.68	0.62	0.65	0.68
PCB 121	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.665	0.698	0.73	0.665	0.698	0.73
PCB 122	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.431	0.65	0.87	0.431	0.65	0.87
PCB 123	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.417	0.613	0.81	0.417	0.613	0.81
PCB 126	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.44	0.69	0.94	0.44	0.69	0.94
PCB 127	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.396	0.598	0.8	0.396	0.598	0.8
PCB 128, 166 coelution	Sediment <2mm	pg/g	dry	2	1	6.43	6.43	6.43	0.695	0.695	0.695	0.695	3.56	6.43
PCB 129, 138, 163 coelution	Sediment <2mm	pg/g	dry	2	2	2.8	20.3	37.7	--	--	--	2.8	20.3	37.7
PCB 130	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.845	1.5	2.15	0.845	1.5	2.15
PCB 131	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.755	1.34	1.92	0.755	1.34	1.92
PCB 132	Sediment <2mm	pg/g	dry	2	1	11.6	11.6	11.6	0.83	0.83	0.83	0.83	6.2	11.6
PCB 133	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.78	1.38	1.97	0.78	1.38	1.97
PCB 134	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.825	1.46	2.1	0.825	1.46	2.1
PCB 135, 151 coelution	Sediment <2mm	pg/g	dry	2	2	1.86	6.8	11.7	--	--	--	1.86	6.8	11.7
PCB 136	Sediment <2mm	pg/g	dry	2	1	4.63	4.63	4.63	0.376	0.376	0.376	0.376	2.5	4.63
PCB 137	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.745	1.32	1.89	0.745	1.32	1.89
PCB 139, 140 coelution	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.74	1.31	1.87	0.74	1.31	1.87
PCB 141	Sediment <2mm	pg/g	dry	2	1	7.44	7.44	7.44	0.76	0.76	0.76	0.76	4.1	7.44
PCB 142	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.835	1.48	2.12	0.835	1.48	2.12
PCB 143	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.755	1.34	1.92	0.755	1.34	1.92
PCB 144	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.476	0.711	0.945	0.476	0.711	0.945
PCB 145	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.413	0.445	0.477	0.413	0.445	0.477
PCB 146	Sediment <2mm	pg/g	dry	2	1	4.38	4.38	4.38	0.69	0.69	0.69	0.69	2.54	4.38
PCB 147, 149 coelution	Sediment <2mm	pg/g	dry	2	2	2.57	13.9	25.2	--	--	--	2.57	13.9	25.2
PCB 148	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.482	0.519	0.555	0.482	0.519	0.555
PCB 150	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.38	0.409	0.439	0.38	0.409	0.439
PCB 152	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.384	0.414	0.444	0.384	0.414	0.444
PCB 153, 168 coelution	Sediment <2mm	pg/g	dry	2	2	2.9	17.6	32.3	--	--	--	2.9	17.6	32.3
PCB 154	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.428	0.461	0.494	0.428	0.461	0.494
PCB 155	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.263	0.281	0.3	0.263	0.281	0.3
PCB 156, 157 coelution	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.411	1.38	2.34	0.411	1.38	2.34
PCB 158	Sediment <2mm	pg/g	dry	2	1	3.97	3.97	3.97	0.535	0.535	0.535	0.535	2.25	3.97
PCB 159	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.352	0.528	0.705	0.352	0.528	0.705
PCB 160	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.635	1.12	1.61	0.635	1.12	1.61
PCB 161	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.585	1.03	1.48	0.585	1.03	1.48
PCB 162	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.318	0.477	0.635	0.318	0.477	0.635
PCB 164	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.595	1.05	1.51	0.595	1.05	1.51
PCB 165	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.65	1.15	1.65	0.65	1.15	1.65

Table 5-2. Summary of Chemicals of Interest Measured in 2010 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Polychlorinated Biphenyls (continued)														
PCB 167	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.373	0.561	0.75	0.373	0.561	0.75
PCB 169	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.262	0.449	0.635	0.262	0.449	0.635
PCB 170	Sediment <2mm	pg/g	dry	2	1	8.67	8.67	8.67	0.433	0.433	0.433	0.433	4.55	8.67
PCB 171, 173 coelution	Sediment <2mm	pg/g	dry	2	1	3.07	3.07	3.07	0.431	0.431	0.431	0.431	1.75	3.07
PCB 172	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.431	0.77	1.11	0.431	0.77	1.11
PCB 174	Sediment <2mm	pg/g	dry	2	1	9.82	9.82	9.82	0.428	0.428	0.428	0.428	5.12	9.82
PCB 175	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.343	0.69	1.05	0.343	0.69	1.05
PCB 176	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.274	0.554	0.835	0.274	0.554	0.835
PCB 177	Sediment <2mm	pg/g	dry	2	1	5.48	5.48	5.48	0.437	0.437	0.437	0.437	2.96	5.48
PCB 178	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.367	0.74	1.12	0.367	0.74	1.12
PCB 179	Sediment <2mm	pg/g	dry	2	1	4.2	4.2	4.2	0.267	0.267	0.267	0.267	2.23	4.2
PCB 180, 193 coelution	Sediment <2mm	pg/g	dry	2	1	18.3	18.3	18.3	0.54	0.54	0.54	0.54	9.4	18.3
PCB 181	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.398	0.71	1.03	0.398	0.71	1.03
PCB 182	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.338	0.68	1.03	0.338	0.68	1.03
PCB 183, 185 coelution	Sediment <2mm	pg/g	dry	2	1	6.51	6.51	6.51	0.451	0.451	0.451	0.451	3.48	6.51
PCB 184	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.263	0.532	0.8	0.263	0.532	0.8
PCB 186	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.286	0.578	0.87	0.286	0.578	0.87
PCB 187	Sediment <2mm	pg/g	dry	2	1	13.2	13.2	13.2	0.375	0.375	0.375	0.375	6.8	13.2
PCB 188	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.312	0.648	0.985	0.312	0.648	0.985
PCB 189	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.206	0.241	0.275	0.206	0.241	0.275
PCB 190	Sediment <2mm	pg/g	dry	2	1	1.88	1.88	1.88	0.339	0.339	0.339	0.339	1.11	1.88
PCB 191	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.32	0.57	0.82	0.32	0.57	0.82
PCB 192	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.346	0.618	0.89	0.346	0.618	0.89
PCB 194	Sediment <2mm	pg/g	dry	2	1	4.81	4.81	4.81	0.326	0.326	0.326	0.326	2.57	4.81
PCB 195	Sediment <2mm	pg/g	dry	2	1	2	2	2	0.354	0.354	0.354	0.354	1.18	2
PCB 196	Sediment <2mm	pg/g	dry	2	1	3.02	3.02	3.02	0.335	0.335	0.335	0.335	1.68	3.02
PCB 197, 200 coelution	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.255	0.568	0.88	0.255	0.568	0.88
PCB 198, 199 coelution	Sediment <2mm	pg/g	dry	2	1	7.89	7.89	7.89	0.34	0.34	0.34	0.34	4.11	7.89
PCB 201	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.249	0.555	0.86	0.249	0.555	0.86
PCB 202	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.315	0.7	1.09	0.315	0.7	1.09
PCB 203	Sediment <2mm	pg/g	dry	2	1	4.32	4.32	4.32	0.315	0.315	0.315	0.315	2.32	4.32
PCB 204	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.257	0.571	0.885	0.257	0.571	0.885
PCB 205	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.231	0.273	0.316	0.231	0.273	0.316
PCB 206	Sediment <2mm	pg/g	dry	2	1	6.23	6.23	6.23	0.327	0.327	0.327	0.327	3.28	6.23
PCB 207	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.273	0.399	0.525	0.273	0.399	0.525
PCB 208	Sediment <2mm	pg/g	dry	2	1	2.13	2.13	2.13	0.306	0.306	0.306	0.306	1.22	2.13
PCB 209	Sediment <2mm	pg/g	dry	2	1	4.93	4.93	4.93	0.284	0.284	0.284	0.284	2.61	4.93
Monochlorobiphenyl homologs	Sediment <2mm	pg/g	dry	2	2	1.49	19.8	38.2	--	--	--	1.49	19.8	38.2
Dichlorobiphenyl homologs	Sediment <2mm	pg/g	dry	2	2	20.5	30	39.5	--	--	--	20.5	30	39.5
Trichlorobiphenyl homologs	Sediment <2mm	pg/g	dry	2	2	21.1	22.6	24.1	--	--	--	21.1	22.6	24.1
Tetrachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	2	2	25	35.6	46.2	--	--	--	25	35.6	46.2
Pentachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	2	2	16.9	80	144	--	--	--	16.9	80	144
Hexachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	2	2	10.2	81	152	--	--	--	10.2	81	152
Heptachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	2	2	1.84	36.5	71.1	--	--	--	1.84	36.5	71.1
Octachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	2	1	22	22	22	3	3	3	3	12.5	22
Nonachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	2	1	8.36	8.36	8.36	0.91	0.91	0.91	0.91	4.64	8.36
Decachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	2	1	4.93	4.93	4.93	0.286	0.286	0.286	0.286	2.61	4.93

Table 5-2. Summary of Chemicals of Interest Measured in 2010 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value[a]	Mean Undetected Value[a]	Maximum Undetected Value[a]	Overall Minimum Value[a]	Overall Mean Value[a]	Overall Maximum Value[a]
Polychlorinated Biphenyls (continued)														
Total PCBs	Sediment <2mm	pg/g	dry	2	2	100	324	547	--	--	--	100	324	547
PCB TEQ using WHO 2005 TEFs ND=0 DL	Sediment <2mm	pg/g	dry	2	2	0.000103	0.00061	0.00111	--	--	--	0.000103	0.00061	0.00111
PCB TEQ using WHO 2005 TEFs ND=1/2 DL	Sediment <2mm	pg/g	dry	2	2	0.0522	0.083	0.114	--	--	--	0.0522	0.083	0.114
Polybrominated Diphenyl Ethers														
PBDE 17, 25 coelution	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.33	0.345	0.359	0.33	0.345	0.359
PBDE 28, 33 coelution	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.845	1.02	1.2	0.845	1.02	1.2
PBDE 47	Sediment <2mm	pg/g	dry	2	1	49.8	49.8	49.8	5.3	5.3	5.3	5.3	27.6	49.8
PBDE 49	Sediment <2mm	pg/g	dry	2	2	0.886	4.85	8.82	--	--	--	0.886	4.85	8.82
PBDE 66	Sediment <2mm	pg/g	dry	2	1	2.99	2.99	2.99	0.283	0.283	0.283	0.283	1.64	2.99
PBDE 71	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.24	0.298	0.356	0.24	0.298	0.356
PBDE 85	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.352	0.83	1.31	0.352	0.83	1.31
PBDE 99	Sediment <2mm	pg/g	dry	2	0	--	--	--	3.67	14.2	24.7	3.67	14.2	24.7
PBDE 100	Sediment <2mm	pg/g	dry	2	1	14.1	14.1	14.1	0.72	0.72	0.72	0.72	7.4	14.1
PBDE 128	Sediment <2mm	pg/g	dry	2	0	--	--	--	1.41	1.43	1.44	1.41	1.43	1.44
PBDE 138, 166 coelution	Sediment <2mm	pg/g	dry	2	0	--	--	--	2.02	2.05	2.08	2.02	2.05	2.08
PBDE 153	Sediment <2mm	pg/g	dry	2	1	14.1	14.1	14.1	1.05	1.05	1.05	1.05	7.6	14.1
PBDE 154	Sediment <2mm	pg/g	dry	2	1	7.55	7.55	7.55	0.73	0.73	0.73	0.73	4.14	7.55
PBDE 183	Sediment <2mm	pg/g	dry	2	1	35.6	35.6	35.6	0.375	0.375	0.375	0.375	18	35.6
PBDE 184	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.328	0.374	0.421	0.328	0.374	0.421
PBDE 190	Sediment <2mm	pg/g	dry	2	0	--	--	--	1.12	1.28	1.44	1.12	1.28	1.44
PBDE 191	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.685	0.783	0.88	0.685	0.783	0.88
PBDE 203	Sediment <2mm	pg/g	dry	2	0	--	--	--	0.79	0.798	0.805	0.79	0.798	0.805
PBDE 206	Sediment <2mm	pg/g	dry	2	0	--	--	--	2.29	2.47	2.65	2.29	2.47	2.65
PBDE 209	Sediment <2mm	pg/g	dry	2	0	--	--	--	8.85	63	117	8.85	63	117

Notes:

Data were averaged over method and field replicates. Concentrations have been rounded to three significant figures.
Data exclude rejected data, non-reportable data and QC sample data.
DL = detection limit
ND = not detected
TEF = toxic equivalency factor
TEQ = toxicity equivalent
WHO = World Health Organization
[a] Calculated with non-detected results at one-half of the detection limit.

Table 5-3. Summary of Chemicals of Interest Measured in 2011 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses [a]	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value [b]	Mean Undetected Value [b]	Maximum Undetected Value [b]	Overall Minimum Value [b]	Overall Mean Value [b]	Overall Maximum Value [b]
Conventional Parameters and Nutrients														
Organic carbon	Sediment <2mm	%	dry	208	207	0.022	0.33	1.95	0.01	0.01	0.01	0.01	0.33	1.95
pH, lab	Sediment <2mm	SU	wet	208	208	6.17	7.84	8.97	--	--	--	6.17	7.84	8.97
Solids	Sediment <2mm	%	wet	597	597	54.6	89.7	98.5	--	--	--	54.6	89.7	98.5
Solids	Sediment <250um	%	wet	30	30	72.3	85.7	98.1	--	--	--	72.3	85.7	98.1
Grain Size														
Cobbles	Sediment	%	dry	208	208	0	0	0	--	--	--	0	0	0
Very Coarse Gravel	Sediment	%	dry	208	208	0	0.1	21	--	--	--	0	0.1	21
Coarse Gravel	Sediment	%	dry	208	208	0	1	38.1	--	--	--	0	1	38.1
Medium Gravel	Sediment	%	dry	208	173	0	2	30.2	0	0	0	0	2	30.2
Fine Gravel	Sediment	%	dry	208	188	0	5	70	0	0	0	0	5	70
Very Fine Gravel	Sediment	%	dry	208	208	0	3	14.4	--	--	--	0	3	14.4
Very Coarse Sand	Sediment	%	dry	208	208	0.03	5.5	48.1	--	--	--	0.03	5.5	48.1
Coarse Sand	Sediment	%	dry	208	208	0.17	11.9	34.8	--	--	--	0.17	11.9	34.8
Medium Sand	Sediment	%	dry	208	208	2.6	20	67.2	--	--	--	2.6	20	67.2
Fine Sand	Sediment	%	dry	208	208	4.08	18.6	44.2	--	--	--	4.08	18.6	44.2
Very Fine Sand	Sediment	%	dry	208	208	0.34	13.3	40.9	--	--	--	0.34	13.3	40.9
Silt	Sediment	%	dry	208	208	0.27	16	49.1	--	--	--	0.27	16	49.1
Clay	Sediment	%	dry	208	208	0.08	3.7	27.5	--	--	--	0.08	3.7	27.5
Metals and Metalloids														
Aluminum	Sediment <2mm	mg/kg	dry	519	519	3590	8200	27000	--	--	--	3590	8200	27000
Aluminum	Sediment <63um	mg/kg	dry	26	26	11300	19600	32100	--	--	--	11300	19600	32100
Aluminum	Sediment 63-125um	mg/kg	dry	26	26	3700	6800	11600	--	--	--	3700	6800	11600
Aluminum	Sediment 125-250um	mg/kg	dry	26	26	3450	5520	7490	--	--	--	3450	5520	7490
Aluminum	Sediment 250um-2mm	mg/kg	dry	26	26	3610	6300	14200	--	--	--	3610	6300	14200
Antimony	Sediment <2mm	mg/kg	dry	519	458	0.038	3.1	77.7	0.0045	0.0334	0.0575	0.0045	2.7	77.7
Antimony	Sediment <63um	mg/kg	dry	26	26	0.188	2.9	53.8	--	--	--	0.188	2.9	53.8
Antimony	Sediment 63-125um	mg/kg	dry	26	20	0.106	1.3	17.6	0.0315	0.0526	0.066	0.0315	1	17.6
Antimony	Sediment 125-250um	mg/kg	dry	26	21	0.118	1.7	26.3	0.0345	0.0475	0.0635	0.0345	1.4	26.3
Antimony	Sediment 250um-2mm	mg/kg	dry	26	22	0.148	2.1	38.3	0.0335	0.0424	0.054	0.0335	1.8	38.3
Arsenic	Sediment <2mm	mg/kg	dry	525	525	0.91	5.3	27.6	--	--	--	0.91	5.3	27.6
Arsenic	Sediment <63um	mg/kg	dry	26	26	3.22	12.1	53.4	--	--	--	3.22	12.1	53.4
Arsenic	Sediment 63-125um	mg/kg	dry	26	26	0.97	4	14.9	--	--	--	0.97	4	14.9
Arsenic	Sediment 125-250um	mg/kg	dry	26	26	0.96	3.5	10.4	--	--	--	0.96	3.5	10.4
Arsenic	Sediment 250um-2mm	mg/kg	dry	26	26	1.24	4.1	12.7	--	--	--	1.24	4.1	12.7
Arsenic	Sediment <250um	mg/kg	dry	25	25	2.07	6.3	12.6	--	--	--	2.07	6.3	12.6
Barium	Sediment <2mm	mg/kg	dry	519	519	33.3	160	1820	--	--	--	33.3	160	1820
Barium	Sediment <63um	mg/kg	dry	26	26	141	340	1240	--	--	--	141	340	1240
Barium	Sediment 63-125um	mg/kg	dry	26	26	42.5	149	693	--	--	--	42.5	149	693
Barium	Sediment 125-250um	mg/kg	dry	26	26	38.1	95	365	--	--	--	38.1	95	365
Barium	Sediment 250um-2mm	mg/kg	dry	26	26	32.9	110	1180	--	--	--	32.9	110	1180
Beryllium	Sediment <2mm	mg/kg	dry	519	519	0.1	0.3	1.06	--	--	--	0.1	0.3	1.06
Beryllium	Sediment <63um	mg/kg	dry	26	26	0.59	0.85	1.39	--	--	--	0.59	0.85	1.39
Beryllium	Sediment 63-125um	mg/kg	dry	26	26	0.12	0.272	0.485	--	--	--	0.12	0.272	0.485
Beryllium	Sediment 125-250um	mg/kg	dry	26	26	0.09	0.209	0.335	--	--	--	0.09	0.209	0.335
Beryllium	Sediment 250um-2mm	mg/kg	dry	26	26	0.11	0.23	0.45	--	--	--	0.11	0.23	0.45
Cadmium	Sediment <2mm	mg/kg	dry	525	487	0.064	1.2	12.7	0.025	0.0342	0.0445	0.025	1.1	12.7
Cadmium	Sediment <63um	mg/kg	dry	26	26	0.215	2.6	14.8	--	--	--	0.215	2.6	14.8

Table 5-3. Summary of Chemicals of Interest Measured in 2011 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses [a]	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value [b]	Mean Undetected Value [b]	Maximum Undetected Value [b]	Overall Minimum Value [b]	Overall Mean Value [b]	Overall Maximum Value [b]
Metals and Metalloids (continued)														
Cadmium	Sediment 63-125um	mg/kg	dry	26	26	0.073	0.87	5.85	--	--	--	0.073	0.87	5.85
Cadmium	Sediment 125-250um	mg/kg	dry	26	26	0.062	0.53	2.28	--	--	--	0.062	0.53	2.28
Cadmium	Sediment 250um-2mm	mg/kg	dry	26	25	0.064	0.6	3.17	0.0275	0.0275	0.0275	0.0275	0.58	3.17
Calcium	Sediment <2mm	mg/kg	dry	519	519	1260	9000	68000	--	--	--	1260	9000	68000
Calcium	Sediment <63um	mg/kg	dry	26	26	4000	11900	23500	--	--	--	4000	11900	23500
Calcium	Sediment 63-125um	mg/kg	dry	26	26	2150	9700	34800	--	--	--	2150	9700	34800
Calcium	Sediment 125-250um	mg/kg	dry	26	26	1440	7300	32600	--	--	--	1440	7300	32600
Calcium	Sediment 250um-2mm	mg/kg	dry	26	26	1390	6300	40400	--	--	--	1390	6300	40400
Chromium	Sediment <2mm	mg/kg	dry	525	525	3.42	16	116	--	--	--	3.42	16	116
Chromium	Sediment <63um	mg/kg	dry	26	26	12.2	29	83.7	--	--	--	12.2	29	83.7
Chromium	Sediment 63-125um	mg/kg	dry	26	26	4.36	12	26.1	--	--	--	4.36	12	26.1
Chromium	Sediment 125-250um	mg/kg	dry	26	26	4.22	10.3	16.9	--	--	--	4.22	10.3	16.9
Chromium	Sediment 250um-2mm	mg/kg	dry	26	26	3.48	12.4	69.5	--	--	--	3.48	12.4	69.5
Cobalt	Sediment <2mm	mg/kg	dry	519	519	2.43	6.8	59.7	--	--	--	2.43	6.8	59.7
Cobalt	Sediment <63um	mg/kg	dry	26	26	8.09	13.9	38.7	--	--	--	8.09	13.9	38.7
Cobalt	Sediment 63-125um	mg/kg	dry	26	26	2.97	5.7	11	--	--	--	2.97	5.7	11
Cobalt	Sediment 125-250um	mg/kg	dry	26	26	2.68	5.04	9.53	--	--	--	2.68	5.04	9.53
Cobalt	Sediment 250um-2mm	mg/kg	dry	26	26	2.89	5.9	39	--	--	--	2.89	5.9	39
Copper	Sediment <2mm	mg/kg	dry	519	519	5.3	80	2520	--	--	--	5.3	80	2520
Copper	Sediment <63um	mg/kg	dry	26	26	23	120	1770	--	--	--	23	120	1770
Copper	Sediment 63-125um	mg/kg	dry	26	26	6.1	32	428	--	--	--	6.1	32	428
Copper	Sediment 125-250um	mg/kg	dry	26	26	4.09	25	301	--	--	--	4.09	25	301
Copper	Sediment 250um-2mm	mg/kg	dry	26	26	4.8	60	1240	--	--	--	4.8	60	1240
Iron	Sediment <2mm	mg/kg	dry	519	519	7370	21000	206000	--	--	--	7370	21000	206000
Iron	Sediment <63um	mg/kg	dry	26	26	20800	33000	101000	--	--	--	20800	33000	101000
Iron	Sediment 63-125um	mg/kg	dry	26	26	8080	17100	38100	--	--	--	8080	17100	38100
Iron	Sediment 125-250um	mg/kg	dry	26	26	7500	16100	29300	--	--	--	7500	16100	29300
Iron	Sediment 250um-2mm	mg/kg	dry	26	26	8010	18000	126000	--	--	--	8010	18000	126000
Lead	Sediment <2mm	mg/kg	dry	525	525	2.63	90	4870	--	--	--	2.63	90	4870
Lead	Sediment <63um	mg/kg	dry	26	26	12.5	250	2430	--	--	--	12.5	250	2430
Lead	Sediment 63-125um	mg/kg	dry	26	26	3.89	76	875	--	--	--	3.89	76	875
Lead	Sediment 125-250um	mg/kg	dry	26	26	3.54	61	907	--	--	--	3.54	61	907
Lead	Sediment 250um-2mm	mg/kg	dry	26	26	2.87	100	1880	--	--	--	2.87	100	1880
Lead	Sediment <250um	mg/kg	dry	30	30	36.7	384	1940	--	--	--	36.7	384	1940
Magnesium	Sediment <2mm	mg/kg	dry	519	519	1970	5800	25500	--	--	--	1970	5800	25500
Magnesium	Sediment <63um	mg/kg	dry	26	26	5880	10600	17000	--	--	--	5880	10600	17000
Magnesium	Sediment 63-125um	mg/kg	dry	26	26	2450	6200	18500	--	--	--	2450	6200	18500
Magnesium	Sediment 125-250um	mg/kg	dry	26	26	2320	4900	15700	--	--	--	2320	4900	15700
Magnesium	Sediment 250um-2mm	mg/kg	dry	26	26	2460	4500	7540	--	--	--	2460	4500	7540
Manganese	Sediment <2mm	mg/kg	dry	519	519	88.3	340	3680	--	--	--	88.3	340	3680
Manganese	Sediment <63um	mg/kg	dry	26	26	337	720	2650	--	--	--	337	720	2650
Manganese	Sediment 63-125um	mg/kg	dry	26	26	113	242	611	--	--	--	113	242	611
Manganese	Sediment 125-250um	mg/kg	dry	26	26	94	209	546	--	--	--	94	209	546
Manganese	Sediment 250um-2mm	mg/kg	dry	26	26	116	300	2390	--	--	--	116	300	2390
Mercury	Sediment <2mm	mg/kg	dry	519	491	0.002	0.12	2.53	0.001	0.001	0.001	0.001	0.11	2.53
Mercury	Sediment <63um	mg/kg	dry	26	26	0.012	0.29	1.63	--	--	--	0.012	0.29	1.63
Mercury	Sediment 63-125um	mg/kg	dry	26	21	0.002	0.127	0.703	0.001	0.0022	0.004	0.001	0.103	0.703
Mercury	Sediment 125-250um	mg/kg	dry	26	18	0.002	0.065	0.315	0.001	0.0015	0.003	0.001	0.045	0.315

Table 5-3. Summary of Chemicals of Interest Measured in 2011 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses [a]	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value [b]	Mean Undetected Value [b]	Maximum Undetected Value [b]	Overall Minimum Value [b]	Overall Mean Value [b]	Overall Maximum Value [b]
Metals and Metalloids (continued)														
Mercury	Sediment 250um-2mm	mg/kg	dry	26	19	0.002	0.065	0.412	0.001	0.00157	0.0035	0.001	0.048	0.412
Nickel	Sediment <2mm	mg/kg	dry	519	519	3.93	12.6	60.4	--	--	--	3.93	12.6	60.4
Nickel	Sediment <63um	mg/kg	dry	26	26	14.9	28	49.5	--	--	--	14.9	28	49.5
Nickel	Sediment 63-125um	mg/kg	dry	26	26	6.36	11.9	16.9	--	--	--	6.36	11.9	16.9
Nickel	Sediment 125-250um	mg/kg	dry	26	26	5.71	10.2	15.8	--	--	--	5.71	10.2	15.8
Nickel	Sediment 250um-2mm	mg/kg	dry	26	26	4.87	10.5	23.5	--	--	--	4.87	10.5	23.5
Potassium	Sediment <2mm	mg/kg	dry	519	519	502	1380	4600	--	--	--	502	1380	4600
Potassium	Sediment <63um	mg/kg	dry	26	26	1680	3120	6710	--	--	--	1680	3120	6710
Potassium	Sediment 63-125um	mg/kg	dry	26	26	703	1250	2480	--	--	--	703	1250	2480
Potassium	Sediment 125-250um	mg/kg	dry	26	26	704	1010	1620	--	--	--	704	1010	1620
Potassium	Sediment 250um-2mm	mg/kg	dry	26	26	562	1120	2310	--	--	--	562	1120	2310
Selenium	Sediment <2mm	mg/kg	dry	525	126	0.15	0.67	2.3	0.1	0.1	0.1	0.1	0.24	2.3
Selenium	Sediment <63um	mg/kg	dry	26	12	0.15	0.54	1.8	0.1	0.186	0.5	0.1	0.35	1.8
Selenium	Sediment 63-125um	mg/kg	dry	26	5	0.15	0.29	0.5	0.1	0.1	0.1	0.1	0.137	0.5
Selenium	Sediment 125-250um	mg/kg	dry	26	5	0.15	0.23	0.3	0.1	0.1	0.1	0.1	0.125	0.3
Selenium	Sediment 250um-2mm	mg/kg	dry	26	4	0.25	0.488	0.9	0.1	0.1	0.1	0.1	0.16	0.9
Silver	Sediment <2mm	mg/kg	dry	519	474	0.018	0.4	11.3	0.018	0.027	0.0365	0.018	0.4	11.3
Silver	Sediment <63um	mg/kg	dry	26	26	0.08	1.1	13.3	--	--	--	0.08	1.1	13.3
Silver	Sediment 63-125um	mg/kg	dry	26	10	0.071	0.83	5.08	0.0105	0.021	0.0325	0.0105	0.33	5.08
Silver	Sediment 125-250um	mg/kg	dry	26	6	0.083	0.71	2.17	0.006	0.0186	0.0305	0.006	0.18	2.17
Silver	Sediment 250um-2mm	mg/kg	dry	26	7	0.0515	1.06	4.33	0.008	0.0183	0.03	0.008	0.3	4.33
Sodium	Sediment <2mm	mg/kg	dry	519	519	28	160	2170	--	--	--	28	160	2170
Sodium	Sediment <63um	mg/kg	dry	26	26	137	226	399	--	--	--	137	226	399
Sodium	Sediment 63-125um	mg/kg	dry	26	26	92	151	256	--	--	--	92	151	256
Sodium	Sediment 125-250um	mg/kg	dry	26	26	62	119	263	--	--	--	62	119	263
Sodium	Sediment 250um-2mm	mg/kg	dry	26	26	45.5	140	1290	--	--	--	45.5	140	1290
Thallium	Sediment <2mm	mg/kg	dry	525	479	0.036	0.18	0.96	0.019	0.0364	0.0455	0.019	0.17	0.96
Thallium	Sediment <63um	mg/kg	dry	26	26	0.19	0.396	0.852	--	--	--	0.19	0.396	0.852
Thallium	Sediment 63-125um	mg/kg	dry	26	23	0.087	0.193	0.568	0.0285	0.029	0.0295	0.0285	0.174	0.568
Thallium	Sediment 125-250um	mg/kg	dry	26	23	0.069	0.149	0.333	0.0255	0.0282	0.0295	0.0255	0.135	0.333
Thallium	Sediment 250um-2mm	mg/kg	dry	26	23	0.067	0.134	0.298	0.023	0.0258	0.0285	0.023	0.122	0.298
Uranium	Sediment <2mm	mg/kg	dry	208	208	0.345	0.95	4.24	--	--	--	0.345	0.95	4.24
Uranium	Sediment <63um	mg/kg	dry	26	26	0.866	1.81	6.22	--	--	--	0.866	1.81	6.22
Uranium	Sediment 63-125um	mg/kg	dry	26	26	0.364	1.06	2.79	--	--	--	0.364	1.06	2.79
Uranium	Sediment 125-250um	mg/kg	dry	26	26	0.268	0.95	2.7	--	--	--	0.268	0.95	2.7
Uranium	Sediment 250um-2mm	mg/kg	dry	26	26	0.294	0.63	3.06	--	--	--	0.294	0.63	3.06
Vanadium	Sediment <2mm	mg/kg	dry	525	525	8.65	18.6	48.8	--	--	--	8.65	18.6	48.8
Vanadium	Sediment <63um	mg/kg	dry	26	26	25	36	55.3	--	--	--	25	36	55.3
Vanadium	Sediment 63-125um	mg/kg	dry	26	26	10.6	17.5	33.7	--	--	--	10.6	17.5	33.7
Vanadium	Sediment 125-250um	mg/kg	dry	26	26	9.57	15.1	30.6	--	--	--	9.57	15.1	30.6
Vanadium	Sediment 250um-2mm	mg/kg	dry	26	26	10.1	15.7	25.8	--	--	--	10.1	15.7	25.8
Zinc	Sediment <2mm	mg/kg	dry	519	519	22.5	600	17400	--	--	--	22.5	600	17400
Zinc	Sediment <63um	mg/kg	dry	26	26	83.6	640	7610	--	--	--	83.6	640	7610
Zinc	Sediment 63-125um	mg/kg	dry	26	26	31	230	2370	--	--	--	31	230	2370
Zinc	Sediment 125-250um	mg/kg	dry	26	26	29.8	200	2130	--	--	--	29.8	200	2130
Zinc	Sediment 250um-2mm	mg/kg	dry	26	26	28.1	500	10200	--	--	--	28.1	500	10200

Table 5-3. Summary of Chemicals of Interest Measured in 2011 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses [a]	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value [b]	Mean Undetected Value [b]	Maximum Undetected Value [b]	Overall Minimum Value [b]	Overall Mean Value [b]	Overall Maximum Value [b]
IVBA Assay for Lead and Arsenic														
Arsenic, %	Sediment <63um	%	dry	26	26	7.11	20	34.6	--	--	--	7.11	20	34.6
Arsenic, %	Sediment 63-125um	%	dry	26	26	11.9	21	37.6	--	--	--	11.9	21	37.6
Arsenic, %	Sediment 125-250um	%	dry	26	26	8.5	17.3	36.4	--	--	--	8.5	17.3	36.4
Arsenic, %	Sediment 250um-2mm	%	dry	26	26	2.71	10.8	36.8	--	--	--	2.71	10.8	36.8
Lead, %	Sediment <63um	%	dry	26	26	29.4	54	82	--	--	--	29.4	54	82
Lead, %	Sediment 63-125um	%	dry	26	26	25.5	47.2	69.5	--	--	--	25.5	47.2	69.5
Lead, %	Sediment 125-250um	%	dry	26	26	21.9	43	71.8	--	--	--	21.9	43	71.8
Lead, %	Sediment 250um-2mm	%	dry	26	26	18.1	36	67	--	--	--	18.1	36	67
Lead, %	Sediment <250um	%	dry	5	5	67.2	77.4	89.1	--	--	--	67.2	77.4	89.1
Dioxin/Furans														
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	Sediment <2mm	pg/g	dry	6	5	2.59	7.2	10.3	1.4	1.4	1.4	1.4	6.3	10.3
1,2,3,4,6,7,8-Heptachlorodibenzofuran	Sediment <2mm	pg/g	dry	6	5	0.921	1.66	2.23	0.305	0.305	0.305	0.305	1.43	2.23
1,2,3,4,7,8,9-Heptachlorodibenzofuran	Sediment <2mm	pg/g	dry	6	1	0.375	0.375	0.375	0.0585	0.21	0.403	0.0585	0.237	0.403
1,2,3,4,7,8-Hexachlorodibenzodioxin	Sediment <2mm	pg/g	dry	6	3	0.182	0.379	0.485	0.115	0.128	0.148	0.115	0.253	0.485
1,2,3,4,7,8-Hexachlorodibenzofuran	Sediment <2mm	pg/g	dry	6	1	0.191	0.191	0.191	0.073	0.155	0.29	0.073	0.161	0.29
1,2,3,6,7,8-Hexachlorodibenzodioxin	Sediment <2mm	pg/g	dry	6	2	1	1.08	1.16	0.12	0.129	0.153	0.12	0.45	1.16
1,2,3,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	pg/g	dry	6	3	0.184	0.366	0.548	0.0705	0.0752	0.0835	0.0705	0.22	0.548
1,2,3,7,8,9-Hexachlorodibenzodioxin	Sediment <2mm	pg/g	dry	6	1	0.608	0.608	0.608	0.0965	0.188	0.445	0.0965	0.258	0.608
1,2,3,7,8,9-Hexachlorodibenzofuran	Sediment <2mm	pg/g	dry	6	1	0.361	0.361	0.361	0.091	0.143	0.263	0.091	0.179	0.361
1,2,3,7,8-Pentachlorodibenzodioxin	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.067	0.154	0.337	0.067	0.154	0.337
1,2,3,7,8-Pentachlorodibenzofuran	Sediment <2mm	pg/g	dry	6	2	0.563	0.703	0.843	0.0535	0.079	0.11	0.0535	0.287	0.843
2,3,4,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	pg/g	dry	6	1	0.4	0.4	0.4	0.067	0.118	0.269	0.067	0.165	0.4
2,3,4,7,8-Pentachlorodibenzofuran	Sediment <2mm	pg/g	dry	6	4	0.142	0.318	0.661	0.0795	0.335	0.59	0.0795	0.324	0.661
2,3,7,8-Tetrachlorodibenzodioxin	Sediment <2mm	pg/g	dry	6	1	0.115	0.115	0.115	0.0319	0.102	0.256	0.0319	0.104	0.256
2,3,7,8-Tetrachlorodibenzofuran	Sediment <2mm	pg/g	dry	6	6	1.09	7.73	22.7	--	--	--	1.09	7.73	22.7
Octachlorodibenzodioxin	Sediment <2mm	pg/g	dry	6	6	16.4	47.1	84.9	--	--	--	16.4	47.1	84.9
Octachlorodibenzofuran	Sediment <2mm	pg/g	dry	6	6	1.68	4.79	9.1	--	--	--	1.68	4.79	9.1
Total tetrachlorodibenzodioxins	Sediment <2mm	pg/g	dry	6	2	0.118	0.177	0.235	0.0319	0.0557	0.095	0.0319	0.096	0.235
Total tetrachlorodibenzofurans	Sediment <2mm	pg/g	dry	6	6	1.08	11.8	34.1	--	--	--	1.08	11.8	34.1
Total pentachlorodibenzodioxins	Sediment <2mm	pg/g	dry	6	1	0.332	0.332	0.332	0.0363	0.069	0.112	0.0363	0.113	0.332
Total pentachlorodibenzofurans	Sediment <2mm	pg/g	dry	6	6	0.397	1.15	2.45	--	--	--	0.397	1.15	2.45
Total hexachlorodibenzodioxins	Sediment <2mm	pg/g	dry	6	6	0.511	2.63	5.74	--	--	--	0.511	2.63	5.74
Total hexachlorodibenzofurans	Sediment <2mm	pg/g	dry	6	6	0.238	1.27	2.75	--	--	--	0.238	1.27	2.75
Total heptachlorodibenzodioxins	Sediment <2mm	pg/g	dry	6	6	4.39	16.1	26.9	--	--	--	4.39	16.1	26.9
Total heptachlorodibenzofurans	Sediment <2mm	pg/g	dry	6	6	0.921	4.11	7.25	--	--	--	0.921	4.11	7.25
Dioxin/Furan TEQ using WHO 2005 TEFs ND=0 DL	Sediment <2mm	pg/g	dry	6	6	0.271	1.08	2.64	--	--	--	0.271	1.08	2.64
Dioxin/Furan TEQ using WHO 2005 TEFs ND=1/2 DL	Sediment <2mm	pg/g	dry	6	6	0.363	1.3	2.84	--	--	--	0.363	1.3	2.84
Radionuclides														
Radium-226	Sediment <2mm	pCi/g	dry	5	5	0.676	0.88	1.12	--	--	--	0.676	0.88	1.12
Uranium-238	Sediment <2mm	pCi/g	dry	5	5	0.442	0.681	0.902	--	--	--	0.442	0.681	0.902
Semivolatile Organic Compounds														
1,2,4-Trichlorobenzene	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.3	1.38	6.5	1.3	1.38	6.5
1,2-Dichlorobenzene	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.45	1.54	7.5	1.45	1.54	7.5
1,3-Dichlorobenzene	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.5	1.59	7.5	1.5	1.59	7.5
1,4-Dichlorobenzene	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.45	1.54	7.5	1.45	1.54	7.5
2,2'-oxybis(1-Chloropropane)	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.3	1.38	6.5	1.3	1.38	6.5
2,4,5-Trichlorophenol	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.75	0.8	3.75	0.75	0.8	3.75

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Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses [a]	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value [b]	Mean Undetected Value [b]	Maximum Undetected Value [b]	Overall Minimum Value [b]	Overall Mean Value [b]	Overall Maximum Value [b]
Semivolatile Organic Compounds (continued)														
2,4,6-Trichlorophenol	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.7	0.74	3.5	0.7	0.74	3.5
2,4-Dichlorophenol	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.5	0.53	2.5	0.5	0.53	2.5
2,4-Dimethylphenol	Sediment <2mm	µg/kg	dry	78	18	5.5	6.8	28	2.75	2.77	3.85	2.75	3.7	28
2,4-Dinitrophenol	Sediment <2mm	µg/kg	dry	78	0	--	--	--	8.5	9	42.5	8.5	9	42.5
2,4-Dinitrotoluene	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.75	0.8	3.75	0.75	0.8	3.75
2,6-Dinitrotoluene	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1	1.06	5	1	1.06	5
2-Chloronaphthalene	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.8	0.85	4	0.8	0.85	4
2-Chlorophenol	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1	1.06	5	1	1.06	5
2-Methylphenol	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.75	0.8	3.75	0.75	0.8	3.75
2-Nitroaniline	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.6	1.69	8	1.6	1.69	8
2-Nitrophenol	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.75	0.8	3.75	0.75	0.8	3.75
3,3'-Dichlorobenzidine	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.85	1.96	9.5	1.85	1.96	9.5
3-Nitroaniline	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.25	1.33	6.5	1.25	1.33	6.5
4,6-Dinitro-2-methylphenol	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.7	0.74	3.5	0.7	0.74	3.5
4-Bromophenyl-phenylether	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.8	0.85	4	0.8	0.85	4
4-Chloro-3-methylphenol	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.7	0.74	3.5	0.7	0.74	3.5
4-Chloroaniline	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.95	1.01	4.75	0.95	1.01	4.75
4-Chlorophenyl-phenyl ether	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.7	0.74	3.5	0.7	0.74	3.5
4-Methylphenol	Sediment <2mm	µg/kg	dry	78	6	1.5	2.45	4.65	0.75	0.8	3.75	0.75	0.93	4.65
4-Nitroaniline	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.9	0.96	4.5	0.9	0.96	4.5
4-Nitrophenol	Sediment <2mm	µg/kg	dry	78	0	--	--	--	9	9.6	45	9	9.6	45
Acetophenone	Sediment <2mm	µg/kg	dry	78	8	15	24.6	59	6	6.4	30	6	8.2	59
Benzaldehyde	Sediment <2mm	µg/kg	dry	78	9	6.33	17.8	57	3.85	4.1	19.5	3.85	5.7	57
Benzoic acid	Sediment <2mm	µg/kg	dry	78	2	110	130	150	48	51	240	48	53	240
Benzyl alcohol	Sediment <2mm	µg/kg	dry	78	2	2.75	3.88	5	1.05	1.12	5.5	1.05	1.19	5.5
Benzyl n-butyl phthalate	Sediment <2mm	µg/kg	dry	78	5	2.7	4.36	6.9	1.6	1.7	8	1.6	1.87	8
Bis(2-chloroethoxy)methane	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.75	0.8	3.75	0.75	0.8	3.75
Bis(2-chloroethyl)ether	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.95	1.01	4.75	0.95	1.01	4.75
Bis(2-ethylhexyl)phthalate	Sediment <2mm	µg/kg	dry	78	2	17	29.1	41.3	3.5	4.3	17.5	3.5	5	41.3
Caprolactam	Sediment <2mm	µg/kg	dry	78	0	--	--	--	9.5	10.1	47.5	9.5	10.1	47.5
Carbazole	Sediment <2mm	µg/kg	dry	78	4	1.2	2.03	3.55	0.65	0.69	3.25	0.65	0.76	3.55
Diethyl phthalate	Sediment <2mm	µg/kg	dry	78	3	1.15	1.62	2.3	0.65	0.69	3.25	0.65	0.73	3.25
Dimethyl phthalate	Sediment <2mm	µg/kg	dry	78	12	1.1	1.58	2.4	0.5	0.91	2.5	0.5	1.01	2.5
Di-n-butyl phthalate	Sediment <2mm	µg/kg	dry	78	0	--	--	--	3.95	4.2	20	3.95	4.2	20
Di-n-octylphthalate	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.85	0.9	4.25	0.85	0.9	4.25
Hexachlorobenzene	Sediment <2mm	µg/kg	dry	78	3	0.255	0.523	0.78	0.1	0.1	0.1	0.1	0.116	0.78
Hexachlorobutadiene	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.105	0.105	0.105	0.105	0.105	0.105
Hexachlorocyclopentadiene	Sediment <2mm	µg/kg	dry	78	0	--	--	--	14.5	15.4	75	14.5	15.4	75
Hexachloroethane	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.55	1.64	8	1.55	1.64	8
Isophorone	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.5	0.53	2.5	0.5	0.53	2.5
Nitrobenzene	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.1	1.17	5.5	1.1	1.17	5.5
N-Nitrosodi-n-propylamine	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.2	1.27	6	1.2	1.27	6
N-Nitrosodiphenylamine	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.8	0.85	4	0.8	0.85	4
Pentachlorophenol	Sediment <2mm	µg/kg	dry	78	0	--	--	--	10	10.6	50	10	10.6	50
Phenol	Sediment <2mm	µg/kg	dry	78	39	1.5	4.1	39	1	1.22	5	1	2.6	39

Table 5-3. Summary of Chemicals of Interest Measured in 2011 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses [a]	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value [b]	Mean Undetected Value [b]	Maximum Undetected Value [b]	Overall Minimum Value [b]	Overall Mean Value [b]	Overall Maximum Value [b]
Polycyclic Aromatic Hydrocarbons														
1,1'-Biphenyl	Sediment <2mm	µg/kg	dry	78	7	2	3.39	7	0.95	1.01	4.75	0.95	1.23	7
2-Methylnaphthalene	Sediment <2mm	µg/kg	dry	78	21	0.46	4.6	20	0.23	0.23	0.23	0.23	1.4	20
Acenaphthene	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.38	0.38	0.38	0.38	0.38	0.38
Acenaphthylene	Sediment <2mm	µg/kg	dry	78	3	0.66	0.92	1.15	0.295	0.295	0.295	0.295	0.32	1.15
Anthracene	Sediment <2mm	µg/kg	dry	78	7	0.435	0.83	1.6	0.29	0.29	0.29	0.29	0.34	1.6
Benzo[a]anthracene	Sediment <2mm	µg/kg	dry	78	17	0.73	2.7	8.5	0.36	0.36	0.36	0.36	0.9	8.5
Benzo[a]pyrene	Sediment <2mm	µg/kg	dry	78	16	0.9	3.8	22.4	0.38	0.38	0.38	0.38	1.1	22.4
Benzo[b]fluoranthene	Sediment <2mm	µg/kg	dry	78	18	0.93	5.7	27	0.46	0.46	0.46	0.46	1.7	27
Benzo[g,h,i]perylene	Sediment <2mm	µg/kg	dry	78	17	0.86	3.4	14.9	0.425	0.425	0.425	0.425	1.1	14.9
Benzo[k]fluoranthene	Sediment <2mm	µg/kg	dry	78	11	0.708	2.7	11.3	0.435	0.435	0.435	0.435	0.7	11.3
Chrysene	Sediment <2mm	µg/kg	dry	78	17	1	3.9	10.2	0.4	0.4	0.4	0.4	1.2	10.2
Dibenzo[a,h]anthracene	Sediment <2mm	µg/kg	dry	78	4	0.7	1.49	2.55	0.4	0.4	0.4	0.4	0.46	2.55
Dibenzofuran	Sediment <2mm	µg/kg	dry	78	11	1.5	2.29	5.4	0.6	0.64	3	0.6	0.88	5.4
Fluoranthene	Sediment <2mm	µg/kg	dry	78	19	1.1	5.6	19	0.49	0.49	0.49	0.49	1.7	19
Fluorene	Sediment <2mm	µg/kg	dry	78	11	0.548	0.84	1.5	0.305	0.305	0.305	0.305	0.38	1.5
Indeno[1,2,3-cd]pyrene	Sediment <2mm	µg/kg	dry	78	14	1.1	3.3	15.6	0.435	0.435	0.435	0.435	1	15.6
Naphthalene	Sediment <2mm	µg/kg	dry	78	33	0.61	2.2	9.7	0.3	0.3	0.315	0.3	1.1	9.7
Phenanthrene	Sediment <2mm	µg/kg	dry	78	16	2	6.8	13	0.7	0.7	0.7	0.7	1.9	13
Pyrene	Sediment <2mm	µg/kg	dry	78	25	0.79	4.8	19	0.38	0.38	0.38	0.38	1.8	19
Pesticides														
2,4'-DDD	Sediment <2mm	µg/kg	dry	78	1	0.113	0.113	0.113	0.065	0.071	0.5	0.065	0.072	0.5
2,4'-DDE	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.08	0.084	0.38	0.08	0.084	0.38
2,4'-DDT	Sediment <2mm	µg/kg	dry	78	3	0.049	0.12	0.16	0.029	0.029	0.06	0.029	0.033	0.16
4,4'-DDD	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.055	0.105	0.495	0.055	0.105	0.495
4,4'-DDE	Sediment <2mm	µg/kg	dry	78	7	0.17	0.314	0.53	0.055	0.23	1.25	0.055	0.23	1.25
4,4'-DDT	Sediment <2mm	µg/kg	dry	78	4	0.133	0.218	0.27	0.085	0.091	0.5	0.085	0.097	0.5
Aldrin	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.08	0.08	0.08	0.08	0.08	0.08
alpha-Benzenehexachloride	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.055	0.055	0.055	0.055	0.055	0.055
alpha-Chlordane	Sediment <2mm	µg/kg	dry	78	1	0.41	0.41	0.41	0.05	0.15	1.95	0.05	0.15	1.95
beta-BHC	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.09	0.09	0.09	0.09	0.09	0.09
Chlordane	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.95	1.19	4.2	0.95	1.19	4.2
cis-Nonachlor	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.06	0.061	0.11	0.06	0.061	0.11
delta-BHC	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.037	0.037	0.037	0.037	0.037	0.037
Dieldrin	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.07	0.07	0.07	0.07	0.07	0.07
Endosulfan I	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.0315	0.032	0.0485	0.0315	0.032	0.0485
Endosulfan II	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.07	0.07	0.07	0.07	0.07	0.07
Endosulfan sulfate	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.055	0.064	0.5	0.055	0.064	0.5
Endrin	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.047	0.047	0.047	0.047	0.047	0.047
Endrin aldehyde	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06
Endrin ketone	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.0465	0.0474	0.09	0.0465	0.0474	0.09
gamma-BHC	Sediment <2mm	µg/kg	dry	78	2	0.085	0.089	0.093	0.04	0.0406	0.085	0.04	0.042	0.093
gamma-Chlordane	Sediment <2mm	µg/kg	dry	78	2	0.1	0.115	0.13	0.045	0.046	0.1	0.045	0.048	0.13
Heptachlor	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.06	0.06	0.06	0.06	0.06	0.06
Heptachlor epoxide	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.042	0.0421	0.048	0.042	0.0421	0.048
Methoxychlor	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.095	0.105	0.5	0.095	0.105	0.5
Oxychlordane	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.0425	0.121	0.55	0.0425	0.121	0.55
Toxaphene	Sediment <2mm	µg/kg	dry	78	0	--	--	--	2.4	3.3	25	2.4	3.3	25
trans-Nonachlor	Sediment <2mm	µg/kg	dry	78	0	--	--	--	0.0435	0.0435	0.0435	0.0435	0.0435	0.0435

Table 5-3. Summary of Chemicals of Interest Measured in 2011 Beach Sediment (Primary and field replicate samples averaged)

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Aroclors														
Aroclor 1016	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1221	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1232	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1242	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1248	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1254	Sediment <2mm	µg/kg	dry	78	2	1.88	2.14	2.4	1.05	1.06	1.6	1.05	1.08	2.4
Aroclor 1260	Sediment <2mm	µg/kg	dry	78	4	2.5	3.38	5.3	1.05	1.05	1.05	1.05	1.17	5.3
Aroclor 1262	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Aroclor 1268	Sediment <2mm	µg/kg	dry	78	0	--	--	--	1.05	1.05	1.05	1.05	1.05	1.05
Polychlorinated Biphenyls														
PCB 1	Sediment <2mm	pg/g	dry	6	1	23.3	23.3	23.3	1.84	2.5	3.06	1.84	6	23.3
PCB 2	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.468	0.68	1.07	0.468	0.68	1.07
PCB 3	Sediment <2mm	pg/g	dry	6	1	12.2	12.2	12.2	1.1	1.6	2.29	1.1	3.4	12.2
PCB 4	Sediment <2mm	pg/g	dry	6	0	--	--	--	2.71	3.92	7.15	2.71	3.92	7.15
PCB 5	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.151	0.175	0.23	0.151	0.175	0.23
PCB 6	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.715	1.11	1.84	0.715	1.11	1.84
PCB 7	Sediment <2mm	pg/g	dry	6	1	1.06	1.06	1.06	0.13	0.16	0.233	0.13	0.31	1.06
PCB 8	Sediment <2mm	pg/g	dry	6	1	31.6	31.6	31.6	2.8	4.42	5.8	2.8	8.9	31.6
PCB 9	Sediment <2mm	pg/g	dry	6	1	0.568	0.568	0.568	0.134	0.395	0.815	0.134	0.424	0.815
PCB 10	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0865	0.171	0.355	0.0865	0.171	0.355
PCB 11	Sediment <2mm	pg/g	dry	6	0	--	--	--	5.55	6.87	7.65	5.55	6.87	7.65
PCB 12, 13 coelution	Sediment <2mm	pg/g	dry	6	4	1.4	1.86	2.38	0.135	0.403	0.67	0.135	1.37	2.38
PCB 14	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.123	0.141	0.159	0.123	0.141	0.159
PCB 15	Sediment <2mm	pg/g	dry	6	4	18.2	31.5	57.2	3.13	3.57	4.01	3.13	22.2	57.2
PCB 16	Sediment <2mm	pg/g	dry	6	1	6.82	6.82	6.82	1.18	1.39	1.64	1.18	2.3	6.82
PCB 17	Sediment <2mm	pg/g	dry	6	6	2.57	4.42	8.11	--	--	--	2.57	4.42	8.11
PCB 18, 30 coelution	Sediment <2mm	pg/g	dry	6	1	14.8	14.8	14.8	2.19	2.89	3.66	2.19	4.9	14.8
PCB 19	Sediment <2mm	pg/g	dry	6	4	1.36	1.92	2.52	0.745	0.808	0.87	0.745	1.55	2.52
PCB 20, 28 coelution	Sediment <2mm	pg/g	dry	6	2	16.2	22.5	28.8	4.12	5.34	6.35	4.12	11.1	28.8
PCB 21, 33 coelution	Sediment <2mm	pg/g	dry	6	1	13.1	13.1	13.1	1.85	2.68	3.49	1.85	4.4	13.1
PCB 22	Sediment <2mm	pg/g	dry	6	2	5.27	7.46	9.66	1.48	1.79	1.97	1.48	3.68	9.66
PCB 23	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0331	0.0579	0.083	0.0331	0.0579	0.083
PCB 24	Sediment <2mm	pg/g	dry	6	1	0.118	0.118	0.118	0.0443	0.08	0.156	0.0443	0.086	0.156
PCB 25	Sediment <2mm	pg/g	dry	6	6	1.38	2.39	3.36	--	--	--	1.38	2.39	3.36
PCB 26, 29 coelution	Sediment <2mm	pg/g	dry	6	0	--	--	--	1.3	2.29	3.6	1.3	2.29	3.6
PCB 27	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.298	0.46	0.76	0.298	0.46	0.76
PCB 31	Sediment <2mm	pg/g	dry	6	2	11.8	17.9	24.1	3.08	4.21	4.97	3.08	8.8	24.1
PCB 32	Sediment <2mm	pg/g	dry	6	1	4.53	4.53	4.53	0.58	0.86	1.08	0.58	1.47	4.53
PCB 34	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0336	0.0592	0.0905	0.0336	0.0592	0.0905
PCB 35	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.147	0.33	0.555	0.147	0.33	0.555
PCB 36	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.064	0.125	0.197	0.064	0.125	0.197
PCB 37	Sediment <2mm	pg/g	dry	6	2	5.46	7.8	10.2	1.7	2.23	2.81	1.7	4.1	10.2
PCB 38	Sediment <2mm	pg/g	dry	6	1	0.165	0.165	0.165	0.081	0.136	0.197	0.081	0.141	0.197
PCB 39	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0605	0.119	0.192	0.0605	0.119	0.192
PCB 40, 71 coelution	Sediment <2mm	pg/g	dry	6	4	5.39	7.8	14.2	1.62	1.71	1.8	1.62	5.8	14.2
PCB 41	Sediment <2mm	pg/g	dry	6	6	0.745	1.15	2.48	--	--	--	0.745	1.15	2.48
PCB 42	Sediment <2mm	pg/g	dry	6	4	4.09	5.42	9.06	1.2	1.28	1.37	1.2	4.04	9.06
PCB 43	Sediment <2mm	pg/g	dry	6	4	0.456	0.86	1.6	0.0835	0.156	0.229	0.0835	0.63	1.6

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Polychlorinated Biphenyls (continued)														
PCB 44, 47, 65 coelution	Sediment <2mm	pg/g	dry	6	5	15.3	28.9	58	7.3	7.3	7.3	7.3	25.3	58
PCB 45, 51 coelution	Sediment <2mm	pg/g	dry	6	5	1.34	2.48	4.33	0.59	0.59	0.59	0.59	2.16	4.33
PCB 46	Sediment <2mm	pg/g	dry	6	3	0.572	0.687	0.808	0.261	0.482	0.92	0.261	0.584	0.92
PCB 48	Sediment <2mm	pg/g	dry	6	5	1.57	2.73	5.71	0.735	0.735	0.735	0.735	2.39	5.71
PCB 49, 69 coelution	Sediment <2mm	pg/g	dry	6	4	14.2	20.5	35.5	4.63	5.07	5.5	4.63	15.3	35.5
PCB 50, 53 coelution	Sediment <2mm	pg/g	dry	6	1	4.42	4.42	4.42	0.585	0.97	1.27	0.585	1.54	4.42
PCB 52	Sediment <2mm	pg/g	dry	6	6	30.2	60	144	--	--	--	30.2	60	144
PCB 54	Sediment <2mm	pg/g	dry	6	3	0.168	0.187	0.197	0.0394	0.0477	0.0585	0.0394	0.117	0.197
PCB 55	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.102	0.167	0.246	0.102	0.167	0.246
PCB 56	Sediment <2mm	pg/g	dry	6	5	7.04	10.7	20.8	2.59	2.59	2.59	2.59	9.4	20.8
PCB 57	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0865	0.155	0.233	0.0865	0.155	0.233
PCB 58	Sediment <2mm	pg/g	dry	6	1	0.176	0.176	0.176	0.123	0.168	0.23	0.123	0.169	0.23
PCB 59, 62, 75 coelution	Sediment <2mm	pg/g	dry	6	6	0.711	1.31	2.52	--	--	--	0.711	1.31	2.52
PCB 60	Sediment <2mm	pg/g	dry	6	6	2.53	4.87	9.52	--	--	--	2.53	4.87	9.52
PCB 61, 70, 74, 76 coelution	Sediment <2mm	pg/g	dry	6	6	28.4	58	133	--	--	--	28.4	58	133
PCB 63	Sediment <2mm	pg/g	dry	6	4	0.671	1.03	1.92	0.252	0.326	0.4	0.252	0.79	1.92
PCB 64	Sediment <2mm	pg/g	dry	6	5	5.84	10.6	21.6	2.45	2.45	2.45	2.45	9.2	21.6
PCB 66	Sediment <2mm	pg/g	dry	6	5	16.4	24.3	45.9	5.95	5.95	5.95	5.95	21.3	45.9
PCB 67	Sediment <2mm	pg/g	dry	6	5	0.545	0.72	1.09	0.75	0.75	0.75	0.545	0.73	1.09
PCB 68	Sediment <2mm	pg/g	dry	6	2	0.364	0.471	0.577	0.116	0.173	0.208	0.116	0.272	0.577
PCB 72	Sediment <2mm	pg/g	dry	6	2	0.285	0.469	0.653	0.125	0.188	0.224	0.125	0.282	0.653
PCB 73	Sediment <2mm	pg/g	dry	6	1	0.266	0.266	0.266	0.034	0.06	0.093	0.034	0.095	0.266
PCB 77	Sediment <2mm	pg/g	dry	6	6	1.47	3.69	7.07	--	--	--	1.47	3.69	7.07
PCB 78	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0965	0.155	0.233	0.0965	0.155	0.233
PCB 79	Sediment <2mm	pg/g	dry	6	1	0.471	0.471	0.471	0.079	0.124	0.191	0.079	0.182	0.471
PCB 80	Sediment <2mm	pg/g	dry	6	1	2.04	2.04	2.04	0.114	0.202	0.453	0.114	0.51	2.04
PCB 81	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0975	0.16	0.237	0.0975	0.16	0.237
PCB 82	Sediment <2mm	pg/g	dry	6	6	5.42	11	28.1	--	--	--	5.42	11	28.1
PCB 83	Sediment <2mm	pg/g	dry	6	5	2.34	3.72	5.12	7.85	7.85	7.85	2.34	4.41	7.85
PCB 84	Sediment <2mm	pg/g	dry	6	6	11.3	26.8	70.1	--	--	--	11.3	26.8	70.1
PCB 85, 116, 117 coelution	Sediment <2mm	pg/g	dry	6	6	8.73	17.1	40.9	--	--	--	8.73	17.1	40.9
PCB 86, 87, 97, 108, 119, 125 coelution	Sediment <2mm	pg/g	dry	6	6	40	80	200	--	--	--	40	80	200
PCB 88, 91 coelution	Sediment <2mm	pg/g	dry	6	6	5.68	11.9	29.5	--	--	--	5.68	11.9	29.5
PCB 89	Sediment <2mm	pg/g	dry	6	4	0.422	0.89	1.85	0.18	0.223	0.267	0.18	0.67	1.85
PCB 90, 101, 113 coelution	Sediment <2mm	pg/g	dry	6	6	59.6	163	465	--	--	--	59.6	163	465
PCB 92	Sediment <2mm	pg/g	dry	6	6	11	25.4	67.7	--	--	--	11	25.4	67.7
PCB 93, 100 coelution	Sediment <2mm	pg/g	dry	6	2	0.546	0.621	0.695	0.0815	0.136	0.203	0.0815	0.298	0.695
PCB 94	Sediment <2mm	pg/g	dry	6	3	0.218	0.537	0.958	0.132	0.205	0.265	0.132	0.371	0.958
PCB 95	Sediment <2mm	pg/g	dry	6	6	44.1	118	347	--	--	--	44.1	118	347
PCB 96	Sediment <2mm	pg/g	dry	6	5	0.273	0.59	1.15	0.228	0.228	0.228	0.228	0.53	1.15
PCB 98, 102 coelution	Sediment <2mm	pg/g	dry	6	4	1.26	2.64	4.73	0.482	0.534	0.585	0.482	1.94	4.73
PCB 99	Sediment <2mm	pg/g	dry	6	6	22.6	41.2	99.7	--	--	--	22.6	41.2	99.7
PCB 103	Sediment <2mm	pg/g	dry	6	3	0.382	0.8	1.4	0.116	0.206	0.325	0.116	0.5	1.4
PCB 104	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0425	0.0647	0.0765	0.0425	0.0647	0.0765
PCB 105	Sediment <2mm	pg/g	dry	6	6	21.5	43	104	--	--	--	21.5	43	104
PCB 106	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.102	0.154	0.206	0.102	0.154	0.206
PCB 107, 124 coelution	Sediment <2mm	pg/g	dry	6	6	2.36	4.7	11.1	--	--	--	2.36	4.7	11.1
PCB 109	Sediment <2mm	pg/g	dry	6	6	4.11	7.9	17.7	--	--	--	4.11	7.9	17.7

Table 5-3. Summary of Chemicals of Interest Measured in 2011 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses [a]	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value [b]	Mean Undetected Value [b]	Maximum Undetected Value [b]	Overall Minimum Value [b]	Overall Mean Value [b]	Overall Maximum Value [b]
Polychlorinated Biphenyls (continued)														
PCB 110, 115 coelution	Sediment <2mm	pg/g	dry	6	6	67.5	148	378	--	--	--	67.5	148	378
PCB 111	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0465	0.085	0.142	0.0465	0.085	0.142
PCB 112	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0498	0.093	0.158	0.0498	0.093	0.158
PCB 114	Sediment <2mm	pg/g	dry	6	5	1.28	2.66	6.28	0.735	0.735	0.735	0.735	2.34	6.28
PCB 118	Sediment <2mm	pg/g	dry	6	6	55	118	288	--	--	--	55	118	288
PCB 120	Sediment <2mm	pg/g	dry	6	2	0.276	0.385	0.495	0.0471	0.091	0.146	0.0471	0.189	0.495
PCB 121	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0496	0.091	0.149	0.0496	0.091	0.149
PCB 122	Sediment <2mm	pg/g	dry	6	5	0.645	1.24	2.94	0.48	0.48	0.48	0.48	1.11	2.94
PCB 123	Sediment <2mm	pg/g	dry	6	5	0.802	1.15	1.53	1.87	1.87	1.87	0.802	1.27	1.87
PCB 126	Sediment <2mm	pg/g	dry	6	4	0.16	0.47	0.72	0.151	0.202	0.253	0.151	0.381	0.72
PCB 127	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.102	0.15	0.199	0.102	0.15	0.199
PCB 128, 166 coelution	Sediment <2mm	pg/g	dry	6	6	17	40	109	--	--	--	17	40	109
PCB 129, 138, 163 coelution	Sediment <2mm	pg/g	dry	6	6	117	430	1250	--	--	--	117	430	1250
PCB 130	Sediment <2mm	pg/g	dry	6	6	7.1	18.7	52.4	--	--	--	7.1	18.7	52.4
PCB 131	Sediment <2mm	pg/g	dry	6	6	1.54	3.9	11.8	--	--	--	1.54	3.9	11.8
PCB 132	Sediment <2mm	pg/g	dry	6	6	35.1	126	386	--	--	--	35.1	126	386
PCB 133	Sediment <2mm	pg/g	dry	6	6	1.55	4.9	14	--	--	--	1.55	4.9	14
PCB 134	Sediment <2mm	pg/g	dry	6	6	6.35	18.9	54.8	--	--	--	6.35	18.9	54.8
PCB 135, 151 coelution	Sediment <2mm	pg/g	dry	6	6	30.6	173	547	--	--	--	30.6	173	547
PCB 136	Sediment <2mm	pg/g	dry	6	6	12.1	61	203	--	--	--	12.1	61	203
PCB 137	Sediment <2mm	pg/g	dry	6	6	4.26	8.2	21	--	--	--	4.26	8.2	21
PCB 139, 140 coelution	Sediment <2mm	pg/g	dry	6	5	1.63	3.23	7.85	0.86	0.86	0.86	0.86	2.83	7.85
PCB 141	Sediment <2mm	pg/g	dry	6	6	20.6	106	323	--	--	--	20.6	106	323
PCB 142	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.114	0.195	0.327	0.114	0.195	0.327
PCB 143	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.105	0.177	0.294	0.105	0.177	0.294
PCB 144	Sediment <2mm	pg/g	dry	6	6	4.74	26.3	86.2	--	--	--	4.74	26.3	86.2
PCB 145	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0444	0.063	0.083	0.0444	0.063	0.083
PCB 146	Sediment <2mm	pg/g	dry	6	6	13.8	55	160	--	--	--	13.8	55	160
PCB 147, 149 coelution	Sediment <2mm	pg/g	dry	6	6	75.3	370	1210	--	--	--	75.3	370	1210
PCB 148	Sediment <2mm	pg/g	dry	6	1	0.25	0.25	0.25	0.0565	0.078	0.103	0.0565	0.107	0.25
PCB 150	Sediment <2mm	pg/g	dry	6	1	0.232	0.232	0.232	0.0429	0.081	0.161	0.0429	0.106	0.232
PCB 152	Sediment <2mm	pg/g	dry	6	1	0.208	0.208	0.208	0.0423	0.074	0.131	0.0423	0.096	0.208
PCB 153, 168 coelution	Sediment <2mm	pg/g	dry	6	6	85.4	410	1210	--	--	--	85.4	410	1210
PCB 154	Sediment <2mm	pg/g	dry	6	4	1.11	1.83	3.56	0.349	0.447	0.545	0.349	1.37	3.56
PCB 155	Sediment <2mm	pg/g	dry	6	1	0.162	0.162	0.162	0.0246	0.0429	0.0605	0.0246	0.063	0.162
PCB 156, 157 coelution	Sediment <2mm	pg/g	dry	6	6	13.8	35.4	95.1	--	--	--	13.8	35.4	95.1
PCB 158	Sediment <2mm	pg/g	dry	6	6	11.3	39	116	--	--	--	11.3	39	116
PCB 159	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.103	0.17	0.259	0.103	0.17	0.259
PCB 160	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0865	0.144	0.234	0.0865	0.144	0.234
PCB 161	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.069	0.126	0.225	0.069	0.126	0.225
PCB 162	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0985	0.18	0.246	0.0985	0.18	0.246
PCB 164	Sediment <2mm	pg/g	dry	6	6	7.43	31.5	93.7	--	--	--	7.43	31.5	93.7
PCB 165	Sediment <2mm	pg/g	dry	6	2	1.82	3.22	4.62	0.102	0.155	0.238	0.102	1.18	4.62
PCB 167	Sediment <2mm	pg/g	dry	6	6	4.22	12.4	33.5	--	--	--	4.22	12.4	33.5
PCB 169	Sediment <2mm	pg/g	dry	6	1	6.06	6.06	6.06	0.087	0.233	0.469	0.087	1.2	6.06
PCB 170	Sediment <2mm	pg/g	dry	6	6	24.2	164	462	--	--	--	24.2	164	462
PCB 171, 173 coelution	Sediment <2mm	pg/g	dry	6	6	8.06	57	169	--	--	--	8.06	57	169
PCB 172	Sediment <2mm	pg/g	dry	6	6	3.84	28.6	80	--	--	--	3.84	28.6	80

Table 5-3. Summary of Chemicals of Interest Measured in 2011 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses [a]	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value [b]	Mean Undetected Value [b]	Maximum Undetected Value [b]	Overall Minimum Value [b]	Overall Mean Value [b]	Overall Maximum Value [b]
Polychlorinated Biphenyls (continued)														
PCB 174	Sediment <2mm	pg/g	dry	6	6	27.3	208	621	--	--	--	27.3	208	621
PCB 175	Sediment <2mm	pg/g	dry	6	6	1.28	8.8	26.7	--	--	--	1.28	8.8	26.7
PCB 176	Sediment <2mm	pg/g	dry	6	6	3.45	27.4	86.2	--	--	--	3.45	27.4	86.2
PCB 177	Sediment <2mm	pg/g	dry	6	6	15.4	112	324	--	--	--	15.4	112	324
PCB 178	Sediment <2mm	pg/g	dry	6	6	5.83	41	124	--	--	--	5.83	41	124
PCB 179	Sediment <2mm	pg/g	dry	6	6	11.2	91	286	--	--	--	11.2	91	286
PCB 180, 193 coelution	Sediment <2mm	pg/g	dry	6	6	54.1	420	1210	--	--	--	54.1	420	1210
PCB 181	Sediment <2mm	pg/g	dry	6	1	0.608	0.608	0.608	0.0695	0.111	0.158	0.0695	0.194	0.608
PCB 182	Sediment <2mm	pg/g	dry	6	1	0.154	0.154	0.154	0.0456	0.1	0.237	0.0456	0.109	0.237
PCB 183, 185 coelution	Sediment <2mm	pg/g	dry	6	6	16.8	146	472	--	--	--	16.8	146	472
PCB 184	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0299	0.046	0.0665	0.0299	0.046	0.0665
PCB 186	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0364	0.054	0.0745	0.0364	0.054	0.0745
PCB 187	Sediment <2mm	pg/g	dry	6	6	32.4	236	681	--	--	--	32.4	236	681
PCB 188	Sediment <2mm	pg/g	dry	6	1	0.27	0.27	0.27	0.0372	0.055	0.0805	0.0372	0.091	0.27
PCB 189	Sediment <2mm	pg/g	dry	6	6	1.09	6.4	18.4	--	--	--	1.09	6.4	18.4
PCB 190	Sediment <2mm	pg/g	dry	6	6	4.93	35.6	99.9	--	--	--	4.93	35.6	99.9
PCB 191	Sediment <2mm	pg/g	dry	6	6	1.04	7	20.2	--	--	--	1.04	7	20.2
PCB 192	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.056	0.09	0.128	0.056	0.09	0.128
PCB 194	Sediment <2mm	pg/g	dry	6	6	13.5	140	380	--	--	--	13.5	140	380
PCB 195	Sediment <2mm	pg/g	dry	6	6	4.88	44	124	--	--	--	4.88	44	124
PCB 196	Sediment <2mm	pg/g	dry	6	6	7.15	66	191	--	--	--	7.15	66	191
PCB 197, 200 coelution	Sediment <2mm	pg/g	dry	6	6	2.86	23.5	72	--	--	--	2.86	23.5	72
PCB 198, 199 coelution	Sediment <2mm	pg/g	dry	6	6	25.6	199	600	--	--	--	25.6	199	600
PCB 201	Sediment <2mm	pg/g	dry	6	6	2.59	19.5	60.9	--	--	--	2.59	19.5	60.9
PCB 202	Sediment <2mm	pg/g	dry	6	6	4.9	31.1	96.4	--	--	--	4.9	31.1	96.4
PCB 203	Sediment <2mm	pg/g	dry	6	6	14	117	347	--	--	--	14	117	347
PCB 204	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.0399	0.062	0.08	0.0399	0.062	0.08
PCB 205	Sediment <2mm	pg/g	dry	6	6	0.734	6	17	--	--	--	0.734	6	17
PCB 206	Sediment <2mm	pg/g	dry	6	6	38.2	194	535	--	--	--	38.2	194	535
PCB 207	Sediment <2mm	pg/g	dry	6	6	4.59	15.5	42.4	--	--	--	4.59	15.5	42.4
PCB 208	Sediment <2mm	pg/g	dry	6	6	12	42	132	--	--	--	12	42	132
PCB 209	Sediment <2mm	pg/g	dry	6	6	15	37.9	94.2	--	--	--	15	37.9	94.2
PCB Homologs														
Monochlorobiphenyl homologs	Sediment <2mm	pg/g	dry	6	6	7.41	14.2	37.7	--	--	--	7.41	14.2	37.7
Dichlorobiphenyl homologs	Sediment <2mm	pg/g	dry	6	6	29.8	63	128	--	--	--	29.8	63	128
Trichlorobiphenyl homologs	Sediment <2mm	pg/g	dry	6	6	40.9	74	137	--	--	--	40.9	74	137
Tetrachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	6	6	121	237	527	--	--	--	121	237	527
Pentachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	6	6	373	830	2190	--	--	--	373	830	2190
Hexachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	6	6	473	1980	6000	--	--	--	473	1980	6000
Heptachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	6	6	211	1590	4680	--	--	--	211	1590	4680
Octachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	6	6	76.2	650	1890	--	--	--	76.2	650	1890
Nonachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	6	6	55.1	252	709	--	--	--	55.1	252	709
Decachlorobiphenyl homologs	Sediment <2mm	pg/g	dry	6	6	15	37.9	94.2	--	--	--	15	37.9	94.2
Total PCBs	Sediment <2mm	pg/g	dry	6	6	1410	5700	16400	--	--	--	1410	5700	16400
PCB TEQ using WHO 2005 TEFs ND=0 DL	Sediment <2mm	pg/g	dry	6	6	0.00664	0.066	0.199	--	--	--	0.00664	0.066	0.199
PCB TEQ using WHO 2005 TEFs ND=1/2 DL	Sediment <2mm	pg/g	dry	6	6	0.0231	0.079	0.224	--	--	--	0.0231	0.079	0.224

Table 5-3. Summary of Chemicals of Interest Measured in 2011 Beach Sediment (Primary and field replicate samples averaged)

Analyte	Sample Material Analyzed	Concentration Units	Measurement Basis	Number of Acceptable Analyses [a]	Number of Detected Values	Minimum Detected Value	Mean Detected Value	Maximum Detected Value	Minimum Undetected Value [b]	Mean Undetected Value [b]	Maximum Undetected Value [b]	Overall Minimum Value [b]	Overall Mean Value [b]	Overall Maximum Value [b]
Polybrominated Diphenyl Ethers														
PBDE 17, 25 coelution	Sediment <2mm	pg/g	dry	6	4	0.775	0.98	1.34	0.186	0.337	0.488	0.186	0.76	1.34
PBDE 28, 33 coelution	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.63	0.76	1.04	0.63	0.76	1.04
PBDE 47	Sediment <2mm	pg/g	dry	6	6	30.5	77	181	--	--	--	30.5	77	181
PBDE 49	Sediment <2mm	pg/g	dry	6	5	2.95	6.6	14.1	4.16	4.16	4.16	2.95	6.2	14.1
PBDE 66	Sediment <2mm	pg/g	dry	6	3	2.11	4.7	7.5	0.895	1.35	1.83	0.895	3	7.5
PBDE 71	Sediment <2mm	pg/g	dry	6	3	0.328	0.65	1.29	0.122	0.168	0.258	0.122	0.41	1.29
PBDE 85	Sediment <2mm	pg/g	dry	6	5	1.57	9.1	17.9	0.53	0.53	0.53	0.53	7.7	17.9
PBDE 99	Sediment <2mm	pg/g	dry	6	6	25.3	131	326	--	--	--	25.3	131	326
PBDE 100	Sediment <2mm	pg/g	dry	6	6	6.75	26	64	--	--	--	6.75	26	64
PBDE 128	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.467	0.666	0.96	0.467	0.666	0.96
PBDE 138, 166 coelution	Sediment <2mm	pg/g	dry	6	2	4.32	5.6	6.9	0.34	0.86	1.96	0.34	2.4	6.9
PBDE 153	Sediment <2mm	pg/g	dry	6	6	3.85	16.6	41.8	--	--	--	3.85	16.6	41.8
PBDE 154	Sediment <2mm	pg/g	dry	6	6	3.06	13.1	33.2	--	--	--	3.06	13.1	33.2
PBDE 183	Sediment <2mm	pg/g	dry	6	4	1.04	2	3.98	0.421	0.513	0.605	0.421	1.5	3.98
PBDE 184	Sediment <2mm	pg/g	dry	6	1	0.465	0.465	0.465	0.099	0.157	0.248	0.099	0.208	0.465
PBDE 190	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.301	0.462	0.625	0.301	0.462	0.625
PBDE 191	Sediment <2mm	pg/g	dry	6	0	--	--	--	0.225	0.343	0.469	0.225	0.343	0.469
PBDE 203	Sediment <2mm	pg/g	dry	6	2	1.04	1.25	1.46	0.218	0.352	0.58	0.218	0.65	1.46
PBDE 206	Sediment <2mm	pg/g	dry	6	0	--	--	--	1.13	2.26	5.35	1.13	2.26	5.35
PBDE 209	Sediment <2mm	pg/g	dry	6	3	139	201	283	21.6	230	473	21.6	215	473

Notes:

Data were averaged over method and field replicates. Concentrations have been rounded to three significant figures.

Data exclude rejected data, non-reportable data and QC sample data.

-- = no results available

DL = detection limit

ND = not detected

TEF = toxic equivalency factor

TEQ = toxicity equivalent

WHO = World Health Organization

[a] The number of samples analyzed for seven of the metals (arsenic, cadmium, chromium, lead, selenium, thallium, vanadium) in the <2mm sediment fraction is higher than the other metals analyses because the lab reported metals data that were not requested on the COC.

[b] Calculated with non-detected results at one-half of the detection limit.

Table 5-4. Laboratory Methods for Beach Sediment Samples

		Sample Preparation		Quantitative Analysis	
Analytes	Laboratory	Protocol	Procedure	Protocol	Procedure
Conventional Parameters (whole sediments)					
Grain size	CAS	NA	--	PSEP (1986)	Sieves and pipette method
Conventional Parameters (less than 2 mm fraction)					
pH	CAS	NA	--	EPA 9045C	Electrode
Total organic carbon	CAS	PSEP (1986)	Acid pretreatment	PSEP (1986)	Combustion; coulometric titration
Percent moisture	CAS	NA	--	PSEP (1986)	Balance
Total sulfides	CAS	EPA 9030	Distillation	EPA 9030	Colorimetry
TAL Metals/Metalloids and Uranium (less than 2 mm fraction and fine fractions)					
Aluminum, calcium, iron, lead[a], magnesium, potassium, sodium	CAS	EPA 3050	Strong acid digestion	EPA 6010B	ICP
Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, selenium, silver, thallium, uranium, vanadium, zinc[b]	CAS	EPA 3050	Strong acid digestion	EPA 6020	ICP/MS
Arsenic[c]	CAS	EPA 6020	Strong acid digestion	EPA 7062	AAS
		EPA 7742	Hydride generation		
Mercury	CAS	EPA 7471A	Acid digestion/oxidation	EPA 7471A	CVAA
Selenium [d]	CAS	EPA 3050	Strong acid digestion	EPA 7742	AAS
		EPA 7742	Hydride generation		
Radionuclide Testing (archived; less than 2 mm fraction)					
Radium-226	Pace	EPA 903.1M	Dissolution	EPA 903.1M	Alpha spectrometry
Uranium-238	Pace	HASL-300M	Dissolution	HASL-300M	Alpha spectrometry
Organic Analyses (less than 2 mm fraction)					
Polychlorinated biphenyls (Aroclors)	CAS	EPA 3540C	Soxhlet extraction	EPA 8082A	GC/ECD
		EPA 3665A	Acid cleanup [e]		
Polychlorinated biphenyls (congeners)	SGS	EPA 1668A	Soxhlet extraction	EPA 1668A	HRGC/HRMS
			Gel permeation chromatography		
			Acid/base silica column [e]		
			Florisil® chromatography [e]		
			Carbopack/Celite cleanup [e]		
			HPLC cleanup [e]		

Table 5-4. Laboratory Methods for Beach Sediment Samples

		Sample Preparation		Quantitative Analysis	
Analytes	Laboratory	Protocol	Procedure	Protocol	Procedure
Organic Analyses (less than 2 mm fraction) (continued)					
Dioxins/furans	SGS	EPA 1613B	Soxhlet extraction	EPA 1613B	HRGC/HRMS
			Gel permeation chromatography		
			Acid/base silica column [e]		
			Florisil® chromatography [e]		
			Carbon celite [e]		
			Layered silver nitrate/acid/base silica [e]		
			Alumina cleanup [e]		
			HPLC cleanup [e]		
Polybrominated diphenyl ethers	SGS	EPA 1614	Soxhlet extraction	EPA 1614	HRGC/HRMS
			Gel permeation chromatography		
			Acid/base silica column [e]		
			Florisil® chromatography [e]		
			Alumina cleanup [e]		
Polycyclic aromatic hydrocarbons	CAS	EPA 3540 / 3541	Soxhlet / Automated Soxhlet extraction	EPA 8270 (modified)	GC/MS-SIM
		EPA 3640A	Gel permeation chromatography		
		EPA 3630C	Silica gel cleanup		
Pesticides	CAS	EPA 3540C	Soxhlet extraction	EPA 8081B or 1856A	GC/ECD
		EPA 3620C	Florisil® chromatography		
		EPA 3640A	Gel permeation chromatography		
Semivolatile organic hydrocarbons	CAS	EPA 3540 / 3541	Soxhlet / Automated Soxhlet extraction	EPA 8270D or 1625	GC/MS
		EPA 3640A	Gel permeation chromatography		

Table 5-4. Laboratory Methods for Beach Sediment Samples

		Sample Preparation		Quantitative Analysis	
Analytes	Laboratory	Protocol	Procedure	Protocol	Procedure
IVBA					
Lead and arsenic	CAS	USEPA (2007)	Buffered glycerin extraction	Ruby Bioavailability (USEPA 2007)	ICP/MS

Notes:

AAS = atomic absorption spectrometry
CAS = Columbia Analytical Services, Kelso, WA
CVAA = cold vapor atomic absorption spectrometry
ECD = electron capture detector
EPA = US Environmental Protection Agency
GC = gas chromatography
HASL = U.S. Atomic Energy Commission Health and Safety Laboratory
HRGC = high-resolution gas chromatography
HRMS = high-resolution mass spectrometry
HPLC = high performance liquid chromatography
ICP = inductively coupled plasma/mass spectrometry
IVBA = *in vitro* bioaccessibility assay
MS = mass spectrometry
NA = not applicable
PSEP = Puget Sound Estuary Program
SIM = selective ion monitoring
SGS = SGS Environmental Services, Inc. Wilmington, NC
TAL = target analyte list

[a] Lead was analyzed by EPA Method 6020 if it was not detected at the method reporting limit (MRL) by EPA Method 6010. Per QAPP Amendment No. 2 (Integral and Parametrix 2011) lead was to be analyzed by EPA Method 6010 only for the 2011 sampling event; however, this stipulation was not followed.

[b] Metals may have been reported by EPA Method 6010 rather than EPA Method 6020 if the analyte concentrations were sufficiently high.

[c] For the 2009 and 2010 sampling event arsenic was analyzed by EPA Method 7062 if it was not detected at the MRL by EPA Method 6020. Per QAPP Amendment No. 2 (Integral and Parametrix 2011) arsenic was analyzed by EPA Method 6020 only for the 2011 sampling.

[d] For the 2009 and 2010 sampling event selenium was analyzed by EPA Method 7742 if it was not detected at the MRL by EPA Method 6020. Per QAPP Amendment No. 2 (Integral and Parametrix 2011) selenium was analyzed by EPA Method 6020 only for the 2011 sampling.

[e] A combination of the cleanup procedures is selected depending on the amount and type of non-target background components in the sample extract.

Table 5-5a. Comparison of Planned Detection Limits to Actual Detection Limits for Conventional Parameters in Undetected Beach Sediment Results

				2009 Beach Sediment				2010 Beach Sediment				2011 Beach Sediment			
Analyte/Parameter	Sample Material Analyzed	MDL	MRL	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results
Grain size (%)	Sediment	NA	0.1	--	--	--	--	--	--	--	--	--	--	--	--
pH (pH units)	Sediment <2mm	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--
Total organic carbon (%)	Sediment <2mm	0.02	0.05	--	--	--	--	0.02	0.02	0/1	0/1	0.02	0.02	0/1	0/1
Total solids (% of whole weight)	Sediment <2mm	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--
Total solids (% of whole weight)	Sediment <250µm	0.01	0.01	--	--	--	--	--	--	--	--	--	--	--	--
Total sulfides (mg/kg)	Sediment <2mm	0.03	0.5	--	--	--	--	0.21	0.26	8/8	0/8	0.21	0.3	76/76	0/76

Notes:
Yellow highlighted detection limits exceed the planned detection limit.
Data exclude rejected data, non-reportable data, lab replicates and QC sample data.
Nondetects (ND) included at the detection limit.
MDL = method detection limit
MRL = method reporting limit
ND = Nondetected result

Table 5-5b. Comparison of Planned Detection Limits to Actual Detection Limits for Metals and Metalloids in Undetected Beach Sediment Results (mg/kd dryweight)

					2009 Beach Sediment				2010 Beach Sediment				2011 Beach Sediment			
Analyte	Sample Material Analyzed	CAS Number	MDL	MRL	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results
Aluminum	Sediment <2mm	7429-90-5	10	10	--	--	--	--	--	--	--	--	--	--	--	--
Aluminum	Sediment <63µm	7429-90-5	10	10	--	--	--	--	--	--	--	--	--	--	--	--
Aluminum	Sediment 63-125µm	7429-90-5	10	10	--	--	--	--	--	--	--	--	--	--	--	--
Aluminum	Sediment 125-250µm	7429-90-5	10	10	--	--	--	--	--	--	--	--	--	--	--	--
Aluminum	Sediment 250µm-2mm	7429-90-5	10	10	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	Sediment <2mm	7440-36-0	0.02	0.05	--	--	--	--	0.087	0.119	3/3	0/3	0.009	0.115	62/64	0/64
Antimony	Sediment <63µm	7440-36-0	0.02	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	Sediment 63-125µm	7440-36-0	0.02	0.05	--	--	--	--	--	--	--	--	0.063	0.132	6/6	0/6
Antimony	Sediment 125-250µm	7440-36-0	0.02	0.05	--	--	--	--	--	--	--	--	0.069	0.127	5/5	0/5
Antimony	Sediment 250µm-2mm	7440-36-0	0.02	0.05	--	--	--	--	--	--	--	--	0.067	0.108	4/4	0/4
Arsenic	Sediment <2mm	7440-38-2	0.07 / 0.05[a]	0.5 / 0.1[a]	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	Sediment <63µm	7440-38-2	0.07 / 0.05[a]	0.5 / 0.1[a]	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	Sediment 63-125µm	7440-38-2	0.07 / 0.05[a]	0.5 / 0.1[a]	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	Sediment 125-250µm	7440-38-2	0.07 / 0.05[a]	0.5 / 0.1[a]	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	Sediment 250µm-2mm	7440-38-2	0.07 / 0.05[a]	0.5 / 0.1[a]	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	Sediment <250µm	7440-38-2	0.07 / 0.05[a]	0.5 / 0.1[a]	--	--	--	--	--	--	--	--	--	--	--	--
Barium	Sediment <2mm	7440-39-3	0.03	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Barium	Sediment <63µm	7440-39-3	0.03	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Barium	Sediment 63-125µm	7440-39-3	0.03	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Barium	Sediment 125-250µm	7440-39-3	0.03	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Barium	Sediment 250µm-2mm	7440-39-3	0.03	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	Sediment <2mm	7440-41-7	0.006	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	Sediment <63µm	7440-41-7	0.006	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	Sediment 63-125µm	7440-41-7	0.006	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	Sediment 125-250µm	7440-41-7	0.006	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	Sediment 250µm-2mm	7440-41-7	0.006	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	Sediment <2mm	7440-43-9	0.007	0.05	--	--	--	--	--	--	--	--	0.05	0.089	39/39	15/39
Cadmium	Sediment <63µm	7440-43-9	0.007	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	Sediment 63-125µm	7440-43-9	0.007	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	Sediment 125-250µm	7440-43-9	0.007	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	Sediment 250µm-2mm	7440-43-9	0.007	0.05	--	--	--	--	--	--	--	--	0.055	0.055	1/1	0/1
Calcium	Sediment <2mm	7440-70-2	3	10	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	Sediment <63µm	7440-70-2	3	10	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	Sediment 63-125µm	7440-70-2	3	10	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	Sediment 125-250µm	7440-70-2	3	10	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	Sediment 250µm-2mm	7440-70-2	3	10	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	Sediment <2mm	7440-47-3	0.04	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	Sediment <63µm	7440-47-3	0.04	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	Sediment 63-125µm	7440-47-3	0.04	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	Sediment 125-250µm	7440-47-3	0.04	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	Sediment 250µm-2mm	7440-47-3	0.04	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	Sediment <2mm	7440-48-4	0.01	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	Sediment <63µm	7440-48-4	0.01	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	Sediment 63-125µm	7440-48-4	0.01	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	Sediment 125-250µm	7440-48-4	0.01	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	Sediment 250µm-2mm	7440-48-4	0.01	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Copper	Sediment <2mm	7440-50-8	0.02	0.1	--	--	--	--	--	--	--	--	--	--	--	--
Copper	Sediment <63µm	7440-50-8	0.02	0.1	--	--	--	--	--	--	--	--	--	--	--	--
Copper	Sediment 63-125µm	7440-50-8	0.02	0.1	--	--	--	--	--	--	--	--	--	--	--	--

Table 5-5b. Comparison of Planned Detection Limits to Actual Detection Limits for Metals and Metalloids in Undetected Beach Sediment Results (mg/kd dryweight)

					2009 Beach Sediment				2010 Beach Sediment				2011 Beach Sediment			
Analyte	Sample Material Analyzed	CAS Number	MDL	MRL	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results
Copper	Sediment 125-250µm	7440-50-8	0.02	0.1	--	--	--	--	--	--	--	--	--	--	--	--
Copper	Sediment 250µm-2mm	7440-50-8	0.02	0.1	--	--	--	--	--	--	--	--	--	--	--	--
Iron	Sediment <2mm	7439-89-6	3	4	--	--	--	--	--	--	--	--	--	--	--	--
Iron	Sediment <63µm	7439-89-6	3	4	--	--	--	--	--	--	--	--	--	--	--	--
Iron	Sediment 63-125µm	7439-89-6	3	4	--	--	--	--	--	--	--	--	--	--	--	--
Iron	Sediment 125-250µm	7439-89-6	3	4	--	--	--	--	--	--	--	--	--	--	--	--
Iron	Sediment 250µm-2mm	7439-89-6	3	4	--	--	--	--	--	--	--	--	--	--	--	--
Lead	Sediment <2mm	7439-92-1	0.02	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Lead	Sediment <63µm	7439-92-1	0.02	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Lead	Sediment 63-125µm	7439-92-1	0.02	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Lead	Sediment 125-250µm	7439-92-1	0.02	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Lead	Sediment 250µm-2mm	7439-92-1	0.02	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Lead	Sediment <250µm	7439-92-1	0.02	0.05	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	Sediment <2mm	7439-95-4	2	4	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	Sediment <63µm	7439-95-4	2	4	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	Sediment 63-125µm	7439-95-4	2	4	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	Sediment 125-250µm	7439-95-4	2	4	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	Sediment 250µm-2mm	7439-95-4	2	4	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	Sediment <2mm	7439-96-5	0.04	0.1	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	Sediment <63µm	7439-96-5	0.04	0.1	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	Sediment 63-125µm	7439-96-5	0.04	0.1	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	Sediment 125-250µm	7439-96-5	0.04	0.1	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	Sediment 250µm-2mm	7439-96-5	0.04	0.1	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	Sediment <2mm	7439-97-6	0.01	0.02	--	--	--	--	0.002	0.002	0/3	0/3	0.002	0.002	0/28	0/28
Mercury	Sediment <63µm	7439-97-6	0.01	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	Sediment 63-125µm	7439-97-6	0.01	0.02	--	--	--	--	--	--	--	--	0.002	0.008	0/5	0/5
Mercury	Sediment 125-250µm	7439-97-6	0.01	0.02	--	--	--	--	--	--	--	--	0.002	0.006	0/8	0/8
Mercury	Sediment 250µm-2mm	7439-97-6	0.01	0.02	--	--	--	--	--	--	--	--	0.002	0.007	0/7	0/7
Nickel	Sediment <2mm	7440-02-0	0.04	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	Sediment <63µm	7440-02-0	0.04	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	Sediment 63-125µm	7440-02-0	0.04	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	Sediment 125-250µm	7440-02-0	0.04	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	Sediment 250µm-2mm	7440-02-0	0.04	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	Sediment <2mm	7440-09-7	300	400	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	Sediment <63µm	7440-09-7	300	400	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	Sediment 63-125µm	7440-09-7	300	400	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	Sediment 125-250µm	7440-09-7	300	400	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	Sediment 250µm-2mm	7440-09-7	300	400	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	Sediment <2mm	7782-49-2	0.2	1	0.9	0.9	1/1	0/1	0.03	0.29	2/46	0/46	0.2	0.2	0/400	0/400
Selenium	Sediment <63µm	7782-49-2	0.2	1	--	--	--	--	0.18	1.5	1/2	0/2	0.2	1	3/15	0/15
Selenium	Sediment 63-125µm	7782-49-2	0.2	1	--	--	--	--	0.03	1.1	3/5	0/5	0.2	0.2	0/22	0/22
Selenium	Sediment 125-250µm	7782-49-2	0.2	1	--	--	--	--	0.03	0.35	2/4	0/4	0.2	0.2	0/22	0/22
Selenium	Sediment 250µm-2mm	7782-49-2	0.2	1	--	--	--	--	0.03	0.21	1/2	0/2	0.2	0.2	0/23	0/23
Silver	Sediment <2mm	7440-22-4	0.003	0.02	--	--	--	--	--	--	--	--	0.036	0.073	46/46	46/46
Silver	Sediment <63µm	7440-22-4	0.003	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Silver	Sediment 63-125µm	7440-22-4	0.003	0.02	--	--	--	--	--	--	--	--	0.021	0.065	16/16	13/16
Silver	Sediment 125-250µm	7440-22-4	0.003	0.02	--	--	--	--	--	--	--	--	0.012	0.061	20/20	11/20
Silver	Sediment 250µm-2mm	7440-22-4	0.003	0.02	--	--	--	--	--	--	--	--	0.016	0.06	20/20	13/20
Sodium	Sediment <2mm	7440-23-5	10	20	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	Sediment <63µm	7440-23-5	10	20	--	--	--	--	--	--	--	--	--	--	--	--

Table 5-5b. Comparison of Planned Detection Limits to Actual Detection Limits for Metals and Metalloids in Undetected Beach Sediment Results (mg/kd dryweight)

					2009 Beach Sediment				2010 Beach Sediment				2011 Beach Sediment			
Analyte	Sample Material Analyzed	CAS Number	MDL	MRL	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results
Sodium	Sediment 63-125µm	7440-23-5	10	20	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	Sediment 125-250µm	7440-23-5	10	20	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	Sediment 250µm-2mm	7440-23-5	10	20	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	Sediment <2mm	7440-28-0	0.002	0.02	0.048	0.091	10/10	10/10	0.054	0.101	3/3	3/3	0.038	0.091	47/47	47/47
Thallium	Sediment <63µm	7440-28-0	0.002	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	Sediment 63-125µm	7440-28-0	0.002	0.02	--	--	--	--	--	--	--	--	0.057	0.059	3/3	3/3
Thallium	Sediment 125-250µm	7440-28-0	0.002	0.02	--	--	--	--	--	--	--	--	0.051	0.059	3/3	3/3
Thallium	Sediment 250µm-2mm	7440-28-0	0.002	0.02	--	--	--	--	--	--	--	--	0.046	0.057	3/3	3/3
Uranium	Sediment <2mm	7440-61-1	0.004	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Uranium	Sediment <63µm	7440-61-1	0.004	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Uranium	Sediment 63-125µm	7440-61-1	0.004	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Uranium	Sediment 125-250µm	7440-61-1	0.004	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Uranium	Sediment 250µm-2mm	7440-61-1	0.004	0.02	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	Sediment <2mm	7440-62-2	0.03	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	Sediment <63µm	7440-62-2	0.03	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	Sediment 63-125µm	7440-62-2	0.03	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	Sediment 125-250µm	7440-62-2	0.03	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	Sediment 250µm-2mm	7440-62-2	0.03	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	Sediment <2mm	7440-66-6	0.2	0.5	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	Sediment <63µm	7440-66-6	0.2	0.5	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	Sediment 63-125µm	7440-66-6	0.2	0.5	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	Sediment 125-250µm	7440-66-6	0.2	0.5	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	Sediment 250µm-2mm	7440-66-6	0.2	0.5	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

Yellow highlighted detection limits exceed the planned detection limit; blue highlighted detection limits are greater than 10x the planned detection limit.
Data exclude rejected data, non-reportable data, lab replicates and QC sample data.
Nondetects (ND) included at the detection limit.

MDL = method detection limit
MRL = method reporting limit

[a] Limit for EPA Method 6020 / limit for EPA Method 7062. Arsenic will be analyzed by EPA Method 7062 if it is not detected at the MRL by EPA Method 6020.

Table5-5c. Comparison of Planned Detection Limits to Actual Detection Limits for Pesticides in Undetected Beach Sediment Results (µg/kg dry weight)

					2009 Beach Sediment				2010 Beach Sediment				2011 Beach Sediment			
Analyte	Sample Material Analyzed	CAS Number	MDL	MRL	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results
2,4'-DDD	Sediment <2mm	53-19-0	0.16	0.2	0.13	0.13	0/6	0/6	0.13	0.13	0/12	0/12	0.13	1	2/78	0/78
4,4'-DDD	Sediment <2mm	72-54-8	0.073	0.2	0.11	0.16	6/6	0/6	0.11	0.11	12/12	0/12	0.11	0.99	78/78	2/78
Total DDD	Sediment <2mm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4'-DDE	Sediment <2mm	3424-82-6	0.046	0.2	0.16	0.16	6/6	0/6	0.16	0.16	12/12	0/12	0.16	0.76	78/78	1/78
4,4'-DDE	Sediment <2mm	72-55-9	0.027	0.2	0.11	0.11	6/6	0/6	0.11	0.11	10/10	0/10	0.11	2.5	73/73	28/73
Total DDE	Sediment <2mm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4'-DDT	Sediment <2mm	789-02-6	0.061	0.2	0.058	0.058	0/6	0/6	0.058	0.073	1/12	0/12	0.058	0.12	1/76	0/76
4,4'-DDT	Sediment <2mm	50-29-3	0.18	0.2	0.17	0.17	0/6	0/6	0.17	0.17	0/11	0/11	0.17	1	1/75	0/75
Total DDT	Sediment <2mm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total DDx	Sediment <2mm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aldrin	Sediment <2mm	309-00-2	0.12	0.2	0.16	0.16	6/6	0/6	0.16	0.16	12/12	0/12	0.16	0.16	78/78	0/78
alpha-BHC	Sediment <2mm	319-84-6	0.097	0.2	0.11	0.11	6/6	0/6	0.11	0.11	12/12	0/12	0.11	0.11	78/78	0/78
beta-BHC	Sediment <2mm	319-85-7	0.14	0.2	0.18	0.18	6/6	0/6	0.18	0.18	11/12	0/12	0.18	0.18	78/78	0/78
delta-BHC	Sediment <2mm	319-86-8	0.11	0.2	0.074	0.074	0/6	0/6	0.074	0.074	0/12	0/12	0.074	0.074	0/78	0/78
alpha-Chlordane (cis-)	Sediment <2mm	5103-71-9	0.031	0.2	0.1	0.1	6/6	0/6	0.1	0.1	12/12	0/12	0.1	3.9	77/77	14/77
gamma-BHC (Lindane)	Sediment <2mm	58-89-9	0.062	0.2	0.08	0.08	6/6	0/6	0.08	0.08	12/12	0/12	0.08	0.17	77/77	0/77
gamma-Chlordane (trans-)	Sediment <2mm	5103-74-2	0.027	0.2	0.09	0.09	6/6	0/6	0.09	0.09	12/12	0/12	0.09	0.2	76/76	0/76
cis-Nonachlor	Sediment <2mm	5103-73-1	0.087	0.2	0.12	0.12	6/6	0/6	0.12	0.12	12/12	0/12	0.12	0.22	78/78	0/78
trans-Nonachlor	Sediment <2mm	39765-80-5	0.034	0.2	0.087	0.087	6/6	0/6	0.087	0.087	12/12	0/12	0.087	0.087	78/78	0/78
Oxychlordane	Sediment <2mm	27304-13-8	0.061	0.2	0.085	0.085	6/6	0/6	0.085	0.12	12/12	0/12	0.085	1.1	78/78	7/78
Total Chlordane	Sediment <2mm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	Sediment <2mm	60-57-1	0.03	0.2	0.14	0.14	6/6	0/6	0.14	0.14	12/12	0/12	0.14	0.14	78/78	0/78
Endosulfan I	Sediment <2mm	959-98-8	0.037	0.2	0.063	0.063	6/6	0/6	0.063	0.063	12/12	0/12	0.063	0.097	78/78	0/78
Endosulfan II	Sediment <2mm	33213-65-9	0.031	0.2	0.14	0.14	6/6	0/6	0.14	0.14	12/12	0/12	0.14	0.14	78/78	0/78
Endosulfan sulfate	Sediment <2mm	1031-07-8	0.058	0.2	0.11	0.11	6/6	0/6	0.11	0.11	12/12	0/12	0.11	1	78/78	2/78
Endrin	Sediment <2mm	72-20-8	0.071	0.2	0.094	0.094	6/6	0/6	0.094	0.094	12/12	0/12	0.094	0.094	78/78	0/78
Endrin aldehyde	Sediment <2mm	7421-93-4	0.042	0.2	0.12	0.12	6/6	0/6	0.12	0.12	12/12	0/12	0.12	0.12	78/78	0/78
Endrin ketone	Sediment <2mm	53494-70-5	0.029	0.2	0.093	0.093	6/6	0/6	0.093	0.093	12/12	0/12	0.093	0.18	78/78	0/78
Heptachlor	Sediment <2mm	76-44-8	0.076	0.2	0.12	0.12	6/6	0/6	0.12	0.12	12/12	0/12	0.12	0.12	78/78	0/78
Heptachlor epoxide	Sediment <2mm	1024-57-3	0.068	0.2	0.084	0.084	6/6	0/6	0.084	0.084	12/12	0/12	0.084	0.096	78/78	0/78
Hexachlorobenzene	Sediment <2mm	118-74-1	0.068	0.2	0.2	0.2	6/6	0/6	0.2	0.2	11/11	0/11	0.2	0.2	77/77	0/77
Hexachlorobutadiene	Sediment <2mm	87-68-3	0.14	0.2	0.21	0.21	6/6	0/6	0.21	0.21	12/12	0/12	0.21	0.21	78/78	0/78
Methoxychlor	Sediment <2mm	72-43-5	0.075	0.2	0.19	0.19	6/6	0/6	0.19	0.19	12/12	0/12	0.19	1	78/78	2/78
Toxaphene	Sediment <2mm	8001-35-2	3.4	10	4.8	26	6/6	0/6	4.8	5.2	12/12	0/12	4.8	50	78/78	1/78

Notes:

Yellow highlighted detection limits exceed the planned detection limit; blue highlighted detection limits are greater than 10x the planned detection limit.
Data exclude rejected data, non-reportable data, lab replicates and QC sample data.
Nondetects (ND) included at the detection limit.

MDL = method detection limit
MRL = method reporting limit

Table 5-5d. Comparison of Planned Detection Limits to Actual Detection Limits for Semivolatile Organic Compounds in Undetected Beach Sediment Results (µg/kg dryweght)

					2009 Beach Sediment				2010 Beach Sediment				2011 Beach Sediment			
Analyte	Sample Material Analyzed	CAS Number	MDL	MRL	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results
1,1'-Biphenyl	Sediment <2mm	92-52-4	--	--	1.9	1.9	--	--	1.9	1.9	--	--	1.9	9.5	--	--
1,2,4-Trichlorobenzene	Sediment <2mm	120-82-1	2.6	10	2.6	2.6	0/6	0/6	2.6	2.6	0/12	0/12	2.6	13	8/78	0/78
1,2-Dichlorobenzene	Sediment <2mm	95-50-1	2.9	10	2.9	2.9	0/6	0/6	2.9	2.9	0/12	0/12	2.9	15	8/78	0/78
1,3-Dichlorobenzene	Sediment <2mm	541-73-1	3	10	3	3	0/6	0/6	3	3	0/12	0/12	3	15	8/78	0/78
1,4-Dichlorobenzene	Sediment <2mm	106-46-7	2.9	10	2.9	2.9	0/6	0/6	2.9	2.9	0/12	0/12	2.9	15	8/78	0/78
2,2'-oxybis(1-Chloropropane)	Sediment <2mm	--	--	--	2.6	2.6	--	--	2.6	2.6	--	--	2.6	13	--	--
2,4,5-Trichlorophenol	Sediment <2mm	95-95-4	1.5	10	1.5	1.5	0/6	0/6	1.5	1.5	0/12	0/12	1.5	7.5	8/78	0/78
2,4,6-Trichlorophenol	Sediment <2mm	88-06-2	1.4	10	1.4	1.4	0/6	0/6	1.4	1.4	0/12	0/12	1.4	7	8/78	0/78
2,4-Dichlorophenol	Sediment <2mm	120-83-2	1	10	1	1	0/6	0/6	1	1	0/12	0/12	1	5	8/78	0/78
2,4-Dimethylphenol	Sediment <2mm	105-67-9	5.5	50	5.5	5.5	0/6	0/6	5.5	5.5	0/12	0/12	5.5	7.7	6/60	0/60
2,4-Dinitrophenol	Sediment <2mm	51-28-5	17	200	17	17	0/6	0/6	17	17	0/12	0/12	17	85	8/78	0/78
2,4-Dinitrotoluene	Sediment <2mm	121-14-2	1.5	10	1.5	1.5	0/6	0/6	1.5	1.5	0/12	0/12	1.5	7.5	8/78	0/78
2,6-Dinitrotoluene	Sediment <2mm	606-20-2	2	10	2	2	0/6	0/6	2	2	0/12	0/12	2	10	8/78	0/78
2-Chloronaphthalene	Sediment <2mm	91-58-7	1.6	10	1.6	1.6	0/6	0/6	1.6	1.6	0/12	0/12	1.6	8	8/78	0/78
2-Chlorophenol	Sediment <2mm	95-57-8	2	10	2	2	0/6	0/6	2	2	0/12	0/12	2	10	8/78	0/78
2-Methylphenol (o-cresol)	Sediment <2mm	95-48-7	1.5	10	1.5	1.5	0/6	0/6	1.5	1.5	0/12	0/12	1.5	7.5	8/78	0/78
2-Nitroaniline	Sediment <2mm	88-74-4	3.2	20	3.2	3.2	0/6	0/6	3.2	3.2	0/12	0/12	3.2	16	8/78	0/78
2-Nitrophenol	Sediment <2mm	88-75-5	1.5	10	1.5	1.5	0/6	0/6	1.5	1.5	0/12	0/12	1.5	7.5	8/78	0/78
3,3'-Dichlorobenzidine	Sediment <2mm	91-94-1	3.7	100	3.7	3.7	0/6	0/6	3.7	3.7	0/12	0/12	3.7	19	8/78	0/78
3-Nitroaniline	Sediment <2mm	99-09-2	2.5	20	2.5	2.5	0/6	0/6	2.5	2.5	0/12	0/12	2.5	13	8/78	0/78
4,6-Dinitro-2-methylphenol	Sediment <2mm	--	--	--	1.4	1.4	--	--	1.4	1.4	--	--	1.4	7	--	--
4-Bromophenyl-phenylether	Sediment <2mm	101-55-3	1.6	10	1.6	1.6	0/6	0/6	1.6	1.6	0/12	0/12	1.6	8	8/78	0/78
4-Chloro-3-methylphenol	Sediment <2mm	59-50-7	1.4	10	1.4	1.4	0/6	0/6	1.4	1.4	0/12	0/12	1.4	7	8/78	0/78
4-Chloroaniline	Sediment <2mm	106-47-8	1.9	10	1.9	1.9	0/6	0/6	1.9	1.9	0/12	0/12	1.9	9.5	8/78	0/78
4-Chlorophenyl-phenyl ether	Sediment <2mm	7005-72-3	1.4	10	1.4	1.4	0/6	0/6	1.4	1.4	0/12	0/12	1.4	7	8/78	0/78
4-Methylphenol (p-cresol)	Sediment <2mm	106-44-5	1.5	10	1.5	1.5	0/6	0/6	1.5	1.5	0/12	0/12	1.5	7.5	7/73	0/73
4-Nitroaniline	Sediment <2mm	100-01-6	1.8	20	1.8	1.8	0/6	0/6	1.8	1.8	0/12	0/12	1.8	9	8/78	0/78
4-Nitrophenol	Sediment <2mm	100-02-7	18	100	18	18	0/6	0/6	18	18	0/12	0/12	18	90	8/78	0/78
Acetophenone	Sediment <2mm	--	--	--	44	64	--	--	12	42	--	--	12	60	--	--
Benzaldehyde	Sediment <2mm	--	--	--	7.7	7.7	--	--	7.7	7.7	--	--	7.7	39	--	--
Benzoic acid	Sediment <2mm	65-85-0	96	200	96	96	0/6	0/6	96	96	0/12	0/12	96	480	6/76	0/76
Benzyl alcohol	Sediment <2mm	100-51-6	2.1	10	2.1	2.1	0/6	0/6	2.1	2.1	0/12	0/12	2.1	11	8/77	0/77
Bis(2-chloroethoxy)methane	Sediment <2mm	111-91-1	1.5	10	1.5	1.5	0/6	0/6	1.5	1.5	0/12	0/12	1.5	7.5	8/78	0/78
Bis(2-chloroethyl)ether	Sediment <2mm	111-44-4	1.9	10	1.9	1.9	0/6	0/6	1.9	1.9	0/12	0/12	1.9	9.5	8/78	0/78
Bis(2-ethylhexyl)phthalate	Sediment <2mm	117-81-7	7	100	98	250	2/2	2/2	7	23	2/3	0/3	7	35	33/77	0/77
Butyl benzyl phthalate	Sediment <2mm	85-68-7	3.2	10	3.2	3.2	0/6	0/6	3.2	3.2	0/10	0/10	3.2	16	7/74	0/74
Caprolactam	Sediment <2mm	--	--	--	19	19	--	--	19	19	--	--	19	95	--	--
Carbazole	Sediment <2mm	--	--	--	1.3	1.3	--	--	1.3	1.3	--	--	1.3	6.5	--	--
Dibenzofuran	Sediment <2mm	132-64-9	1.2	10	1.2	1.2	0/6	0/6	1.2	1.2	0/11	0/11	1.2	6	7/67	0/67
Diethyl phthalate	Sediment <2mm	84-66-2	1.3	10	1.3	1.3	0/6	0/6	1.3	1.3	0/12	0/12	1.3	6.5	8/76	0/76
Dimethyl phthalate	Sediment <2mm	131-11-3	1	10	1	1	0/6	0/6	1.8	5.5	12/12	0/12	1	5	58/66	0/66
Di-n-butyl phthalate	Sediment <2mm	84-74-2	7.9	20	7.9	7.9	0/6	0/6	7.9	7.9	0/12	0/12	7.9	40	8/78	0/78

Table 5-5d. Comparison of Planned Detection Limits to Actual Detection Limits for Semivolatile Organic Compounds in Undetected Beach Sediment Results (µg/kg dryweght)

					2009 Beach Sediment				2010 Beach Sediment				2011 Beach Sediment			
Analyte	Sample Material Analyzed	CAS Number	MDL	MRL	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results
Di-n-octylphthalate	Sediment <2mm	117-84-0	1.7	10	1.7	1.7	0/6	0/6	1.7	67	10/12	4/12	1.7	8.5	8/78	0/78
Hexachlorocyclopentadiene	Sediment <2mm	77-47-4	29	50	29	29	0/6	0/6	29	29	0/12	0/12	29	150	8/78	0/78
Hexachloroethane	Sediment <2mm	67-72-1	3.1	10	3.1	3.1	0/6	0/6	3.1	3.1	0/12	0/12	3.1	16	8/78	0/78
Isophorone	Sediment <2mm	78-59-1	1	10	1	1	0/6	0/6	1	1	0/12	0/12	1	5	8/78	0/78
Nitrobenzene	Sediment <2mm	98-95-3	2.2	10	2.2	2.2	0/6	0/6	2.2	2.2	0/12	0/12	2.2	11	8/78	0/78
N-Nitrosodi-n-propylamine	Sediment <2mm	621-64-7	2.4	10	2.4	2.4	0/6	0/6	2.4	2.4	0/12	0/12	2.4	12	8/78	0/78
N-Nitrosodiphenylamine	Sediment <2mm	86-30-6	1.6	10	1.6	1.6	0/6	0/6	1.6	1.6	0/12	0/12	1.6	8	8/78	0/78
Pentachlorophenol	Sediment <2mm	87-86-5	20	100	20	20	0/6	0/6	20	20	0/12	0/12	20	100	8/78	0/78
Phenol	Sediment <2mm	108-95-2	2	30	2	2	0/4	0/4	2	6.7	11/12	0/12	2	10	12/41	0/41

Notes:

Yellow highlighted detection limits exceed the planned detection limit; blue highlighted detection limits are greater than 10x the planned detection limit.
Data exclude rejected data, non-reportable data, lab replicates and QC sample data.
Nondetects (ND) included at the detection limit.

MDL = method detection limit
MRL = method reporting limit

Table 5-5e. Comparison of Planned Detection Limits to Actual Detection Limits for Polycyclic Aromatic Hydrocarbons in Undetected Beach Sediment Results (µg/kg dry)

					2009 Beach Sediment				2010 Beach Sediment				2011 Beach Sediment			
Analyte	Sample Material Analyzed	CAS Number	MDL	MRL	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results
2-Methylnaphthalene	Sediment <2mm	91-57-6	0.39	5	0.46	0.46	1/1	0/1	0.46	0.46	5/5	0/5	0.46	0.46	57/57	0/57
Acenaphthene	Sediment <2mm	83-32-9	0.23	5	0.5	0.5	6/6	0/6	0.76	0.76	12/12	0/12	0.76	0.76	78/78	0/78
Acenaphthylene	Sediment <2mm	208-96-8	0.24	5	0.56	0.56	6/6	0/6	0.59	0.59	12/12	0/12	0.59	0.59	76/76	0/76
Anthracene	Sediment <2mm	120-12-7	0.47	5	0.55	0.55	6/6	0/6	0.58	0.58	12/12	0/12	0.58	0.58	74/74	0/74
Benzo(a)anthracene	Sediment <2mm	56-55-3	0.48	5	0.72	0.72	4/4	0/4	0.72	0.72	9/9	0/9	0.72	0.72	62/62	0/62
Benzo(a)pyrene	Sediment <2mm	50-32-8	0.14	5	0.76	0.76	5/5	0/5	0.76	0.76	9/9	0/9	0.76	0.76	62/62	0/62
Benzo(b)fluoranthene	Sediment <2mm	205-99-2	0.25	5	0.92	0.92	4/4	0/4	0.92	0.92	7/7	0/7	0.92	0.92	60/60	0/60
Benzo(ghi)perylene	Sediment <2mm	191-24-2	0.64	5	0.85	0.85	5/5	0/5	0.85	0.85	9/9	0/9	0.85	0.85	61/61	0/61
Benzo(k)fluoranthene	Sediment <2mm	207-08-9	0.15	5	0.87	0.87	6/6	0/6	0.87	0.87	11/11	0/11	0.87	0.87	69/69	0/69
Chrysene	Sediment <2mm	218-01-9	0.25	5	0.8	0.8	4/4	0/4	0.8	0.8	6/6	0/6	0.8	0.8	61/61	0/61
Dibenzo(a,h)anthracene	Sediment <2mm	53-70-3	0.28	5	0.8	0.8	6/6	0/6	0.8	0.8	12/12	0/12	0.8	0.8	75/75	0/75
Fluoranthene	Sediment <2mm	206-44-0	0.61	5	0.98	0.98	3/3	0/3	0.98	0.98	8/8	0/8	0.98	0.98	59/59	0/59
Fluorene	Sediment <2mm	86-73-7	0.5	5	0.61	0.61	6/6	0/6	0.61	0.61	12/12	0/12	0.61	0.61	69/69	0/69
Indeno[1,2,3-cd]pyrene	Sediment <2mm	193-39-5	0.16	5	0.87	0.87	6/6	0/6	0.87	0.87	10/10	0/10	0.87	0.87	64/64	0/64
Naphthalene	Sediment <2mm	91-20-3	0.37	5	0.6	1.1	6/6	0/6	0.68	1.8	3/3	0/3	0.6	0.63	46/46	0/46
Phenanthrene	Sediment <2mm	85-01-8	0.75	5	1.4	1.4	4/4	0/4	1.4	1.4	5/5	0/5	1.4	1.4	63/63	0/63
Pyrene	Sediment <2mm	129-00-0	0.37	5	0.76	0.76	4/4	0/4	0.76	0.76	7/7	0/7	0.76	0.76	53/53	0/53

Notes:

Yellow highlighted detection limits exceed the planned detection limit.
Data exclude rejected data, non-reportable data, lab replicates and QC sample data.
Nondetects (ND) included at the detection limit.

MDL = method detection limit
MRL = method reporting limit

Table 5-5f. Comparison of Planned Detection Limits to Actual Detection Limits for Dioxins/Furans in Undetected Beach Sediment Results (pg/g dry)

					2009 Beach Sediment				2010 Beach Sediment				2011 Beach Sediment			
Analyte	Sample Material Analyzed	CAS Number	MDL	MRL	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	Sediment <2mm	35822-46-9	0.061	2.5	1.14	1.14	1/1	1/1	--	--	--	--	0.812	0.812	1/1	1/1
1,2,3,4,6,7,8-Heptachlorodibenzofuran	Sediment <2mm	67562-39-4	0.054	2.5	0.399	0.399	1/1	0/1	2.43	3.64	2/2	2/2	0.0697	0.0697	1/1	1/1
1,2,3,4,7,8,9-Heptachlorodibenzofuran	Sediment <2mm	55673-89-7	0.076	2.5	0.161	0.161	1/1	0/1	1.26	1.41	2/2	2/2	0.117	0.805	5/5	1/5
1,2,3,4,7,8-Hexachlorodibenzodioxin	Sediment <2mm	39227-28-6	0.048	2.5	0.13	0.13	1/1	0/1	1.36	1.51	2/2	2/2	0.23	0.295	3/3	0/3
1,2,3,4,7,8-Hexachlorodibenzofuran	Sediment <2mm	70648-26-9	0.048	2.5	0.147	0.147	1/1	0/1	1.81	2.21	2/2	2/2	0.116	0.174	5/5	0/5
1,2,3,6,7,8-Hexachlorodibenzodioxin	Sediment <2mm	57653-85-7	0.052	2.5	0.126	0.126	1/1	0/1	1.55	1.97	2/2	2/2	0.103	0.305	4/4	0/4
1,2,3,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	57117-44-9	0.056	2.5	0.141	0.141	1/1	0/1	1.84	2.23	2/2	2/2	0.141	0.167	3/3	0/3
1,2,3,7,8,9-Hexachlorodibenzodioxin	Sediment <2mm	19408-74-3	0.049	2.5	0.132	0.132	1/1	0/1	0.877	0.877	1/1	1/1	0.104	0.305	5/5	0/5
1,2,3,7,8,9-Hexachlorodibenzofuran	Sediment <2mm	72918-21-9	0.107	2.5	0.103	0.103	0/1	0/1	0.851	1.17	2/2	1/2	0.108	0.258	4/5	0/5
1,2,3,7,8-Pentachlorodibenzofuran	Sediment <2mm	40321-76-4	0.037	2.5	0.134	0.134	1/1	0/1	1.39	1.81	2/2	2/2	0.0509	0.164	4/4	0/4
1,2,3,7,8-Pentachlorodibenzodioxin	Sediment <2mm	57117-41-6	0.038	2.5	0.08	0.08	1/1	0/1	1.74	1.74	1/1	1/1	0.0726	0.224	6/6	0/6
2,3,4,6,7,8-Hexachlorodibenzofuran	Sediment <2mm	60851-34-5	0.058	2.5	0.097	0.097	1/1	0/1	0.822	1.18	2/2	2/2	0.0813	0.186	5/5	0/5
2,3,4,7,8-Pentachlorodibenzofuran	Sediment <2mm	57117-31-4	0.033	2.5	0.123	0.123	1/1	0/1	1.01	1.35	2/2	2/2	0.117	0.159	3/3	0/3
2,3,7,8-Tetrachlorodibenzodioxin	Sediment <2mm	17460-16	0.049	1	0.062	0.062	1/1	0/1	0.302	0.302	1/1	0/1	0.0638	0.169	6/6	0/6
2,3,7,8-Tetrachlorodibenzofuran	Sediment <2mm	51207-31-9	0.049	1	0.458	0.458	1/1	0/1	--	--	--	--	--	--	--	--
Octachlorodibenzodioxin	Sediment <2mm	32688-79	0.123	5	5.73	5.73	1/1	1/1	4.49	4.49	1/1	1/1	--	--	--	--
Octachlorodibenzofuran	Sediment <2mm	39001-02-0	0.081	5	0.268	0.268	1/1	0/1	2.69	5.02	2/2	2/2	1.34	1.34	1/1	1/1
TCDD TEQ	Sediment <2mm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

Yellow highlighted detection limits exceed the planned detection limit; blue highlighted detection limits are greater than 10x the planned detection limit.
Data exclude rejected data, non-reportable data, lab replicates and QC sample data.
Nondetects (ND) included at the detection limit.

MDL = method detection limit
MRL = method reporting limit

Table 5-5g. Comparison of Planned Detection Limits to Actual Detection Limits for Polychlorinated Biphenyls in Undetected Beach Sediment Results (µg/kg dry)

					2009 Beach Sediment				2010 Beach Sediment				2011 Beach Sediment			
Analyte	Sample Material Analyzed	CAS Number	MDL	MRL	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results
Aroclor 1016	Sediment <2mm	12674-11-2	1.3	2.5	2.1	2.1	6/6	0/6	2.1	2.1	12/12	0/12	2.1	2.1	78/78	0/78
Aroclor 1221	Sediment <2mm	11104-28-2	1.3	5	2.1	2.1	6/6	0/6	2.1	2.1	12/12	0/12	2.1	2.1	78/78	0/78
Aroclor 1232	Sediment <2mm	11141-16-5	1.3	2.5	2.1	2.1	6/6	0/6	2.1	2.1	12/12	0/12	2.1	2.1	78/78	0/78
Aroclor 1242	Sediment <2mm	53469-21-9	1.3	2.5	2.1	2.1	6/6	0/6	2.1	2.1	12/12	0/12	2.1	2.1	78/78	0/78
Aroclor 1248	Sediment <2mm	12672-29-6	1.3	2.5	2.1	2.1	6/6	0/6	2.1	2.1	12/12	0/12	2.1	2.1	78/78	0/78
Aroclor 1254	Sediment <2mm	11097-69-1	1.3	2.5	2.1	2.1	6/6	0/6	2.1	2.1	12/12	0/12	2.1	3.2	77/77	0/77
Aroclor 1260	Sediment <2mm	11096-82-5	1.3	2.5	2.1	2.1	6/6	0/6	2.1	2.1	12/12	0/12	2.1	2.1	74/74	0/74
Aroclor 1262	Sediment <2mm	37324-23-5	1.3	2.5	2.1	2.1	5/5	0/5	2.1	2.1	12/12	0/12	2.1	2.1	78/78	0/78
Aroclor 1268	Sediment <2mm	11100-14-4	1.3	2.5	2.1	2.1	5/5	0/5	2.1	2.1	12/12	0/12	2.1	2.1	78/78	0/78
Total PCBs	Sediment <2mm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Yellow highlighted detection limits exceed the planned detection limit.
Data exclude rejected data, non-reportable data, lab replicates and QC sample data.
Nondetects (ND) included at the detection limit.

MDL = method detection limit
MRL = method reporting limit

Table 5-5h. Comparison of Planned Detection Limits to Actual Detection Limits for Polybrominated Diphenylethers in Undetected Beach Sediment Results (pg/g dry)

					2009 Beach Sediment				2010 Beach Sediment				2011 Beach Sediment			
Analyte	Sample Material Analyzed	CAS Number	MDL	MRL	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results	Minimum MDL	Maximum MDL	Number of 1X MDL exceedances/ total ND results	Number of 10X MDL exceedances/ total ND results
2,2',4-TriBDE (BDE-17)	Sediment <2mm	147217-75-2	26	100	3.13	3.13	0/1	0/1	0.66	0.718	0/2	0/2	0.134	0.264	0/3	0/3
2,4,4'-TriBDE (BDE-28)	Sediment <2mm	41318-75-6	21	100	1.61	1.61	0/1	0/1	1.69	2.4	0/2	0/2	0.187	2.07	0/6	0/6
2,2',4,4'-TetraBDE (BDE-47)	Sediment <2mm	5436-43-1	27	100	40.4	40.4	1/1	0/1	10.6	10.6	0/1	0/1	--	--	--	--
2,2',4,5'-TetraBDE (BDE-49)	Sediment <2mm	40088-47-9	--	--	3.3	3.3	--	--	--	--	--	--	0.208	0.208	--	--
2,3',4,4'-TetraBDE (BDE-66)	Sediment <2mm	189084-61-5	17	100	5.9	5.9	0/1	0/1	0.566	0.566	0/1	0/1	0.289	0.388	0/3	0/3
2,3',4',6-TetraBDE (BDE-71)	Sediment <2mm	189084-62-6	11	100	7.5	7.5	0/1	0/1	0.479	0.712	0/2	0/2	0.182	0.247	0/3	0/3
2,2',3,4,4'-PentaBDE (BDE-85)	Sediment <2mm	182346-21-0	17	100	5.6	5.6	0/1	0/1	0.704	2.61	0/2	0/2	0.421	0.421	0/1	0/1
2,2',4,4',5-PentaBDE (BDE-99)	Sediment <2mm	60348-60-9	43	100	19.2	19.2	0/1	0/1	7.34	49.3	1/2	0/2	--	--	--	--
2,2',4,4',6-PentaBDE (BDE-100)	Sediment <2mm	189084-64-8	24	100	2.25	2.25	0/1	0/1	1.44	1.44	0/1	0/1	--	--	--	--
2,2',3,3',4,4'-HexaBDE (BDE-128)	Sediment <2mm	CASID30336	28	100	15.3	15.3	0/1	0/1	2.82	2.88	0/2	0/2	0.934	1.92	0/6	0/6
2,2',3,4,4',5'-HexaBDE (BDE-138)	Sediment <2mm	182677-30-1	16	100	8.8	8.8	0/1	0/1	4.04	4.16	0/2	0/2	0.52	0.987	0/5	0/5
2,2', 4,4',5,5'-HexaBDE (BDE-153)	Sediment <2mm	68631-49-2	9	100	2.95	2.95	0/1	0/1	2.1	2.1	0/1	0/1	--	--	--	--
2,2',4,4',5,6'-HexaBDE (BDE-154)	Sediment <2mm	207122-15-4	13	100	2.83	2.83	0/1	0/1	1.46	1.46	0/1	0/1	--	--	--	--
2,2',3,4,4',5',6-HeptaBDE (BDE-183)	Sediment <2mm	207122-16-5	19	100	2.01	2.01	0/1	0/1	0.75	0.75	0/1	0/1	0.187	0.335	0/2	0/2
2,2',3,4,4',6,6'-HeptaBDE (BDE-184)	Sediment <2mm	--	--	--	1.71	1.71	--	--	0.655	0.841	--	--	0.198	0.41	--	--
2,3,3',4,4',5,6-OctaBDE (BDE-190)	Sediment <2mm	CASID30338	25	100	5.37	5.37	0/1	0/1	2.24	2.88	0/2	0/2	0.602	1.25	0/6	0/6
2,3,3',4,4',5',6-HeptaBDE (BDE-191)	Sediment <2mm	--	--	--	4.07	4.07	--	--	1.37	1.76	--	--	0.45	0.938	--	--
2,2',3,4,4',5,5',6-OctaBDE (BDE-203)	Sediment <2mm	CASID30339	13	100	2.79	2.79	0/1	0/1	1.58	1.61	0/2	0/2	0.435	0.706	0/5	0/5
2,2',3,3',4,4',5,5',6-NonaBDE (BDE-206)	Sediment <2mm	63936-56-1	160	1000	13.5	13.5	0/1	0/1	4.57	5.29	0/2	0/2	2.26	4.57	0/6	0/6
Decabromodiphenyl ether (BDE-209)	Sediment <2mm	1163-19-5	260	1000	6.4	6.4	0/1	0/1	0	17.7	0/2	0/2	21.6	43.2	0/4	0/4

Notes:

Yellow highlighted detection limits exceed the planned detection limit.
Data exclude rejected data, non-reportable data, lab replicates and QC sample data.
Nondetects (ND) included at the detection limit.

MDL = method detection limit
MRL = method reporting limit

APPENDIX A

2010 BEACH RECONNAISSANCE SUMMARY OF VISUAL OBSERVATIONS

LIST OF FIGURES

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_1_BeachSamp_09272011.mxd - 9/27/2011 @ 1:21:28 PM

U.S. - Canada Border

745
Black Sand Beach
Upper Columbia R.V. Park
Reach 1
Northport Beach
730
Onion Creek
Dalles Orchard
Flat Creek
China Bend
Reach 2
Bossburg Flat
Snag Cove
712
Evans Campground/Beach
Summer Island
Kamloops Island
Reach 3
Welty Bay
Kettle Falls Marina
700
Lyons Island
Colville River
Colville Flats
Bradbury Beach
Barnaby Island Campground
Reach 4a
676
AA Campground #2
Nez Perce Creek
Hunters
Reach 4b
Wilmont Creek
Mitchell Point
Naborlee
Enterprise
McGuire's
597
Crescent Bay
Swawilla Basin
Spring Canyon
Jones Bay
617
Reach 6
Whitestone Campground
640
Reach 5
Seven Bays
Mouth of Hawk Creek

Beaches Sampled in 2009
Beaches Sampled in 2010
Beaches Rejected for Lack of Fine Sediment
Proposed Beaches
River Reach Delineations (USGS)

integral consulting inc.

Km 0 5 10
Miles 0 5 10
N

Figure A1. **Beach Sampling Areas**

Upper Columbia River, WA

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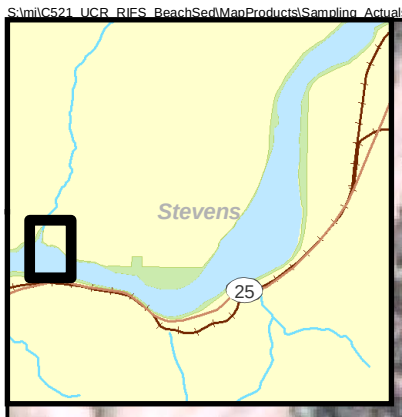

Flat Creek Beach

Not Enough Exposed Sediments to Map Beach Area

Note:

The sample grid spacing is 5 meters.

The total area of the Sampling Area is 23412 square meters or 252007 square feet.

Fine Sediment

2009 FSR Recon Area

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A2. **Flat Creek Beach Pre-Reconnaissance**

Upper Columbia River, WA

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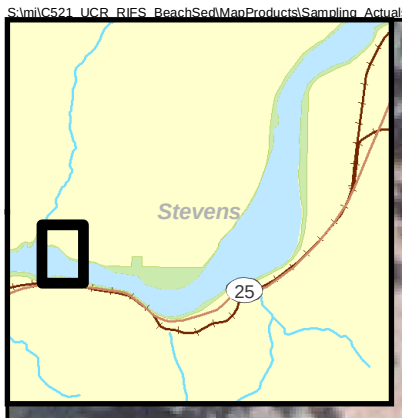

Flat Creek Beach

Note:

The sample grid spacing is 5 meters.

The total area of the Sampling Area is 9988.2 square meters or 107512.1 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A3. **Flat Creek Beach Proposed**

Upper Columbia River, WA

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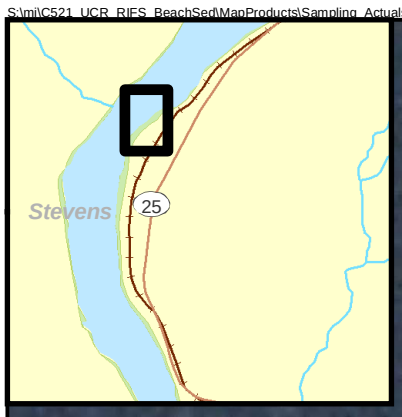

30 Foot Water Depth at Edge of Polygon

Bossburg Flat Beach

Not Enough Exposed Sediments to Map Beach Area

Note:

The sample grid spacing is 5 meters.

The total area of the Sampling Area is 12906 square meters or 138920 square feet.

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters 0 25 50

Feet 0 100 200

N

Figure A4. **Bossburg Flat Beach Pre-Reconnaissance**

Upper Columbia River, WA

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Bossburg Flat Beach

Note:

The sample grid spacing is 5 meters.

The total area of the Sampling Area is 8557.7 square meters or 92114.3 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A5. **Bossburg Flat Beach Proposed**

Upper Columbia River, WA

S:\mj\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_6_BeachRecon_Indx9_09272011.mxd - 9/27/2011 @ 10:52:46 AM

Evans Campground Beach

Water Depth 14 to 22 Feet
at Edge of Polygon
Most Sample Stations Submerged

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 200141 square meters or 2154300 square feet.

2009 FSR Recon Area

Water Line (1276.5 ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A6. **Evans Campground Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_7_BeachSamp_Indx9_09272011.mxd - 9/27/2011 @ 10:57:18 AM

Evans Campground Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 47993.5 square meters or 516597.7 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A7. **Evans Campground Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_8_BeachRecon_Indx11_09272011.mxd - 9/27/2011 @ 10:59:54 AM

Kamloops Island Beach

Mostly Cobble

Boulders or Rock Outcropping

Submerged Samples

Vegetation

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 31497 square meters or 339030 square feet.

Fine Sediment

Cobble and Boulder

Water Line (1276.5 ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A8. **Kamloops Island Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_9_BeachSamp_Indx11_09272011.mxd - 9/27/2011 @ 11:04:56 AM

Kamloops Island Beach

Note:

The sample grid spacing is 5 meters.

The total area of the Sampling Area is 4408.1 square meters or 47448.4 square

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

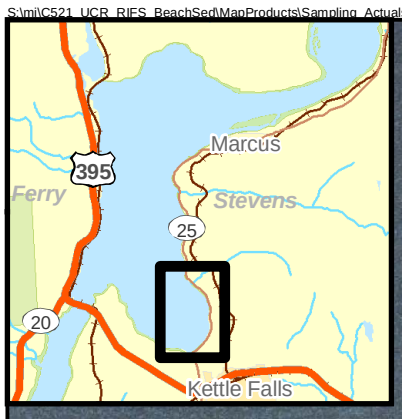
Feet
0 100 200

N

Figure A9. **Kamloops Island Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_10_BeachRecon_Indx12_09272011.mxd - 9/27/2011 @ 11:10:24 AM



Welty Bay Beach

Submerged

All Cobble and Boulder Shoreline

Fine Sediment Beach

Active Creek

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 372211 square meters or 4006443 square feet.

Fine Sediment

Water Line (1276.5 ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Approximate Water Line

Possible Alternate Site

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach (Minus 1 StD)

Expected Exposed Beach

integral consulting inc.

Meters
0 50 100

Feet
0 200 400

N

Figure A10. **Welty Bay Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_11_BeachSamp_Indx12_09272011.mxd - 9/27/2011 @ 11:14:39 AM

Welty Bay Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 66565.7 square meters or 716507.2 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A11. **Welty Bay Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_12_BeachRecon_Indx13_09272011.mxd - 9/27/2011 @ 11:17:32 AM

Kettle Falls Marina

Submerged

Note:

The sample grid spacing is 5 meters.

The total area of the Sampling Area is 20366 square meters or 219221 square feet.

Fine Sediment

Cobble (Sand Near Water Line)

Water Line (1276.3 ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters 0 25 50

Feet 0 100 200

N

Figure A12. **Kettle Falls Marina Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_13_BeachSamp_Indx13_09272011.mxd - 9/27/2011 @ 11:20:56 AM

Kettle Falls Marina

Note:

The sample grid spacing is 5 meters.

The total area of the Sampling Area is 6187.1 square meters or 66597.3 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A13. **Kettle Falls Marina Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_14_BeachRecon_Indx14_09272011.mxd - 9/27/2011 @ 11:24:16 AM

Lyons Island

Silty Mud Near Water Line

Submerged

Vegetation

Fine Sediment

Cobble

Water Line (1276.3 ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Approximate Water Line

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 326782 square meters or 3517454 square feet.

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A14. **Lyons Island Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_15_BeachSamp_Indx14_09272011.mxd - 9/27/2011 @ 11:26:50 AM

Lyons Island

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 106865.9 square meters or 1150295 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

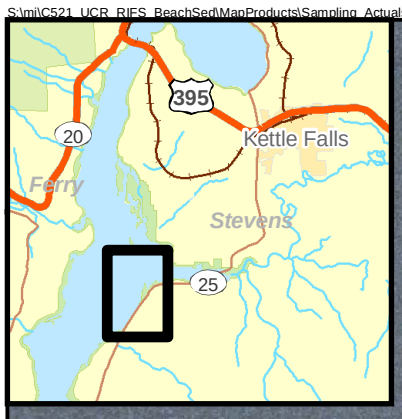
Feet
0 100 200

N

Figure A15. **Lyons Island Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_16_BeachRecon_Indx15_09272011.mxd - 9/27/2011 @ 11:29:32 AM



Area Submerged Under 20 Feet of Water

40 Foot Water Depth at Edge of Polygon

Colville Flats Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 378869 square meters or 4078115 square feet.

Fine Sediment

Cobble and Boulder

GPS Water Line (1276.3 ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Approximate Water Line

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters
0 50 100

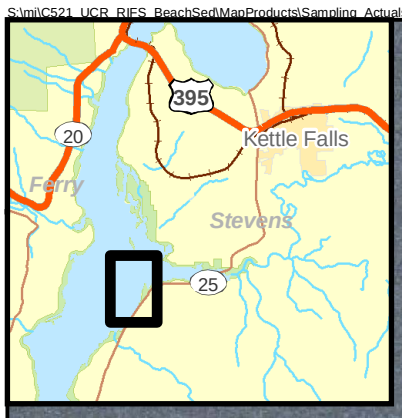
Feet
0 200 400

N

Figure A16. **Colville Flats Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_17_BeachSamp_Indx15_09272011.mxd - 9/27/2011 @ 11:32:04 AM



Colville Flats Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 106460.5 square meters or 1145931.3 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

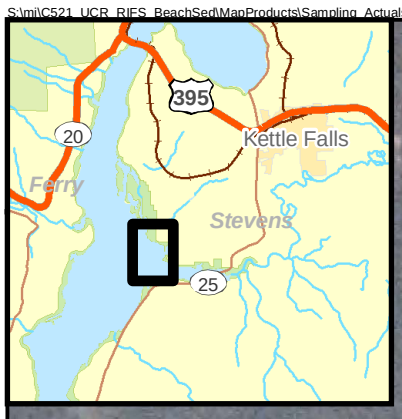
Feet
0 100 200

N

Figure A17. **Colville Flats Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_18_BeachRecon_Indx16_09272011.mxd - 9/27/2011 @ 11:34:31 AM



Vegetated Area

Colville River Beach

Fine Sediment

Cobble

Water Line (1276.3 ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 264886 square meters or 2851208 square feet.

integral consulting inc.

Meters
0 25 50

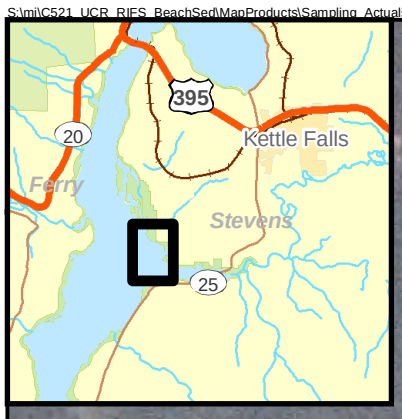
Feet
0 100 200

N

Figure A18. **Colville River Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_19_BeachSamp_Indx16_09272011.mxd - 9/27/2011 @ 11:36:56 AM



Colville River Beach

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 35858.6 square meters or 385978.8 square feet.

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A19. **Colville River Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_20_BeachRecon_Indx17_09272011.mxd - 9/27/2011 @ 11:39:31 AM

40 Foot Water Depth

Submerged

Bradbury Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 149068 square meters or 1604554 square feet.

Fine Sediment

Swimming Beach Area

Water Line (1276.3 ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters
0 25 50

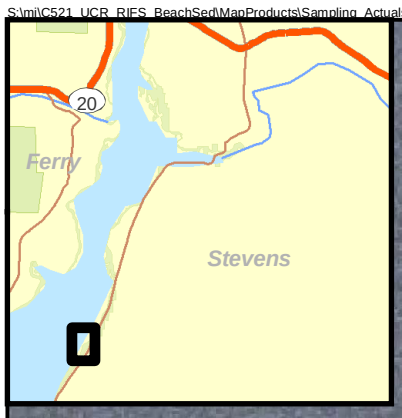
Feet
0 100 200

N

Figure A20. **Bradbury Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_21_BeachSamp_Indx17_09272011.mxd - 9/27/2011 @ 11:41:57 AM



Bradbury Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 59540.5 square meters or 640888.6 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A21. **Bradbury Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_22_BeachRecon_Indx19_09272011.mxd - 9/27/2011 @ 11:44:11 AM

AA Campground 2 Beach

18 Foot Water Depth

Steep Slopes

Submerged

Steep Slopes

25 Foot Water Depth

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 33122 square meters or 356519 square feet.

Fine Sediment

Water Line (1276.3 ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A22. **AA Campground 2 Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_23_BeachSamp_Indx19_09272011.mxd - 9/27/2011 @ 11:47:16 AM

AA Campground 2 Beach

Note:

The sample grid spacing is 5 meters.

The total area of the Sampling Area is 21034 square meters or 226408 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A23. **AA Campground 2 Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_24_BeachRecon_Indx20_09272011.mxd - 9/27/2011 @ 11:50:25 AM

Nez Perce Creek Beach

Submerged

Submerged

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 155070 square meters or 1669155 square feet.

Fine Sediment

Dangerous Unconsolidated Sediment

Water Line (1276.3 ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Approximate Water Line

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A24. **Nez Perce Creek Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_25_BeachSamp_Indx20_09272011.mxd - 9/27/2011 @ 11:53:27 AM

Nez Perce Creek Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 76262 square meters or 820877 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A25. **Nez Perce Creek Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_26_BeachRecon_Indx22_09272011.mxd - 9/27/2011 @ 11:56:26 AM

Naborlee Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 123021 square meters or 1324192 square feet.

Fine Sediment

Upper Fine Sediment Line

Water Line (1276.3ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A26. **Naborlee Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_27_BeachSamp_Indx22_09272011.mxd - 9/27/2011 @ 11:59:00 AM

Naborlee Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 84181 square meters or 906117 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

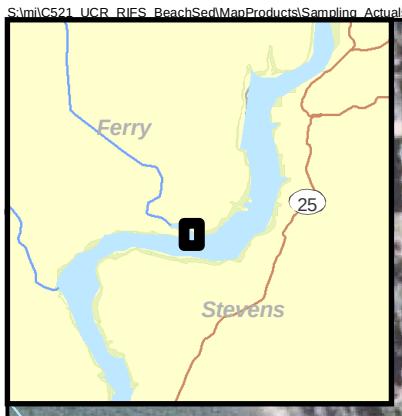
Feet
0 100 200

N

Figure A27. **Naborlee Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_28_BeachRecon_Indx23_09272011.mxd - 9/27/2011 @ 12:01:39 PM



Wilmont Creek Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 175541 square meters or 1889512 square feet.

Fine Sediment
Cobble
Water Line (1276.3ft AMSL)
Bathymetry Elevation (1949 Survey)
1250 ft AMSL
Approximate Water Line
Sample Locations
Surface
Subsurface
Reserved
Beach Samples (EPA 2005)
Beach Composites (EPA 2005)
Expected Exposed Beach
Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A28. **Wilmont Creek Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_29_BeachSamp_Indx23_09272011.mxd - 9/27/2011 @ 12:04:21 PM

Wilmont Creek Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 53647.7 square meters or 577459 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

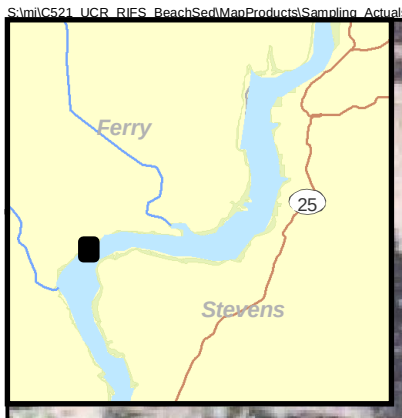
Feet
0 100 200

N

Figure A29. **Wilmont Creek Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_30_BeachRecon_Indx24_09272011.mxd - 9/27/2011 @ 12:07:16 PM



Fallen Tree Area

Fallen Tree Area

Submerged

Mitchell Point Beach

Steep Slope Beneath Water Line

Mixed Fine Sediment and Clay

Water Line (1276.3 ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 59917 square meters or 644940 square feet.

integral consulting inc.

Meters
0 25 50

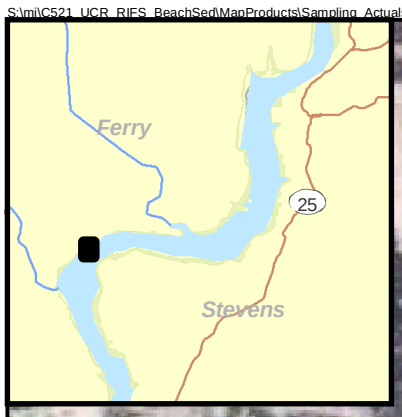
Feet
0 100 200

N

Figure A30. **Mitchell Point Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_31_BeachSamp_Indx24_09272011.mxd - 9/27/2011 @ 12:10:15 PM



Mitchell Point Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 35623.9 square meters or 383452.5 square

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

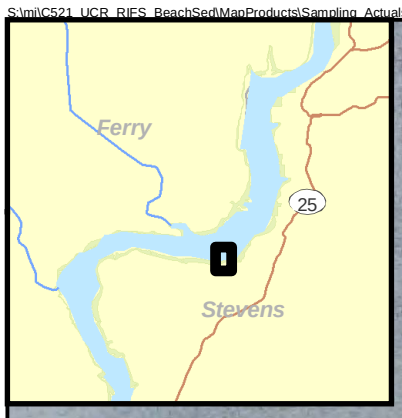
Feet
0 100 200

N

Figure A31. **Mitchell Point Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_32_BeachRecon_Indx25_09272011.mxd - 9/27/2011 @ 12:13:02 PM



Enterprise Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 144865 square meters or 1559312 square feet.

Fine Sediment

Water Line (1276.3ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters
0 25 50

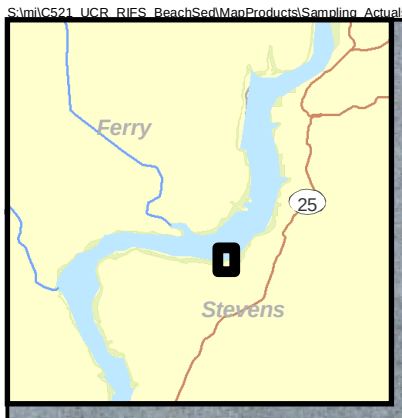
Feet
0 100 200

N

Figure A32. **Enterprise Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_33_BeachSamp_Indx25_09272011.mxd - 9/27/2011 @ 12:15:19 PM



Enterprise Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 72053.7 square meters or 775579.6 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A33. **Enterprise Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_34_BeachRecon_Indx26_09272011.mxd - 9/27/2011 @ 12:17:30 PM

McGuire's Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 118227 square meters or 1272585 square feet.

Fine Sediment

Cobble

Water Line (1276.3 AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Clay Area

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A34. **McGuire's Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_35_BeachSamp_Indx26_09272011.mxd - 9/27/2011 @ 12:19:41 PM

integral consulting inc.

Figure A35. **McGuire's Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_36_BeachRecon_Indx27_09272011.mxd - 9/27/2011 @ 12:22:10 PM

Seven Bays Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 63745 square meters or 686141 square feet.

Fine Sediment

Water Line (1276.3 AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Armored Line Edge

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters 0 25 50

Feet 0 100 200

N

Figure A36. **Seven Bays Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_37_BeachSamp_Indx27_09272011.mxd - 9/27/2011 @ 12:24:24 PM

Seven Bays Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 43751.5 square meters or 470937.2 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

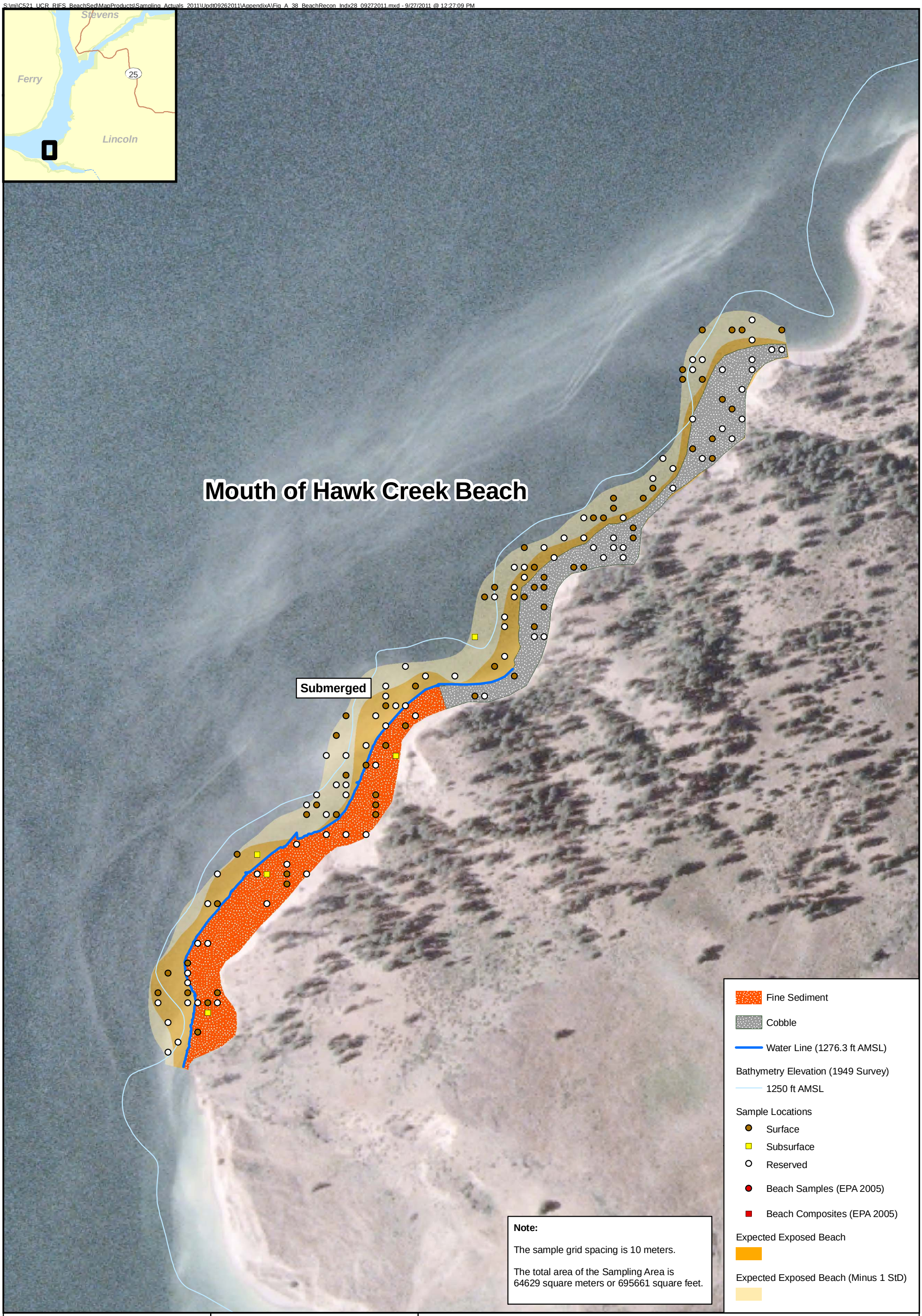
Feet
0 100 200

N

Figure A37. **Seven Bays Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_38_BeachRecon_Indx28_09272011.mxd - 9/27/2011 @ 12:27:09 PM



integral consulting inc.

Meters
0 25 50

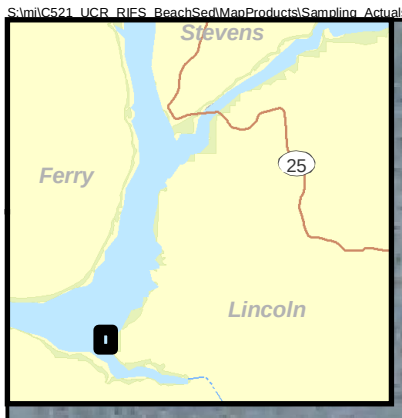
Feet
0 100 200

N

Figure A38. **Mouth of Hawk Creek Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_39_BeachSamp_Indx28_09272011.mxd - 9/27/2011 @ 12:29:47 PM



Mouth of Hawk Creek Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 24277.5 square meters or 261320.8 square

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A39. **Mouth of Hawk Creek Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_40_BeachRecon_Indx29_09272011.mxd - 9/27/2011 @ 12:32:27 PM

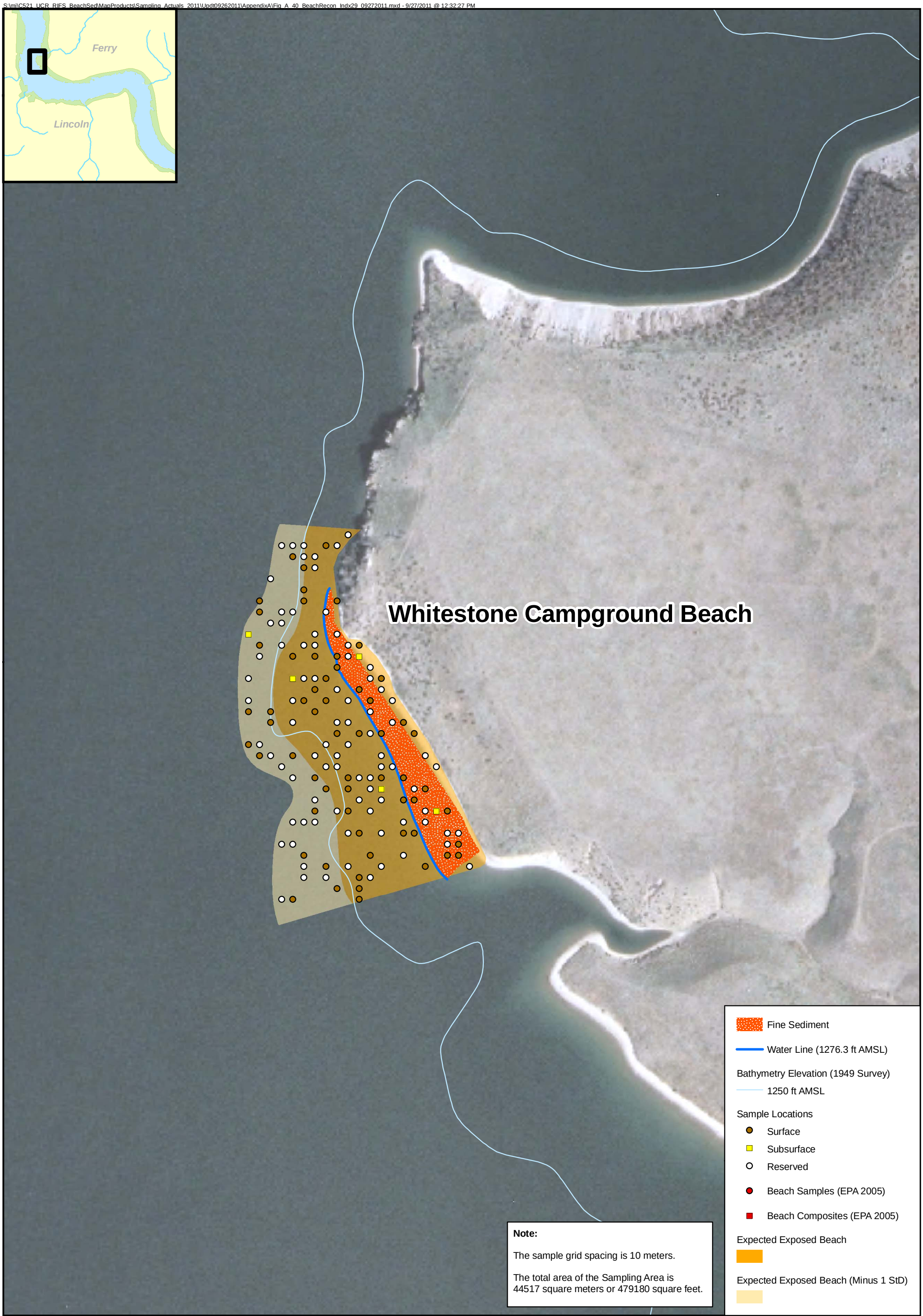


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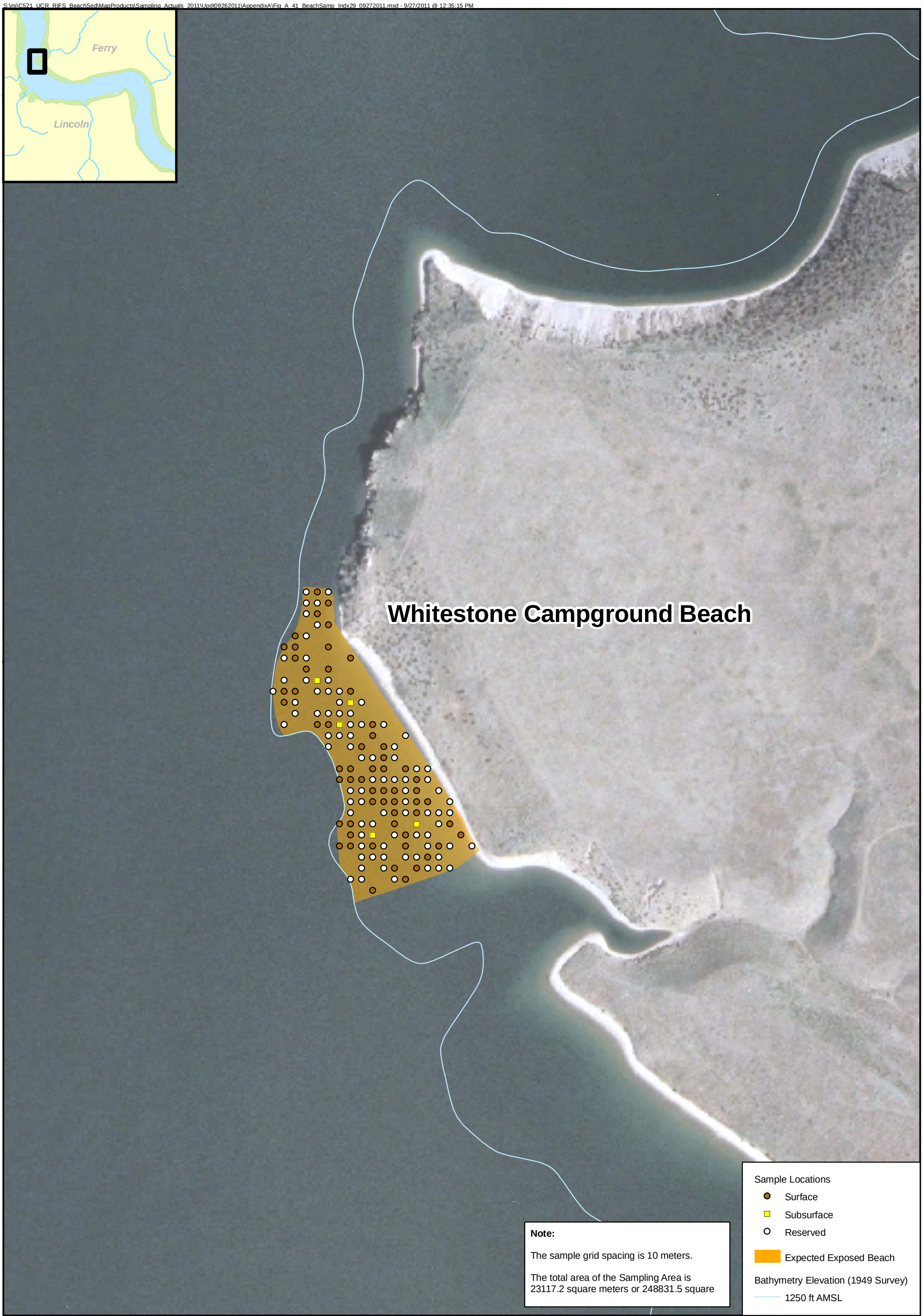
Figure A40. **Whitestone Campground Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_41_BeachSamp_Indx29_09272011.mxd - 9/27/2011 @ 12:35:15 PM



integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A41. **Whitestone Campground Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_42_BeachRecon_Indx30_09272011.mxd - 9/27/2011 @ 12:39:46 PM

Jones Bay Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 165896 square meters or 1785688 square feet.

Fine Sediment

Water Line (1276.3 ft AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

integral consulting inc.

Meters
0 50 100

Feet
0 200 400

N

Figure A42. **Jones Bay Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_43_BeachSamp_Indx30_09272011.mxd - 9/27/2011 @ 12:42:06 PM

Jones Bay Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 31344.7 square meters or 337391.4 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

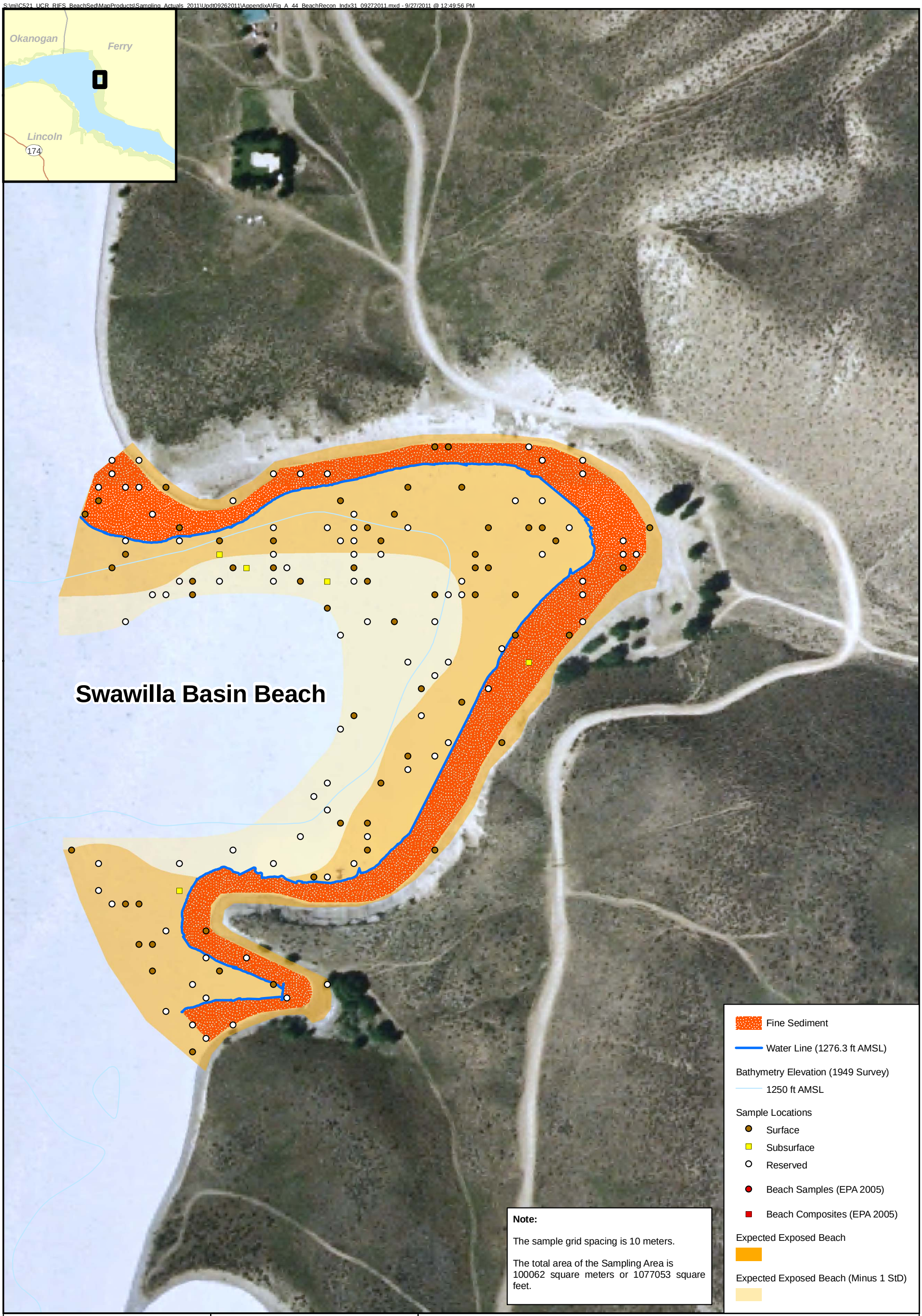
Feet
0 100 200

N

Figure A43. **Jones Bay Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_44_BeachRecon_Indx31_09272011.mxd - 9/27/2011 @ 12:49:56 PM



integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A44. **Swawilla Basin Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_45_BeachSamp_Indx31_09272011.mxd - 9/27/2011 @ 12:53:18 PM

Swawilla Basin Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 46305.5 square meters or 498428.3 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

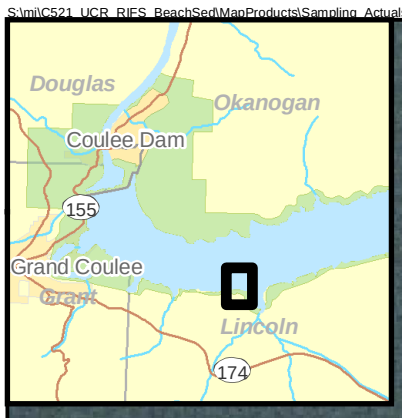
Feet
0 100 200

N

Figure A45. **Swawilla Basin Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_46_BeachRecon_Indx32_09272011.mxd - 9/27/2011 @ 12:55:39 PM



Spring Canyon Beach

Submerged

Fine Sediment

Water Line (1276.3 AMSL)

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

Reference Point - Spring Canyon

Sample Locations

Surface

Subsurface

Reserved

Beach Samples (EPA 2005)

Beach Composites (EPA 2005)

Expected Exposed Beach

Expected Exposed Beach (Minus 1 StD)

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 96286 square meters or 1036413 square feet.

integral consulting inc.

Meters
0 25 50

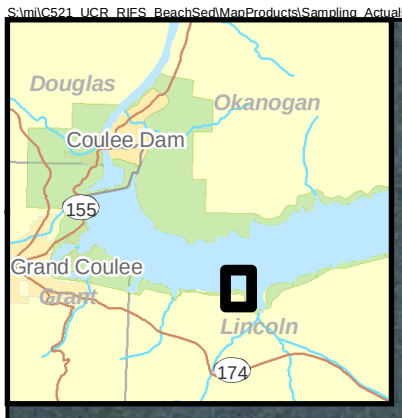
Feet
0 100 200

N

Figure A46. **Spring Canyon Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_47_BeachSamp_Indx32_09272011.mxd - 9/27/2011 @ 12:58:01 PM



Spring Canyon Beach

Note:

The sample grid spacing is 10 meters.

The total area of the Sampling Area is 44637.3 square meters or 480471.9 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

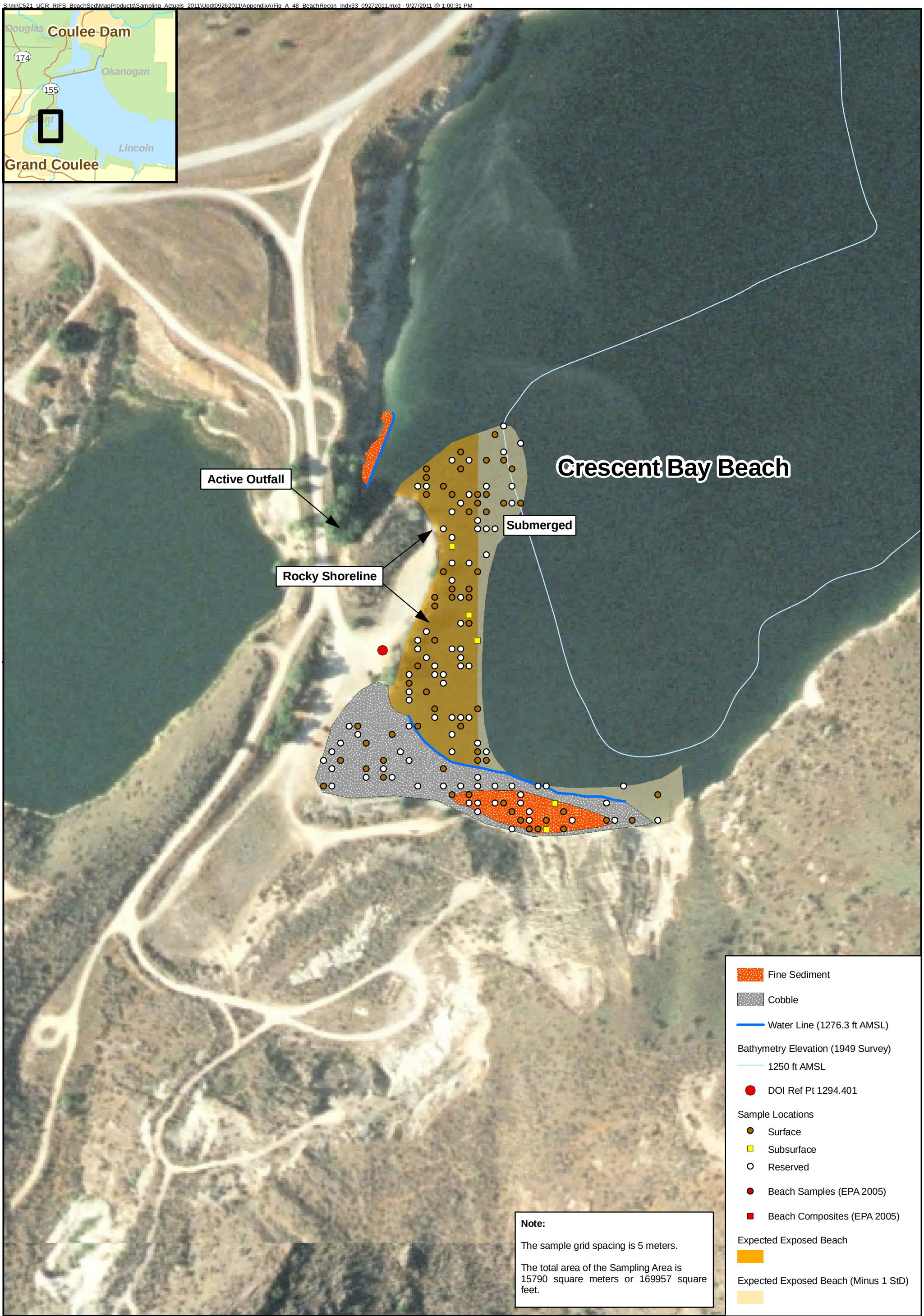
Feet
0 100 200

N

Figure A47. **Spring Canyon Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_48_BeachRecon_Indx33_09272011.mxd - 9/27/2011 @ 1:00:31 PM



integral consulting inc.

Figure A48. **Crescent Bay Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_49_BeachSamp_Indx33_09272011.mxd - 9/27/2011 @ 1:03:12 PM

Crescent Bay Beach

Note:

The sample grid spacing is 2.5 meters.

The total area of the Sampling Area is 1369 square meters or 14736 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

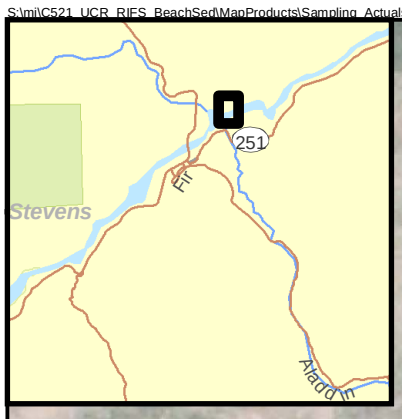
Feet
0 50 100

N

Figure A49. **Crescent Bay Beach Proposed**

Upper Columbia River, WA

S:\mi\C521_UCR_RIFS_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_50_BeachRecon_SwimHole_09272011.mxd - 9/27/2011 @ 1:05:39 PM



Swimming Hole Beach

Fine Sediment

Ski Boat Launch

Bathymetry Elevation (1949 Survey)

1250 ft AMSL

integral consulting inc.

Meters
0 25 50

Feet
0 100 200

N

Figure A50. **Swimming Hole Beach Pre-Reconnaissance**

Upper Columbia River, WA

S:\mi\C521_UCR_RIES_BeachSed\MapProducts\Sampling_Actuals_2011\Updt09262011\AppendixA\Fig_A_51_BeachSamp_SwimHole_09272011.mxd - 9/27/2011 @ 1:08:09 PM

Swimming Hole Beach

Note:

The sample grid spacing is 2 meters.

The total area of the Sampling Area is 2502 square meters or 26931 square feet.

Sample Locations
- Surface
- Subsurface
- Reserved

Expected Exposed Beach

Bathymetry Elevation (1949 Survey)
- 1250 ft AMSL

integral consulting inc.

Meters
0 25 50

Feet
0 50 100

N

Figure A51. **Swimming Hole Beach Proposed**

Upper Columbia River, WA

APPENDIX B

FIELD NOTEBOOKS

NAVIGATION FIELD NOTES 2009

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CONTENTS

PAGE	REFERENCE	DATE

9/9/09 I. Stupakoff

0605 At Mustang Grill in Northport, WA meeting all field crew.

Integral:
Ian Stupakoff, Stefan Wodgicki
Craig Hutchings
Dave Sardar
Jess Moore
Jane Sund
Kim McGruder Carlton

Parametrix:
Adam Romey
Michael Marshall
Lara Linde
Lilly Vagelatos

Gravity
Steve Saugen

No cell phone coverage for Verizon. Only AT&T service available. Will use satellite phone.

0750 Marcella Ripich and Michelle Zachring from CH2MHill representing EPA arrived.

0805 Arrived at boat ramp in Northport

I. Stupakoff

Met with Monica Tonel from EPA and Camille Mather and Brenda Covington as cultural resources observers.

0830 Health and safety meeting with all participants.

0842 Finished meeting

0845 Left towards Black Sand Beach.

0905 At Black Sand Beach
Met with Cheryl Parkey and Brian Monaghan both with Colville Tribe.
Went over health and safety meeting.

0915 Started flagging stations

1045 Station BS-388 is submerged
station BS-355 is submerged
Alternate stations are BS-220 and BS-280 respectively.

1120 BS-359 submerged
Alternate B342

1135 BS 245 submerged
Alternate BS 155

1145 Core 4 at BS-522 collected 2.5"

9.9.09

before refusal
Alternate is BS119 for core A

1200 BS119 is submerged
Alternate is BS16

1226 BS101 is submerged
Alternate is BS311

1232 BS44 is submerged
Alternate is BS188

1237 BS46 is submerged
Alternate is BS272

1248 Cores D & E refused
Core D, station BS-454, top 8" was sand, then large cobbles core refused
Core E, station BS-458, gravel and cobble, could not collect core.
Alternate for BS-454 is ~~BS-272~~ BS-427
BS-487 is all cobble refused
BS-58 (core D)
BS-58 is submerged
BS-362 " "
BS-385 " "

9.9.09 1. Shephard

BS-520 - refused cobble
BS-223 - submerged
BS-427 - refused cobble
BS-436 - " "
BS-348 - alternate for core D.
Alternate for core E is BS398

1335 Boat team shows up at Black Sand Beach with all observers on board. A detailed explanation of why they could not sample at Onion Creek and Dalles Orchard is in Boat Team field note book on surface sediment grabs. Most of the team members from the boat will stay to help sample Black Sand Beach along with cultural resources oversight team.

1410 Called Dina Johnson to explain the situation.

1420 Began sampling again

1432 BS398 rejected cobble
Alternate BS33 - rejected submerged

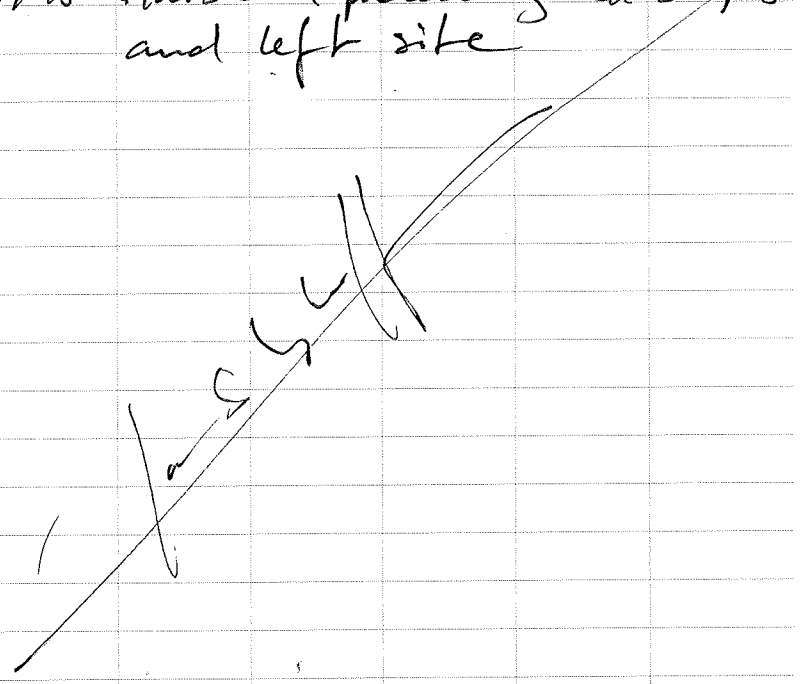
9.9.09 I. Stupakoff

Alternate BS136 for ~~core~~ =
~~BS-236 for surface B8~~ SW 9/9

1522 BS-220 core "B" refused
1540 Refused D9. Site on rock
Alternate is BS464
1545 Refused C11 submerged
Alternate is BS278
Alternate for BS-220 is
BS96. Refused is submerged
Alternate is BS-36a Refused cobble.
1605 Refused D10 Submerged
Refused D11 "
Refused D12 "
Refused C12 "
Refused B12 "
Refused B11 "
Core A, Station 303, refused
Alternate BS380, refused-cobble
Core B station alternate BS313
refused C12 - rock
Alternate is BS-410
Alternate to D10 is BS-547
" to D11 is BS-415
" to D12 is BS-562

9.9.09 I. Stupakoff

Alternate to B12 is BS-587
" to B11 is BS-573
Alternate to Core A (BS380) is BS-251
Alternate to C12 is BS-410
Alternate to E11 is BS-431
Alternate to E12 is BS-81, refused submerged
" to E12 is BS-269 - refused submerged
" to E12 is BS-512
1845 Finished collecting all samples.
1945 Finished processing all samples
and left site



9.10.09 I. Shupakoff

0730 Left North port towards RV Park Beach

0745 At RV Park. Set up GPS unit to draw line at high water level.

0830 Called Marc Stifelman about most of beach samples falling between large boulders with some interstitial sediment. Asked him to come by and observe site.

0855 Started flagging.

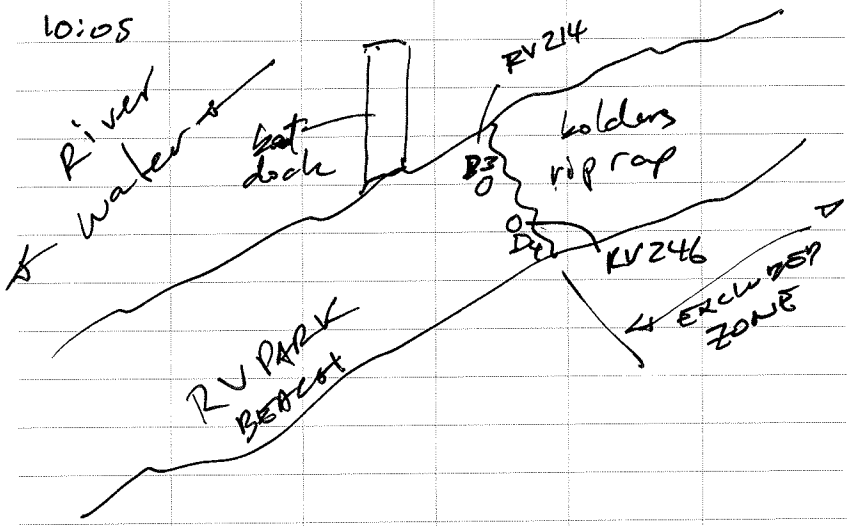
0925 Talked to Marc Stifelman after he walked the beach and recognized the part of the beach that is covered with boulders and large cobbles. Marc agreed that most of the beach covered with rocks is not suitable for sampling. There are enough alternate sites to relocate most of the targeted stations and additional free grid space on sandy beach to assign

9.10.09 I. Shupakoff.

random stations.

Phone conversations with Dina Johnson and Marko Adzic agreed with changes as long as detailed explanation of changes, along with photographic and GPS documentations are taken.

10:05



Set new coordinates for cores

Core A - RV-413, reject grass

Core B - RV-426, reject cobble

Core C - RV-399

Core D - RV-314

Core E - RV-293, reject grass

9.10.09 1. Stupakoff

1245 All alternate numbers have been used. A table of random numbers was developed in Excel to obtain random sampling stations on the grid layed over on the beach map. A table of 200 numbers was generated and each subsequent station was chosen according to random numbers.

C11 48°9498872 4°N
-117.70625554°W

~~C12~~ rejected grass
48°.94956463°N
-117.70693118 5°W

C12 48°.95006769°N
-117°.70600468°W

D5 48.95006300°N
-117.70626448°W

D6 48.94942700°N
-117.70734904°W

D7 48.94983437°N
-117.70666439°W

9.10.09 1. Stupakoff

D8 48.94974546°N
-117.70631993°W

(1.9) 10
D9 48.95015505°N
-117.70578387°W

(1.5) 9
D10 48.94979116°N
-117.70639084°W

D11 48.94942297°N
-117.70754334°W

D12 48.94956201°N
-117.70685512°W

E6 48.94960888°N
-117.70680328°W

E7 48.95015764°N
-117.70592675°W

E8 48.95002562°N
-117.70619013°W

E9 48.95010920°N
-117.70592795°W

E10 48.94965692°N
-117.70645232°W

E11 48.94946867°N
-117.70747482°W

E12 48.94947023°N reject
-117.70700171°W grass

7.10.09 (1.5) I. Stanchoff

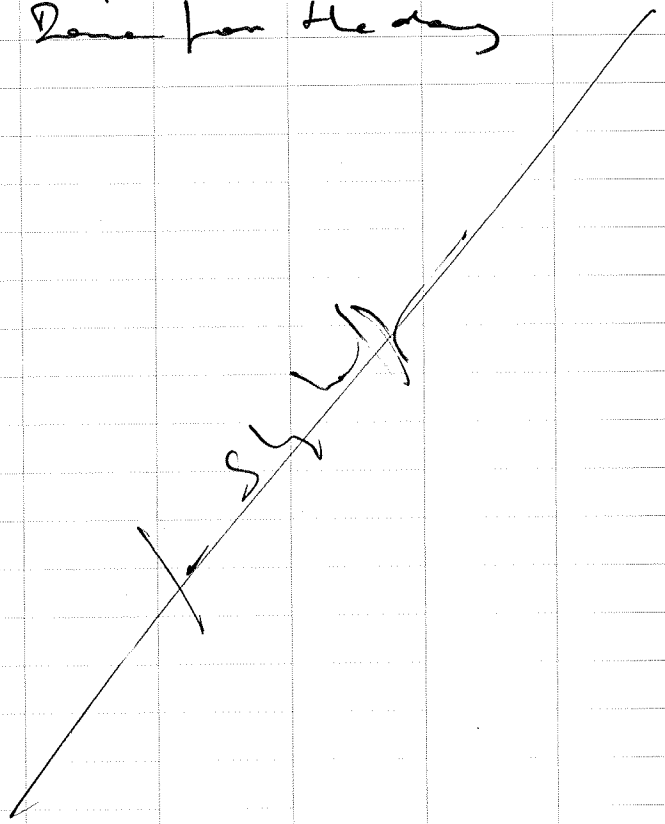
E12 48.94960874659°N
-117.70713241°W

1516 Finished collecting all samples.

1540 Finished processing all samples. Packing vans

1600 left site

Done for the day



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Surface Sampling

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CONTENTS

9/9/09 Black Sand Beach

Author: Lily Vagelatos

Weather: ~50°F overcast, light rain

Activities: Beach sediment sampling.

0900 Van team onsite. Begin set up & decon.

1040 Finish set up & decon.

1120 Set up at E1. Go over sampling scheme with Michell CH2MHill. Contact cultural Resources people to OK location.

1145 Collect sub-sample E1. Hole approximately 1 ft in diameter to collect 5 scoops.

1215 collect sub-sample B1. Offset from flag by 6 inches

1230 collect sub-sample C1.

1240 collect D1

1250 collect E2

130[illegible] collect A1

1330 collect A2

1335 collect D2

1345 Collect C2

1352 collect D3

1930 Collected remaining A-E surface samples + process. END of DAY.

9/10/09 UCR RV Park J. Sachs

0880 Arrive @ UCR RV Park. Set up gear

0915 Begin surface sediment sampling with three teams. Cultural oversight present: along with FBA oversight M

Weather: sunny, cool.

1240 Complete collection of A surface samples. Begin processing. SD-RVA, SN0026

1247 Complete collection of 'B' surface samples. Begin processing. SD-RVB, SN0027

1342 Complete collection of 'C' surface samples. Begin processing SD-RVC, SN0028

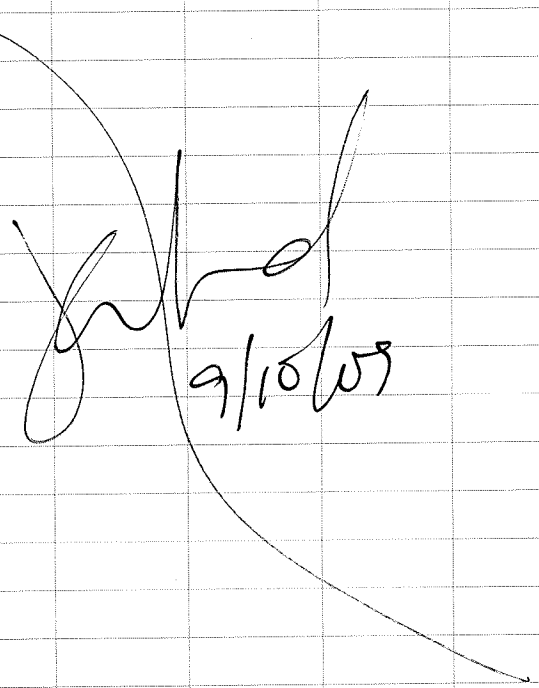
1445 Complete collection of

9/10/09 UCR RV Park J. Smith

'D' surface samples
Begin processing.
SD-RVD, SN0029

1516 Complete collection of
'E' surface samples
SD-RVE, SN0030

1540 Complete surface collection
of surface sediment
@ UCR RV Park.



BOAT SURFACE SEDIMENT 2009

SURFACE SEDIMENT - BOAT CREW.

UCR. BEACH SEDIMENT SAMPLING

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LEVEL

No. 311

9/9/09 UCR. BEACH SURFACE SEDIMENT J. MOORE

0600: TEAMS MEET FOR MORNING MEETING.

0700: COLLECT FIELD GEAR.
BOAT TEAM: J. MOORE
S. WOZNICKI
D. BERDAR
K. CARLTON
L. LINDE
S. SANGG.
EPA OVERSIGHT: MARCELA RIPICH

0745: MOB TO NORTHPOINT BOAT RAMP.

0800: BRENDA CORRINGTON EPA FOR CULTURAL OVERSIGHT + CAMILLE MATHEWS.

0830: CONDUCT H&S MEETING FOR BOTH VAN AND BOAT CREWS.

0930: BOAT IN WATER - CONDUCT BOAT SPECIFIC H&S PLAN MEETING.
- ALL OVERSIGHT VIA DRIVE TO DALEY'S ORCHARD - BOAT CREW REMAIN ON CHARTER VESSEL.

1015: PICK UP ALL OVERSIGHT AT OLSON CREEK BECAUSE NO

9/9/09 UCR BEACH SURFACE SEDIMENT J. MOORE

ACCESS TO DALEY ORCHARD VIA ROAD.

1030: DALEY'S ORCHARD LOOKS AS THOUGH MOST SAMPLE LOCATIONS ARE UNDER WATER - WALK THE HIGH WATER LINE USING GPS TO MAP A LINE TO ASSESS PERCENTAGE OF SITES AVAILABLE

- PHOTO - 3126 - LOOKING SOUTH FROM NORTH END OF BEACH.
- PHOTO - 3138 - LOOKING SOUTH FROM CLOSE TO SOUTHERN EXTENT OF AVAILABLE BEACH
- PHOTO - 3139 - VIEW OF ENTIRE AVAILABLE BEACH LOOKING NORTH.
- PHOTO - 3140 - LOOKING SOUTH AT MOST SOUTHERN SAMPLE AREA.

1100: DECIDE TO MAP AREAS THAT HAVE SAMPLE POTENTIAL USING GPS AREA GENERIC.
- CALL I. STRAIGHT TO DISCUSS

09/09/09 UCR BEACH SURFACE SEDIMENT J. Moore

*NOTE: BEACH AREA IS V. STEEP AND WATER LEVEL IS APPROX 10 FT BELOW HIGH WATER LINE.

- AREAS DALOS 1 / DALOS 2 / DALOS 3 MAPPED.

- 19 STATIONS TOTAL FROM 120 POSSIBLE STATIONS - LESS THAN 20% AREA TO SAMPLE.

*NOTE: ALL BEACH AND ROCK AREAS HAVE OBVIOUS HUMAN USE - TRASH / FOOTPRINTS NOTED.

1115: HAVE TO MOVE BOAT TO AN AREA WITH BETTER CATENTE RECEPTION.

1130: BOAT PROBLEMS - SET ANCHOR

1200: MOB TO BLACK SANDS BEACH TO DISCUSS OPTIONS.

1250: ARRIVE AT BLACK SANDS BEACH DEUCE TO ASSIST VAN CREW COMPLETE SAMPLING.

09/09/09 UCR BEACH SURFACE SEDIMENT J. Moore 5

ALL BOAT CREW INCLUDING OVERSIGHT AT BLACK SANDS BEACH.

1320: MARC STILLMAN AND MONICA TOUR ONSITE AT BLACK SANDS BEACH (EPA) - THEY WOULD LIKE MARC TO RECON THE DALOS RHARS / ONION CREEK / NORTHPORT BEACH AREAS TO SEE THE BEST APPROACH FOR SAMPLING BEACHES WITH DQO OPTIMIZATION ON REALISTIC BEACH SCENARIO.

*NOTE: MANAGE TO CONTACT DINA JOHNSON (CONTRACT) VIA SATELITE PHONE TO UPDATE HER WITH THE SITUATION.

1430 ARRIVE AT DALOS RHARS. ASSESS THE BEACH. MARC SUGGESTS THAT DELANEY BEACH IS A 'RE-DO' FROM THE 2005 EVENT (EPA SURFACE SAMPLES) POSSIBLE SAMPLE IN APRIL 2010 WHEN WATER LEVELS ARE LOWER. ALSO WHEN 2005 EVENT OCCURED.

9/9/09 UCR BEACH SURFACE SEDIMENTS J. MOORE

1500: MOB TO ONION CREEK. AGAIN, MAP AREA USING GPS - (CALLED 'ONION_1') VERY SMALL AREA WITH COLUMBIA RIVER SEDIMENTS - ALL ELSE IS BEDROCK. PHOTOS 0031 THROUGH 0035 OF ONION AVAILABLE SEDIMENT AND SURROUNDING BEDROCK. MARC DID NOT THINK THE SEDIMENT ACTUALLY IN ONION CREEK WERE APPLICABLE TO THE DQO's. SUGGESTS SCRAPING AREA

1530: MOB TO NORTHPORT BEACH. MAP 3 AREAS (NORTHPORT 1, 2, 3) NOTE - AREA 3 IS JUST A LINE, THE SEDIMENT IS A SORT WIDE AREA FOR THE ENTIRE LINE. COBBLE COVERS THE REST OF THE SITE - SIGNIFICANTLY LESS AREA AVAILABLE <40% WITH ONLY CORES IN AREA 3. POSSIBLY ATTEMPT SAMPLING DURING THIS PHASE, BUT WITH VERY ALTERED SAMPLING APPROACH.

9/9/09 UCR BEACH SURFACE SEDIMENT J. MOORE

1700: MOB TO NORTHPORT BOAT RAMP TO TAKE MARC BACK TO VEHICLE.

~~NOTE~~ JM

1715: OFFLOAD - TAKE MARC TO ONION CREEK VIA CAR TO PICK UP EPA CAR - THEN MOB TO BLACK SAND BEACH TO ASSIST WITH SAMPLE COMPLETION.

2000: ALL SAMPLES COMPLETE, CREW OFFSITE. RETURN TO NORTHPORT.

JM 9/9/09

9/10/09. UCR BEACH SURFACE SEDIMENT J. MOORE

0600 : CREWS MEET FOR MORNING MEETING.

0700 : MOB TO RV PARK BEACH. TO BEGIN SAMPLING OPERATION SETUP. J. MOORE STAYS TO TALK WITH MARC STIFFMAN (EPA) AND MARCENA RAGAN (EPA OVERSIGHT) TO DISCUSS WITH DINA JOHNSON (INTERAN) ABOUT PLAN TO SAMPLE REMAINING BEACHES.

- DECISION MADE TO ELIMINATE ONION BEACH SAMPLING - EPA TO LEAD, DEFER SANDS ORCHIDS TO APRIL 2010 SAMPLING - AND ALSO RE-CRID THE SAMPLES FOR NORTHPOLE BEACH BASED ON MAPPED AREAS 9/9/09.

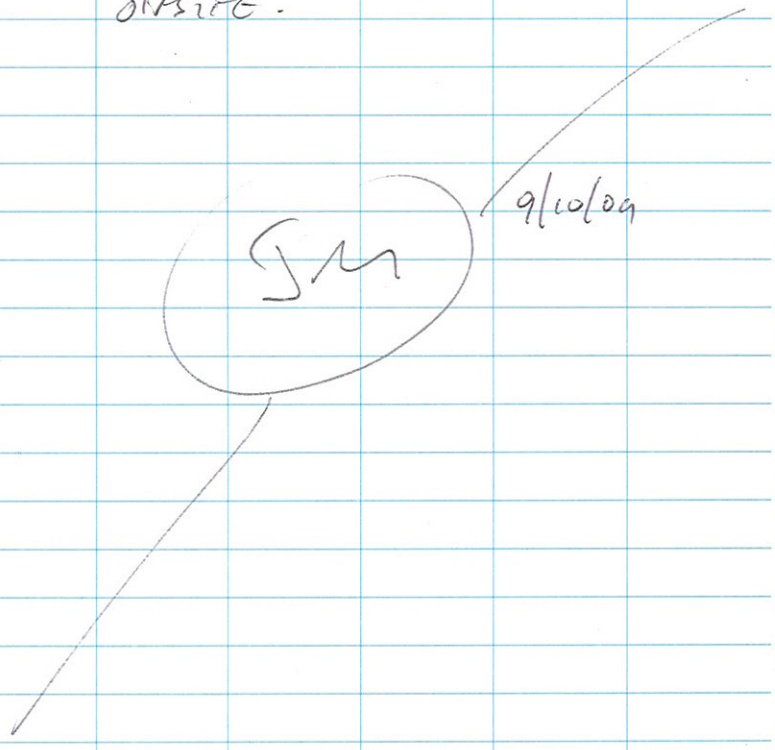
0900 - MOB TO RV BEACH - HELP SET UP FOR SAMPLING.

- NOTE : ALSO DECISION MADE TO RECON A SELECT NUMBER OF THE REMAINING BEACHES <34, TO BETTER PREPARE CHIS SAMPLING BASED ON

9/10/09 UCR BEACH SURFACE SEDIMENT J. MOORE

ACTUAL BEACH SIZE. THIS WILL REQUIRE EPA - MARC & MARCENA, CULTURAL RESOURCE CARLINE MATHEWS, BRENDA CARRINGTON AND INTERAN - J. MOORE, I. STUPAKOFF.

1700 : ALL DAILY NOTES IN VAN TEAM NOTEBOOK.
OFFSITE.



9/11/09 UCR BEACH SURFACE SEDIMENT J. MOORE

0730 : ARRIVE AT NORTHPORT BOAT LAUNCH. PREPARE FOR RECON DAM OF BEACHES BELOW NORTHPORT AND ABOVE INFLUENCE of RESERVOIR WATER LEVELS.

0820 : BOAT IN WATER - CONDUCT H&S MEETING. J. MOORE - INTERN
S. SAUCEN - CH2M
M. STIEGMAN - EPA
B. MOSACHER - CULTURAL
C. POWERS - "
B. CORNELIUS "

0850 : MOB TO CHINA BEND BEACH.

0915 : ARRIVE AT CHINA BEND. AT PRESENT WATER LEVELS SEDIMENT ON BEACHES LOOKS GOOD FOR SAMPLING - SANDS & SILTS - LIMITED VEGETATION AND COBBLE.

0920 : STEP OFF BOAT TO DOUBLE CHECK CULTURAL & VEGATION AREAS.
- SHALLOW WATERS - AREA LOOKS OK - PHOTO 083 - SAUCEN CAMERA

0930 - MOB TO FLAT CREEK.

9/11/09 UCR BEACH SURFACE SEDIMENT. J. MOORE

0945 - ARRIVE FLAT CREEK. PROPOSED AREA DOES NOT LOOK GOOD FOR SEDIMENT/BEACH SAMPLING - JA ALL COBBLE AND BEDROCK - ONLY ONE SMALL AREA ~ 5 sq ft AREA PHOTO 083 - SAUCEN PHONE.
- OBSCURE BETTER BEACH FOR SAMPLING TO THE NORTH - MAP AREA using GPS. PHOTOS 084 THRU 087.
AREA IS NEAR AN UNPAVED ROAD, AND SEVERAL CABINS IN VICINITY.
- PHOTO 088 IS EXISTING PROPOSED AREA SHOWING COBBLE.

1000 - MOB TO BOSSBURG FLATS.
NOTE: ALL RECON IS BEING DISCUSSED WITH CULTURAL & EPA AND THESE NOTES REFLECT THE GROUP CONSENSUS.

1010 : NOTE - VAST BEACH AREA NEAR NORTHPORT BOAT RAMP - BETWEEN FLAT SANDS AND BOSSBURG

WHICH HAS RV PARK, ROAD ACCESS AND MULTIPLE SETTLEMENTS. GPS READING TAKEN - 'NORTHCOAST BEACH'.

1012 : ARRIVE AT ELLSBURG BEACH - AREA IS SAND/SILT BAR TO BEACH - CURRENTS ONLY 50 %. EXPOSED BUT SHALLOW WATER - AREA LOOKS GOOD AS PLANNED PHOTO 089.

1020 : MOB TO SNAG COVE.

1025 : SNAG COVE AREA DOES NOT LOOK GOOD FOR BEACH SAMPLING - THAN WHOLE PROPOSED SAMPLING AREA.
PHOTOS 090 - 095.
LOOKS LIKE BOAT LAUNCH AREA NOT RECREATIONAL BEACH/SAND.
- NOTE AREA APPROX 500 FT SOUTH ON SAME SHORE IS SAND/SILT PHOTO 096 - BUT DOES NOT LOOK RECREATIONAL - LOOKS EMBANKMENT, MANY STNS + MUSSELS, SOME COBBLE

1036 : MOB TO EVANS CAMPGROUND BEACH

1040 : ARRIVE AT BEACH ADJACENT TO EVANS CAMPGROUNDS - BEACH IS COBBLE AT CURRENT WATER LEVEL - WHICH MARKS THE MOST SHORELARD EXTENT OF SAMPLE AREA. THE PROPOSED AREA IS NARROW, AND EXTENDS OUT TO POTENTIAL SAND BAR DURING V. LOW WATER - CONSENSUS IS THAT THE SHAPE OF THE SAMPLE AREA WOULD BE BETTER IF ONLY 400 FT OFFSHORE LINE, BUT EXTENDS DOWN TO SAND COVE TO THE SOUTH - TO EXTENT OF FIGURE 2-12 IN FSP.
PHOTOS 097 - 099.
- MARC SUGGEST CONFIRMING WHY SITE EXTENDS OUT RATHER THAN ALONG SHORE, WITH PARK SERVICE.

1055 : MOB TO SUMMER ISLANDS

09/11/06. UCR BEACH SURFACE SEDIMENT J. MOORE

1100 : ARRIVE AT SUMMER ISLAND. AREA LOOKS GOOD FOR SAMPLING, SAND BEACH WITH VEGETATED ISLANDS, AS SHOWN IN FIG 2.13 ESP.
PHOTOS 100 - 104.

1115 : MOB BACK TO NORTH COURT BEACH AREA FOR A CLOSER LOOK TO SEE IF THIS IS AN AREA WHICH SHOULD BE INCLUDED INTO THE BEACH SAMPLING.

1125 : ARRIVE AT NORTH COVE AREA, LOOKS LIKE HIGH USE RECREATIONAL BEACH TO THE SOUTH OF THE BOAT RAMP - APPROX ½ MILE OF SAND BEACH - ALSO SAND BAR AT NORTHERN END OF AREA.
PHOTOS - 105 - 110.

1140 : MOB TO DEAD MANS ESSIE TO CHECK ACTUAL WATER LEVEL AND BEACH TO RIPARIAN ZONE.

1215 : ARRIVE DEAD MANS ESSIE.
OFF BOAT TO MAP BEACH AND VEGETATION TRANSITION.

09/11/06 UCR BEACH SURFACE SEDIMENT J. MOORE

1245 : COMPLETE GPS MAP.
BEACH IS MOSTLY COBBLE, WITH FINGERS OF SAND AND SAND BASE TO UPLAND HISTORIC FLOODPLAIN PLATEAU. IT WOULD BE DIFFICULT BUT POSSIBLE TO SAMPLE AS A BEACH.
PHOTOS - 111 - 113.
OBVIOUS HUMAN ACTIVITY IN AREA - WHEELTRACKS, FENCES CABINS, BOAT MOORINGS. BUT NOT A 'RECREATIONAL BEACH'.

1255 : MOB BACK TO NORTHPORT BEACH BOAT RAMP.

1300 : ARRIVE AT BOAT RAMP. BEGIN UNLOADING BOAT.

1400 : OVERSIGHT + CREW LEAVE SITE

SM 09/11/06.

SUBSURFACE SEDIMENT 2009

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CONTENTS

PAGE	REFERENCE	DATE

9/9/09 BLACK SAND BEACH T.Sand

0900 AT BLACK SAND BEACH.
SET UP DECON AND PROCESSING STATION

0930 BEGIN DECON - BOWLS, SPOONS, SAMPLE TOOLS, core tubes
Weather: ptly cloudy, 60's

1106 At location A.
Surface is large cobble (12" and ~1" thick)
Move away large cobbles to expose sandy substrate

1115 Area cleared by cultural oversight to begin pushing core tube

1135 Begin advancing core @ A1
Able to push ~2.5" before hitting refusal (cobble + gravel) Impact hammer not able to push beyond. Had dug to 6" and it Discuss w/ I. Shpakoff large cobble.
will move location A using reserve coordinates.
B + C were rejected as good locations as they are

9/9/09 T.Sand

underwater.

1202 Subsurface core crew moving to Location D.

1206 At location D. Surface is sand + grass
Able to drive core tube 8" prior to hitting refusal.
Abandon location + request reserve to replace this station.

1220 At Station E. location is same cobble mixture @ abandon site

1225 At location C (alternate)
Able to push core to full 2.5' depth.

1235 Penetrated full 2.5' depth
Location C is acceptable.
Label core and stage for later processing.

1440 On core location D.
Push core to 2.5'
Cultural Oversight - Camille (Park Service)
Collect 2.5' core

9/9/09 J. Sund

1505 On Core location B.
1st attempt hit rock @ ~1.0' bgs. Attempt 2nd try one foot over from original location.
B location abandoned
Alternate location will be determined.

1528 On location E.
1st attempt. Hit hard surface @ 2.0' bgs, either rock or hard packed sand!
2nd attempt, move up slope ~1.0' Hit hard surface @ 8.0".
3rd attempt, 1.0 off location toward river.
3rd attempt successful.
Slag layer present @ 30 cm.

1626 While waiting for new core locations, begin processing cores C, D, E

9/7/09 J. Sund

Core C, length in core tube = 30cm (2.5')

~~1705 Begin~~ IS
Collect discrete samples from core C
CR-BSC1 1640
CR-BSC2 1641
CR-BSC3 1643
Transfer remainy sediment from each (C1, C2, C3) in larger pots for eventual combination w/ other cores

1706 Begin processing Core D.
Extrude on foiled table
Recovery in core tube = 3.5'
Extruded to 3.0'
Collect discrete for Core D
CR-BSD1 1711
CR-BSD2 1712
CR-BSD3 1713
Transfer remay to larger pot

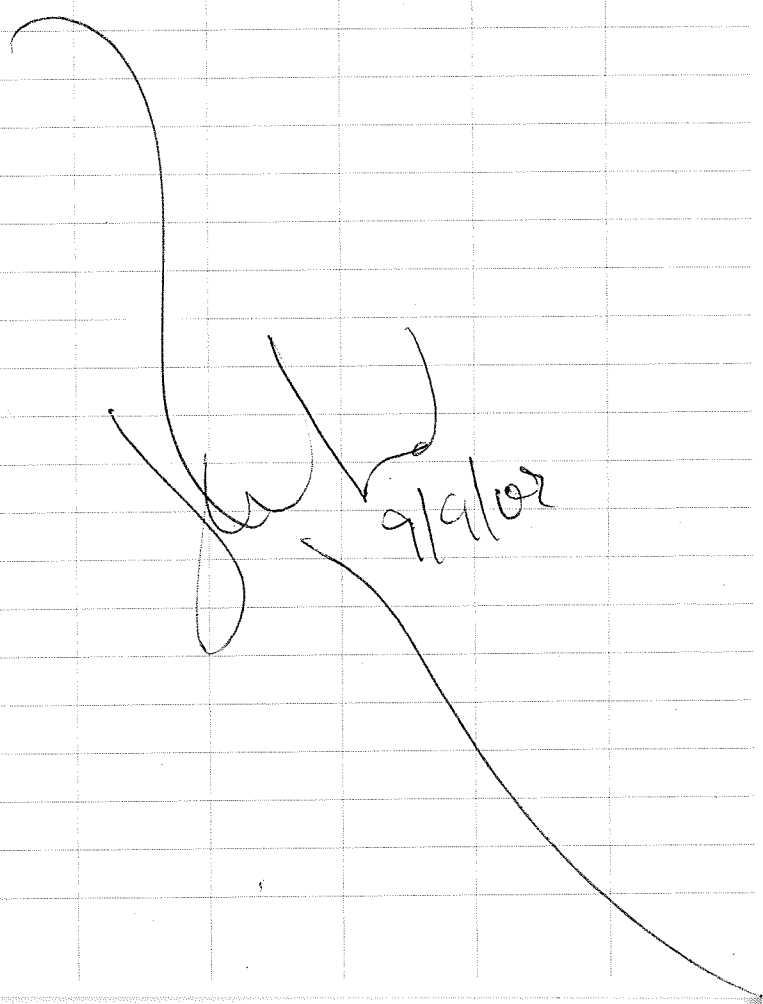
1740 Begin processing core E

9/9/09 T.SUND

Extrude on foiled table
Recovered in core tube 22"
Extruded 32"
Collect discrete for Core E
BSE1 1750
BSE2 1752
BSE3 1753
1815 Begin location A, Drive
core to 2.5'
Extrude for processing
Core tube = 2.5 30"
Extruded = 32"
Collect discrete for A
BSA1 0-0.5
BSA2 0.5-1.5
BSA3 1.5-2.5
Transfer rem to composite
container.
1845 On location B, Drive core to 2.5'
Core tube = 30"
Extruded = 30"
Begin Processing
1910 Begin processing Composites
CR-BS1 1911

9/9/09 T.SUND

CR-BS2 1912
CR-BS3 1913
1920 Complete Core
Processing.



9/10/09 UCR BEACH CORE (J. SCHD)

1115: Begin Subsurface Coring @ location RVB
PHOTO: 0303 - JM CAMERA.
30" RECOVERY.

1125: MOB TO LOCATION RVA.

1130: BEGIN COLLECTING CORE RVA
PHOTO 0305 - JM CAMERA.
30" RECOVERY.

1135: MOB TO LOCATION RVE.

1140: BEGIN CORING RVE.
PHOTO 0308 - JM CAMERA
MOVE LOCATION 2 FT SOUTH
REFUSAL AT 1 FT.
- REFUSAL AGAIN - PHOTO 0310 JM CAMERA.
DECIDE TO MOVE LOCATION TO ALTERNATE AREA.

1146: MOB TO LOCATION RVD.

1148: BEGIN CORING AT RVD
PHOTO 0311 - JM CAMERA
30" RECOVERY.

1150: MOB TO RVA

1200: COLLECT CORE RVA.
PHOTO 0312 - JM CAMERA

09/10/09 UCR BEACH CORES J. MOORE

30" RECOVERY.

1205: MOB TO ALTERNATE RVE LOCATION

1212: COLLECT CORE RVE
PHOTO 0312 - JM CAMERA
36" RECOVERY.

1220: ALL CORES AT PROCESSING AREA

1240 COLLECT RINSATE BLANK ON SUBSURFACE CORE COLLECTION EQUIPMENT (both core heads, one plug, one Lexan, one discrete bowl, one spoon, one 12 qt bowl)
SN0051

1315: BEGIN PROCESSING CORES.
OPEN CORE RVA.

1325: LOG CORE RVA.
COLLECT RVA-1 - 1325
RVA-2 - 1326
RVA-3 - 1327

* NOTE - SPLIT COLLECTED FROM 1 INTERVAL - SO EACH 1

09/10/09 UCR BEACH CORE J. Moore

INTERVAL FROM EACH CORE WILL HAVE SAME DISCRETE SAMPLE NUMBER REMOVED.

1340 : DECON AREA, OPEN CORE RUB. 30" CORE

RUB1 - 1344
RUB2 - 1345
RUB3 - 1346

1350 : DECON AREA OPEN CORE RUC.

1400 : PROCESS CORE RUC

RUC1 - 1400
RUC2 - 1401
RUC3 - 1402

1405 : DECON AREA, OPEN CORE RUD

RUD1 - 1407
RUD2 - 1408
RUD3 - 1409

1411 : DECON AREA. OPEN CORE RUE.

RUE1 - 1422
RUE2 - 1423
RUE3 - 1424

09/10/09 UCR BEACH CORE J. MOORE

1430 : COMPLETE AREA + EQUIPMENT DECON.

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April 27, 2010 – April 30, 2010

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PAGE	REFERENCE	DATE

4-27-2010 S. Wojcicki

0850 Arrived at Summer Island. S. Wojcicki. I. Stankiewicz [illegible] team.

0905 Started to place flags @ locations [illegible]

0940 SR779 [illegible] in the lake. The alternate for this will be SR-127.

952 - Need ~~688~~ (SR) alternate for SR-688-C4 it's in the water, Going to alternate SR 620-C4

1025 Need alternate station for SR-423-C it is SR-266-C Core

1153 Need alternate for SR659, alternate is SR-854. SR-659 is in water

1208 SR-688 is submerged, alternate SR-777

1240 SR-443 is submerged, alternate is SR-199

1428 Received refusal at SR711, next alternate selected is SR-393

SL - 4/27/2010

4/28/2010 S. Wojcicki

0850 At Barnabi Island setting up flags

Station BC-2980 is 58ft underwater.

Alternate is BC-2980 for composite E.

Station BC-1192 is on thick canary grass area. Alternate is BC432

Station BC-966 is on thick canary grass area. Alternate is ~~BC-2749~~ (is) 2749.

1049 station BC-361 is in thick canary grass. Alternate is BC-1799

Alternate station BC-1192 is in thick canary grass. Alternate station is BC-1238

1226 Need alternate station for BC-1110, due to thick grass. Alternate is BC-1590

1230 Need alternate station for BC-1076, due to thick grass. Alternate is BC-432.

Need alternate fo BC-432 due to thick grass. Alternate for BC-432 is BC-2749

4/28/2010 S. Wodzick.

1515 BC-3509 is an alternate for BC-2590, This was a core. Alternate was chosen because of refusal at BC-2590, refer to core field notebook for notes from BC2590.

1603 Alternate BC-184 core attempted as an alternate for BC-2129. BC-224 and BC272 were checked as alternates for BC2129 but were rejected due to cobble/gravel at locations. BC-184 was rejected due to cobble. Making second attempt, did not work, cobble.

1615 Went to alternate BC-78 to core. Failed attempt.

1623 At alternate BC-72 to core, rejected due to cobble

1629 ~~BC CORE D~~ SW 4/28/10
BC-core D
48.45222840 N
-118.22011980 W

1645 BC-coreE
48.4489 8302 N
-118.21794749 W

SW 4/28/2010

4/29/2010 S. Wodzick

0900 Began placing flags at Dalles.

0950 - Finished placing flags at Dalles.

1415 At Northport beach
At Core station NP-194 under walkway. Alternate NP-69.
At station NP-180, station on cobble. Alternate station is NP-167.
At alternate station NP-167. Station on cobbles. Alternate site is NP-63
At NP-63. station is OK.
At station NP-82. OK.
At Alternate NP-69 from NP-194. OK.
Alternate from NP-216 is NP-33. Alternate station is on cobble. Alternate station is NP-77.
NP-77 is on cobble. Alternate is NP-206. Area was disturbed by bulldozers.

1450 At NP-82. Alternate is

4/29/2010 I. Stupakoff

1442 Crew collected successfully NP-109 as alternate core A

1453 At NP-63, rejected for cobble. Alternate is 91

1456 At NP-69, rejected at 13 inches. Alternate at NP48

1500 At NP-91 successfully collected core B

1501 At NP-48 rejected at 6". Alternate is NP-93 for core ~~D~~ (5) D
Alternate NP-104 for core ~~C~~ (5) C

1510 Alternate NP-93 rejected at 20".

1513 Alternate NP-60 rejected at 4".

1517

1523 NP-104 reject attempt 1

1524 NP-104 reject attempt 2

1530 Joss Moore explained to Monica Tonnel (EPA) that after attempting stations NP119 and NP128. The field crew will attempt to collect at randomly selected points within the polygon.

4/29/2010 I. Stupakoff

1535 At NP-119 succesful collection core C

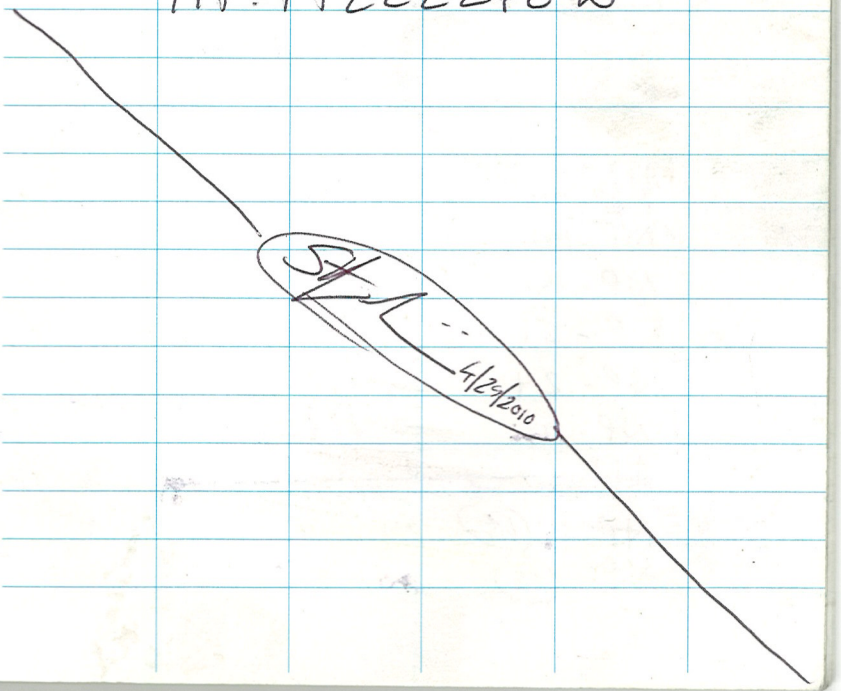
1544 At NP-128 succesful collection core D

1545 AT NP-E1, randomly selected core E, attempt 1. Rejected.

1547 attempt 2 rejected 20 in. attempt 3 rejected ~15 in

1551 attempt 4 rejected ~15 in

1554 NP-core E successfully collected
48.92207221 N
-117.77222270 W



4/30/2010 I. Stupakoff, S. Wadzicki.

0845 Arrived at China Beach Beach.

0850 Begining to flag beach.

1030 Finished flagging China beach beach.

1400 Started at Northport Beach.

Disturbed area was mapped and determined that a large number of targeted stations and alternate stations have been removed from sampling polygon. In addition, a fill area with large cobbles was also excluded removing an additional 11 target and alternate stations.

Alternate for composite C

alternate
- NP-146 → NP-222
- NP-141 → NP-190
- NP-51 → NP-199
- NP-24 → NP-155
- NP-14 → NP-160

} refused

~~Alternate for composite A~~ (15)

~~NP-~~ (15)

~~NP-~~ (15)

4/30/10 S. Wadzicki, I. Stupakoff

Alternate for composite B

Alternate
- NP-143 → NP-215
- NP-39 → NP-217
- NP-125 → NP-176

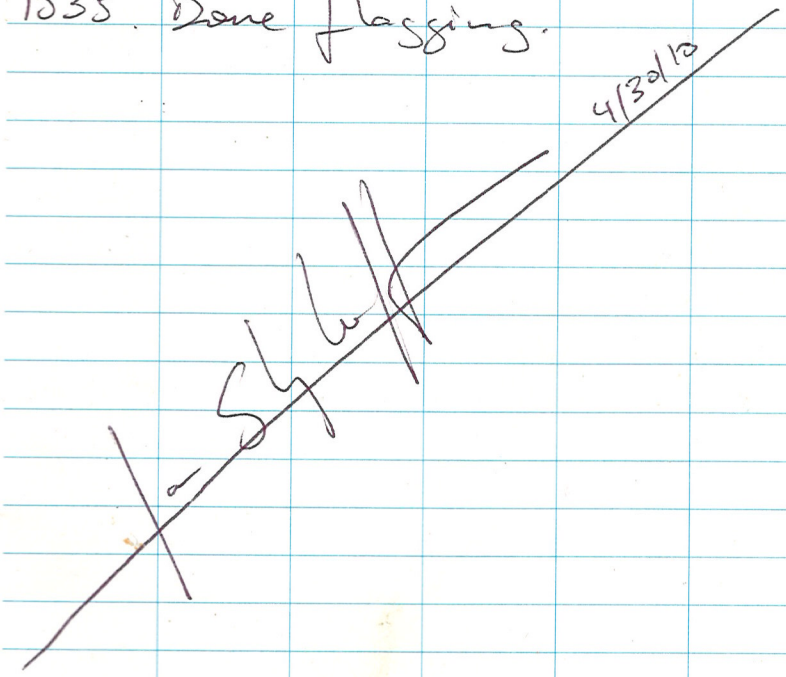
} refused

Alternates for composite A

Alternate
- NP-148 → NP-219
- NP-107 → NP-175
- NP-80 → NP-173
- NP-41 → NP-197
- NP-31 → NP-183

} refused

1535 Done flagging.



YUMA NAVIGATION FIELD NOTES 2010

4/27/10 UCR Beach Sampling

Note Title 4/27/2010

Jan Stupakoff

Summer Island

952 SR 688 in water
Alternate SR-620 for C4.

1022 SR-423 - subsurface - cobble area.
Alternate SR266.

1045 At SR-779 - Submerged cobble area
Alternate at SR-127

1153 At SR 659. station Located 32 ft under water. Alternate location is SR884 - Composite A4.

1205 At SR 628 - station is submerged.
Alternate location is SR777. for Composite D2.

1247 At SR443. Location right on water line and cobble area. Alternate location SR189, composite B10.

4/28/10 Barnaby Island.

1145 At Alternate BC-1238 located on thick canary grass. Alternate station is BC 2743.

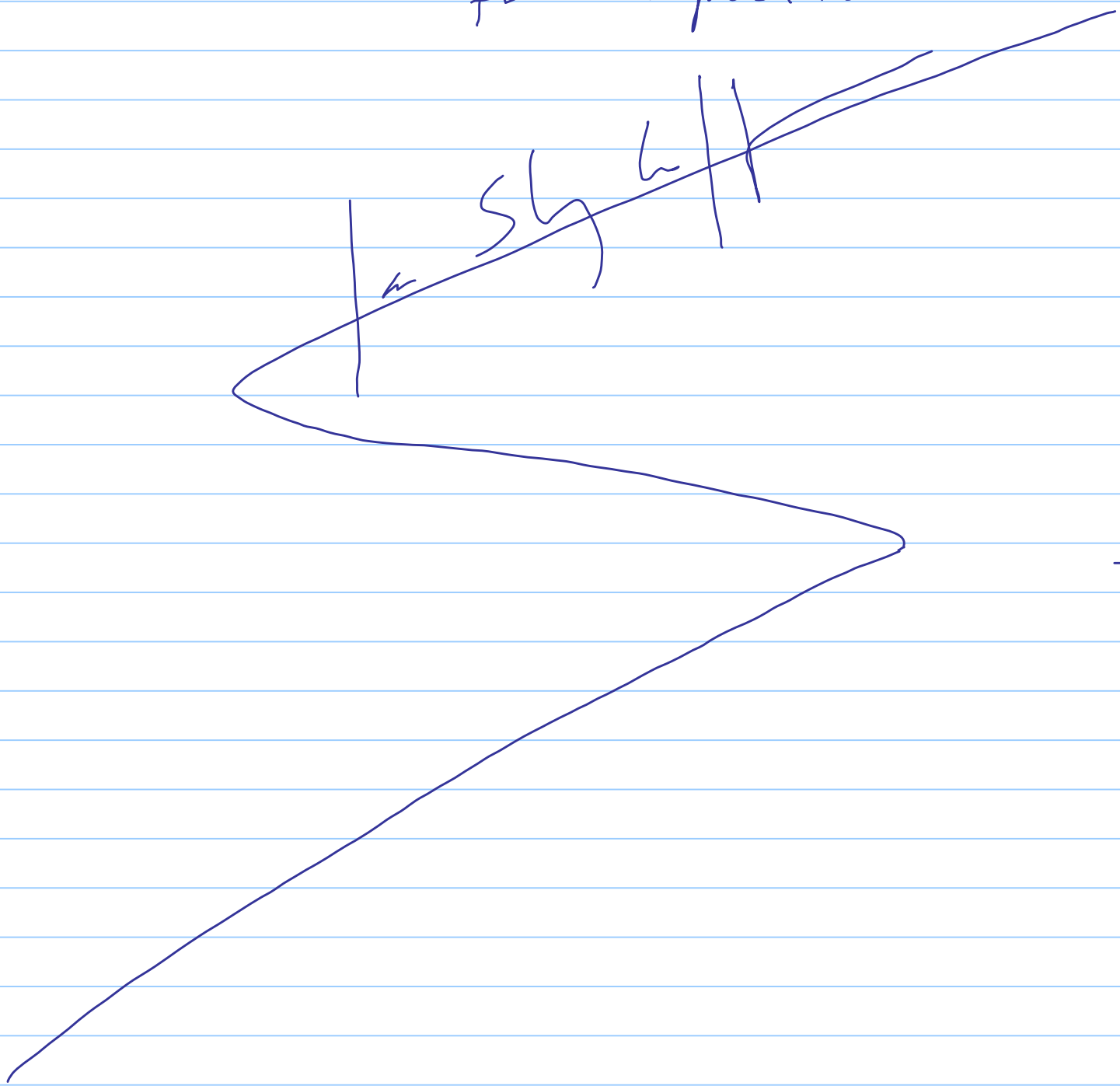
1154 At BC 1799 as alternate for BC-192

1214 At BC 2150 on cobble. Alternate station BC-345.

1240 At BC1117 station on thick canary grass. Alternate location BC-46.

1257 At BC-703 station covered with wood debris. Alternate station is BC-995

1303 At BC-995 station on thick canary grass and wood debris. Alternate station BC-2384. for composite E.



SURFACE SEDIMENT FIELD NOTES
BOOK 1 2010

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Sept 9, 2009 - Sept. 10, 2009
April 27, 2010 - April 30, 2010

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Sept 9, 2009 -

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CONTENTS

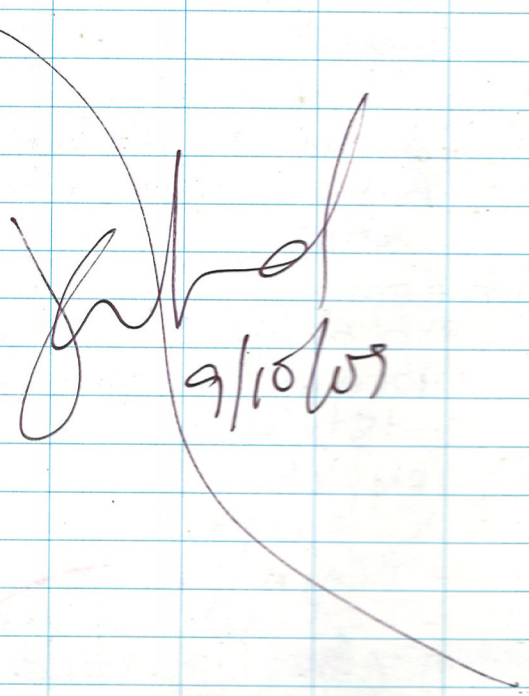
PAGE	REFERENCE	DATE

9/10/09 UCR RV Park J. Sund

'D' surface samples
Begin processing.
SD-RVD, SN0029

1516 Complete collection of 'E' surface samples
SD-RVE, SN0030

1540 Complete surface collection of surface sediment @ UCR RV Park.



4/27/10 Surface Sampling J Sund

0845 Arrive @ Summer Island
Team: J. Sund
B. Lawrence > Integral
Oversight: Cheryl Pooley
Marcella Ripich-CAZMP

*See field sample logs for specific information of collection of surface samples.
Camera: Pentax Optio W10

Begin collecting composite E from S end of Summer Island.

0930 AT SR-901, begin collecting surface 0-6" sample
- collect ~4 scoops from each 0-6" sidewall

0932 AT SR-822, collect 0-6"
1002 AT SR-667, collect 0-6"
1010 AT SR-540, collect 0-6"

4/27/10 Surface Sampling J. SCHMD

1016 AT SR-465, collect 0-6"
1023 AT SR-513, collect 0-6"
1033 AT SR-394, collect 0-6"
1041 AT SR-302, collect 0-6"
1050 AT SR-93, collect 0-6"
1056 AT SR-83, collect 0-6"
1101 AT SR-63, collect 0-6"
1108 AT SR-28, collect 0-6"
1120 Complete collect of E subsamples.
1145 Mob back to S. end to begin collection of B samples
1200 AT SR-808, collect 0-6"
1207 AT SR-805, collect 0-6"
1215 AT SR-732, collect 0-6"
1220 AT SR-705, collect 0-6"
1225 AT SR-640, collect 0-6"
1230 AT SR-470 collect 0-6"
1235 AT SR-452 collect 0-6"
1301 AT SR-189, alternate for SR-443 (area was underwater), collect 0-6"
1307 At SR-127, alt for SR-779 collect 0-6"

4/27/10 Surface Sampling J. SCHMD

1319 AT SR-65, collect 0-6"
1325 AT SR-69, collect 0-6"
1333 Complete collection of B composite. Transfer to processing crew.
1350 Mob to S. end to begin ~~processing~~ 8 4/27/10 collection of D composite (2 scoops per location)
1410 AT SR 777, alternate for SR-628 (collect 0-6"
1420 At SR-726, collect 0-6"
1425 At SR-503 collect 0-6"
1428 At SR-340, collect 0-6"
1431 At SR-397, collect 0-6"
1436 At SR-384, collect 0-6"
1440 At SR-271, collect 0-6"
1445 At SR-199, collect 0-6"
1450 At SR-163, collect 0-6"
1455 At SR-166, collect 0-6"
1501 At SR-90, collect 0-6"
1515 Complete collection of D composite. Transfer to processing team.
1520 End Surface

4/28/10 Surface Sampling T.SUND

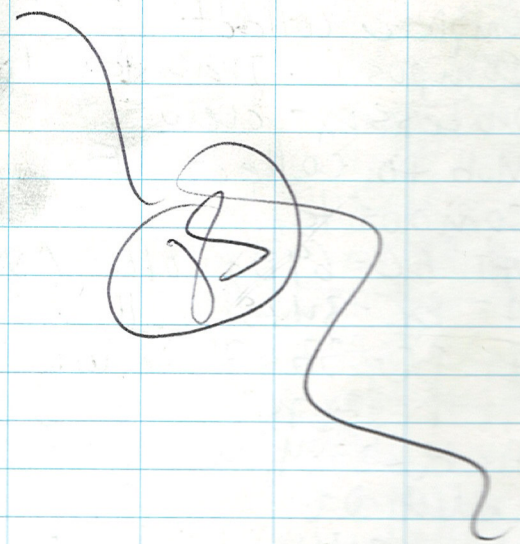
0830 AT Barnaby Island
Team: T.SUND
B.LAWRENCE > Integral
Oversight: Cheng, Pooley - Colvill

0913 Begin collecting composite D
At ~~D~~ BC-3540, collect 0-6"
0925 At BC3104, collect 0-6"
0935 At BC 3005, collect 0-6"
0946 AT BC 2910, collect 0-6"
0952 AT BC 2375, collect 0-6"
0956 AT BC-2215, collect 0-6"
1000 AT BC-2263, collect 0-6"
1008 AT BC-1656, collect 0-6"
1016 AT BC-1966 - collect 0-6"
1022 AT BC-1461 - collect 0-6"
~~AT BC-361, Alt for~~ ~~BC-1799~~
1150 ~~At~~ BC-1799, AT BC-361
1155 AT BC-2743, ~~alt for BC-1192~~
alt for BC-1192
Complete D composite
1200 Begin C composite

4/28/10 Surface Sampl T.SUND

~~A~~213 At BC-3182, collect 0-6"
1221 AT BC-3263, collect 0-6"
1228 AT BC-3660 collect 0-6"
1235 AT BC-3452, collect 0-6"
1242 AT BC-2820, collect 0-6"
1247 AT BC-2348, collect 0-6"
1256 AT BC-1997, collect 0-6"
1303 AT BC-1286, collect 0-6"
1309 AT BC-1337, 0-6"
1312 At BC-1253, collect 0-6"
1328 AT BC-478, collect 0-6"
1334 AT BC-99, collect 0-6"
Complete collect of C
Composite transfer to
processing crew
Mob to collect E
1445 composite
1454 AT BC-690, collect 0-6"
1509 AT BC-3478, collect 0-6"
1514 AT BC-3387, collect 0-6"
1520 At BC-3678, collected 0-6"
1536 At BC-2384, alt for BC 703
collect 0-6"
1542 AT BC-2130, alt for BC-2980

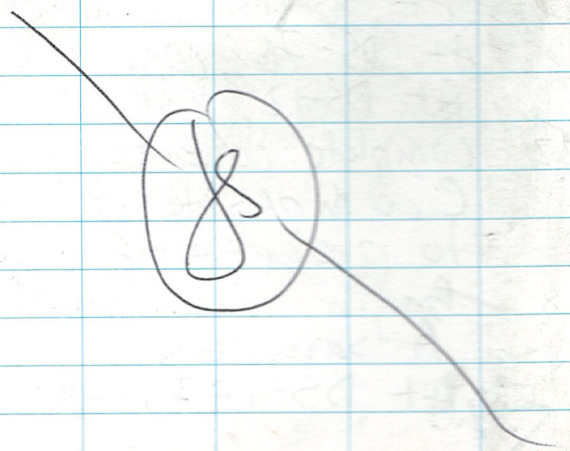
4/28/10 Surface Samply. J.SUMS
Collect 0-6"
1550 At BC-1520, collect 0-6"
1557 AT BC-1633, collect 0-6"
1606 AT BC-620, collect 0-6"
1614 AT BC-345, alt for
~~1621~~ 8/4/10 BC-2150, collect 0-6"
1621 AT BC-149, collect 0-6"
1628 AT BC-46, alt for
BC-117, collect 0-6"
Complete collectn of
E & transfer to processg
End



4/29/10 Surface Samply JSUMS
0925 At Dalles Orchard
Crew: J.SUMS
B. Lawrence > Integral
C. Pooley - Colville
Begin collectg of
C Composite
0941 At DS-238, collect 0-6"
0944 AT DS-221, collect 0-6"
0947 At DS-243, collect 0-6"
0950 At DS-176, collect 0-6"
0954 At DS-180, collect 0-6"
0958 AT DS-108, collect 0-6"
1002 At DS-47, collect 0-6"
1007 At DS-14, collect 0-6"
1010 At DS-191, collect 0-6"
1013 At DS-115, collect 0-6"
1016 At DS-76, collect 0-6"
1019 At DS-12, collect 0-6"
1022 Complete collectn of
C composite, transfer
to processg area.
1028 Begin collectn of
A samples
At DS-172, collect 0-6"

4/29/10 Surface Sampling JSUND

1031 AT DS-172, collect 0-6"
1034 AT DS-149 collect 0-6"
1036 AT DS-205, collect 0-6"
1040 AT DS-125, collect 0-6"
1042 AT DS-104, collect 0-6"
1044 AT DS-107, collect 0-6"
1047 AT DS-28, collect 0-6"
1049 AT DS-111, collect 0-6"
1053 AT DS-192 collect 0-6"
1055 AT DS-142, collect 0-6"
1059 AT DS-41, collect 0-6"
1100 Complete collection of A transfer to processing area
END



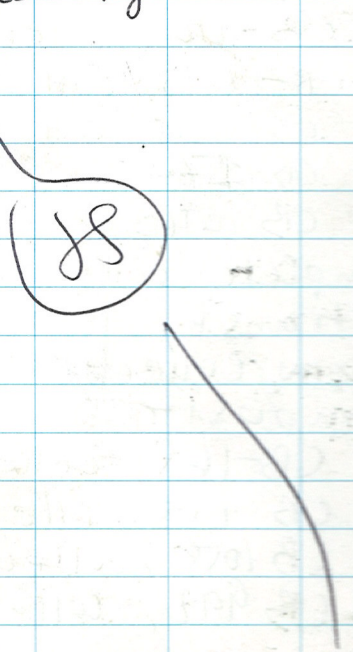
4/30/10 Surface Sampling. JSUND

0800 Mob to China Bend (crew - JSUND, B. LAWRENCE, C. POULEY, M. TONEY, EBA)
0850 Arrive @ China Bend
0857 Begin collection of D composite
0858 AT CB 68, collect 0-6"
0903 0906 AT CB-295, collect 0-6"
4/29/10
0912 AT CB-344, collect 0-6"
0917 AT CB-341, collect 0-6"
0923 AT CB-289, collect 0-6"
0935 AT CB-781 collect 0-6"
0941 AT CB-904, collect 0-6"
0954 AT CB-170, collect 0-6"
0958 AT CB-1073, collect 0-6"
1004 AT CB-1098, collect 0-6"
1011 AT CB-~~1074~~, collect 0-6"
1016 AT CB 1040 collect 0-6"
Complete collection of D transfer to processing.
1033 Begin collection of B composite
1034 AT CB-168 collect 0-6"
1039 AT CB-159, collect 0-6"
1044 AT CB 1058, collect 0-6"
1049 AT CB 992, collect 0-6"

4/30/10 Surface Samplg T. SUND

1056 AT CB-723, collect 0-6"
1101 AT CB-940, collect 0-6"
1107 AT CB-620, collect 0-6"
1111 AT CB-587, collect 0-6"
1116 AT CB-704, collect 0-6"
1120 AT CB-635, collect 0-6"
1126 AT CB-320, collect 0-6"
1132 AT CB-283, collect 0-6"
1135 Complete collection of B. transfer to processing

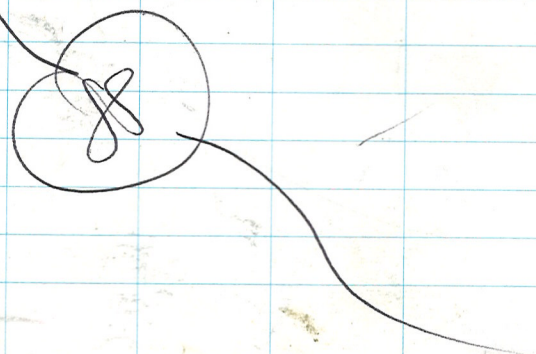
End



4/30/10 Surface Samplg T. SUND

1407 At Northpoint.
1433 Begin collecting A
1434 At NP-148, collect 0-6"
1437 At NP-121, collect 0-6"
1440 At NP-112, collect 0-6"
1444 At NP-107, collect 0-6"
1449 At NP-80, collect 0-6"
1454 At NP-71, collect 0-6"
1503 At NP-46, collect 0-6"
1505 At NP-73, collect 0-6"
1510 AT NP-41, collect 0-6"
1512 AT NP-31, collect 0-6"
1523 AT NP-7, collect 0-6"
1526 At NP-29, collect 0-6"
1530 Complete 'A' transfer to processing train

END



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Project UCR - BEACH SEDIMENT
SAMPLING

CONTENTS

4/27/10 UCR BEACH J. MOORE

0730: ARRIVE AT KETTLE FALLS. PREPARE FOR BEACH SAMPLING AT SUMMER ISLAND.
- CONDUCT H&S MEETING.

INTERIOR - I. STEWART
J. MOORE
S. WOJCIK
J. SIMS
P. JENSEN
B. LAURELE
K. CARLTON

GRAVITY - S. HINES
R. PLUMLEE
M. DUFFIELD
J. WILSON

EPA - M. STIFFLEMAN

CH2MHILL - M. RUSTEN

OVERSIGHT - C. POWERS - COLVILLE
L. RYEN - NPS

0810 - MOVE TO SUMMER ISLAND.

0845 - ARRIVE SUMMER ISLAND.
J. MOORE, P. JENSEN, SURFACE

4/27/10 UCR BEACH J. MOORE

SAMPLING TEAM.
CARRIE RISER - NPS + M. STIFFLEMAN EPA.

0913 - ARRIVE AT SR-769 - COMPOSITE C SURFACE SAMPLE.
- USING CAMERA 1088.
- photo 5689

0928 - arrive at SR-865 - composite C surface sample
- using camera 1088
- photo 5690

0946 - arrive at SR-721 composite C surface sample
- photo 5691

1000 - arrive at C4, SR 620 (Kettle)
- surface sample
- photo 5692

1010 - arrive at C5, SR607 surface sample, photo 5693

1020 - arrive at C6, SR 475 surface sample
- photo 5694

1030 - arrive at C7, SR 374 surface sample
- photo 5695

1035 - arrive at C8, SR 311 surface sample
- photo 5696

4/27/10 UCR Beach P. Jensen

1040 - arrive at C9 SR 224 surface sample
- using camera 1098
- photo 5697

1045 - arrive at C10 SR 215 surface sample
- photo ~~5698~~ 5698

1050 - arrive at C11 SR ~~214~~ surface sample
- photo 5699 124

1055 - arrive at C12 SR 47 surface sample
- photo 5700

1100 - lunch

1130 - mobilize to next composite series

1205 - arrive at A1, SR 845
for surface sample
- photo 5701

1210 - arrive at A2, SR 884
alternate for SR 659
- surface sample
- photo 5702

1215 - arrive at ~~APP~~ A3, SR 710
- surface sample
- photo 5703

1220 - arrive at A4, SR 742
- surface sample
- photo 5704

4/27/10 UCR Beach P Jensen

1250 - arrive at A5, SR-350
- surface sample
- photo 5705

1255 - arrive at A6, SR 331
- surface sample
- photo 5706

1300 - arrive at A7, SR 391
- surface sample
- photo 5707

1315 Attempt subsurface core ~~for~~ Cores

1335 arrive at A8, SR 150
- surface sample
- photo 5709

1340 - arrive at A9, SR 105
- surface sample
- photo 5710

1345 - arrive at A10, SR 64
- surface sample
- photo 5711

1350 Arrive at A11, SR 31
for surface sample
- photo 5712

1410 - MOVE TO COLLECTING CORES.

AJ

4/28/10 UCR BEACH J. Moore

0730: ARRIVE TO KETTLE FARM MARINA - PREPARE TO MOB TO BARNABY BEACH

0900 Arrive on Barnaby beach, split with same sampling teams. J. Moore, P. Jensen, L. Riser for surface sampling

0915 Arrive at BC 3488, Composite B for surface sample, using camera 1098, photo number 5732

0925 Marcella Ripich joins team as observer

0940 - arrive at BC-2268, Composite B for surface sample
- photo number 5733

0945 arrive at BC-2515, Composite B for surface sample
- photo number 5734

1000 arrive at BC 1824, Composite B for surface sample
- photo number 5735

1005 - arrive at BC 1492, Composite B for surface sample
- photo number 5736

4/28/10 UCR Beach P. Jensen

1010 - arrive at BC 1143, Composite B for surface sample
- photo number 5737

1020 - arrive at BC 2017 for Composite B surface sample
- photo number 5738

1045 - arrive at BC 778 for Composite B surface sample
- photo number 5739
- Note that B7 was refused by Mark due to vegetation - will use alternate station

1050 - arrive at BC 596 for Composite B surface sample
- photo number 5740
- Marcella leaves group to get rain pants

1055 - arrive at BC 168 for Composite B surface sample
- photo number 5741

1120 - arrive at BC 2022 for Composite B surface sample
- photo 5742

1130 - arrive at alternate for B12, BC 2749 for Composite B surface sample
- photo 5743

↑ was also sampled for composite B1 see page 9 at 1255 (15) 5/17/10

4/28/10 UCR Beach P. Jensen

1200 Arrive at BC 2759 for Composite A surface sample
- photo 5744

1205 Arrive at BC 2692 for Composite A surface sample A3
- photo 5745
- Marcella Krejcins group for oversight

1215 Arrive at BC 2713 for Composite A surface sample
- photo 5746

1220 Arrive at BC 1735 for Composite A surface sample A5
- photo 5747

1225 Arrive at BC ~~1315~~ PJ 1313 for Composite A surface sample
- photo 5748

1230 Arrive at BC 830 for Composite A surface sample
- photo 5749

1235 Arrive at BC 1284 for Composite A surface sample
- photo 5750

1240 Arrive at BC 1255 for Composite A surface sample
- photo 5751

4/28/10 UCR Beach P. Jensen

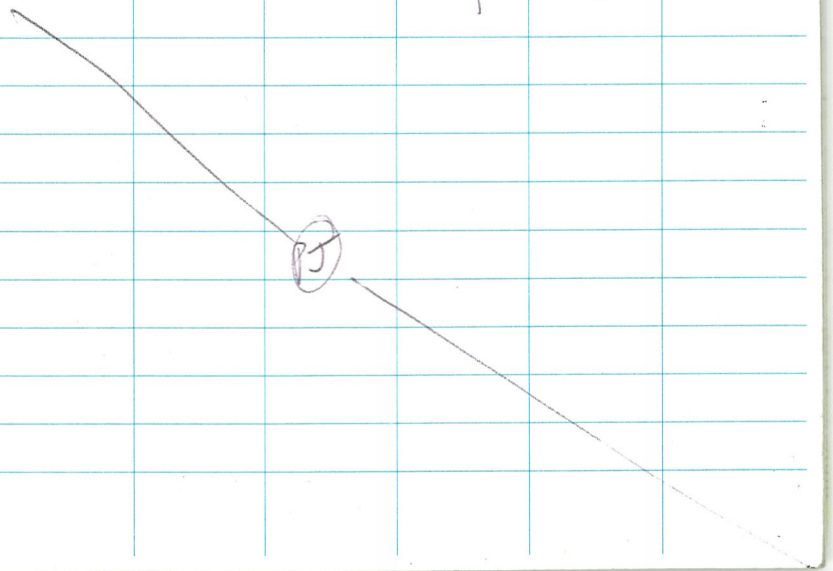
1245 Arrive at BC 1586 for Composite A surface sample
- photo 5752

1250 Arrive at BC 1590 for Composite A surface sample
- photo 5753
- Marcella R left group for tents

1255 Arrive at BC 2749 for Composite A surface sample Ls was also sampled for composite B. See page 1 at 11:30. PJ 5/17/10
- photo 5754

1315 Arrive at BC 186 for Composite A surface sample
- photo 5755

1330 - Move to collecting cores



4/29/10 UCR Beach P. Jensen

0800 Arrive at Northport boat ramp
Prepare to mob to Dalles Orchard Beach
Difference in crew include
Monica Tovel from OSA
Laura McCullough cultural (Parks)

0900 Set off from dock en route to Dalles Orchard Beach

0910 Arrive at Beach, send GPS team ahead of surface sampling teams and secure boats at North end of beach

0930 - Arrive at DS-248 for Composite B surface sampling - Camera 1098
- photo number 5768

0940 - Arrive at DS-217 for Composite B surface sampling
- photo number 5769

0945 Arrive at DS-220 for composite B surface sample
- photo number 5770

0947 Arrive at DS-242 for composite B surface sample
- photo number 5771

4/29/10 UCR Beach P. Jensen

0951 Arrive at DS-144 for Composite B surface sample
- photo number 5772

0954 Arrive at DS-203 for Composite B surface sample
- photo number 5773

0957 Arrive at DS-43 for Composite B surface sample
- photo number 5774

0959 Arrive at DS-84 for Composite B surface sample
- photo number 5775

1002 Arrive at DS-66 for Composite B surface sample
- photo number 5776

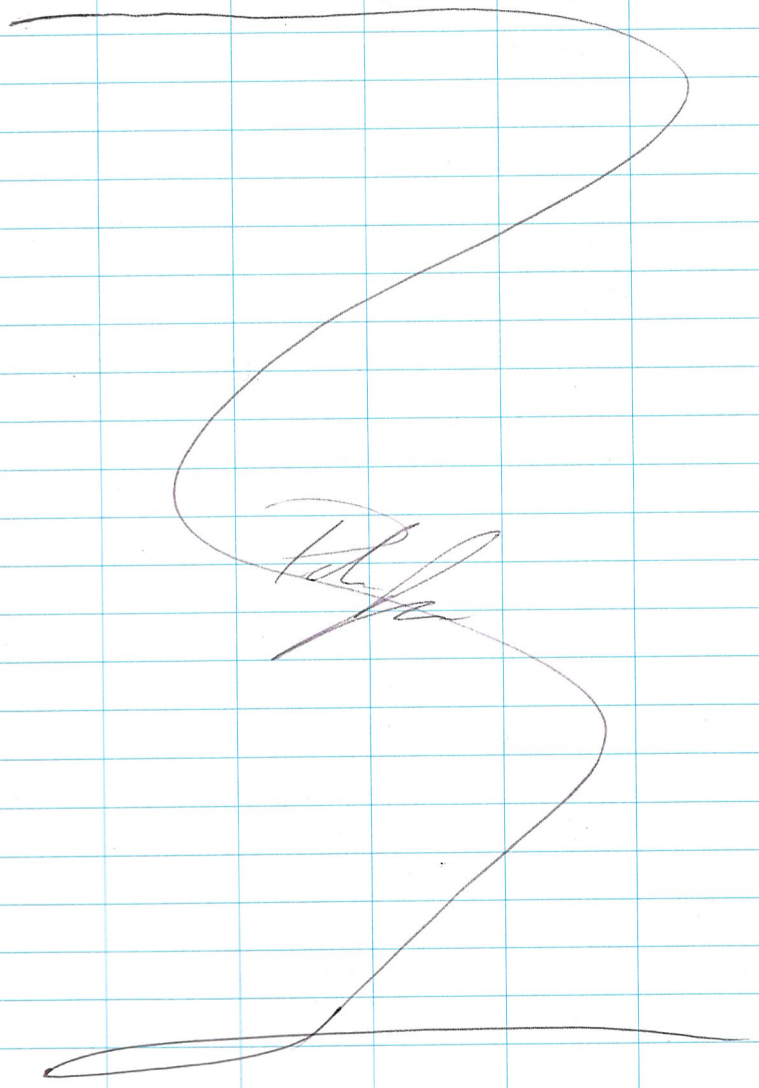
1005 Arrive at DS-140 for Composite B surface sample
- photo number 5777

1007 Arrive at DS-21 for Composite B surface sample
- photo number 5778

1009 Arrive at DS-1 for Composite B surface sample
- photo number 5779

4/29/10 UCR Beach P. Jensen

1015 Move to subsurface sampling



4/30/10 UCR Beach P. Jensen

0730 Mob to China Bend boat ramp

0800 Load boats at China Bend boat ramp

0900 Arrive at China Bend Beach and send out GPS team for flagging
Surface sampling team J. Moore P. Jensen, Laura McCullagh

0905 Arrive at CB-70 for Composite A surface sample
- Using camera 1098, photo 5812

0910 Arrive at CB-7 for Composite A surface sample
- photo 5813

0920 Arrive at CB-536 for Composite A surface sample
- photo 5814

0935 Arrive at CB-438 for Composite A surface sample
- photo 5815

0940 Arrive at CB-463 for Composite A surface sample
- photo 5816

4/30/10 UCR Beach P. Jansen

0945 Arrive at CB-313 for Composite A surface sample
- photo 5817

0950 Arrive at CB-385 for Composite A surface sample
- photo 5818

1000 Arrive at CB-793 for Composite A surface sample
- photo 5819
- joined by

1005 Arrive at CB-828 for Composite A surface sample
- photo 5820

1010 Arrive at CB-783 for Composite A surface sample
- photo 5821

1015 Arrive at CB-754 for Composite A surface sample
- photo 5822

1020 Arrive at CB-97 for Composite A surface sample
- photo ~~CB97~~ 5823.

1030 J. Moore discussion w Monica Tosel

4/30/10 UCR Beach P. Jansen
I. Stupakoff

about ~~extra~~ 15 exclusion of 13th sample location. Collecting a 13th sample would change the sample and make it not comparable to the other composites. M. Tosel agreed to exclude the station CB-675 to maintain 12 stations in each composite.

1040 Drop off composite A at boat

1045 J. Moore and S. Wodzicki head out to collect surface sample C

1057 At CB-233 for composite E surface sample
photo 0054 [from Canon SD780]

1107 At CB-324 for composite E surface sample
photo 0055

1113 At CB-267 for composite E surface sample
photo 0056

1118 At CB-394 for composite E surface sample
photo 0057

1123 At CB-429 for composite E

4/30/10 r. Stupakoff

surface sample
photo 0058

1126 At CB-262 for composite E
surface sample
photo 0059

1132 At CB-592 for composite E
surface sample
photo 0060

1138 At CB-737 for composite E
surface sample
photo 0061

~~1146~~ At CB-~~755~~ 707 for composite E
1152 surface sample
photo 0062

1200 At CB1071 for composite E
surface sample
photo 0063

1204 At CB1054 for composite E
surface sample
photo 0064

1208 At CB-755 for composite E
surface sample
photo 0065
Done collecting composite E

4/30/10 UCR Beach P. Jensen

12:30 Mobilize to Northport Beach for surface sampling

1405 Arrive at Northport and mob for surface sampling; team J. Moore + P. Jensen

1445 Arrive at NP-141 for Composite C
surface sample
~~Camera Canon 5D 780 photo~~ PJ
Using camera 1098, photo 5836

1450 Arrive at NP-146 for Composite C
surface sample
- photo 5837

1455 Arrive at NP-127 for Composite C
surface sample
- photo 5838

1500 Arrive at NP-86 for Composite C
surface sample
- photo 5839

1502 Arrive at NP-61 for Composite C
surface sample
- photo 5840

1504 Arrive at NP-64 for Composite C
surface sample
- photo 5841

4/30/10 UCR Beach P. Jensen

1506 Arrive at NP-51 for Composite C surface sample
- photo 5842

1508 Arrive at NP-38 for Composite C surface sample
- photo 5843

1512 Arrive at NP-24 for Composite C surface sample
- photo 5844

1516 Arrive at NP-17 for Composite C surface sample
- photo 5845

1520 Arrive at NP-14 for Composite C surface sample
- photo 5846

1524 Arrive at NP-9 for Composite C surface sample
- photo 5847

1530 Finish composite C

1540 Start composite B surface sample
Arrive at NP-144 for surface sample
- photo 5848

1543 Arrive at NP-133 for Composite B surface sample

4/30/10 UCR Beach P. Jensen

1543 photo number ~~5848~~ 5849

1546 Arrive at NP-143 for Composite B
photo number 5850

1550 Arrive at NP-125 for Composite B surface sample
- photo number 5851

1552 Arrive at NP 110 for Composite B surface sample
- photo number 5852

1555 Arrive at NP 100 for Composite B surface sample
- photo number 5853

1557 Arrive at NP-90 for Composite B surface sample
- photo number 5854

1600 Arrive at NP-83 for Composite B surface sample
- photo number 5855

1604 Arrive at NP-66 for Composite B surface sample
- photo number 5856

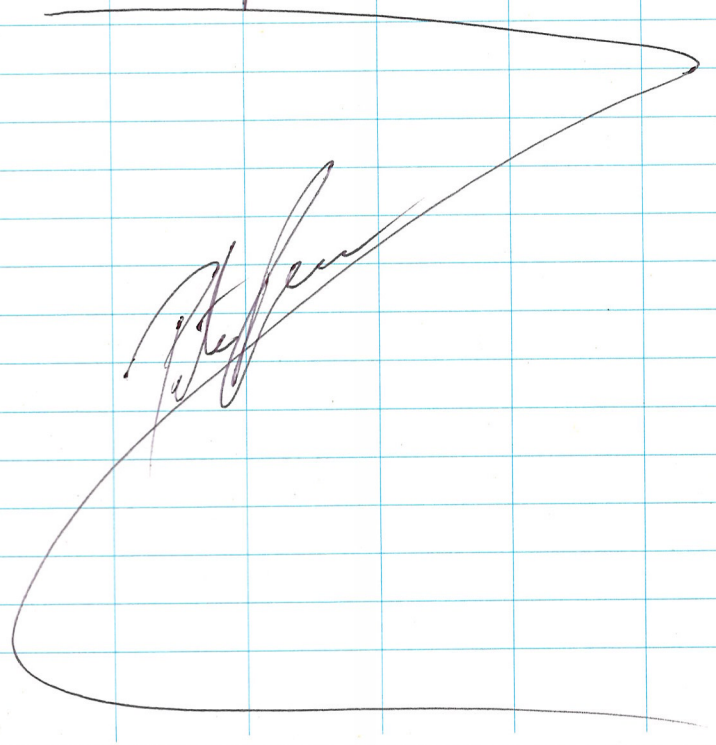
1607 Arrive at NP-65 for Composite B surface sample
- photo number 5857

4/30/10 UCR Beach P. Jensen

1610 Arrive at NP-39 for Composite B sample from surface
- photo 5858

1613 Arrive at NP-18 for Composite B sample from surface
- photo 5859

1615 Finish collecting composite B
Back to processing station
End of surface sampling



SUBSURFACE SEDIMENT FIELD NOTES 2010

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UCR
Beach Sediment Sampling
Sept 9, 2009 -

Subsurface Sampling

4/27/10 UCR P. Jursa
L Stepahoff

1300 Arrive at station SR 618 for core B core sample using impact corer.

~~BST~~ PJ

1315 Attempt number one - full recovery
Using camera 1098
photo number 5708
- collar stuck on corer, need to fix prior to next core sample

1418 At core station SR711
Core drove 2ft in before refusal. Area seems to have too much gravel at depth.
Alternate station will be SR 393

1440 At SR 393. Refusal at 2.5" because of rocks.
Alternate for SR393 is SR920.

1525 SR-266 core refusal at 12".
Alternate site for SR-266 is SR-222.
The entire area near refusal mentioned above indicate that the likelihood of success is small.

4/27/10 L. Stepahoff

In discussions with Marc Stifelman, we agreed to attempt coring at alternate sites in areas where we assume will be more successful, which so far have been in the downstream half of the polygon.
Alternate for SR-222 for is SR-668 for core A. Refusal at 15 in.
Alternate SR-~~744~~649 for core A.
~~Alternate SR~~

1610 Refusal at 18 in.

1620 Succesful core at SR 649 for Core A?

1624 At SR 741 as alternate for core C

1627 Refusal at ~ 15 in.
At SR-841 as alternate for core C.

1634 Succesfull core taken at SR-841 for core C.D (12) 5/4/10

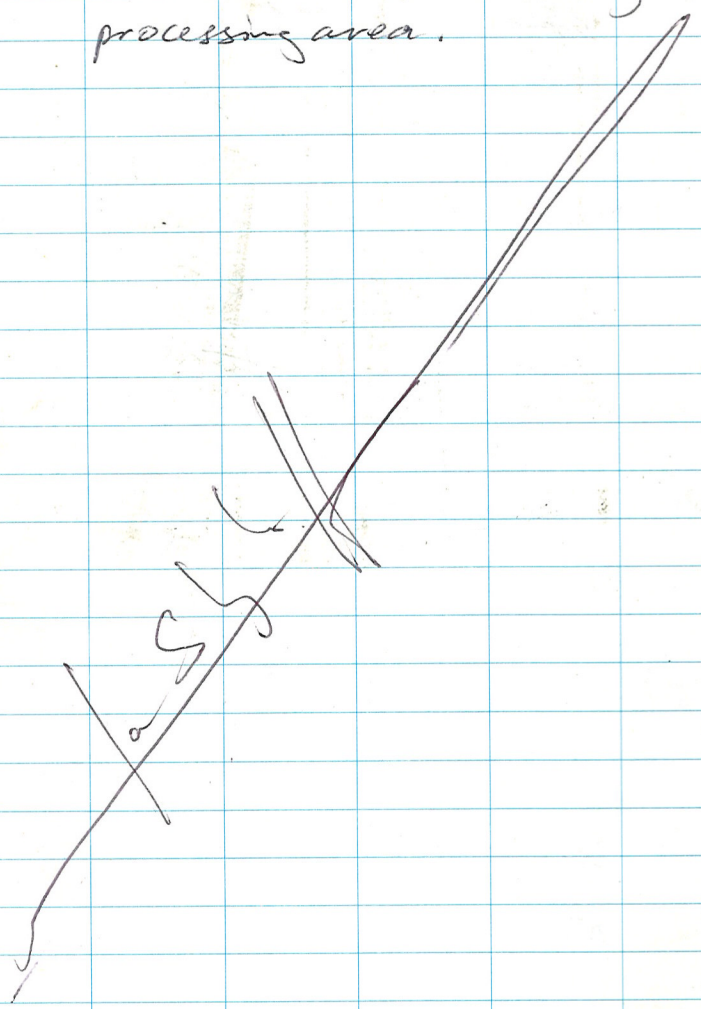
1643 At SR920 alternative for core ~~D~~ C (13) 5/4/10

1648 Succesfull core at SR920

4/27/10 1. Shyloff

1654 Successful core at SR-759 as alternate zone Core E

1700 On board boat returning to processing area.



4/28/10 WRR CORES J. MOORE

-1330: J. MOORE & M. STRELLA + CAPT. ON RETURN CORE COLLECTION

1415: CORE E - BC1497 - RETURN AT 16". DUE TO GRAVEL.

1422 CORE D - BC2129 - RETURN AT 27" - GRAVEL.

1430 CORE C - BC2590 - RETURN AT 24" - GRAVEL.

1445 CORE B - BC3648 - 30" RECOVERY - ACCEPT CORE - PHOTO 5756 - CAMERA 1093.

1526 - CORE A - BC2797 - 30" RECOVERY - ACCEPT CORE PHOTO 5757.

1540 - TAKE THREE CREW BACK TO PROCESS AND MOB TO WEST SIDE OF SITE FOR 2 REMAINING CORES.

1615 - ATTEMPT BC184 - ONLY 20" RECOVERY - ABANDON.

1625 - ATTEMPT BC78 - ONLY 18"

4/28/10 J. Moore

RECOVERY - ABANDON.

1640: COLLECT CORE E AT NEW LOCATION. 30' RECOVERY.

1655: MOB BACK TO PROCESSING AREA TO PROCESS CORES.

Correction notes: I.S. 5/5/10

Core C collected at BC-3509

Core D collected at random

48.45222598

-118.2201165

I.S. 5/5/10

Core E collected at random

48.44899298

-118.2179422

J. Moore

4/29/10 UCR Beach P. Jensen

~~0920~~ PJ

1015 J. Moore and P. Jensen and Gravity begin core collection

1020 Core E at DS-1D collected
- photo 5780 on camera 1098

1030 Collect Core D at DS-188
- full recovery at first attempt
- photo 5781 ~~on camera~~ PJ

1035 Arrive at DS 102 to attempt core C ~~at~~ PJ

1040 Full penetration on first attempt photo 5782

1045 Arrive at DS-122 for attempt at subsurface sample B
- full recovery on first attempt
- photo 5783

1055 Arrive at DS 219 for attempt at subsurface sample A
- full recovery on first attempt
- photo 5784

1100 Mob back to processing area to process cores

1435 - ~~ATTEMPT~~ CORE A AT

4/29/10 UCR BEACH JMOORE

NP-134. RECOVER AT 14.5'.

1440: MOVE TO NP-109, 30" DRIVE, ACCEPTED - PHOTO 5797 CAMERA 1098.

1459: ATTEMPT CORE AT NP-69 - RECOVER AT 13" - REJECT. PHOTOS 5798 - 5799. BOTTOM OF CORE 100% SMALL SAND.

1501: ATTEMPT AT NP-91, 30" DRIVE - ACCEPT AS CORE B. PHOTO 5800

1510 ATTEMPT AT NP-93, 19" recovery. reject.

1521 Attempt @ NP-104, 19". recovery, reject
2nd attempt just off NP-104, 20" recovery, reject.
3rd attempt, 13" recovery, reject
4th attempt, 19" recovery. reject.

1534 Attempt @ NP 119, 36" drive. 34" recovery Accept as Core C.

4/29/10 UCR BEACH JMOORE

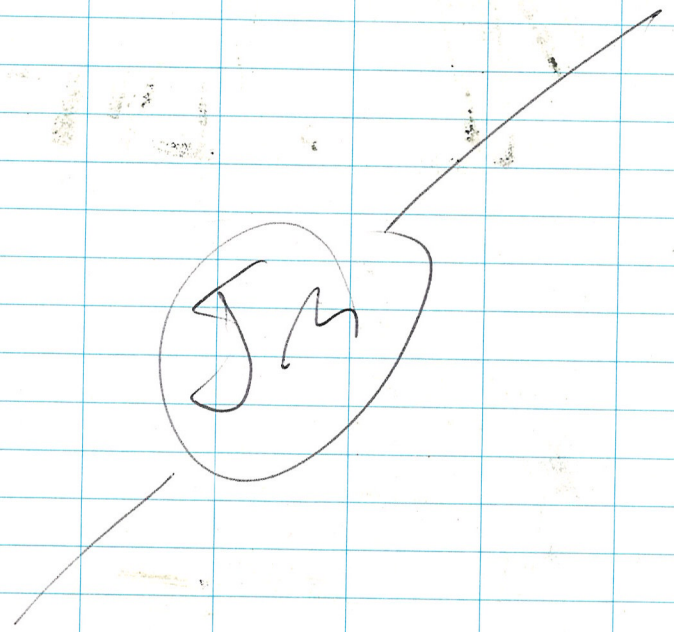
PHOTO 5801 + 5802

1543 ATTEMPT AT NP-128, CORE D 30" Recovery - ACCEPT. PHOTO 5803. J.S. 5/4/10

1550: BEGIN ATTEMPTING NEW Random LOCATIONS. J.S. 5/4/10

1553: COLLECT CORE E, 30" RECOVERY ACCEPT at 48.922067509, -117.772216064

1600: BEGIN TO PROCESS CORES J.S. 5/4/10 NEAR BOAT RAMP.



2011 ULR BEACH SAMPLING

BOAT TEAM

"Rite in the Rain"®
ALL-WEATHER
LEVEL
No. 311

SURFACE
COMPOSITES : C + D

1 of 2

4/22/11 UCR Beach Sampling J.Wilson

0800 Meet at Northport boat ramp
Ingmar Saul Parametriy
Lara Linde Parametriy
" Bob Sullivan Parametriy
Joss Moore Integral
Sylvia Barber Integral
Jeff Wilson Gravity
Heather Beetemwald CH2M HILL
Marc Steifeldmen EPA
Michelle Stegner URS
Eric Oosahwee — Voss CCT
Brian Moweghen CCT

0900 Arrive at swimming hole beach. Cloudy, dry, cool. Ran through health and safety and prepped sampling equipment.

0930 Mob to sampling location, composites C and D

0952 Arrive at station DM-221

0953 Recieved ok to dig from E. Oosahwee — Voss. Photo # 0032

1003 Begin mob to station DM 351

1005 Arrive at Station DM 351

1006 Recieve clearance to dig from H. Beetemwald

4/22/11

4/22/11 UCR Beach Sampling J.Wilson

1006 Could not attain 15cm of penetration, moved to Reserve station DM 413

1023 Arrive at station DM 413

1021 Recieve ok to dig from E. Oosahwee - Voss. Photo# 0033

1032 All primary stations DM 374, DM 370, DM 366 are being abandoned because sampling not possible because of standing water.

1035 Arrive at reserve Station DM 238

1036 Recieve ok to dig from E. Oosahwee - Voss 0034 Photo#

1042 Arrive at reserve station DM 282. moved 1 meter NW of station due to standing water. Recieved clearance to dig by E. Ooschwe - Voss. Photo # 0035

1049 Arrive at reserve station DM 457. Recieve clearance to dig from E. Oosahwee - Voss. 0036 Photo #

1055 arrive at station DM 409, Recieve clearance to dig from E. Oosahwee - Voss. 0037 Photo #

1101 Arrive at station DM 27. Recieve clearance to dig from E. Oosahwee - Voss. 0038 Photo #

1104 Return to boat to process samples.

1109 Arrive at boat to offload samples.

1130 (PW) Arrive at station DM 11. Recieve clearance to dig from E. Oosahwee - Voss Photo # 0039

4/22/11

4/22/11 UCR Beach Sampling J. Wilson

1135 Arrive at station DM 30. Recieve clearance to dig from E. Oosahwee - Voss. Photo# 0040

1140 Arrive at station DM 76. Recieve clearance to dig from E. Oosahwee - Voss. Photo# 0041

1141 Arrive at station DM 88. Recieve clearance to dig from E. Oosahwee - Voss. Photo# 0042

1150 Arrive at station DM 122. Recieve clearance to dig from E. Oosahwee - Voss. Photo# 0043

1154 Arrive at station DM 137. Clearance to dig from E. Oosahwee - Voss. Photo # 0044

1201 Arrive at station DM 419. Recieve clearance to dig from E. Oosahwee. Moved sample location 1 meter SW due to standing water. Photo # 0045

1206 Return to boat to process samples

1211 Arrive at boat

1215 Break for lunch

1245 Convened for a thorough overview of sample processing and proper COC propogation

1421 Finished processing all surface samples. Took rinsate of surface sampling devices

1436 Begin processing cores

1605 Finish processing cores

4/22/11

4/22/11 UCR Beach Sampling J. Wilson

1615 Leave swimming hole beach for Northport boat launch

1628 Arrive at Northport boat launch. Discuss logistics for tomorrow and offload samples.

1700 Done for the day

4/22/11

4/23/11 UCR Beach Sampling J.Wilson

0830 Arrive at China Bend boat launch with following personnel:
Ingmer Saul Parametrix
Lara Linde Parametrix
Bob Sullivan Parametrix
Joss Moore Integral
Sylvia Barber Integral
Jeff Wilson Gravity
Heather Rectemwalt CH2MHill
Marc Steifeldmen EPA
Michelle Stegner URS
Eric Oosahwee-Voss CCT
Brian Moweghen CCT

0920 Health and safety meeting

0930 Arrive at Flat Creek Beach

0954 Begin mob to first sample location

0957 Arrive at location FC 398

0958 Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0046

1005 Arrive at station FC 260. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0047.

1011 Arrive at station FC ~~260~~ 226 (JW)

1012 Recieve clearance ~~to~~ (JW) dig from E. Oosahwee

4/23/11

4/23/11 UCR Beach Sampling J.Wilson

-Voss. Photo # 0048

1019 Arrive at station FC 270. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0049 (JW)

1030 Arrive at station FC 182.

1031 Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0050

1041 Arrive at station FC 141. Recieved clearance to dig from E. Oosahwee-Voss. Photo number 0051

1048 Arrive at station FC 99. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0052

1056 Arrive at station FC 155. Recieve clearance to dig from E. Oosahwee-Voss Photo # 0053

1102 Arrive at station FC 93. Recieve ok to dig from E. Oosahwee-Voss. Photo # 0054

11:11 Arrive at location FC 13 Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0055

11:19 Arrive at station FC 55. Recieve clearance to dig from E. Oosahwee-Voss.

4/28/11

4/23/11 UCR Beach Sampling J.Wilson

Photo # 0056

1126 Arrive at station FC57. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0057

1130 Begin mob back to boat to offload composite samples

1133 Arrive at boat. offload samples and decon pot and spoon for new composite

1139 Depart boat for sampling location

1142 Arrive at station FC47. Recieve clearance to dig from E. Oosahwee -Voss Photo # 0058

1149 Arrive at station FC31. Recieve clearance to dig from E. Oosahwe-Voss. Photo # 0059

1154 Arrive at station FC123. Recieve clearance to dig from E. Oosahwe-Voss. Photo # 0060.

1200 Arrive at station FC143. Recieve clearance to dig from E. Oosahwee-Voss Photo # 0061

1206 Arrive at station FC116. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0062

4/23/11

4/23/11 UCR Beach Sampling J.Wilson

1213 Arrive at station FC199. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0063

1219 Arrive at station FC223. Recieve clearance to dig from E. Oosahwee -Voss Photo # 0064

1226 Arrive at station FC293. Recieve clearance to dig from E. Osahwee -Voss Photo # 0065

1231 Arrive at station 292. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0066.

1236 Arrive at station FC330. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0067

1242 Arrive at station FC-354. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0068.

1248 Arrive at station FC 388 Recieve clearance to dig from E. Oosahwee-Voss Photo # 0069.

1251 Begin mob back to boat to offload samples

1254 Arrive at boat. Break for lunch.

4/23/11

4/23/11 UCR Beach Sampling J.Wilson

1335 Begin processing composite samples

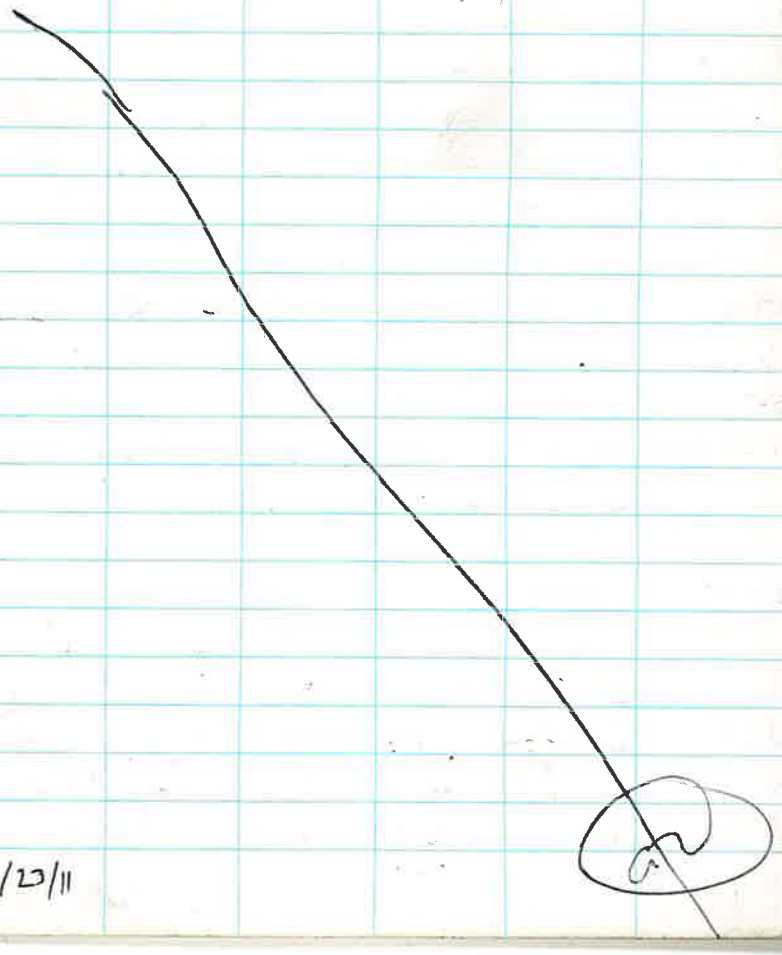
1400 Finish processing composites.

1415 Begin processing cores

1546 Finish processing cores

1554 Mobe back to China Bend boat launch

1600 Arrive at boat ramp



4/23/11

4/24/11 UCR Beach Sampling J.Wilson

0830 Arrive at Kettle Falls boat launch with following personell:

Ingmar Saul	Parametrix
Lara Linde	Parametrix
Bob Sullivan	Parametrix
Joss Moore	Integral
Sylvia Barber	Integral
Jeff Wilson	Gravity
Heather Rectenwald	CH_2MHill
Marc Steifeldman	EPA
Eric Oosahwee-Voss	CCT
Brian Moweghen	CCT

0845 Health and safety meeting

0900 Arrive at Lyons Island beach

0928 Begin mobe to first sampling location.

0934 Arrive at station LY50. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0070

0943 Arrive at station LY257. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0071

0953 Arrive at station LY235. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0072

4/24/11

4/24/11 UCR Beach Sampling J.Wilson

1000 Arrive at station LY92.

1001 Recieve clearance to dig from E. - - Oosahwee - Voss. Photo # 0073

1006 Arrive at station LY212. Recieve clearance to dig from E. Oosahwee - - Voss. Photo # 0074

1013 Arrive at station LY418. Recieve clearance to dig from E. Oosahwee - - Voss. - Photo # 0075

1018 Arrive at station LY519.

1019 Recieve clearance to dig from B. - - Moweghen. Photo # 0076

1025 Arrive at station LY580. Recieve clearance to dig from B. Moweghen. Photo # 0077

1038 Arrive at station LY572. Recieve clearance to dig from E. Oosahwee - - Voss. Photo # 0078.

1045 Arrive at station LY677. Recieve clearance to dig from E. Oosahwee - - Voss. Photo # 0079

1051 Arrive at station LY909. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0080

4/24/11

4/24/11 UCR Beach Sampling J.Wilson

1100 Arrive at station LY873. Recieve clearance to dig from E. Oosahwee - - Voss. Photo # 0081.

1105 Begin mob back to boat of offload composite samples

1108 Arrive at boat.

1123 Depart boat to begin composite D sample collection

1136 Arrive at station LY48. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0082

1143 Arrive at station LY112. Recieve clearance to dig from E. Oosahwee - - Voss. Photo # 0083

1152 Arrive at station LY322. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0084

1201 Arrive at station LY35. Recieve clearance to dig from E. Oosahwee - - Voss. Photo # 0085

1209 Arrive at station LY157. Recieve clearance to dig from E. Oosahwee - - Voss. Photo # 0086.

1217 Arrive at station LY309. Recieve

4/24/11

4/24/11 UCR Beach Sampling J. Wilson

clearance to dig from E. Oosahwee - Voss. Photo# 0087

1223 Arrive at station LY 543

1224 Recieve clearance to dig from E. - -Oosahwe-Voss. Photo # 0088

1230 Arrive at station LY 582. Recieve clearance to dig from E. Oosahwee - - Voss. Photo# 0089.

1239 Arrive at station LY 742. Recieve clearance to dig from E-Oosahwe-Voss. Photo# 0090

1246 Arrive at station LY 741. moved sampling location 0.5m South due to large cobble. Recieve clearance to dig from E. Oosahwe-Voss. Photo# 0091

1257 Arrive at station LY 996. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0092

1304 Arrive at station LY 1053. Recieve clearance to dig from E. Oosahwee- Voss. Photo # 0093

1308 Begin mob to boat to offload samples

1312 Arrive at boat offload samples.

1315 break for lunch

4/24/11

4/24/11 UCR Beach Sampling J. Wilson

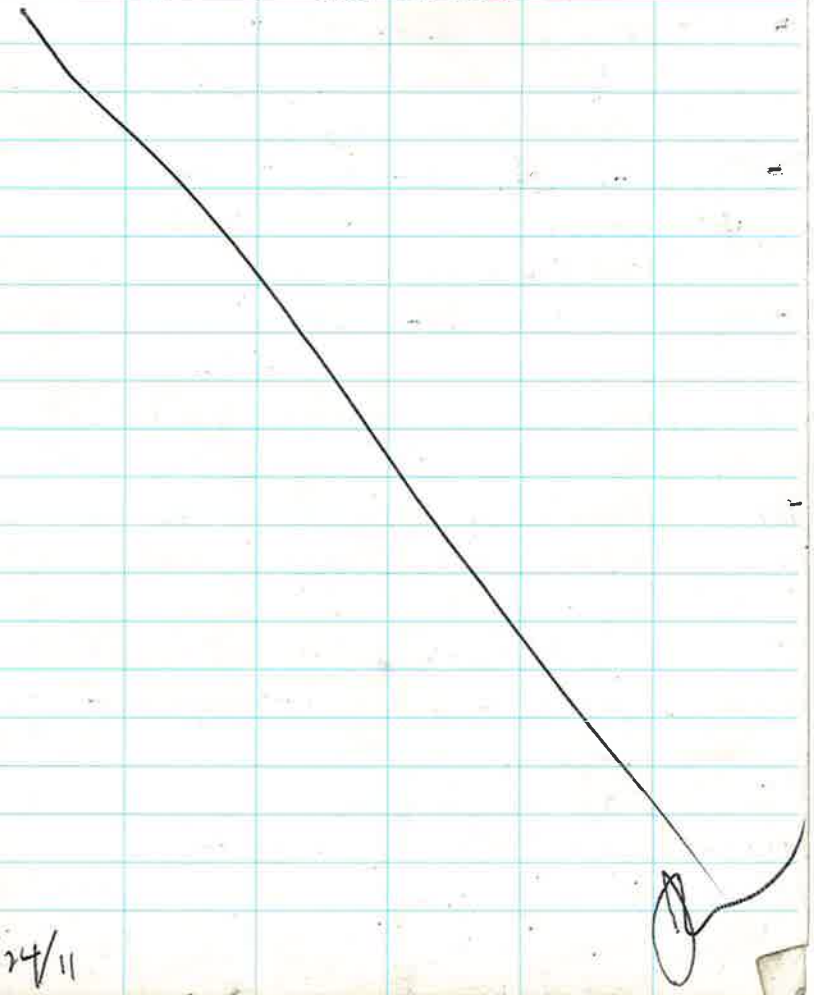
1345 process surface samples

1415 begin processing cores

1604 Finish processing cores

1614 mob back to Kettle Falls boat launch

1625 Arrive at boat launch



4/24/11

4/25/11 UCR Beach Sampling J. Wilson

0800 Meet at Kettle Falls boat launch with following crew.

Ingmar Saul Parametrix
Lara Linde Parametrix
Bob Sullivan Parametrix
Joss Moore Integral
Sylvia Barber Integral
Jeff Wilson Gravity
Heather Rectemwald CH_2MHill
Marc Steifeldmen EPA
Eric Oosahwee-Voss CCT
Brian Mowegheen CCT

0820 Health and safety meeting
0830 Begin mob to AA Campground.
1004 Arrive at AA campground.
1029 Begin mob to first sampling station
1035 Arrive at station AA1, Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0094
1043 Arrive at station AA89. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0095
1047 Arrive at station AA 127. Recieve clearance to dig from E. Oosahwee-Voss.

4/25/11

4/25/11 UCR Beach Sampling J. Wilson

Photo# ~~0097~~ 0096 (JW)

1052 Arrive at station AA160. Recieve clearance to dig from E. Oosahwee-Voss. Photo# ~~0098~~ 0097 (JW)
1102 Arrive at station AA 188. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0098
1108 Arrive at station AA 297. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0099
1115 Arrive at station AA 568. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0100
1123 Arrive at station AA 566. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0101
1129 Arrive at station AA 340. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0102.
1137 Arrive at station AA 553. Recieve clearance to dig from E. Oosahwee-Voss Photo # 0103
1144 Arrive at station AA599. Recieve clearance to dig from E. Oosahwee-Voss

4/25/11

4/25/11 UCR Beach Sampling J.Wilson

Photo # 0104.

1149 Arrive at station AA549. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0105

1152 Begin mob back to boat to offload samples.

1200 Arrive at boat

1209 Begin mob to next sampling location

1216 Arrive at station AA-4. Recieve clearance to dig from E. Oosahwee--Voss. Photo#

1222 Arrive at station AA27. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0107.

1226 Arrive at station AA35. Recieve clearance to dig from E. Oosahwee-Voss. Photo ~~#~~ 0108

1230 Arrive at station AA49. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0109

1240 Arrive at station AA675. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0110

1246 Arrive at station AA582. Recieve clearance

4/25/11

4/25/11 UCR Beach Sampling J.Wilson

to dig E. Oosahwee-Voss. Photo # 0111

1253 Arrive at station AA 834. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0112

1258 Arrive at station AA797. Recieve clearance to dig from E. Oosahwe-Voss. Photo # 0113

1307 Arrive at station AA685. Recieve clearance to dig from E. Oosahwee-Voss Photo # 0114

1311 Arrive at station AA457. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0115

1316 Arrive at station AA412. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0116

1320 Arrive at station AA 223. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0117.

1322 Begin mob to boats to process samples

1330 Arrive at boat. Break for lunch

1349 Begin processing surface composites.

1413 Finish processing surface composites

1430 Begin processing cores

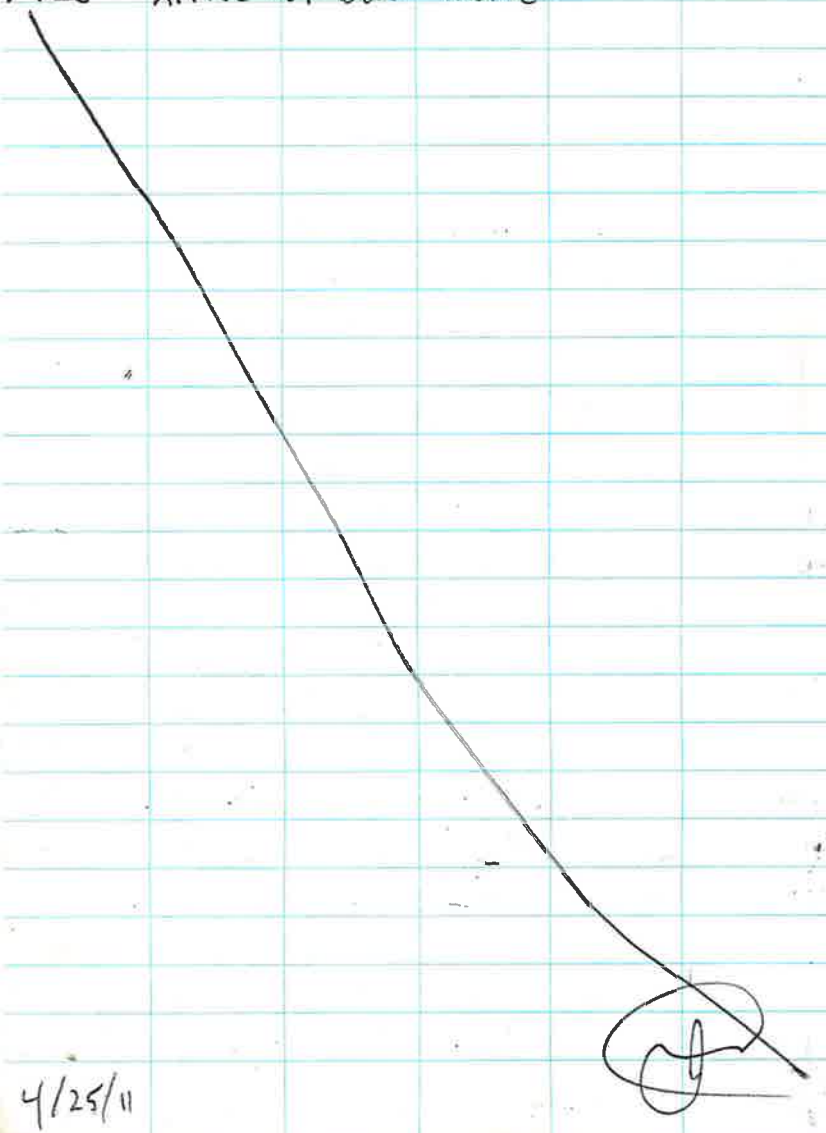
1601 Finish processing cores

4/25/11

4/25/11 UCR Beach Sampling J. Wilson

1614 Begin mob to Kettle Falls boat launch

1720 Arrive at boat launch



4/25/11

4/26/11 UCR Beach Sampling J. Wilson

0800 Meet at Kettle Falls boat launch with following crew:

Lara Linde Parametrix
Ingmar Saul Parametrix
Bob Sullivan Parametrix
Joss Moore Integral
Sylvia Barber Integral
Jeff Wilson Gravity
Heather Pectemwald CH_2 M+H II
~~Marc Steifeldmen EPA~~ (TW)
Brian Moweghen CCT
Eric Oosahwee-Voss CCT.

0830 Health and safety meeting

0840 Depart dock in boats for Nez Perce beach. Observers from EPA and CCT will drive to Gifford Ferry in their vehicles and then board vessels

1000 Pick up oversight at Gifford Ferry

1042 Arrive at Nez Perce Beach

1107 Arrive at station NZ 747. Receive clearance to dig from E. Oosahwee-Voss. Photo# 0118.

1113 Arrive at station NZ 749. Receive

4/26/11

4/26/11 UCR Beach : Sampling J. Wilson

clearance to dig from E. Oosahwee. Photo # 0119

1120 Arrive at station NZ 622. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0120.

1126 Arrive at station NZ631. Recieve clearance to dig from E. Oosahwee-Voss Photo# 0121.

1135 Arrive at station NZ498. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0122.

1141 Arrive at station NZ 540. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0123.

1147 Arrive at station NZ 444. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0124

1156 Arrive at station NZ 273. Recieve clearance to dig from E. Oosahwee - - Voss. Photo# 0125.

1205 Arrive at station NZ 212. Recieve clearance to dig from E. Oosahwee - Voss Photo# 0126.

1215 Arrive at station NZ 10. Recieve

4/26/11

4/26/11 UCR Beach Sampling J. Wilson

clearance to dig from E. Oosahwee - Voss. Photo # 0127

1222 Arrive at station NZ178. Recieve clearance to dig from E. Oosahwee - Voss Photo # 0128.

1230 Arrive at station NZ 208. Recieve clearance to dig from E. Oosahwee - Voss. Photo# 0129

1234 Mob to boat to offload samples.

1236 Arrive at boat.

1242 Depart boat for next composite.

1250 Arrive at station NZ 512. Recieve clearance to dig from E. Oosahwee - Voss. Photo# 0130

1257 Arrive at station NZ 545. Recieve clearance to dig from E. Oosahwee - Voss. Photo# 0131

1309 Arrive at station NZ 753. Recieve clearance to dig from E. Oosahwee - - Voss. Photo # 0132.

1317 Arrive at station NZ 738. Recieve clearance to dig from E. Oosahwee - Voss. Photo# 0133

1322 Arrive at station NZ 695. Recieve

4/26/11

4/26/11 UCR Beach Sampling J.Wilson

clearance to dig from E. Coosahwee-Voss. Photo# 0134

1328 Arrive at station NZ 646. Recieve clearance to dig from E-Coosahwee- -Voss. Photo # 0135.

1343 Arrive at station NZ 97. Recieve clearance to dig from E. Coosahwee- -Voss. Photo # 0136

1349 Arrive at station NZ56. Recieve clearance to dig from E. Coosahwee- Voss. Photo # 0137.

1354 Arrive at station NZ 93. Recieve clearance to dig from E. Coosahwee- -Voss. Photo# 0138.

1400 Arrive at station NZ 247. Recieve clearance to dig from E. Coosahwee- -Voss. Photo # 0139

1405 Arrive at station NZ 242. Recieve clearance to dig from E. Coosahwee. Voss. Photo # C140

1409 Arrive at station NZ 272. Recieve clearance to dig from E. Coosahwee- -Voss. Photo # 0141

1412 Mob to boat

4/26/11

4/26/11 UCR Beach Sampling J.Wilson

1415 Arrive at boat break for lunch

1430 Assist with surface composite sample processing

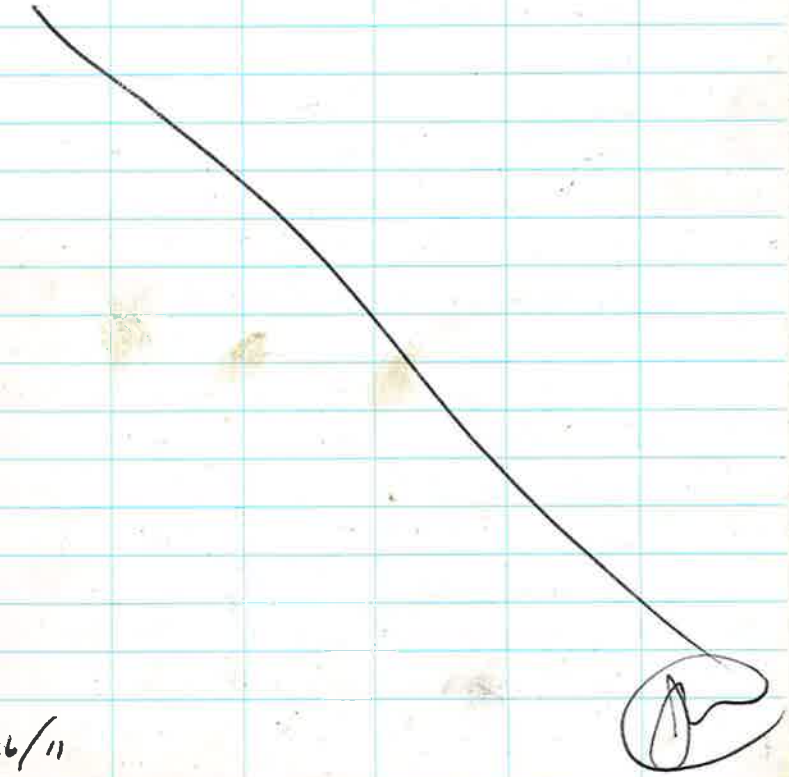
K03 Finish processing surface composites

1510 Begin processing cores

1639 Finish processing cores

1655 Begin mob back to Kettle Falls boat launch

1820 Arrive at boat launch



4/26/11

4/28/11 UCR Beach Sampling J.Wilson

0800 Meet at Two Rivers marina with following crew:
Lara Linde Parametrix
Bob Sullivan Parametrix
Ingmar Saul Parametrix
Joss Moore Integral
Sylvia Barber Integral
Jeff Wilson Gravity
Brian Monaghen CCT
Eric Oosahwee-Voss CCT
Nicole Badon CH2MHill
Michelle Stegner UES

0845 Health and safety meeting

0900 Depart Marina for Willmont Creek beach.

0950 Arrive at Willmont Creek Beach.

1024 Arrive at station WC 39. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0142

1031 Arrive at station WC 267. Recieve clearance from E. Oosahwee to dig Photo # 0143

1037 Arrive at station WC 459. Recieve clearance to dig from E. Oosahwee-Voss.

4/28/11

4/28/11 UCR Beach Sampling J.Wilson

Photo# 0144

1043 Arrive at station WC 461. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0145

1047 Arrive at station WC 494. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0146

1053 Arrive at station WC 496. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0147

1100 Arrive at station WC 483. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0148

1107 Arrive at station WC 465. E. Oosahwee-Voss. Photo # 0149

1115 Arrive at station WC 419. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0150

1124 Arrive at station WC 117. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0151.

1132 Arrive at station WC 251. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0152.

4/28/11

4/28/11 UCR Beach Sampling J.Wilson

1139 Arrive at station WC 315. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0153.

1141 Mob back to boat

1148 Arrive at boat.

1200 Depart boat for next sampling location

1208 Arrive at station WC 31 Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0154

1215 Arrive at station WC 250. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0155.

1221 Arrive at station WC 456. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0156

1225 Arrive at station WC 471. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0157

1230 Arrive at station WC 468. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0158

1235 Arrive at station WC 398. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0159

1240 Arrive at station WC 396. Recieve

4/28/11

4/28/11 UCR Beach Sampling J.Wilson

clearance to dig from E. Oosahwee - Voss. Photo # 0160

1245 Arrive at station WC 338. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0161.

1250 Arrive at station WC 205. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0162.

1256 Arrive at station WC 230. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0163

1302 Arrive at station WC 17 cannot sample here due to thick vegetation.

1307 Arrive at reserve station WC 103. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0164

1314 Arrive at station WC 26. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0165

1317 Mob back to boat

1322 Arrive at boat.

1330 Break for lunch.

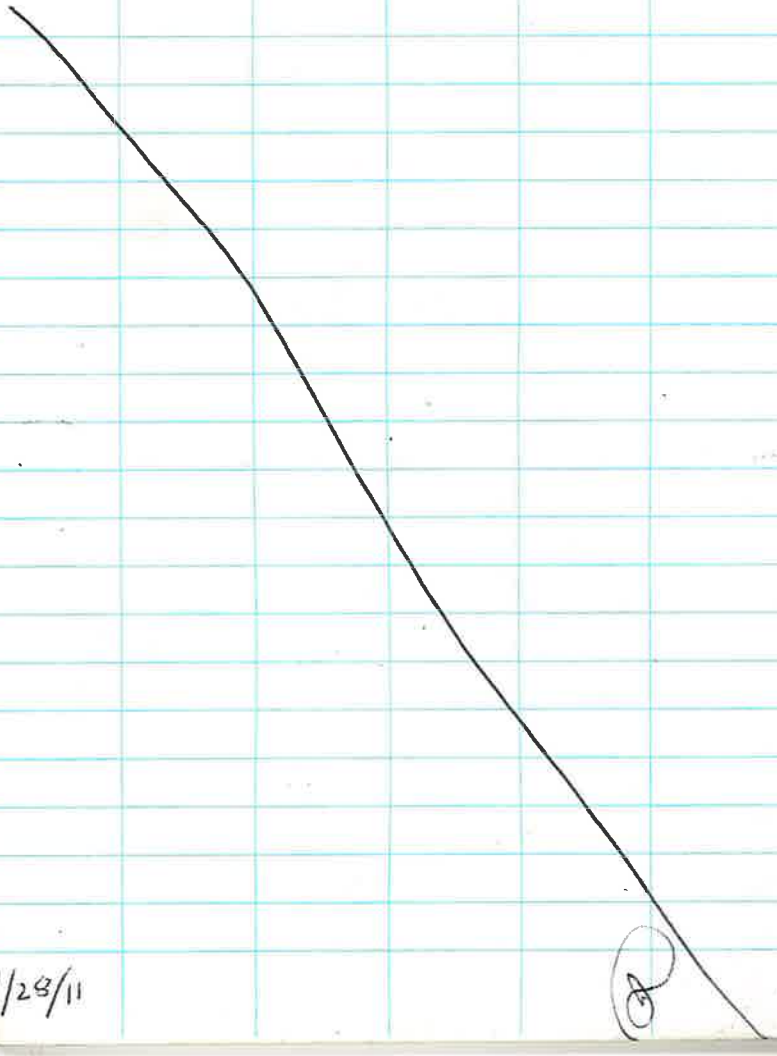
1343 Begin processing surface composites

1427 Finish processing surface composites

4/28/11

4/28/11 UCR Beach Sampling J. Wilson

1435 Begin processing cores
1616 Finish processing cores
1633 Depart beach for Two Rivers Marina
1730 Arrive at marina



4/28/11

4/29/11 UCR Beach Sampling J. Wilson

0800 Met at Two Rivers Marina with following crew:

Ingmar Saal	Parametrix
Lara Linde	Parametrix
Bob Sullivan	Parametrix
Sylvia Barber	Integral
Joss Moore	Integral
Jeff Wilson	Gravity
Michelle Stegner	URS
Nicole Bodon	CH_2MHill
Brian Moweghen	CCT
Eric Oosahwee-Voss	CCT

0830 Health + safety Meeting
0845 Depart marina for Enterprise beach
0944 Arrive at Enterprise beach
0956 Depart boat for first sampling location
1016 Arrive at station EN 593. Could not sample due to thick vegetation over sediments
1020 Arrive at reserve station EN 553 Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0166
1025 Arrive at station EN 528. Recieve clearance to dig from E. Oosahwee-Voss

4/29/11

4/29/11 UCR Beach Sampling J.Wilson

Photo # 0167

1031 Arrive at station EN 496. Recieve clearance to dig from E. Oosahwee-Voss Photo # 0168.

1041 Arrive at station 417. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0169.

1049 Arrive at station EN 223. Recieve clearance to dig from E-Oosahwee-Voss. Photo # 0170.

1055 Arrive at station EN 246. Recieve clearance to dig from E-Oosahwee-Voss. Photo# 0171

1101 Arrive at station EN 34. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0172

1109 Arrive at station EN 262. Recieve clearance to dig from E-Oosahwee-Voss. Photo # 0173

1115 Arrive at station EN 408. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0174

1119 Arrive at station EN 464. Recieve clearance to dig from E Oosahwee-

4/29/11

4/29/11 UCR Beach Sampling J.Wilson

-Voss. Photo# 0175

1126 Arrive at station EN 540. Could not sample due to large boulders and thick vegetation.

1129 Arrive at reserve station 419 Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0176.

1135 Arrive at station EN 598. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0177

1139 Begin mob to boat to offload samples.

1145 Arrive at boat.

1217 Depart boat for next composite.

1226 Arrive at station EN 646. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0178

1234 Arrive at station EN 400. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0179

1240 Arrive at station EN 344. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0180

1247 Arrive at station EN 325. Recieve clearance to dig from E. Oosahwee-Voss.

4/29/11

4/29/11 UCR Beach Sampling J.Wilson

0187.

1342 Arrive at station EN 567. Recieve clearance to dig from E-Oosahwee-Voss. Photo# 0188.

1349 Arrive at station EN 245. Recieve clearance to dig from E-Oosahwee-Voss. Photo # 0189

1351 Mob to boat

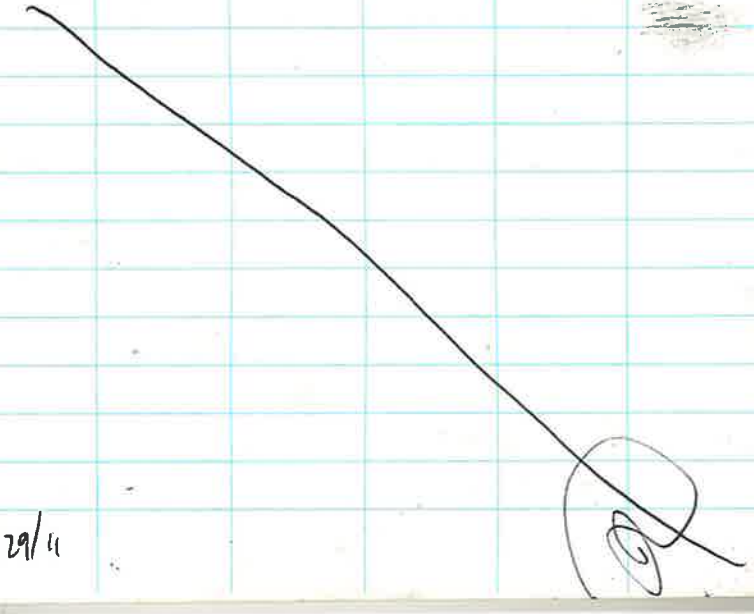
1400 Arrive at boat. Break for lunch

1415 Begin processing cores.

1548 Finish processing cores.

1615 Head back to Two Rivers Marina

1707 Arrive at Marina



4/29/11

4/29/11 UCR Beach Sampling J.Wilson

Photo # 0181

1253 Arrive at station EN 466, but could not sample due to thick vegetation over sediment

1257 Arrive at reserve station EN 294. Recieve clearance to dig from E-Oosah-wee-Voss. Photo # 0182

1303 Arrive at station EN 178. Recieve clearance to dig from E.Oosahwee-Voss. Photo# 0183

1309 Arrive at station EN 118. Recieve clearance to dig from E-Oosahwee-Voss. Photo# 0184

1316 Arrive at station EN 123. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0185.

1324 Arrive at station EN 52. Recieve clearance to dig from E-Oosahwee-Voss. Photo # 0186.

1332 Arrive at station EN 597. Could not sample due to thick vegetation over sediment

1338 Arrive at reserve location 442. Recieve clearance to dig from E.Oosahwee-Voss. Photo#

4/29/11

4/30/11 UCR Beach Sampling J.Wilson

0800 Meet at Two Rivers Marina with following crew:

Ingmar Saul	Parametrix
Lora Linde	Parametrix
Bob Sullivan	Parametrix
Joss Moore	Integral
Sylvia Barber	Integral
Jeff Wilson	Gravity
Michelle Stegner	URS
Nicole Badon	CH_2MHill
Eric Oosahwee-Voss	CCT
Brian Maveghen	CCT

0830 Health and Safety meeting

0845 Depart marina for Naborlee Beach.

0927 Arrive at Naborlee Beach. Sunny, breezy, cool.

0948 Arrive at station NA311. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0190

0955 Arrive at station NA89. Recieve clearance to dig from E.Oosahwee-Voss. photo # 0192

1001 Arrive at station NA130. Recieve clearance to dig from E. Oosahwee-Voss

4/30/11

4/30/11 UCR Beach Sampling J.Wilson

Photo # 0193.

1007 Arrive at station NA2. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0194.

1015 Arrive at station NA358. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0195.

1021 Arrive at station NA 389. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0196

1029 Arrive at station NA 382. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0197

1034 Arrive at station NA 414. Cannot sample due to cobble and vegetation.

1038. Arrive at reserve station 348. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0198

1051 Arrive at station NA 656. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0199

1058 Arrive at station NA 659. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0200

4/30/11

4/30/11 UCR Beach Sampling J.Wilson

1104 Arrive at station NA 777. Recieve clearance to dig from E.Oosahwee-Voss Photo # 0201

1121 Arrive at station NA 789. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0202

1115 Mob to boat

1124 Arrive at boat

1134 Arrive at station NA 730. Recieve clearance to dig from E.Oosahwee-Voss. Photo #0203

1143 Arrive at station NA 651. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0204.

1149 Arrive at station NA 463. Recieve clearance to dig from E.Oosahwee-Voss. Photo# 0205

1152 Arrive at station NA 431. Recieve clearance to dig from E.Oosahwee-Voss. Photo# 0206

1155 Arrive at station NA 397. Recieve clearance to dig from E.Oosahwee-Voss. Photo# 0207

1159 Arrive at station NA 355. Recieve

4/30/11

4/30/11 UCR Beach Sampling J.Wilson

clearance to dig from E.Oosahwee-Voss. Photo # 0208

1203 Arrive at station NA 786. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0209

1207 Arrive at station NA 152 Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0210.

1211 Arrive at station NA 86. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0211

1215 Arrive at station NA 92. Recieve clearance to dig from E.Oosahwee-Voss. Photo# 0212.

1219 Arrive at sample location NA 66. Recieve clearance to dig from E.Oosahwee-Voss. Photo #0213

1222. Arrive at station NA 31. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0214.

1230 Arrive at boat. Break for lunch

1247 Begin processing surface composites

1300 with thunder & lightning approaching we left shore and continued processing

4/30/11

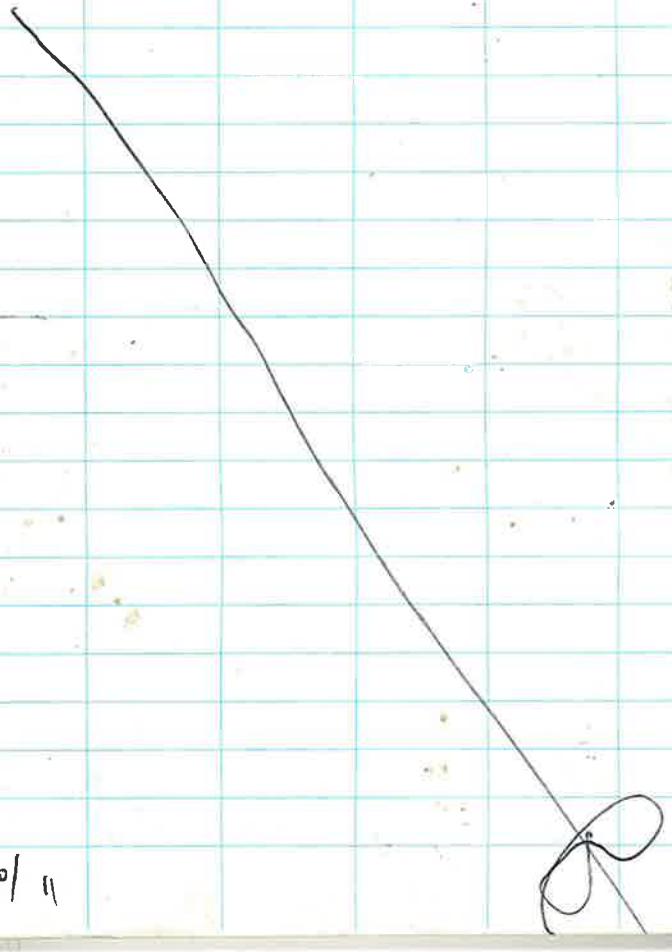
4/30/11 UCR Beach Sampling J. Wilson

while slowly motoring towards Two Rivers marina.

1330 Begin processing cores

1449 Finish processing cores, Arrive at Marina.

1510 Finish Rinsate.



4/30/11

5/1/11 UCR Beach Sampling J. Wilson

0800 Meet at Two Rivers Marina with following Crew:

Ingmar Saul	Parametrix
Lara Linde	Parametrix
Bob Sullivan	Parametrix
Joss Moore	Integral
Sylvia Barber	Integral
Jeff Wilson	Gravity
Michelle Stegner	URS
Nicole Badon	CH_2MHill
Brian Moweghen	CCT
Eric Oosahwee - Voss	CCT.

0830 Health and Safety meeting

0840 Depart marina for Mitchell Point Beach.

0921 Arrive at Mitchell Point Beach.

0936 Arrive at station MP 179. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0215

0942 Arrive at station MP 151. Recieve clearance to dig from E. Oosahwee. Move sampling location ~ 1 meter NW due to large cobble. Photo # 0216

0947 Arrive at station MP 195. Recieve clearance to dig from E. Oosahwee-Voss

5/1/11

5/1/11 UCR Beach Sampling J.Wilson

Photo# 0217

0951 Arrive at station MP 222. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0218

0957 Arrive at station MP 221. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0219

1002 Arrive at station MP 207. Recieve clearance to dig from E. Oosahwee - Voss. Photo# 0220.

1008 Arrive at station MP 25. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0221.

1013 Arrive at station MP 137. Recieve clearance to dig from E. Oosahwee - -Voss. Photo # 0222

1017 Arrive at station MP 293. Recieve clearance to dig from E. Oosahwee Voss Photo# 0223.

1022 Arrive at station MP 322 Recieve clearance to dig from E. Oosahwee- Voss. Photo# 0224.

1026 Arrive at station MP 344. Recieve clearance to dig from E. Oosahwee - Voss.

5/1/4

5/1/11 UCR Beach Sampling J.Wilson

Photo # 0225

1029 Arrive at station MP 342. Recieve clearance to dig from E. Oosahwee-Voss Photo # 0226

1032 mob back to boat to offload samples

1035 Arrive at boat

1039 Depart boat for next location

1044 Arrive at station MP 104. Recieve clearance to dig from E. Oosahwee - - Voss. Photo # 0227

1050 Arrive at station MP 177. Recieve clearance to dig from E. Oosahwee - - Voss. Photo# 0228

1055 Arrive at station MP 124. moved sampling location 0.5 meters W due to large cobble. Recieve clearance to dig from E. Oosahwee - - Voss. Photo# 0229

1103 Arrive at station MP 192. Recieve clearance to dig from E. Oosahwee - - Voss. Photo # 0230

1108 Arrive at station MP 118. Recieve clearance to dig from E. Oosahwee- Voss. Photo # 0231

5/1/11

5/1/11 UCR Beach Sampling J. Wilson

1116 Arrive at station MP 215. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0232.

1122 Arrive at station MP 284. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0233

1128 Arrive at station MP 282. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0234.

1133 Arrive at station MP 241. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0235.

1141 Arrive at station MP 317. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0236

1147. Arrive at station MP 327. Recieve clearance to dig from E. Ooschwee - Voss. Photo # 0237

1151 Arrive at station MP 345. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0238.

1154 Mob to boat

1200 Arrive at boat Launch

1218 Begin processing surface composites

5/1/11

5/1/11 UCR Beach Sampling J. Wilson

1370 Finish processing surface composites

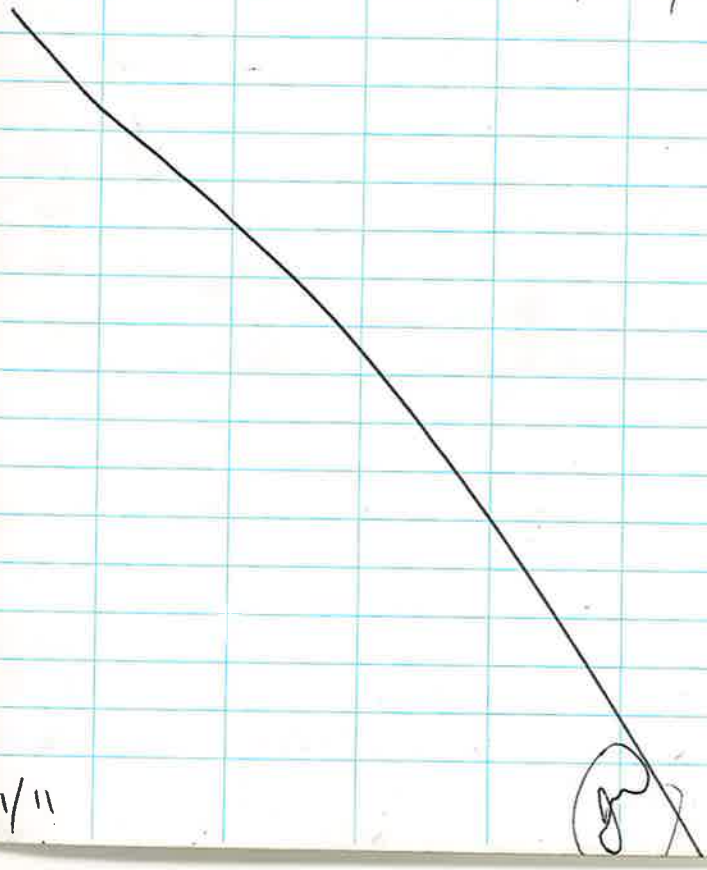
1322 Begin processing cores

1452 Finish processing cores

1457 Depart beach for Two Rivers Marina

1543 Arrive at marina ahead of other vessel.

1553 Second vessel arrives w/ samples.



5/1/11

5/2/11 UC12 Beach Sampling J. Wilson

0500 Meet at Two Rivers Marina with following crew.

Ingmar Saul	Parametrix
Lara Lindle	Parametrix
Bob Sullivan	Parametrix
Joss Moore	Integral
Sylvia Barber	Integral
Jeff Wilson	Gravity
Michelle Stegner	URS
Nicole Badon	CH_2MHill
Brian Moweghen	CCT
Eric Oosahwee-Voss	CCT

0900 Health and safety meeting

0916 Depart marina for Jones Bay beach

1017 Arrive at Jones Bay beach (JW)

1026 Depart boat for sampling location

1033 Arrive at station JB 260. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0239

1040 Arrive at station JB 301. Could not sample due to vegetation over sediment

1044 Arrive at reserve location JB 222. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0240

1055 Arrive at station JB 174. Recieve clearance

to dig from E. Oosahwee-Voss. Photo # 0241.

1059 Arrive at station JB 199. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0242

1102 Arrive at station JB 158. (JW) Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0244 (JW)

1108 Arrive at station JB 166. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0245

1112 Arrive at station JB 235. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0246

1115 Arrive at station JB 171. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0247

1120 Arrive at station JB 144. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0248

1124 Arrive at station JB 128. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0249.

1129. Arrive at station JB 50. Could not sample

due to thick woody vegetation.

1132 Arrive at reserve location JB 7. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0250.

1137 Arrive at station JB 3. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0251

1139 Mob to boat to offload samples

1144 Arrive at boat

1149 Depart boat for next station

1158 Arrive at station 217. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0252

1202 Arrive at station JB 293. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0253

1207 Arrive at station JB 245. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0254

1211 Arrive at station JB 289. Recieve clearance to dig from E. Oosahwee - - Voss. Photo # 0255.

5/2/11

2011 UCR BEACH SAMPLING

BOAT TEAM

"Rite in the Rain"®
ALL-WEATHER
FIELD
No. 351

SURFACE COMPOSITES:

C + D

2 of 2

5/2/11 UCR Beach Sampling J. Wilson

1217 Arrive at station JB 250. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0256

1222 Arrive at station JB 145. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0257

1226 Arrive at station JB 188. Recieve clearance to dig from E. Oosahwee -Voss. Photo # 0258.

1231 Arrive at station JB 154. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0259.

1237 Arrive at station JB 97. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0260

1241 Arrive at station JB 30 Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0261

1244 Arrive at station JB 16. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0262

1248 Arrive at station JB 23. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0263.

1250 Mob to boat.

5/2/11

5/2/11 UCR Beach Sampling J. Wilson

1255 Arrive at boat.

1310 Begin processing surface composites.

1326 Depart beach and continue prowssing samples while motoring slowly to Two Rivers marina.

1354 Begin processing cores

1508 Finish processing cores.

1538 Arrive at marina

5/2/11

5/3/11 UCR Beach Sampling J.Wilson

0800 Meet at Two Rivers marina with following crew:

Ingmar Saul	Parametrix
Lara Linde	Parametrix
Joss Moore	Integral
Sylvia Barber	Integral
Jeff Wilson	Gravity
Nicole Badon	CH_2MHill
Michelle Stegnar	URS
Brian Moweghen	CCT
Eric Oosahwee-Voss	CCT.

0830 Health and safety meeting

0840 Depart marina for whitestone campground beach

0933 Arrive at whitestone Campground

0939 Depart boat for first location

0943 Arrive at station WS12. Recieve clearance to dig from E.Oosahwee-Voss. Photo# 0264

0947 Arrive at station WS56. Recieve clearance to dig from E.Oosahwee-Voss Photo# 0265

0951 Arrive at station WS87. Recieve clearance to dig from E.Oosahwee-Voss

5/3/11

5/3/11 UCR Beach Sampling JWilson

Photo # 0266

0955 Arrive at station WS 111. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0267

0958 Arrive at station WS 136 Recieve clearance to dig from E.Oosahwee-Voss. Photo# 0268

1002 Arrive at station WS 137. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0269.

1005 Arrive at station WS 146. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0270

1009 Arrive at station WS 192. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0271

1012 Arrive at station WS 215. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0272

1017 Arrive at station WS 186. Recieve clearance to dig from E.Oosahwee-Voss. Photo # 0273

1023 Arrive at station WS 83. Recieve clearance to dig from E.cosahwee-Voss. Photo#0274

5/3/11

5/3/11 UCR BEACH SAMPLING J.Wilson

1028 Arrive at station WS 59. Recieve clearance to dig from E. Oosahwee- -Voss. Photo# 0275.

1031 Mob to boat to offload samples.

1034 Arrive at boat.

1036 Depart boat

1040 Arrive at station WS 6. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0276

1045 Arrive at station WS 31. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0277

1049 Arrive at station WS 95. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0278

1053 Arrive at station WS 148. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0279

1056 Arrive at station WS 158. Recieve clearance to dig from E. Oosahwee- -Voss. Photo# 0280.

1102 Arrive at station ~~##~~ (JW) WS 172. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0281.

5/3/11

5/3/11 UCR Beach Sampling J.Wilson

1107 Arrive at station WS 189. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 282

1111 Arrive at station WS 145. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0283.

1115 Arrive at station WS 124. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0284.

1118 Arrive at station WS 116. Recieve clearance to dig from E. Oosahwee- -Voss. Photo# 0285

1122 Arrive at station WS 82. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0286

1125 Arrive at station WS 19. Recieve clearance to dig from E. Oosahwee- -Voss Photo # 0287.

1128 Mob to boat

1130 Arrive at boat

1145 Lunch

1208 Start processing surface composits

1240 Finish processing surface composites

1244 Begin processing cores.

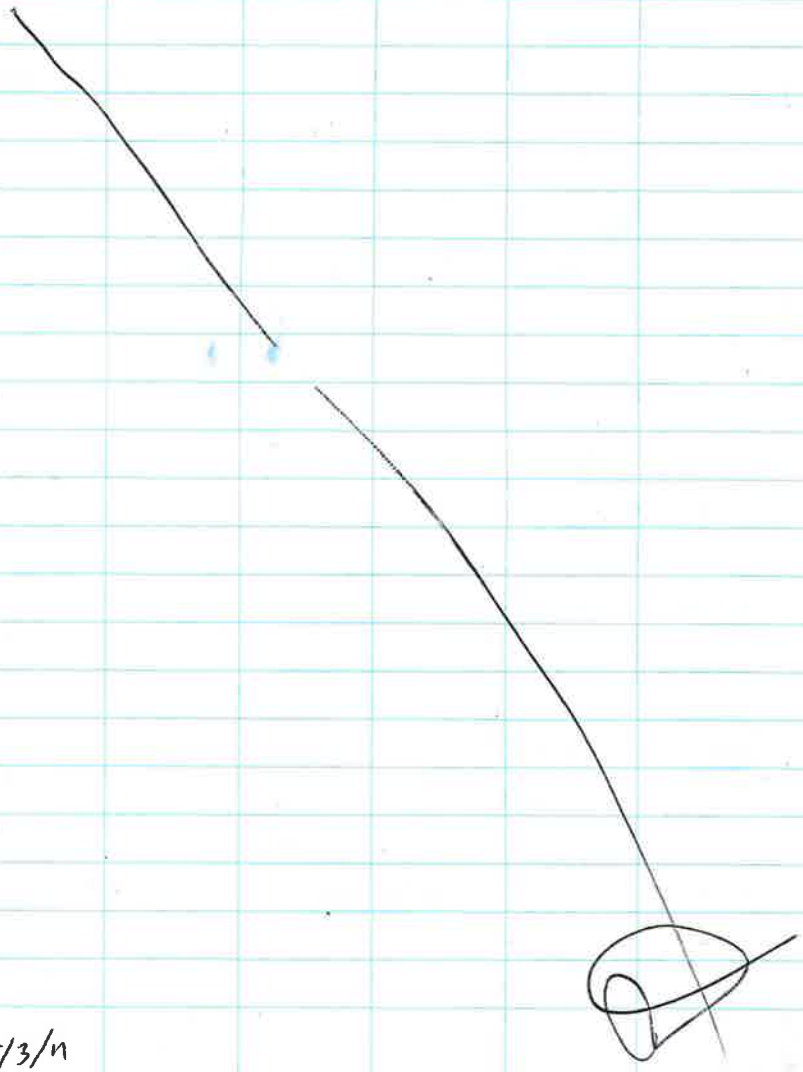
5/3/11

5/3/11 UCR Beach Sampling J. Wilson

1410 Finish processing cores

1415 Depart for Two Rivers Marina

1500 Arrive at marina



5/3/11

5/4/11 UCR Beach Sampling J. Wilson

0800 Meet at Two Rivers marina with following crew:

Ingmar Saul	Parametrix
Lara Linzle	Parametrix
Joss Moore	Integral
Sylvia Barber	Integral
Jeff Wilson	Gravity
Michelle Steigner	URS
Nicole Badon	CH2MHill
Brian Maughen	CCT
Eric Oosahwee-Voss	CCT.

0830 Health and safety meeting

0840 Depart marina for Hawk creek beach

0906 Arrive at Hawk Creek beach

0913 Depart boat for first station

0920 Arrive at station HC 241. Recieve clearance to dig from E. Oosahwee-Voss. Photo#

0927 Arrive at station HC 236 (JW). Recieve clearance to dig from E. ~~Etta~~ (JW) Oosahwee--Voss. Photo#

0932 Arrive at station HC220. Recieve clearance to dig from E. Oosahwee--Voss. Photo# 5290.

5/4/11

5/4/11 UCR Beach Sampling J. Wilson

0938 Arrive at station HC 207. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0291.

0942 Arrive at station HC 181. Recieve clearance to dig from E. Oosahwee--Voss. Photo # 0292.

0945 Arrive at station HC 159. Recieve clearance to dig from E. Oosahwee--Voss. Photo #0293

0950 Arrive at station HC 122. Could not sample because station is high above on a dangerous slope. will substitute with reseive location HC 10 at end of beach when we are within proximity

1002 Arrive at station HC 40. Recieve clearance to dig from E. Oosahwee-Voss. Photo# 0294.

1006 Arrive at station HC 47. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0295

1010 Arrive at station HC 25. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0296

5/4/11

5/4/11 UCR Beach Sampling J. Wilson

1015 Arrive at station HC 11. Recieve clearance to dig from E. Oosahwee- Voss. Photo# 0297

1019 Arrive at station HC 2. Recieve clearance to dig from E. Oosahwee--Voss. Photo # 0298

1023 Arrive at reserve location HC 10. Recieve clearance to dig from E. Ooschwee-Voss. Photo # 0299.

1026 Mob to boat

1030 Arrive at boat

1036 Depart boat for next location

1044 Arrive at station HC 237. Recieve clearance to dig from E. Oosahwee--Voss. Photo # 0300

1048 Arrive at station HC 226. Recieve clearance to dig from E. Oosahwee--Voss. Photo # 0301

1052 Arrive at station HC 206. Cannot sample due to steep cliff.

1055 Arrive at reseive station HC 179. Recieve ~~station~~ clearance to dig from E. Oosahwee-Voss. Photo # 0302

5/4/11

5/4/11 UCR Beach Sampling J.Wilson

1101 Arrive at station HC 204. Recieve clearance to dig from E.Oosahwee- -Voss. Photo# 0303

1106 Arrive at station HC 197. Recieve clearance to dig from E.Oosahwee- -Voss. Photo # 0304

1113 Arrive at station HC 180. Recieve clearance to dig from E.Oosahwee- -Voss. Photo # 0305

1119 Arrive at station HC 126. Recieve clearance to dig from E.Oosahwee- -Voss. Photo # 0306

1122 Arrive at station HC 115. Recieve clearance to dig from E.Oosahwee- -Voss. Photo # 0307

1128 Arrive at station HC ~~59~~ 55 (52). Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0308

1132 Arrive at station HC 56. Recieve clearance to dig from E. Oosahwee- -Voss. Photo# 0309.

1135 Arrive at station HC 39. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0310

5/4/11

5/4/11 UCR Beach Sampling J.Wilson

1139 Arrive at station HC 19. Recieve clearance to dig from E.Oosahwee- -Voss. Photo # 0311

1142 Mob to boat

1146 Arrive at boat

1150 Lunch

1215 Begin processing surface composites. Cultural oversight is driven by boat to seven Bays marina to be dropped off.

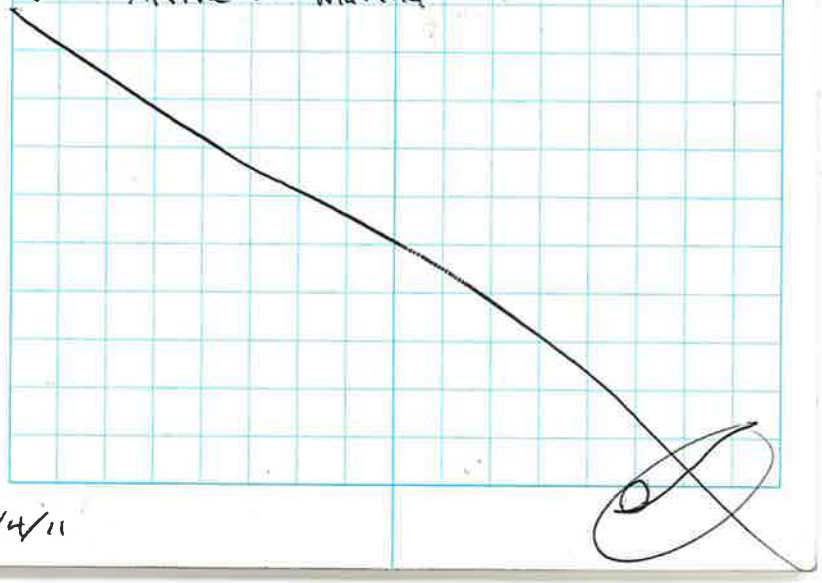
1300 Finish surface composites and rinsate.

1306 Start cores

1340 Finish cores

1348 Depart beach for marina

1512 Arrive at marina



5/4/11

5/5/11 UC12 Beach Sampling J. Wilson

0800 Meet at Two Rivers Marina with following crew:

Ingmar Saul	Parametrix
Lara Linde	Parametrix
Joss Moore	Integral
Sylvia Barber	Integral
Jeff Wilson	Gravity
Nicole Badon	CH_2MHill
Brian Monaghen	CCT
Eric Oosahwee-Voss	CCT.

Michelle Stegner from URS will drive seperately to Seven Bays beach by car.

0830 Health and safety meeting

0845 Depart marina for Seven Bays beach

0911 Arrive at Seven Bays.

0918 Depart boat for sampling station

0930 Arrive at station SB 365 Recieve clearance to dig from E. Oosahwee-Voss Photo # 0312

0939 Arrive at station SB 238. Recieve clearance to dig from E. Oosahwee-Voss Photo # 0313

0943 Arrive at station SB 229. Recieve

5/5/11

5/5/11 UC12 Beach Sampling J. Wilson

clearance to dig from E. Oosahwee-Voss. Photo # 0314.

0948 Arrive at station SB 208. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0315.

0953 Arrive at station SB 177. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0316

0959 Arrive at station SB 153. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0317

1004 Arrive at station SB 97. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0318

1009 Arrive at station SB 91. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0319

1013 Arrive at station SB 56. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0320.

1016 Arrive at station SB 45 (TW). Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0321.

1021 Arrive at station SB 19. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0322

5/5/11

5/5/11 UCR Beach Sampling J. Wilson

1026 Arrive at station SB7. Recieve clearance to dig from E. Oosahwee - -Voss. Photo # 0323. station adjacent to man-made shore riprap

1029 Mob to boat

1031 Arrive at boat

1034 Depart boat

1054 Arrive at station SB 481. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0324.

1101 Arrive at station SB 372. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0325.

1107 Arrive at station SB 371. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0326

1112 Arrive at station SB 370. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0327

1118 Arrive at station SB 309. Recieve clearance to dig from E. Oosahwee-Voss. Photo # 0328

1128. Arrive at station SB 228. Recieve clearance to dig from E. Oosahwee-Voss

5/5/11

5/5/11 UCR Beach Sampling J. Wilson

Photo # 0329

1133 Arrive at station SB 197. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0330.

1140 Arrive at station SB 123. Recieve clearance to dig from E. Oosahwee - Voss Photo # 0331

1144 Arrive at station SB 90. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0332

1150 Arrive at station SB 59. Could not sample because site is under man-laied riprap.

1153 Arrive at reserve station SB62. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0333.

1158 Arrive at station SB31. Moved sampling location 1.0 meter from center due to large cobble on surface. Recieve clearance to dig from E. Oosahwee - Voss. Photo # 0334.

1202 Arrive at station SB 10. Recieve clearance to dig from E. Oosahwee- -Voss. Photo # 0335.

1204 Mob to boat

1207 Arrive at boat.

5/5/11

5/5/11 UCR Beach Sampling J. Wilson

1230 Begin processing surface composites.

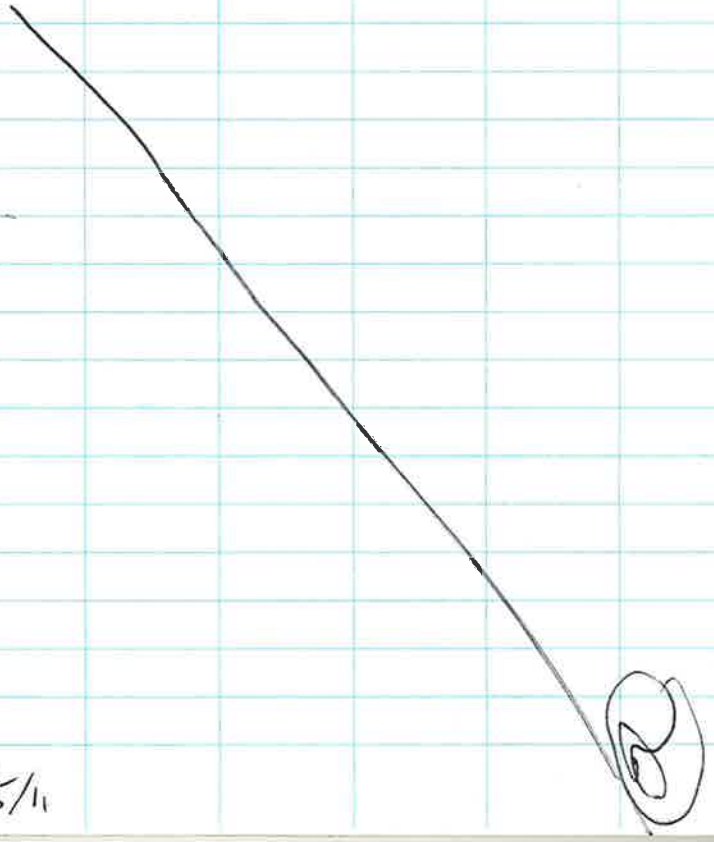
1250 Continue processing samples while slowly motoring back to marina

1300 Begin processing cores

1331 Arrive at marina

1414 Finish processing cores

1515 Finish offloading all gear from boats



5/5/11

2011 UCR BEACH SAMPLING

BOAT TEAM

"Rite in the Rain"®
ALL-WEATHER
LEVEL
No. 311

SURFACE
COMPOSITE - E

+ CORES.

1 of 2

4/22/11 UCR BEACH SAMPLING

0800 NORTHPORT BOAT RAMP
Bob SULLIVAN PARAMETRIX
INGNMAR SAUL PARAMETRIX
JEFF WILSON GRAVITY
SILVIA BARBER INTEGRAL
JOSS MOORE INTEGRAL
LARA LINDLE PARAMETRIX
MARC STEELMAN EPA
michele STIGMA URS
HEATHER RUCTENNAID CH_2M
E. DOSAHWEE-VOSS CCT
B. MONAGHAN CCT
0900 ARRIVE SWIMMING HOLE BEACH
SAFETY BRIEFING
DECON SAMPLING EQUIPMENT
WEATHER PARTLY SUNNY
0930 MOB TO 1ST LOCATION Composite E
0938 ARRIVE AT STA DM-113
0939 OVERSIGHT OK TO SAMPLE
0948 MOB TO 1ST CORE LOCATION DM-322
0950 ARRIVE AT CORE STA CORE "A"
0950 CLEARANCE FROM OVERSIGHT
Photo # 4067
PENTRATION DEPTH 26" - REJECTED

4/22/11 UCR BEACH SAMPLING
0958 MOB TO CORE STA DM-179
0959 ARRIVE AT CORE STATION CORE "B"
1005 START CORING Photo 4068
FULL PENETRATION 7" COMPACTION
1010 MOB TO CORE STA DM 49
1011 ARRIVE AT CORE SITE CORE "C"
CLEARANCE FROM OVERSIGHT
FULL PENETRATION 7.5". COMPACTION
Photo # 4069
1017 MOB TO CORE STA DM-538
1018 ARRIVE AT CORE SITE "D"
Clearance From OVERSIGHT
Photo # 4070
2" short of Full PENETRATION 6" COMPACTION
TOP 8" loose MATERIAL
DENSER Below
1023 MOB TO CORE STA. ~~DM-599~~ DS DM 559
1025 ARRIVE AT CORE SITE CORE "E"
CLEARANCE FROM OVERSIGHT
Photo # 4071
FULL PENETRATION 6" COMPACTION
LOWER HALF of CORE WATER LEVEL
1028 MOB TO CORE SITE (RESERVE) DM-258
1040 CORE START CORE "E"
24" PENETRATION 5" COMPACTION

4/22/11 UCR BEACH SAMPLING

1041 CORE "E" AT STA. DM-258
Possible Replacement for
CORE A PER MARC STUFFMAN
PENETRATION AND RECOVERY
INSUFFICIENT - REJECT CORE "E"
1046 MOB TO CORE A ALTERNATE DM532
1048 CLEARANCE FROM OVERSIGHT
Photo # 4072 CORE ALT ~~#A~~ B A
Full Penetration 6.5" Compaction
1058 MOB. TO SURFACE STATION DM-429
Composite E
1101 ARRIVE AT DM-429 - Photo 4073
1102 Clearance From OVERSIGHT
1107 MOB TO STA DM 264 Comp E
1108 ARRIVE AT SITE Clearance
Provided - Photo 4074
1112 MOB TO DM-271 Comp E
1113 ARRIVE AT STA DM-271 - Photo 4075
1117 MOB TO STA DM-230 Comp E
1118 ARRIVE @ DM-230 Clearance - #4076
1122 MOB TO STA DM-166 - Photo 4077
1123 ARRIVE AT STA DM-166 Clearance
1128 MOB TO STA DM-503
1129 SITE ABANDONED Submerged
AND Rocky

4/22/11 UCR BEACH SAMPLING

1131 MOB TO RESERVE COMP E SITE
DM-145
1132 ARRIVE @ DM-145 OVERSIGHT
Clearance - Photo 4078.
1137 Complete Composite "E"
1140 MOB BACK TO PROCESSING AREA
WHERE BOATS ARE MOORED. BEGIN
PREPARING LABELS FOR SUBSAMPLING
AND PREP CORE PROCESSING AREA
1430 OPEN CORE A 75cm Sediment
Photos 4079, 4080, 4081
1455 OPEN CORE B 75cm SEDIMENT
Photos 4082, 4083, 4084
1511 OPEN CORE C 75cm SEDIMENT
Photos 4085, 4086, 4087
1523 OPEN CORE D 70cm SEDIMENT
Photos 4088, 4089, 4090
1540 OPEN CORE E 75cm SEDIMENT
Photos 4091, 4092, 4093
1610 MOB TO NORTHPORT RAMP
1620 ARRIVE AT NORTHPORT RAMP

1620 4/22/11

4/23/11 UCR BEACH Sampling

0830 CHINA BEND BOAT Launch
0920 HEALTH & SAFETY MEETING
0930 ARRIVE AT FIAT CREEK BEACH
BOB SULLIVAN PARAMETRIX
LARA LINDE "
INGAMAR SAUL "
JEFF WILSON GRAVITY
SILVIA BARBER ENTOUGNAL
JOSS MOORE "
OVERSIGHT
MARC STEIFLMAN EPA
Michele Stigum URS
HEATHER RECTENWALD CH_2M
E. DOSAITWEE - JOSS CCT
B MONAGHAN CCT
0940 DECON Sampling Equipment
0952 MOB TO STA ~~FC-0453~~ FC-396
ARRIVE AT ~~FC-0453~~ FC-396
Clearance From OVERSIGHT
Photo # File 105-4105
1002 MOB TO STA FC-383
1005 ARRIVE AT FC-383
1007 MOB TO STA FC-361
1009 ARRIVE AT STA FC-361 comp "E"
Clearance from OVERSIGHT
Photo # 4107

4/23/11 UCR BEACH Sampling

1013 MOB to STA FC-298
1014 ARRIVE AT STA FC-298
Clearance From OVERSIGHT
1020 MOB TO STA FC-266
1022 ~~MOB to STA~~ ARRIVE AT FC-266
Clearance From OVERSIGHT
Photo 4109
1026 MOB to STA FC-346
1028 ARRIVE AT STA FC-346
Clearance From OVERSIGHT
Photo # 4110
1031 MOB to STA FC-215
1033 ARRIVE AT STA FC-215
Clearance From OVERSIGHT
Photo # 4111
1037 MOB to STA FC-170
1038 ARRIVE AT STA FC-170
Clearance From OVERSIGHT
Photo # 4112
1041 MOB to STA FC-107
1042 ARRIVE AT STA FC-107
Clearance From OVERSIGHT
Photo # 4113
1047 MOB to STA FC-186 photo 4114
1048 ARRIVE AT FC-186 Clearance FROM OVERSIGHT
1053 MOB to STA FC-45

4/23/11 UCR Beach Sampling

1056 ARRIVE AT STA FC-45
Clearance From oversight
Photo # 4115

1100 MOB to STA FC-1
1102 ARRIVE AT STA FC-1
Clearance From oversight Photo 4116

1106 MOB TO BOATS Completed Comp. E
1110 ARRIVE AT BOATS
1114 MOB TO CORE STA FC-351
1117 ARRIVE AT CORE STA FC-351
Clearance From oversight
For Core "A"
25" Penetration 4" compaction
REJECTED Sample
Photo # 4118

1125 MOB to Core ALT "A" FC-333
1127 ARRIVE AT ALT "A" FC-333
Clearance From oversight
29" Penetration 6" compaction
Photo # 4119

1135 MOB to Core B STA FC-243
1137 ARRIVE AT STA FC-243 Core "B"
Clearance From oversight
31" Penetration 5" compaction
Photo # 4120

4/23/11 UCR BEACH SAMPLING.

1144 MOB to CORE STA FC-230
1145 ARRIVE AT FC-230 CORE "C"
Clearance From oversight
Full Penetration 2" compaction
Photo # 4121

1150 MOB to CORE STA. FC-181
1152 ARRIVE AT FC-181 CORE "D"
Clearance From oversight
Full Penetration 3" compaction
Photo # 4122

1157 MOB to CORE STA (RESERVE) FC-144
Rejected FC-110 without Attempt
AS PER oversight concurrence.
CORE ALT "E"
Full Penetration 4" compaction
Photo # 4123

1200 MOB to BOATS
1208 ARRIVE AT BOATS to process samples
1220 PROCESS SURFACE COMPOSITE
SAMPLES.

*NOTE: AT ALL CORE LOCATIONS AN
EXTRA EQUAL AMOUNT OF
SEDIMENT WAS COLLECTED FROM 0-15cm
AT EACH LOCATION. DUE TO NOT

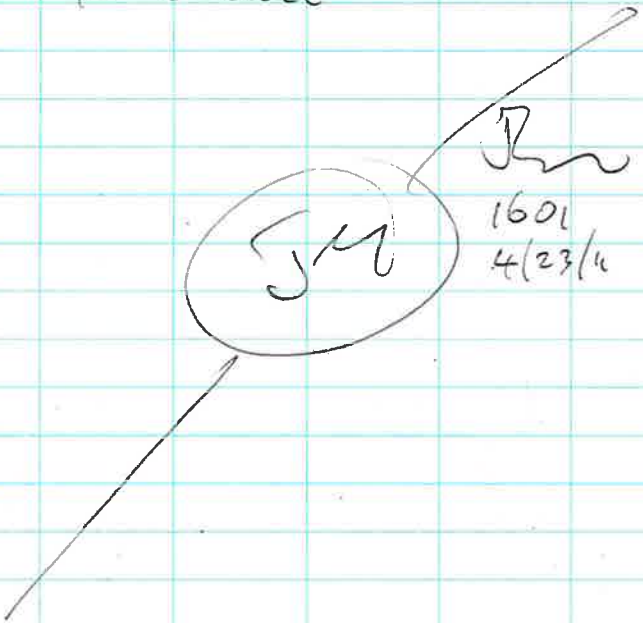
4/23/11 UCR BEACH SAMPLING

ENOUGH VOLUME IN THE CORES FROM THAT INTERVAL for ADEQUATE VOLUME. THIS PROCEDURE IS BEING ADOPTED for ALL REMAINING BEACHES FOR BOTH TEAMS.

1400: START PROCESSING CORES.

1547: CORE PROCESSING COMPLETE; MOB TO CHINA BEND BOAT RAMP.

1600: ARRIVE AT CHINA BEND, DEMOB FOR THE DAY - DRIVE TO HOUSE.



1601
4/23/11

4/24/11 UCR BEACH SAMPLING

0830 KETTLE FALL MARINA

Bob Sullivan Parametrix
INCAMAR SAUL "
LARA LINDE "
JEFF WILSON GRAVITY
SILVIA BARBER INTEGRAL
JOSS MOORE "
MARC STIFELMAN EPA
Michele STICMA URS
HEATHER RECTENWALD CH_2M
E. DoSAHWEE-UOSS CCT
B. MONAghAN CCT

0900 ARRIVE AT LYONS ISLAND BEACH
SAFETY BRIEFING
DECON SAMPLING EQUIPMENT
WEATHER Clear & SUNNY
2~5 MPH WIND

0920 MOB TO COMPOSITE "E" LY-85

0930 ARRIVE AT LY-85
CLEARANCE FROM OVERSIGHT
Photo # 4140

0932 MOB TO COMP. "E" STA LY-61

0933 ARRIVE AT LY-61
CLEARANCE FROM OVERSIGHT

0935 MOB TO COMP E STA. LY-120

0936 ARRIVE AT STA LY-120 Photo 4142
Clearance From OVERSIGHT
0937 MOB to Comp. E STA LY-271
0942 ARRIVE AT LY-271 Photo 4143
Clearance From OVERSIGHT
0945 MOB TO Comp "E" STA LY-127
0947 ARRIVE AT STA LY-127 Photo 4144
Clearance From OVERSIGHT
0950 MOB to Comp E STA LY-458
0953 ARRIVE AT STA LY-458
Clearance From OVERSIGHT
Photo # 4145
0957 MOB to Comp E STA LY-542
1000 ARRIVE AT STA LY-542
Clearance From OVERSIGHT
photo # 4146
1004 MOB to Comp E STA LY-495
1005 ARRIVE AT STA LY-495
Clearance From OVERSIGHT
photo # 4147
1007 MOB to Comp E STA LY-520
1009 ARRIVE AT STA LY-520
Clearance From OVERSIGHT
photo # 4148
1012 MOB to Comp E STA, LY-927

1018 ARRIVE AT STA LY-927 Comp "E"
Clearance BY OVERSIGHT
Photo # 4149
1024 MOB to Comp "E" STA LY-1004
1026 ARRIVE AT STA LY-1004
Clearance From OVERSIGHT
Photo # 4150
1028 MOB to Comp E STA LY-1035
1029 ARRIVE AT STA LY-1035
Clearance From OVERSIGHT
photo 4151
1033 MOB to Boats
1035 MOB to CORE "A" STA LY-716
1045 ARRIVE AT LY-716
REJECTED DUE to Cobble
AS PER MARC STEFELMAN
CORE "B" LOCATION ALSO (LY-1014)
REJECTED FOR SAME REASON
1048 MOB TO RESERVE STA LY-725
1050 ARRIVE AT STA LY-726
CORE A ALT
Clearance From OVERSIGHT
2 ATTEMPTS But REFUSAL on
BOTH ~ 1.5' PENETRATION Cobble Below
1057 MOB TO STA LY-625 CORE
"A" RESERVE SITE

4/24/11 UCR Beach Sampling

1058 ARRIVE AT CORE ALT A
Clearance By Oversight
28" Penetration ~ 4" compaction
Photo # 4152
KEEPING this AS Backup AT least
Depending on Additional core
Success

1105 MOB TO CORE "C" STA LY-514

1107 ARRIVE AT CORE C STA LY-514
Clearance By oversight
Full Penetration 5.5" compaction
Photo # 4153

1112 MOB to CORE "D" STA LY-312

1114 ARRIVE AT STA LY-312
clearance By oversight
First Attempt Refusal At ~ 1'
2nd " " " "
3rd Attempt " " 6"
Abandon Core D

1119 MOB to CORE D ALT STA LY-361

1120 ARRIVE AT CORE D ALT. LY-361
Clearance By oversight
18" Penetration Refusal
Abandon LY-361

1124 MOB TO Reserve Core Location
LY-208

4/24/11 UCR BEACH Sampling

1125 ARRIVE AT CORE STA LY-208
Clearance By oversight
CORE D ALT
24" Penetration 3" compaction
Keeping AS POSSIBLE CORE

1130 MOB TO CORE STATION LY-4
ARRIVE AT LY-4
Clearance By oversight
18" Penetration 0" compaction
ABANDON LY-4

1137 MOB TO STA LY-64
ARRIVE AT STA LY-64
Clearance By oversight
14" Penetration, 0" compaction
ABANDON STA LY-64

1142 MOB TO STA LY-88
18" Penetration 0" Compaction
Keep Core ~~D~~ as E
Photo # 4154

1151 MOB to STA 208 Core "D" ALT
TOOK 0-15 cm SEDIMENT
Keeping this CORE
Per MARC STIFELMAN
TOOK PICTURE. 4155

1155 MOB TO STA LY-333

4/24/11 UCR BEACH Sampling

1157 ARRIVE AT STA LY-333
CLEARANCED BY OVERSIGHT
CORE B ALT
21" PENETRATION 5" COMPACTION
PHOTO 4156
REFUSED CORE
2nd ATTEMPT 12" PENETRATION
REFUSED 2nd ATTEMPT
3rd ATTEMPT 10" PENETRATION
REFUSED 3rd ATTEMPT
4th ATTEMPT 17" PENETRATION
REFUSED 4th ATTEMPT
ABANDON STA LY-333

1208 MOB TO STA LY-566

1210 ARRIVE AT STA LY-566
CLEARANCE BY OVERSIGHT
12" PENETRATION 0" COMPACTION
REJECTED CORE
ABANDON LY-566

1212 MOB TO STA LY-754

1217 ARRIVE AT LY-754
CLEARANCE BY OVERSIGHT
CORE B ALT
30" PENETRATION 29" PENETRATION 1" COMPACT
PHOTO 4157

4/24/11 UCR BEACH Sampling

1220 MOB TO BOAT FOR PROCESSING

1300 BEGIN COLLECTING COMPOSITE SURFACE SAMPLES.

1400 COMPLETE SURFACE COMPOSITES & ISOLATE SAMPLES.

1415: OPEN CORE A - LY-615.
28" PENETRATION.

1435: OPEN CORE B.

1455, OPEN CORE C

1520, OPENED CORE D.

1535, OPEN CORE E.

1600, COMPLETE CORE PROCESSING. STORE SAMPLES, CLEAN UP WORK AREA AND DECON.

1610 MOB TO KETTLE FALLS BOAT RAMP.

1620: MOB TO COLVILLE.

1700: ARRIVE AT COLVILLE - END FOR THE DAY.

SM 4/24/11

4/25/11 UCR BEACH Sampling

0800 KETTLE FALLS MARINA
0830 SAFETY MEETING
0840 MOB to AA CAMPGROUND 2

BOB SULLIVAN	PARAMETRIX
LARA LINDE	"
INGAMAR SAUL	"
JOSS MOORE	INTEGRAL
SILVIA BARBER	"
JEFF WILSON	GRAVITY
MARC STIEFELMAN	EPA
Michele Stigman	URS
HEATHER RECTENWALD	CH_2M
ERIC DOSAHWEE-VOSS	CCT
B. MONAGHAN	CCT

1000 ARRIVE AT AA CAMPGROUND 2
DECON EQUPMENT
WEATHER. OVERCAST, PARTLY SUNNY 50° F, slight BREEZE
1010 MOB TO COMP E STA AA-177
1013 ARRIVE AT STA AA-177
Clearance From OVERSIGHT
Photo File 107 - 4175
1017 MOB to comp E STA AA-102
1019 ARRIVE AT STA AA-102
Clearance From OVERSIGHT
Photo# 4176
1022 MOB TO COMP E STA AA-43

1023 ARRIVE AT STA AA-43
Clearance From OVERSIGHT
Photo # 4177
1026 MOB TO Comp "E" STA AA-249
1030 ARRIVE AT STA AA-249
Clearance From OVERSIGHT
Photo 4178
1033 MOB TO Comp "E" STA AA-424
1035 ARRIVE AT STA AA-424
Clearance From OVERSICHT
Photo # 4179
1039 MOB TO comp E STA AA-473
1040 ARRIVE AT STA AA-473
Clearance From OVERSICHT
photo # 4180
1044 MOB TO Comp E STA AA-516
1045 ARRIVE AT STA AA-516
Clearance From OVERSIGHT
motorcycle tracks AT
Sampling location
Photo # 4181
1047 MOB TO Comp "E" STA AA-335
1050 ARRIVE AT Comp E STA AA-335
Clearance From OVERSIGHT
Photo # 4182
motorcycle TRACKS in AREA
But NONE OBVIOUS AT SITE
1054 MOB TO comp "E" STA AA-649

4/25/11 UCR BEACH Sampling

1055 ARRIVE AT Comp "E" STA AA-649
Clearance From oversight
Photo 4183

1058 MOB to Comp E STA AA-767

1100 ARRIVE AT STA AA-767
Clearance From oversight
Photo # 4184

1103 MOB to comp E STA AA-751

1105 ARRIVE AT STA AA-751
Clearance From oversight
Photo # 4185

1107 MOB to comp E STA AA-593

1109 ARRIVE AT STA AA-593
Clearance From oversight
Photo # 4186
Complete Comp E surface SED.

1112 MOB to BOAT

1113 ARRIVE AT BOAT

1125 MOB to CORE A STA AA 256

1127 ARRIVE AT STA AA-256
Clearance From oversight
Full Penetration 0" compaction
Photo 4187
Sample EXTRA 0-15 cm surface

1137 MOB to CORE B STA AA-121

4/25/11 UCR BEACH Sampling

1140 ARRIVE AT CORE B STA AA-121
Clearance From oversight
Photo # 4188
Full Penetration 6" compaction
TOOK EXTRA surface Sed 0-15 cm

1145 MOB TO CORE C STA AA-64

1147 ARRIVE AT STA AA-64
clearance From oversight
Full Penetration, 3.5" compaction
Photo # 4189 CORE C
TOOK EXTRA 0-15 cm SURFACE SED

1152 MOB to CORE "D" STA. AA-427

1155 ARRIVE CORE "D" AA-427
Clearance From OVERSIGHT
1ST ATTEMPT 2' Penetration
2" compaction
2nd ATTEMPT 2.5" Penetration
NO compaction ~ 2" up in tube
Possible keeper - 1233 REJECTED FOR D-ALT
clay layer/Fine sand in bottom of 1ST ATTEMPT bottom 6"

1208 MOB to CORE E STA AA-552

1211 ARRIVE AT CORE E STA AA-552
Clearance From OVERSIGHT

4/25/11 BEACH SAMPLING UCR

1211 CORE E FULL PENETRATION 6" COMPACT
PHOTO # 4190
TOOK EXTRA SURFACE SED 0-15cm

1219 MOB TO D-ALT STA AA-698

1223 ARRIVE AT STA AA-698
CLEARANCE FROM OVERSIGHT
FULL PENETRATION, 1.5" COMPACTION
PHOTO # NA
LOST BOTTOM 8" DURING EXTRACTION
REJECTED CORE
2ND ATTEMPT 1' PENETRATION
ROCK/GRAVEL LAYER - REJECTED
3RD ATTEMPT
FULL PENETRATION 4" COMPACTION
TOOK EXTRA SURFACE SED 0-15cm
PHOTO 4191 CORE D ALT.

1235 MOB BACK TO BOATS TO PROCESS

1240 ARRIVE AT BOATS

1320 BEGIN PROCESSING COMPOSITE E.
SURFACE SAMPLES.

1420 BEGIN PROCESSING COMPOSITES E
CORE SAMPLES.

1610 MOB TO KETTLE FALLS MARINA

1715 ARRIVE AT MARINA

4/25/11

4/26/11 UCR BEACH SAMPLING

0800 KETTLE FALLS MARINA

0830 SAFETY MEETING

0840 MOB TO NEZ PERCE CREEK BEACH

1030 ARRIVE AT SITE
BOB SULLIVAN PHARMACOKINETICS
LARA LINDE "
~~EDUARD~~ SAUL "
JOSS MOORE INTEGRAL
SILVIA BARBER "
HEATHER RECTENWALD CH2M
JEFF WILSON CONTRACTOR
OBSERVERS:
MICHELE STEGNER URS
ERIC DOSAHUEE-JOSS CCT
B. MONAGHAN CCT

1058 MOB TO COMPOSITE E STA NZ-317

1100 ARRIVE AT STA NZ-317
CLEARANCE FROM OVERSIGHT
PHOTO # FILE 108-4207

1103 MOB TO COMP E STA NZ-579

1109 ARRIVE AT NZ-579
CLEARANCE FROM OVERSIGHT
PHOTO 4208

1109 MOB TO COMP E STA NZ-565

1112 ARRIVE AT STA NZ-565
CLEARANCE FROM OVERSIGHT
PHOTO # 4209

1115 MOB TO COMP E STA NZ-606

4/26/11 UCR Beach Sampling

1117 ARRIVE AT Comp E STA NZ-106
clearance from oversight
Photo # 4210

1120 MOB to Comp E STA NZ-182

1126 ARRIVE AT STA NZ-182
multiple TIRE TRACK AROUND SITE
Clearance From oversight
Photo # 4211

1130 MOB to Comp E STA NZ-162

1131 ARRIVE AT STA NZ-162

1132 clearance from oversight
Multiple TIRE TRACKS, CRACKING
ON SURFACE

1136 MOB to Comp E STA NZ-81

1137 ARRIVE AT STA NZ-81
clearance from oversight
Photo 4213

1140 MOB to Comp E STA NZ-63

1141 ARRIVE AT STA NZ-63
Clearance From oversight
Photo 4214

1145 MOB to Comp E STA NZ-53

1148 ARRIVE AT STA NZ-53
clearance From oversight
TIRE TRACKS, some surface cracking
Photo # 4215

4/26/11 UCR Beach Sampling

1151 MOB to Comp E STA NZ-89

1152 ARRIVE AT STA NZ-89
clearance From oversight
photo 4216

1155 MOB to Comp E STA NZ-171

1157 ARRIVE AT STA NZ-171
clearance From oversight
Photo # 4217

1200 MOB to Comp E STA NZ-257

1201 ARRIVE AT STA NZ-257
Clearance From oversight
photo # 4218

1204 MOB to boats

1206 ARRIVE AT BOATS

1212 MOB to CORE A STA NZ-741

1218 ARRIVE AT NZ-741 CORE A
Clearance From OVERSIGHT
Full Penetration, 2.5" sediment
up ABOVE surface

lost Sediment AS core was pulled
CORE DID NOT have fingers Photo 4221

2nd Attempt Full Penetration 1" compaction

1225 MOB TO CORE B location STA NZ-521

1228 ARRIVE AT STA NZ-521
clearance From oversight
took extra 0-15 sediment from area

4/26/11 UCR BEACH Sampling

1228 Core B site # NZ-521
Full Penetration, 6" compaction
photo # 4222

1233 MOB to Core C location NZ-572

1237 ARRIVE AT STA NZ-572
Clearance From Oversight
1st Attempt Refusal @ 1" below surface
2nd Attempt Refusal AT 1.5" below
3rd Attempt Refusal
ABANDON NZ-572

1245 MOB to Core C station NZ-368
Primary sight

1247 ARRIVE AT STA NZ-368 CORE C
clearance From Oversight
photo # 4223
30" penetration, 2.5" Rise in
surface layer TOOK EXTRA 0-15cm sediment sample

1305 MOB TO CORE D STA NZ-229

1310 ARRIVE AT STA NZ-229
Clearance From Oversight
Full Penetration @ 8" compaction
photo # ~~4224~~ 4226
TOOK EXTRA 0-15cm Sediment

1318 MOB TO ALT B Core Location NZ-292

1319 ARRIVE AT ALT B STA NZ-292
Clearance From Oversight
33" penetration, 2" Rise Above
Surface
photo 4227
TOOK EXTRA 0-15cm Sediment Sample

1325 MOB to BOATS to process

1330 ARRIVE AT BOATS

4/26/11 UCR BEACH SAMPLING

1410: BEGIN PROCESSING SURFACE GRABS

1450: BEGIN PROCESSING CORES.

1620: COMPLETE PROCESSING - CLEAN UP AND BEGIN MOB BACK TO KETTLE FALLS MARINA.

1820: ARRIVE AT KETTLE FALLS, DEMOB

JM

4/26/11

4/28/11 UCR Beach Sampling

0800 AT MARINA @ TWO RIVERS
0845 SAFETY MEETING
Samplers BOB Sullivan Pharmanetics
LARA Linde "
Ingunn SAUL "
JOSS MOORE Integral
Silvia BARBER "
JEFF Wilson Gravity
Oversight Nicole BADON CH2M
ERIC DOSAHWEE-VOSS CCT
B. MONACHAN CCT
Michele STEGNER URS
0900 MOB to Wilmont ck Beach
0955 ARRIVE AT Wilmont ck Beach
1005 MOB to SURFACE SED. E STA WC-528
1013 ARRIVE AT WC-538
clearance from oversight
Photo 4249 Fld 100, STA
1017 MOB to SURFACE E COMP STA WC-515
1018 ARRIVE AT SURFACE E WC-515
clearance from observer
photo # 4250
1023 MOB to Comp E STA WC-448
1025 ARRIVE AT STA WC-448
CLEARANCE from oversight
Photo # 4251

4/28/11 UCR BEACH Sampling

1027 MOB to Comp E STA WC-257
1032 ARRIVE AT STA WC-257
clearance from oversight
photo # 4252
1037 MOB to Comp E STA WC-254
1039 ARRIVE AT STA WC-254
Clearance By oversight
photo # 4253
1042 MOB to Comp. E STA WC-221
1043 ARRIVE AT STA WC-221
clearance By OVERSIGHT
Photo # 4254
1048 MOB to Comp E STA WC-189
1049 ARRIVE AT STA WC-189
clearance By oversight
photo # 4255
1053 MOB to Comp E STA WC-141
1054 ARRIVE AT STA WC-141
clearance By oversight
photo # 4256
1058 MOB to Comp E STA WC-237
1100 ARRIVE AT STA WC-237
clearance By oversight
photo # 4257
1105 MOB to Comp. E STA WC-273

4/28/11 UCR BEACH SAMPLING

1106 ARRIVE AT STA 273
Clearance By oversight
Photo # 4258

1109 MOB to Comp E STA WC-34

1113 ARRIVE AT STA WC-34
Clearance From oversight
photo 4259

1116 MOB to Comp E STA WC-123

1117 ARRIVE AT STA WC-123
Clearance By oversight
Photo 4260

1119 MOB to BOATS

1125 ARRIVE AT BOATS

1150 MOB TO CORE A STA WC-54

1156 ARRIVE AT STA WC-54
CORE A
CLEARANCE FROM OVERSIGHT
photo # 4261
Full penetration, 0 compaction
TOOK EXTRA 0-15 cm SEDIMENT
Lost sediment @ extraction

1203 MOB to CORE B STA WC-56

1212 ARRIVE AT STA WC-56
Clearance From oversight
1ST ATTEMPT ~~1.5~~" 15" DRIVE
0 compaction
REFUSAL ABANDON WC-56

1217 MOB BACK TO CORE A FOR
2nd ATTEMPT AT STA WC-54

1220 ARRIVE AT CORE A WC-54
32" Penetration, 3" compaction

4/28/11 UCR BEACH sampling

1226 ABANDONED WC-193

1227 MOB to Reserve Location For Core B
WC-239 ALT CORE B

1230 ARRIVE AT WC-239
Clearance From OVERSIGHT
1st Attempt 1.5' Penetration
0 Compaction
2nd ATTEMPT 18" PENETRATION
3" COMPACTION - possible CORE

1237 MOB to CORE ~~C~~ B-ALT WC-245

1240 ARRIVE AT CORE B ALT
Clearance From oversight
Full PENETRATION, 7" Compaction
PICTURE # 4262
TOOK EXTRA 0-15cm SEDIMENT
ABANDON CORE @ STA WC-239

1245 MOB TO CORE C STA WC-151

1247 ARRIVE AT CORE C WC-151
Clearance From oversight
Full PENETRATION 6" compaction
Photo # 4263 TOOK EXTRA 0-15 cm SED

1252 MOB to CORE D STA WC-193
ABANDON STA WC-193
DUE TO cobble

1255 MOB to CORE D-ALT AT STA WC-220
CLEARANCE FROM OVERSIGHT
Full penetration; 5" compaction
Photo # 4264
TOOK EXTRA 0-15 cm SED

1305 MOB to CORE E Location WC-384

1312 ARRIVE AT WC-384
CLEARANCE FROM OVERSIGHT
1ST ATTEMPT 13" DRIVE

4/28/11 UCR BEACH SAMPLING

1317 2nd ATTEMPT AT WC-384

1321 ABANDON WC-384

1322 MOB TO CORE E-ALT WC-373

1324 ARRIVE AT WC-373 CORE E ALT

1325 CLEARANCE FROM OVERSIGHT
Full Penetration, 5" compaction
Photo # 4265
TOOK EXTRA 0-15 cm

1328 MOB TO ~~BOATS~~ BOATS

1340: BEGIN COLLECTING COMPOSITE SAMPLES FOR SURFACE.

1420: BEGIN PROCESSING CORES.

1615: END SAMPLE COLLECTION AND PROCESSING.

1630: MOB BACK TO TWO RIVERS BOAT LAUNCH.

1740: ARRIVE AT TWO RIVERS.
DEMOB FOR THE DAY, RELINQUISH SAMPLES TO SAMPLE PROCESSING TEAM.

4/28/11.

4/29/11 UCR BEACH SAMPLING

0800: TEAM AT TWO RIVERS BOAT LAUNCH. CONDUCT DAILY HEALTH & SAFETY MEETING.

* PERSONNEL:

PARAMETRIX - BOB SULLIVAN
- LARA LINDE
- INGMAR SAUL

INTERTEK - JOEY MORE
- SILVIA BARBER

GRAULTY - JEFF WILSON
- SHAUN HINE
- STEVE SAUBER
- RENEE TRUDEAU

OVERSIGHT - NICOLE DABEN-CHARTER
- ERIC D-VOS - CCT
- BRIAN NINATHOMAS - CCT
- MICHELE STEINER - USFS

0840: MOB TO ENTERPRISE BEACH TO CONDUCT FULL 12 x 5 SAMPLE SCHEME.

* WEATHER: COOL, SOUTHERN BREEZE, MOSTLY CLOUDY - OCCASIONAL SHOWERS + HAIL.

0945 ARRIVE AT ENTERPRISE BEACH

4/29/11 UCR BEACH SAMPLING

0955 MOB TO COMP. E STA EN-639

1002 ARRIVE AT STA EN-639 photo
clearance FROM OVERSIGHT 4282

1005 MOB TO COMP E STA EN-589

1008 ARRIVE AT STA EN-589
clearance FROM OVERSIGHT
Photo # 4283

1010 MOB TO COMP E STA EN-547

1013 ARRIVE AT STA EN-547
clearance FROM OVERSIGHT
photo 4284

1016 MOB TO COMP E STA; EN-520

1017 ARRIVE AT STA EN-520
clearance FROM OVERSIGHT
photo 4285

1019 MOB TO COMP E STA EN-300

1021 ARRIVE AT STA EN-300
clearance FROM OVERSIGHT
SURFACE HAS light DUSTING of
BLACK AND REDDISH SAND
STATION AT high water mark with
drift logs AND Branches in the
AREA Photo ~~4286~~ AS 4287

1025 MOB TO COMP. E STA EN-179

4/29/11 UCR BEACH SAMPLING

1027 ARRIVE AT STA EN-179
clearance FROM OVERSIGHT
BEACH sediment overlying
SOFT SANDSTONE material
Photo # 4286

MISSED Photo AT STA EN-300
WENT BACK TO TAKE IT
MAKING photo sequence OFF
AND CORRECTED in NOTES AND
DATA sheet

1036 MOB TO COMP E STA EN-276

1038 ARRIVE AT EN-276
clearance FROM OVERSIGHT
Photo # 4288

1041 MOB TO COMP E STA EN-28

1043 ARRIVE AT STA EN-28
clearance FROM OVERSIGHT
photo # 4289

1048 MOB TO COMP E STA EN-27

1049 ARRIVE AT STA EN-27
clearance FROM OVERSIGHT
large cobble AROUND AREA 6-8"
Photo # 4290

1053 MOB TO COMP E STA EN-117

4/29/11 UCR BEACH Sampling

1056 ARRIVE AT Comp. E STA EN-117
Clearance From oversight
photo # 4291

1059 MOB to Comp. E STA EN-171

1102 ARRIVE AT STA EN-171
Clearance From OVERSIGHT
Photo # 4292

1104 MOB to Comp. E STA EN-319

1105 ARRIVE AT STA EN-329
Clearance From OVERSIGHT
Photo # 4293

1107 MOB BACK to BOATS

1120 ARRIVE AT BOATS

1207 MOB to CORE A STA EN-312

1214 ARRIVE AT EN-312 CORE A
Clearance From oversight
FIRST ATTEMPT 1.5' PENETRATION
2nd ATTEMPT 1.5' PENETRATION
3rd ATTEMPT 20" PENETRATION
ABANDON LOCATION

1221 MOB to ALT A CORE STA EN-533

1225 ARRIVE AT STA EN-533
Clearance From OVERSIGHT
Full PENETRATION, 3" COMPACTION
Photo 4294, TOOK EXTRA 0-15 cm SEDIMENT

4/29/11 UCR BEACH Sampling

1230 MOB to CORE B Loc. STA EN-376

1233 ARRIVE AT STA EN-376
Clearance FROM OVERSIGHT
Full PENETRATION 4" COMPACTION
Photo 4295
TOOK EXTRA 0-15 cm SEDIMENT

1240 MOB to CORE C Loc STA EN-142

1243 ARRIVE AT STA. EN-142
Clearance FROM OVERSIGHT
Full PENETRATION, 3" COMPACTION
Photo # 4296 TOOK EXTRA 0-15 cm SEDIMENT

1249 MOB to CORE D Loc. STA EN-33

1250 ARRIVE AT STA EN-33
Clearance FROM OVERSIGHT
Full PENETRATION, 5" COMPACTION
photo # 4297
TOOK EXTRA 0-15 cm SEDIMENT

1257 MOB to CORE E Loc EN-12

1258 ARRIVE AT STA EN-12
Clearance FROM OVERSIGHT
Full PENETRATION, 4" COMPACTION
photo # 4298
TOOK EXTRA 0-15 cm SEDIMENT

1303 MOB BACK to BOATS to PROCESS

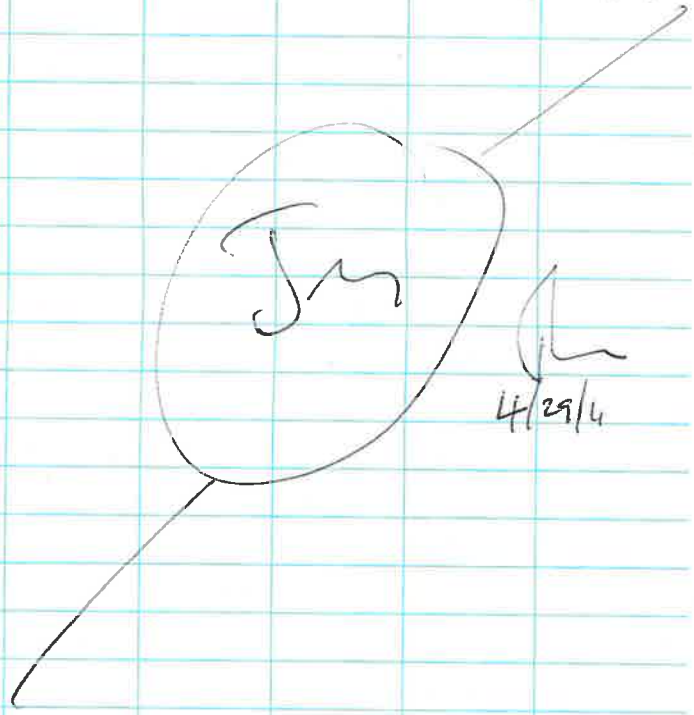
4/29/11 UCR BEACH SAMPLE.

1320: BEGIN COLLECTING SURFACE SAMPLE COMPOSITES.

1420: BEGIN COLLECTING SUBSURFACE SAMPLE COMPOSITES.

1610: SAMPLING COMPLETE - DECON SAMPLING AREA & MOB BACK TO TWO RIVERS BOAT LAUNCH

1705: ARRIVE AT TWO RIVERS BOAT LAUNCH. DECON AND DEMOB.



4/29/11

4/30/11 UCR Beach Sampling

0800 MARINA DOCK

0830 SAFETY MEETING

Samplers	Bob Sullivan	Parametrix
	LARA LINDE	"
	INGMAR SAUL	"
	JUSS MOORE	Integral
	Silvia BARBER	"
	JEFF WILSON	Gravity
OBSERVERS	NICOLE BABON	Ch2M
	ERIC DeSATNICK-VOSS	CET
	BRIAN MONAGHAN	CET
	Michele Steynen	URS
Boat Crew	STEVE SAWYER	Gravity
	SHAWN HINZ	"
	RENE TRUDEAU	"

0845 MOB TO NAborlee Beach to collect 12 X 5 surface sediment + 5 subsurface cores

0925 ARRIVE AT NABORLEE BEACH GS

~~0935 MOB TO Comp E STA NA-764~~

0936 MOB to Comp. E STA NA-291

0943 ARRIVE AT STA NA-291 clearance from oversight photo # 102-4316

0946 MOB to Comp. E STA NA-409

4/30/11 UCR BEACH SAMPLING

0949 ARRIVE AT COMP. E STA NA-409
Clearance From oversight
photo # 4317

0951 MOB to Comp. E STA NA-521

0952 ARRIVE AT STA NA-521
clearance From OVERSIGHT
photo # 4318

0955 MOB to Comp E STA NA-764

0957 ARRIVE AT STA NA-764
clearance From oversight
photo # 4319

0959 MOB to Comp E STA NA-767

1000 ARRIVE AT STA NA-767
clearance From OVERSIGHT
Photo 4320

1002 MOB to Comp E STA NA-309

1005 ARRIVE AT STA NA-309
Clearance From oversight
photo # 4321

1008 MOB to Comp E STA NA-393

1010 ARRIVE AT STA NA-393
clearance From OVERSIGHT
Photo # 4322

1012 MOB to comp. E STA NA-427

4/30/11 UCR BEACH SAMPLING

1013 ARRIVE AT STA - NA 427
Clearance From OVERSIGHT
Photo # 4323

1015 MOB to Comp. E STA NA-59

1019 ARRIVE AT STA NA-59
clearance From OVERSIGHT
Photo # 4324

1022 MOB to Comp. E STA NA-166

1024 ARRIVE AT STA - NA-166
clearance From OVERSIGHT
Photo # 4325

1026 MOB to Comp E STA NA-100

1027 ARRIVE AT STA NA-100
clearance From OVERSIGHT
Photo # 4326

1029 MOB to Comp. E STA. NA-98

1030 ARRIVE AT STA NA-98
Clearance From OVERSIGHT
photo # 4327

1035 MOB to Comp E STA NA-128

1036 ARRIVE AT STA NA-128
clearance From oversight
Photo # 4328

1039 MOB to BOATS

1043 ARRIVE AT BOATS

4/30/11 UCR BOATCH SAMPLING

1059 MOB to CORE A STA NA-318
1107 ARRIVE AT STA NA-318
CLEARANCE FROM OVERSIGHT
1ST ATTEMPT 20" DRIVE, REFUSAL
DUE TO COARSE GRAVEL
2ND ATTEMPT 12" DRIVE, REFUSAL
ABANDON NA-318
1115 MOB to CORE B STA NA-591
1117 ARRIVE AT STA NA-591
CLEARANCE FROM OVERSIGHT
FULL PENETRATION, 4" COMPACTION
PHOTO # 4329 TOOK EXTRA 0-15cm SEDIMENT
1122 MOB TO CORE C STA NA-737
1123 ARRIVE AT STA NA-737
CLEARANCE FROM OVERSIGHT
FULL PENETRATION, 7" COMPACTION
PHOTO # 4330 TOOK EXTRA 0-15cm SEDIMENT
1129 MOB to CORE D STA NA-528
1131 ARRIVE AT STA NA-528
CLEARANCE FROM OVERSIGHT
FULL PENETRATION, 8" COMPACTION
PHOTO # 4331
TOOK EXTRA 0-15 cm SEDIMENT
1137 MOB TO CORE E STA NA 676

4/30/11 BOATCH 2S UCR ~~CORE~~ SAMPLING

1139 ARRIVE AT STA NA-676 CORE E
CLEARANCE FROM OVERSIGHT
PHOTO # 4332
FULL PENETRATION, 12" COMPACTION
REJECTED CORE DUE TO
COMPACTION LEVEL
2ND ATTEMPT 24" DRIVE
REFUSAL DUE TO GRAVEL
3RD ATTEMPT 24" PENETRATION
REFUSAL DUE TO ROCK
ABANDON STA NA-676
1150 MOB TO CORE A ALT STA. NA-765
1153 ARRIVE AT STA NA-765 CORE ALT A
CLEARANCE FROM OVERSIGHT
FULL PENETRATION, 6" COMPACTION
PHOTO # 4333
TOOK EXTRA 0-15 cm SEDIMENT
1158 MOB TO ALT-E LOCATION NA-768
1200 ARRIVE AT STA NA-768
CLEARANCE FROM OVERSIGHT
FULL PENETRATION, 6" COMPACTION
PHOTO # 4334
TOOK EXTRA 0-15 cm SEDIMENT
1205 MOB TO BOATS
1210 ARRIVE AT BOATS TO PROCESS

1300 left Naborlee beach to avoid thunder clouds. moving slowly & Processing. oversight was Picked up at Naborlee and did not return w/ us.

1445 at the marina

1500 = DEMOB + DECON.

4/30/11

5/1/11 UCR BEACH SAMPLING.

0800 : ARRIVE AT BOAT RAMP AT TWO RIVERS MARINA. CONDUCT DAILY HEALTH & SAFETY MEETING.

* PERSONNEL: B. SULLIVAN, J. STAUB, C. LINDE - PMX
S. BARBER, J. MOORE - INTEGRAL
J. WILSON, J. HINZ, R. TRUSSELL, S-SAUBER - GRANITE
N-BADON - CHEMTECH
ERIC-J-VOSS, B. MONAGHAN - CDT
M. STEGNER - URS

0830 : MOB TO MITCHELL POINT BEACH TO CONDUCT BEACH COMPOSITE SAMPLING.

0920 ARRIVED AT Mitchell Point Beach
0925 mob to Comp E stn mp-160
0930 ARRIVE AT STA MP-160
Clearance from OVERSIGHT
Photo # 103 - 4351
0935 mob to Comp E stn mp-158

5/1/11 UCR BEACH Sampling

0936 ARRIVE AT STA mp-158
~~MOB to~~ Clearance From Oversight
Photo # 4352

0939 MOB to Comp. E STA mp-153

0940 ARRIVE AT STA mp-153
Clearance From OVERSIGHT
Photo # 4353

0944 MOB to Comp E STA mp-170

0945 ARRIVE AT STA mp-170
Clearance From OVERSIGHT
photo # 4354

0949 MOB to Comp E STA mp-117

0950 ARRIVE AT STA mp-117
Clearance From Oversight
Photo # 4355

0954 MOB to Comp E STA. mp-51

0956 ARRIVE AT STA. mp-51
Clearance From OVERSIGHT
Photo # 4356

0959 MOB to Comp E STA. mp-29

1000 ARRIVE AT STA mp-29
Clearance From OVERSIGHT
Photo # 4357

1004 MOB to Comp. E STA mp-16

1005 ARRIVE AT STA mp-16
Clearance From OVERSIGHT Photo # 4358

5/1/11 UCR BEACH Sampling

1008 MOB to Comp E STA mp-58

1010 ARRIVE AT STA mp-58
Clearance From OVERSIGHT photo # 4359

1013 MOB to Comp E STA mp-56

1014 ARRIVE AT STA mp-56 photo # 4360
Clearance From Oversight

1016 MOB to Comp E STA. mp-80

1017 ARRIVE AT STA mp-80
Clearance From Oversight photo # 4361

1020 MOB to Comp E STA mp-323

1025 ARRIVE AT STA mp-323
Clearance From OVERSIGHT photo # 4362

1029 MOB to BOATS

1033 ARRIVE AT BOATS

1045 MOB to CORE A STA mp-300

1057 ARRIVE AT STA mp-300
Clearance From OVERSIGHT
Full Penetration 6" compaction Photo # 4363
TOOK EXTRA 0-15 cm SEDIMENT

1059 MOB TO CORE B STA mp-252

1100 ARRIVE AT STA mp-252
Clearance From Oversight
Full Penetration, 11" compaction
2nd ATTEMPT - Full DRIVE 9" compaction
3rd ATTEMPT Full DRIVE 6.5" compaction
photo 4364 TOOK EXTRA 0-15 cm SED

1113 MOB to CORE C STA mp-163

5/1/11 UCR Bottom Sampling

1116 ARRIVE AT STA mp-163 CORE C
1ST ATTEMPT 2 ft penetration 2" compact.
2nd ATTEMPT SAME RESULT
3rd ATTEMPT Full DRIVE 4" compaction
TOOK EXTRA 0-15cm SOD Photo# 4365

1126 MOB to CORE D STA mp-21

1129 ARRIVE AT STA mp-21
clearance FROM OVERSIGHT
1ST ATTEMPT 14" DRIVE 0" compaction
REFUSAL DUE to cobble in TUBE
2nd ATTEMPT 24" DRIVE 0" compaction
ABANDON SITE

1138 MOB to CORE D ALT STA mp-10
clearance From OVERSIGHT
Full DRIVE 4" Rise in Tube
Photo 4366 TOOK EXTRA 0-15cm SOD

1146 MOB to CORE E STA mp-93

1150 ABANDON mp-93 DUE to cobble

1150 MOB to CORE E ALT STA mp-169

1152 ARRIVE AT STA mp-169
clearance From OVERSIGHT
1ST ATTEMPT 16" penetration
2nd ATTEMPT 16" penetration
ABANDON mp-169

1204 MOB to CORE E ALT site mp-47
ARRIVE AT mp 47 clearance From OVERSIGHT
Full penetration 4.5" compaction
TOOK EXTRA 0-15cm Photo # 4367

1210 MOB to BOATS

2011 UCR BEACH SAMPLING

BOAT TEAM

"Rite in the Rain"®

ALL-WEATHER

FIELD

No. 351

SURFACE COMPOSITE E

+ CORES

2 of 2

5/01/11 UCR BEACH SAMPLING

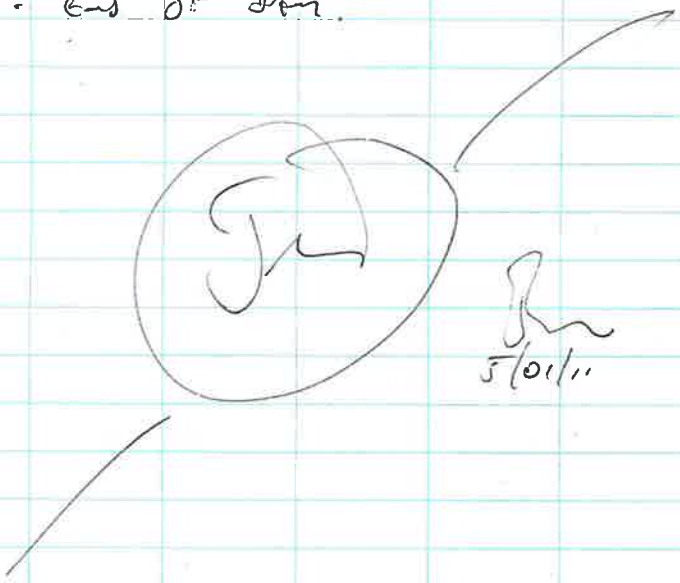
1230 BEGIN COLLECTING SURFACE SEDIMENT COMPOSITE SAMPLES

1320 BEGIN COLLECTING SUBSURFACE SEDIMENT COMPOSITE SAMPLES.

1500: COMPLETE SAMPLE COLLECTION, DECON & DEMOB.

1600: ARRIVE BACK AT TWO RIVERS BOAT LAUNCH. TAKE ALL SAMPLES FROM 4/29/11 TO 5/1/11 AND CONDUCT FINAL QA/QC PRIOR TO RELINQUISHING SAMPLES TO PROJECT TEAM.

1730: END OF DAY.



5/01/11

5/02/11 UCR BEACH SAMPLING

0800: ARRIVE AT TWO RIVERS BOAT LAUNCH
- CONDUCT H&S MEETING.
- → STANDBY TO TALK TO URS + NPS ABOUT PERMIT & OVERSIGHT COORDINATION.

0900: MOB TO JONES BAR BEACH.

* PERSONNEL: B. SULLIVAN, I. SAHM, L. LINDE } PMX
S. BARBER, J. MOORE } INTERNAL
J. WILSON, S. SAUBEN, S. HINZ, R. TRUDEAU } GRADUATE.

* OVERSIGHT: N. BADO - CH2MHILL
M. STEGNER - URS
E. VOSS - CCT.
B. MCMAHON

1010: ARRIVE AT JONES BAR BEACH. PREPARE TO SAMPLE COMPOSITE E.

1022 MOB TO COMPOSITE E STA JB-37

1027 ARRIVE AT STA JB-37

Clearance from oversight

Photo # File 104-4384

5/2/11 UCR BEACH SAMPLING

1030 MOB to Comp. E STA JB-86
1032 ARRIVE AT STA JB-86
clearance from oversight
photo # 4385
1035 MOB to Comp. E STA JB-135
1036 ARRIVE AT STA JB-135
clearance from oversight
photo # 4386
1038 MOB to Comp. E STA JB-215
1040 ARRIVE AT STA JB-215
clearance from oversight
photo # 4387
1042 MOB to Comp. E STA JB-167
1043 ARRIVE AT STA JB-167
clearance from oversight
photo 4388
1044 MOB to comp E STA JB-230
1045 ARRIVE AT STA JB-230
clearance from oversight
photo # 4389
1047 MOB to Comp. E STA JB-279
1050 ARRIVE AT STA JB-279
clearance from oversight
photo # 4390

5/2/11 UCR BEACH SAMPLING

1053 MOB to Comp. E STA. JB-262
1054 ARRIVE AT STA JB-262
clearance from oversight
photo # 4391
1055 MOB to Comp. E STA JB-239
1056 ARRIVE AT STA JB-239
clearance from oversight
photo # 4392
1057 MOB to Comp E STA JB-219
1059 ARRIVE AT STA JB-219
clearance from oversight
photo # 4393
1100 MOB to Comp E STA JB-177
1102 ARRIVE AT STA JB-177
clearance from oversight
photo # 4394
1104 MOB to Comp. E STA JB-121
1107 ARRIVE AT
clearance from oversight
photo 4395
1108 MOB BACK to Boats
1109 ARRIVE AT Boats
1125 MOB TO COMP A STA JB-20
1132 ARRIVE AT COMP A STA JB-20
clearance from oversight

5/2/11 UCR BEACH Sampling

CORE A Full DRIVE, 0 compaction
photo # 4398
TOOK EXTRA 0-15cm SEDIMENT

1139 MOB to CORE B STA JB-51
1140 ARRIVE AT STA JB-51
clearance FROM OVERSIGHT
AREA SURROUNDED By DRIFT
WOOD NEAR RIPARIAN ZONE
1st Attempt 29" DRIVE +4" in TUBE
2nd Attempt Full PENETRATION, 1" compaction
Photo # 4399
TOOK EXTRA 0-15cm SEDIMENT
1152 MOB to CORE C STA JB-109
1155 ARRIVE AT STA JB-109
clearance FROM OVERSIGHT
1st Attempt 6" DRIVE
2nd Attempt Full DRIVE, 4" RISE in TUBE
Photo # 4400
TOOK EXTRA 0-15cm Sediment
1205 MOB TO CORE D STA JB-181
1208 ARRIVE AT CORE D JB-181
clearance FROM OVERSIGHT
Full PENETRATION, 3" COMPACTION
photo 4402
TOOK EXTRA 0-15cm SEDIMENT

5/2/11 UCR BEACH SAMPLING.

1213 MOB to CORE E STA JB-122
1217 ARRIVE AT STA JB-122
clearance FROM OVERSIGHT
1st Attempt 23" DRIVE
2nd Attempt 12" DRIVE - ROCK
3rd Attempt 23" DRIVE
4th Attempt Full DRIVE 5" RISE in TUBE
Photo # 4403
TOOK EXTRA 0-15cm SEDIMENT
1234 MOB BACK to BOATS
1235 ARRIVE AT Boats to PROCESS
1250: BEGIN COLLECTING SURFACE AND SUBSURFACE SEDIMENT COMPOSITE SAMPLES
1530: DEBRIEF & DEMOB NOTICE COMPLETING CORE PROCESSING.
1650: ARRIVE BACK AT TWO RIVERS DOCK SAMPLES

JM 5/2/11

5/3/11 UCR BEACH SAMPLING

0860 : ARRIVE AT TWO RIVER BOAT LAUNCH. - CONDUCT H&S MEETING.

* PERSONNEL : 1. SAUL } PMX
2. LUSSE }
3 BARBER } INTECRAL
J. MOORE }
J. WILSON }
R. TRASCAN } GRAVITY
S. HINZ }
J. SAGER }

OVERSIGHT : N. BADON - CH2MHILL
M. STEINER - URS
E. VOSS
B. MONAGHAN - CCT

0870 : MOB TO LIMESTONE CAMPGROUND TO CONDUCT FISH SAMPLE COLLECTION ACCORDING TO PLAN.

0930 : ARRIVE AT LIMESTONE CAMPGROUND BEACH. PREPARE TO COLLECT SURFACE SAMPLES.

0938 : ARRIVE AT WS-2 - CLEARED TO SAMPLE BY OVERSIGHT.

0939 : COLLECT SAMPLE 0-15cm

5/3/11 UCR BEACH SAMPLING.

0942 : MOB TO WS-22.
0943 : CLEAR TO SAMPLE - COLLECT WS-22
0947 : MOB TO WS-36.
0948 : CLEAR TO SAMPLE - COLLECT WS-36
0950 : MOB TO WS-104
0951 : ARRIVE AT WS-104
0952 : CLEAR TO SAMPLE - COLLECT WS-104
0954 : MOB TO WS-131
0955 : CLEAR TO SAMPLE - COLLECT WS-131
0956 : MOB TO WS-207
0958 : CLEAR TO SAMPLE - COLLECT WS-207.
1001 : MOB TO WS-217
1002 : CLEAR TO SAMPLE - COLLECT WS-217
1005 : MOB TO WS-175
1007 : CLEAR TO COLLECT, - COLLECT WS-175
1009 : MOB TO WS-163
1010 : CLEAR TO SAMPLE - COLLECT

5/3/11 UCR BEACH SAMPLING

WS-163.

1012: MOB TO WS-126.

1013: CLEAR TO SAMPLE - COLLECT WS-126

1015: MOB TO WS-21

1018: CLEAR TO SAMPLE, COLLECT WS-26

1020: MOB TO WS-18

1021: CLEAR TO SAMPLE. COLLECT WS-18

1025: MOB BACK TO PROCESSING AREA. COMPOSITE E COMPLETE.

1040: PREPARE FOR COLLECTING CORES A THRU E.

1045: MOB TO CORE LOCATION WS-177.

1051: ARRIVE AT WS-177

1053: CLEAR TO SAMPLE - BEGIN COLLECTION of CORE-A, using 36" LEXAN DEDICATED DECON'D TUBE - FOR 30" RECOVERY.

1056 - FULL RECOVERY - PHOTO 105-4433 COLLECT EXTRA O-IS SEDIMENT IN DECON'D BOWL.

1059 - MOB TO WS-169, FOR CORE B.

5/3/11 UCR BEACH SAMPLING

1102: ARRIVE AT WS-169, CLEAR TO SAMPLE.

1106: FULL DRIVE, 100% RECOVERY PHOTO 105-4434 - CORE B.

1108: MOB TO WS-84, FOR CORE C.

1110: ARRIVE AT WS-84 - CLEAR TO SAMPLE.

1112: FULL DRIVE, 100% RECOVERY PHOTO 105-4435 - CORE C.

1115: MOB TO WS-65 FOR CORE D.

1116: ARRIVE AT WS-65, CLEAR TO SAMPLE.

1118: FULL DRIVE, 100% RECOVERY PHOTO 105-4437 - CORE D.

1120: MOB TO WS-43, FOR CORE E.

1122: ARRIVE AT WS-43, CLEAR TO SAMPLE.

1124: FULL DRIVE, 100% RECOVERY PHOTO 105-4438

1130: MOB BACK TO BOAT PROCESSING AREA.

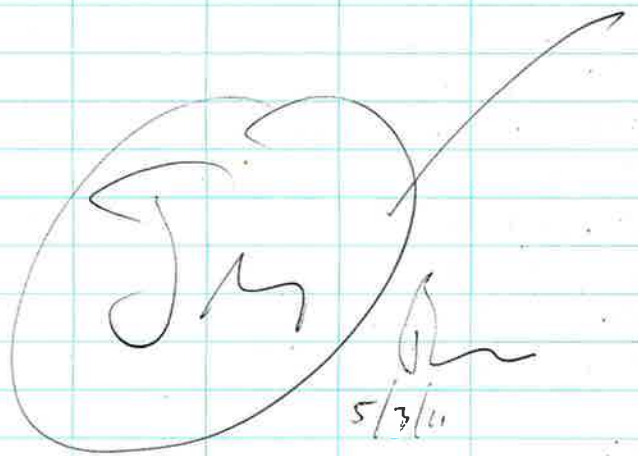
1200: PROCESS SURFACE & SUBSURFACE SEDIMENT. COLLECT RUSSIATE AT SURFACE.

5/3/11 UCR BEACH SAMPLING.

1400: All SUBSAMPLES COMPLETE. IDEM & DEMOB.

1500: ARRIVE AT TWO RIVER BOAT LAUNCH. BEGIN QA of ALL SAMPLES.

1600: COMPLETE QA. CONTINUE WITH FIELD DATA SUMMARY SHEETS



5/4/11 UCR BEACH SAMPLING

0830: MEET AT TWO RIVERS BOAT LAUNCH PREPARE TO SAMPLE AT HAWK CREEK BEACH.

- CONDUCT H&S MEETING.

* PERSONNEL: L. SAM, L. LINDE } ARX
J. MOORE, S. BARBER } INTEGRAL
J. WILSON, J. HINZ, S. SAUBIN, R. THIBEAU } GRAVITY.

OVERSIGHT = N. BABSON - CHEMTECH
M. STEGNER - URS
E VOSS, B. MONAGHAN } CCT.

0840: MOB TO HAWK CREEK BEACH.

0900: ARRIVE AT HAWK CREEK. J. MOORE M. STEGNER BEGIN SAMPLING COMPOSITE E.

0916: ARRIVE AT HC-12

0917: CLEAR TO SAMPLE - COLLECT HC-12

0923: MOB TO HC-17

5/4/11 UCR BEACH SAMPLING.

0925 - AT HC-17, ALL CLEAR TO SAMPLE - COLLECT HC-17
0928 - MOB TO HC-36
0932 - AT HC-36 ALL CLEAR TO SAMPLE - COLLECT HC-36
0932 - MOB TO HC-45
0934 - AT HC-45, ALL CLEAR TO SAMPLE. - COLLECT HC-45
0936 - MOB TO HC-80
0938 - AT HC-80. ALL CLEAR TO SAMPLE - COLLECT HC-45
0943 - MOB TO HC-123
0944 - AT HC-123 - CLEAR TO SAMPLE - COLLECT HC-123
0946 - MOB TO HC-110
0950 - AT HC-110, CLEAR TO SAMPLE - COLLECT HC-110 (SM)
0956 - MOB TO HC-155
0959 - AT HC-155 - CLEAR TO SAMPLE - COLLECT HC-155
1001 - MOB TO HC-178 - LOCATION ABANDONED DUE TO CLIFF SLIDE OVER AREA.
1007 - MOB TO RESERVE LOCATION

5/4/11 UCR BEACH SAMPLING.

HC-196. - CLEAR TO SAMPLE - COLLECT HC-196
1010: MOB TO HC-240
1016: AT HC-240 - CLEAR TO SAMPLE - COLLECT HC-240
1020: MOB TO HC-89.
1025: AT HC-89, CLEAR TO SAMPLE - COLLECT HC-89
1029: MOB TO HC-91
1030: ARRIVE AT HC-91, CLEAR TO SAMPLE - COLLECT HC-91
1035: COMPOSITE E COMPLETE. MOB BACK TO BOAT TO PREPARE FOR CORE COLLECTION
1046: MOB TO LOCATION HC-223 TO COLLECT CORE A.
1054: AT HC-223, CLEAR TO SAMPLE. BEGIN COLLECTING CORE A. PHOTO 4473
1056: FULL DRIVE - 100%. RECOVERY
1100: MOB TO HC-209
1131: AT HC-209, CLEAR TO SAMPLE, BEGIN COLLECTING CORE B.

5/4/11 UCR BEACH SAMPLING

1ST ATTEMPT REGRAB AT 28" - MOVE ½ m OVER.
- CORE B SUCCESSFUL - FULL DRIVE, 100 % RECOVERY. PHOTO 4473

1108 - MOB TO HC-148 TO COLLECT CORE C.

1110 - HC-148 & HC-133 ARRIVED AT LOCATIONS ARE ON THE CLIFF/BANK AREA.

1111 - MOB TO HC-92, ALTERNATE FOR HC-148. CLEAR TO SAMPLE.

1115 - BEGIN COLLECTING CORE C.

1117 - CORE C COLLECTING, FULL DRIVE, 100 % RECOVERY. PHOTO 4474

1119 - MOB TO HC-69, WHICH IS RESERVE LOCATION FOR HC-133

1126 - AT HC-69, BEGIN COLLECTING CORE J. - CLEARANCE GIVEN.

1128 - CORE J COLLECTED, FULL DRIVE 100 % RECOVERY. PHOTO 4475

1130 - MOB TO HC-16 TO COLLECT CORE E.

5/4/11 UCR BEACH SEDIMENT

1134 - ARRIVE AT HC-16, BEGIN COLLECTING CORE E.

1136 - CORE E COMPLETE. FULL DRIVE, 100 % RECOVERY.

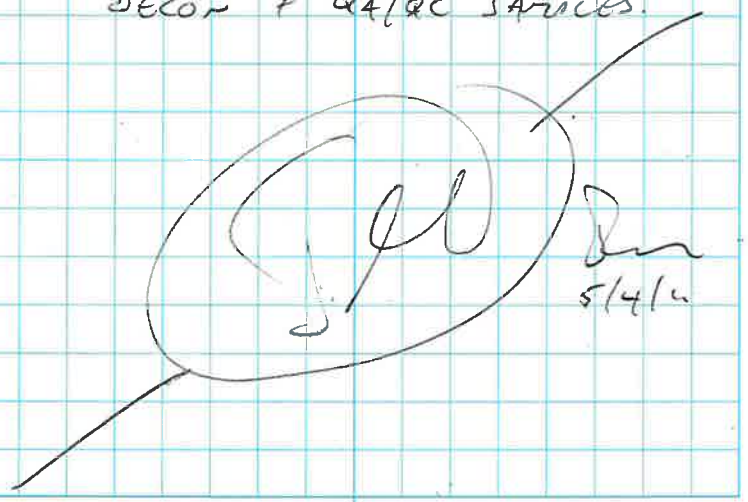
1145 - MOB BACK TO BOAT PROCESSING AREA.

1220 - BEGIN COLLECTING SURFACE SAMPLE COMPOSITES.

1310 - BEGIN COLLECTING SUBSURFACE SAMPLE COLLECTIONS. INTERTIDAL.

1445 - ALL SAMPLING COMPLETE, MOB BACK TO TWO RIVERS.

1515 - ARRIVE AT TWO RIVERS, DECON + Q4/QC SAMPLES.



5/5/11 UCR BEACH SAMPLING

0800: MEET AT TWO RIVERS BOAT LAUNCH. CONDUCT H&S MEETING

PERSONNEL: I. SAUL, L. LINDE } PMX
J. MOORE, J. BARBER } INTERTIDAL
J. WILSON, S. SANGEN, R. TRUEBAN, S. HINZ } GRAVITY.

OVERSIGHT: N. BASSON – CH2MHILL
E. VOSS, B. MINAGHAN } CCT

0845: MOB TO SEVEN BAYS BOAT LAUNCH. TO BEGIN SAMPLING FINAL BEACH.

0900: AT SEVEN BAYS, MEET M. STEGNER OF URS AS THIRD OVERSIGHT.

0910: BEGIN COLLECTING COMPOSITE E. MOB TO SB-42

0917: ARRIVE AT SB-42, CLEAR TO SAMPLE, COLLECT SB-42.

0922: MOB TO SB-57

0925 AT SB-42, ALL CLEAR TO

5/5/11 UCR BEACH SAMPLING

SAMPLE, COLLECT SB-57

0929: MOB TO SB-158

0933: AT SB-158 – ALL CLEAR TO SAMPLE, COLLECT SB-158

0936: MOB TO SB-134

0938: AT SB-134, ALL CLEAR TO SAMPLE – COLLECT SB-134

0942: AT SB-168, CLEAR TO SAMPLE – COLLECT SB-168

0948: AT SB-244, ALL CLEAR TO SAMPLE, COLLECT SB-244

0952: AT SB-299, ALL CLEAR TO SAMPLE, COLLECT SB-299

0958: AT SB-353, ALL CLEAR TO SAMPLE, COLLECT SB-353

1002: AT SB-369, ALL CLEAR TO SAMPLE – COLLECT SB-369

1008: AT SB-401, ALL CLEAR TO SAMPLE – COLLECT SB-401

1010 – AT SB-399, ALL CLEAR TO SAMPLE – COLLECT SB-399

1016 – AT SB-339, ALL CLEAR TO SAMPLE – COLLECT SB-339

1021: MOB TO BOAT PROCESSING AREA

5/5/11 UCR BEACH SAMPLING

1030: PREPARE TO COLLECT CORES.
1039: ON LOCATION SB-5. ALL CLEAR TO SAMPLE.
1042: COLLECT CORE A AT SB-5 FULL DRIVE, 100% RECOVERY 75+ cm. PHOTO 4504
1050: MOB TO SB-14A, TO COLLECT CORE B
1053: AT SB-14A. AREA IS COVERED WITH ABUNDANT COBBLE PHOTO 4505.
1100: AFTER MULTIPLE ATTEMPTS NO SEDIMENT COLLECTED DUE TO ABUNDANT COBBLE.
- ALL SOUTH END OF BEACH IS NOT GOOD FOR CORES. SELECT RANDOM LOCATIONS AT NORTH END OF BEACH
1103: MOB TO SB-49 TO ATTEMPT TO COLLECT ALTERNATE CORE B.
- CORE B COLLECTED. FULL DRIVE 100% RECOVERY. PHOTO 4506
1105: MOB TO SB-41, TO ATTEMPT TO COLLECT ALTERNATE CORE C.

5/5/11 UCR BEACH SAMPLING

1108: ALL CLEAR TO CORE - CORE COLLECTED, FULL DRIVE, 100% RECOVERY. PHOTO 4507
1114: MOB TO SB-30 ATTEMPT TO COLLECT ALTERNATE CORE D.
1115: ALL CLEAR TO COLLECT AT SB-30 COLLECT CORE D. FULL DRIVE 100% RECOVERY. PHOTO 4508
1121: MOB TO SB-24. ALL CLEAR TO COLLECT SAMPLE. 1
1123: ATTEMPT CORE E ALTERNATE AT SB-24 - FULL DRIVE. 100% RECOVERY. PHOTO 4509
1130: MOB BACK TO BOAT PARKING AREA.
1215: COMPLETE SURFACE COMPOSITE SAMPLE COLLECTION.
1430: COMPLETE SUBSURFACE COMPOSITE SAMPLE COLLECTION. MOB TO TWO RIVERS.
1510: ARRIVE AT TWO RIVERS - START FINAL PROJECT DEMOB. 7 SAMPLES
1800: END OF DAY.

5/5/11

2011 UCR BEACH SAMPLING

BOAT TEAM.

"Rite in the Rain"®

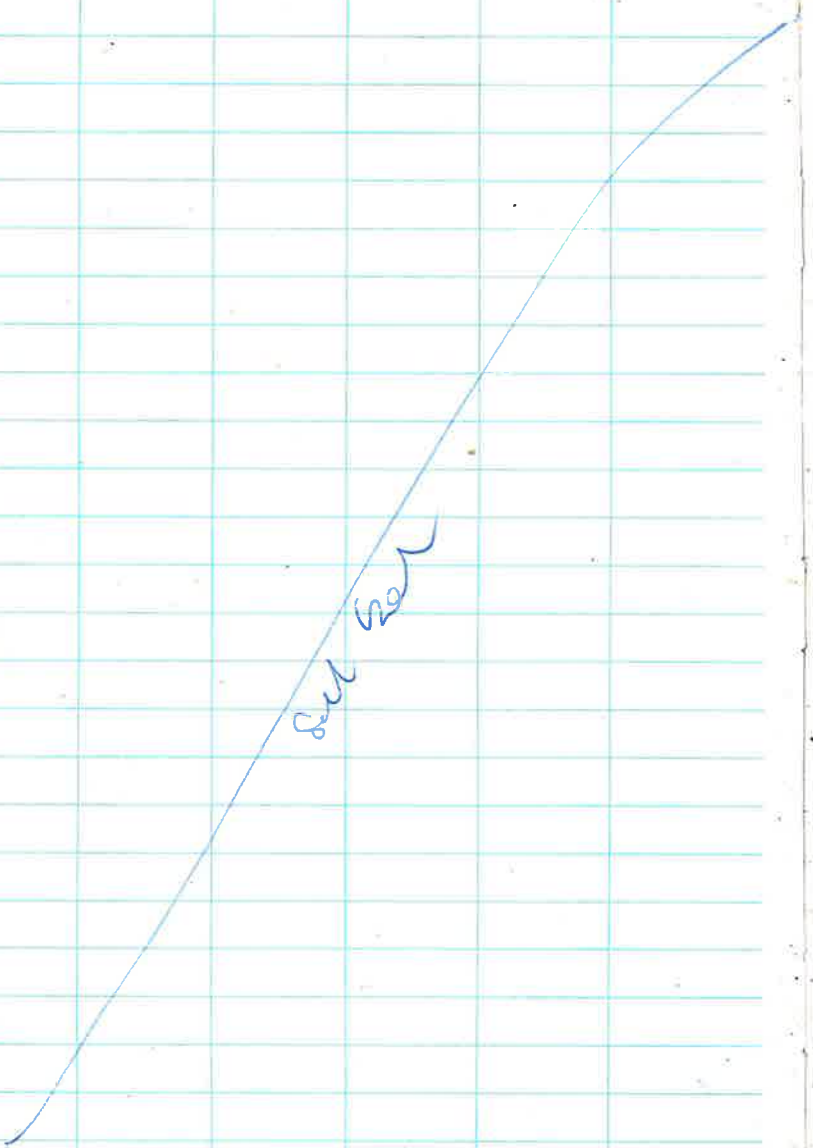
ALL-WEATHER

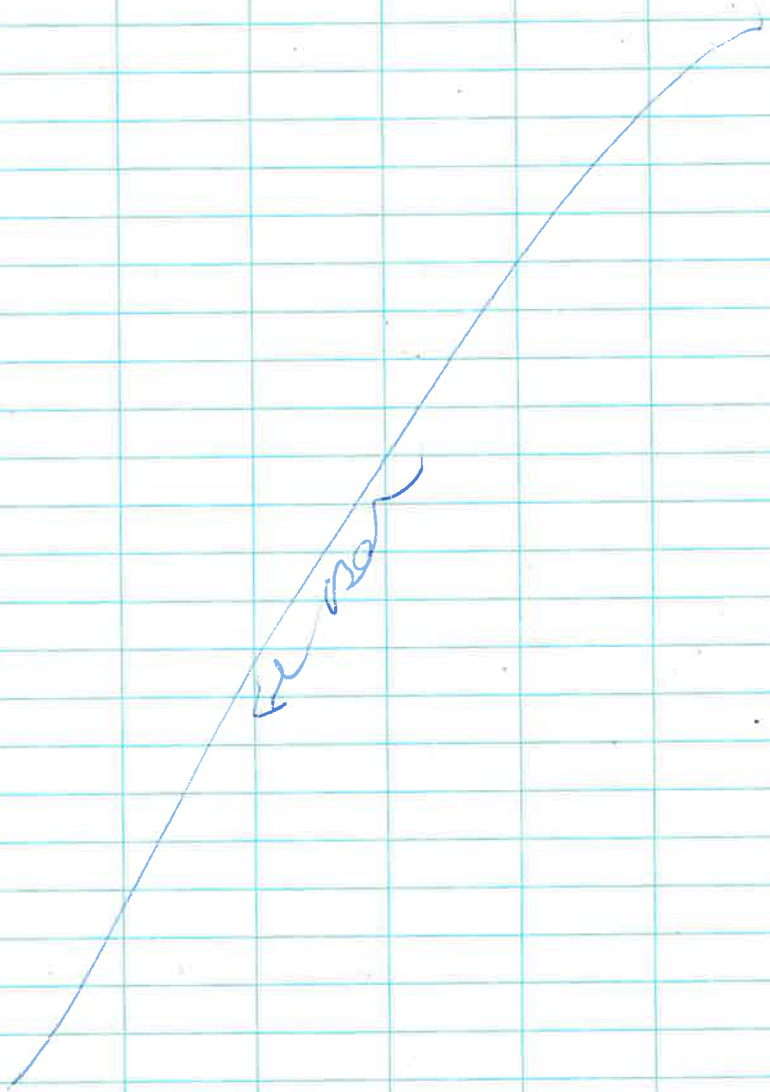
LEVEL

No. 311

SURFACE

COMPOSITES - A + B





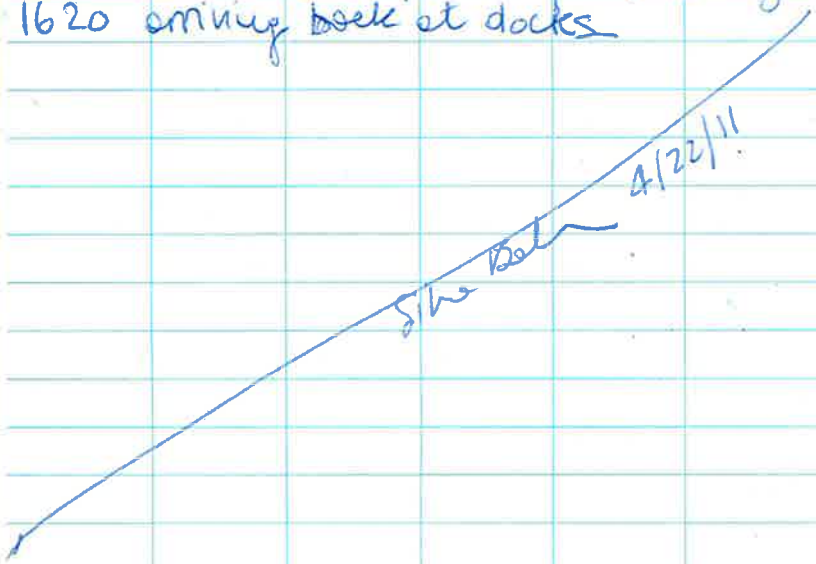
4 UCR Beach Sampling 4/22/11
S. Barber

0800 meet at boat ramp
Parametrix: I. Saul, L Linde, B. Sullivan
Gravity: F. Wilson
Integral: J. Moore, S. Barber
CH2 H. Rectenwald
EPA: M. Steinfeldman
VRS: M. Stegner
CCT: E. Oosahwee-Voss
CCT: B. Monaghan
0900 arrive at Swimming Hole Beach
Cloudy, dry, cool
Completed health & Safety Meeting
Decon utensils and pots
Sample composites A+B. Start with A.
0930 at beach
0950 at target location DM-57
oversight approves digging (B. Monaghan)
collect sample
1003 at target location DM-19
oversight approves digging
collect sample
1015 at target location DM-269
oversight approves digging
collect sample.

UCR Beach Sampling 4/22/11
S. Barber
1025 at Target location DM-296
oversight approves digging
collect sample
1033 at target location DM-432
oversight approves digging
collect sample
1039 at target location DM-459
oversight approves digging
1050 at reserve location DM-305
target location DM496 is underwater
oversight approves digging
collect sample
Complete composite A.
Start composite B
1130 at reserve location DM-301
target location DM-348 is submerged
oversight approves digging
collect sample
1148 at reserve location DM-602
target location DM-615 is submerged
oversight approves digging
collect sample
1158 at target location DM-585
oversight approves sampling
1208 at reserve location DM-404

UCR Beach Sampling 4/22/11
S. Barber

target location DM-493 is submerged
oversight approves digging
collect sample
1218 at target location DM-157
oversight approves sampling
collect sample
1225 at target location DM-233
oversight approves sampling
collect sample
1233 at target location DM-165
oversight approves sampling
Collect sample
1245 back to boat for sample processing
1620 arriving back at docks



UCR Beach Sampling 4/23/11
S. Barber

0830 meet at boat ramp
Parametrix: I. Saul, L. Linde, B. Sullivan
Gravity: J. Wilson
Integral: J. Moore, S. Barber
CH2: M. Rectenwald
EPA: M. Steifeldman
URS: M. Stegner
CCT: E. Oosenbree-Voss, B. Monaghan
0930 Arrive at Flat creek
sunny, dry, cool
Completed Health & Safety meeting
Decon utensils and pots
0958 at target location FC-77 for composite A)
oversight approves sampling (B. Monaghan)
collect sample
1006 at target location FC-94
oversight approves sampling
collect sample
1013 at target location FC-136
oversight approves sampling
collect sample
1019 at target location FC-138
oversight approves sampling
Collect sample

VCR Beach Sampling 4/23/11
S Barber

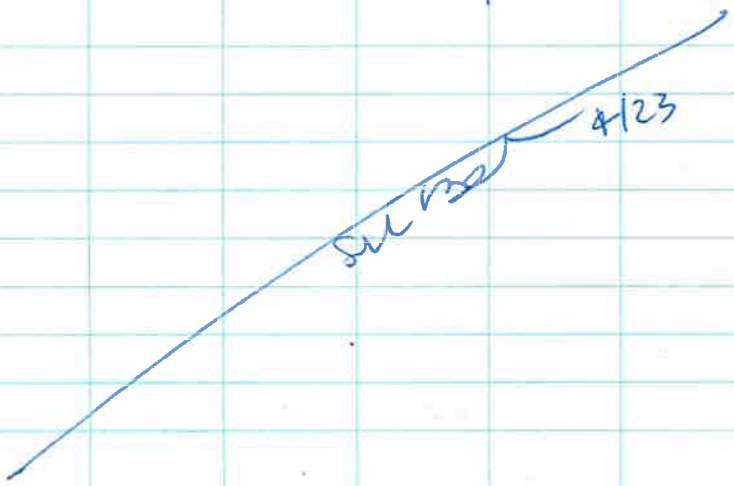
1026 at target location FC-118
oversight approves sampling
collect sample
1033 at target location FC-43
oversight approves sampling
collect sample
1042 at target location FC-122
oversight approves sampling
collect sample
1054 at target location FC-305
oversight approves sampling
collect sample
1102 at target location FC-327
oversight approves sampling
collect sample
1108 at target location FC-369
oversight approves sampling
collect sample
1113 at target location FC-364
oversight approves sampling
collect sample
1117 at target location FC-353
oversight approves sampling
collect sample
Completed composite A

VCR Beach Sampling 4/23/11
S. Barber

1136 at target location FC-10 Starting
Composite B
oversight approves sampling
collect sample
1146 at target location FC-130
oversight approves sampling
collect sample
1155 at target location FC-140
oversight approves sampling
collect sample
1201 at target location FC-163
oversight approves sampling
collect sample
1208 at target location FC-18
oversight approves sampling
collect sample
1217 at target location FC-151
oversight approves sampling
collect sample
1225 at target location F-250
oversight approves sampling
collect sample
1234 at target location F-365
oversight approves sampling
collect sample

UCR Beach Sampling — 4/23/11 — S. Barber

1239 at target location FC-373
oversight approves sampling
collect sample
1244 at target location FC-389
oversight approves sampling
collect sample
1248 at target location FC-398
oversight approves sampling
collect sample
1255 at target location FC-384
oversight approves sampling
collect sample
1300 back to boat for sample processing
1547 leave site
1600 demob at boat ramp



UCR Beach Sampling — 4/24/11 — S. Barber

0830 meet at boat ramp, safety meeting
0900 arrive at Lyons Island
Parametrics: I. Soul, L. Linde, B. Sullivan
Gravity: J. Wilson
Integral: J. Moore, S Barber
CH2: M. Rectenwald
EPA: M. Steifeldman
URS: M. Stegner
CCT: E. Oosahwee-Voss, B. Monaghan
sunny, dry, cool
0933 at target location LY-53, composite A
oversight approves sampling
collect sample
0947 arrive at target location LY-132
oversight approves sampling
collect sample
0954 arrive at target location LY-475
oversight approves sampling
collect sample
1000 at target location LY-468
oversight approves sampling
collect sample
1009 at target location FY-297
oversight approves sampling
collect sample

UCR Beach Sampling — 4/24/11 — S. Barber

1016 arrive at target location EY-384
oversight approves location
collect sample

1023 arrive at location EY-485
oversight approves location
collect sample

1030 arrive at target location EY-507
oversight approves sampling
collect sample

1036 arrive at target location EY-561
oversight approves sampling
collect sample

1041 arrive at target location EY-704
oversight approves sampling
collect sample

1046 arrive at target location EY-709
oversight approves sampling
collect sample

1053 at target location EY-935
oversight approves sampling
collect sample

1100 Complete composite A

1120 at target location EY-227
start composite B. Oversight approves
collect sample

UCR Beach Sampling — 4/24/11 — S. Barber

1130 at target location EY-304
oversight approves sampling
collect sample

1135 at target location LY-420
oversight approves sampling
collect samples

1142 at target location 441
oversight approves sampling
collect sample

1149 at target location LY-439
oversight approves sampling
collect sample

1156 at target location LY-410
oversight approves location
collect sample

1206 at target location LY-698
oversight approves location

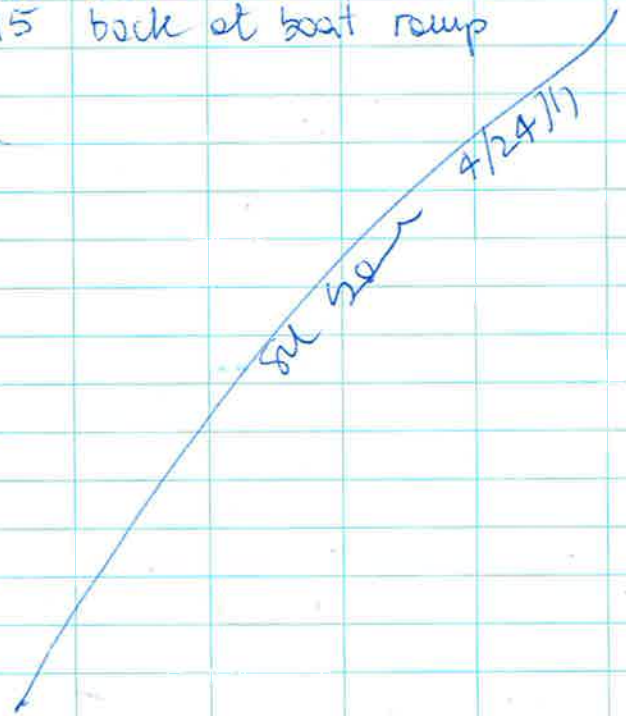
1214 at target location LY-761
oversight approves location
collect sample

1223 at target location LY-877
oversight approves sampling
collect sample

1231 at target location LY-988

UCR Beach Sampling 4/24/11
S. Barber

oversight approves sampling
Collect sample
1236 at target location LY-999
oversight approves sampling
Collect sample
1243 at target location LY-1020
oversight approves sampling
collect sample. Complete composite B.
1255 back to boat for sample processing
1605 leave site
1615 back at boat ramp



UCR Beach Sampling 4/25/11
S. Barber

0830 at boat ramp. Safety meeting
0840 leave dock
1000 arrive at site AA campground 2
Parametrix: I. Seal, L. Linde, B. Sullivan
Integral: J. Moore, S. Barber
CH_2: H. Reichmuth
EPA: M. Steifelmeier
URS: M. Stegner
CCT: E. Casahuwee-Voss, B. Monaghan
cloudy, dry
1025 at target location AA-6
oversight approves sampling
Collect sample
1033 at target location AA-91
oversight approves sampling
collect sample.
1038 at target location AA-118
oversight approves sampling
collect sample
1044 arrive at target location AA-174
oversight approves sampling
collect sample
1051 arrive at target location AA-253
oversight approves sampling
collect sample

VCR Beach Sampling 4/25/11 S. Barber

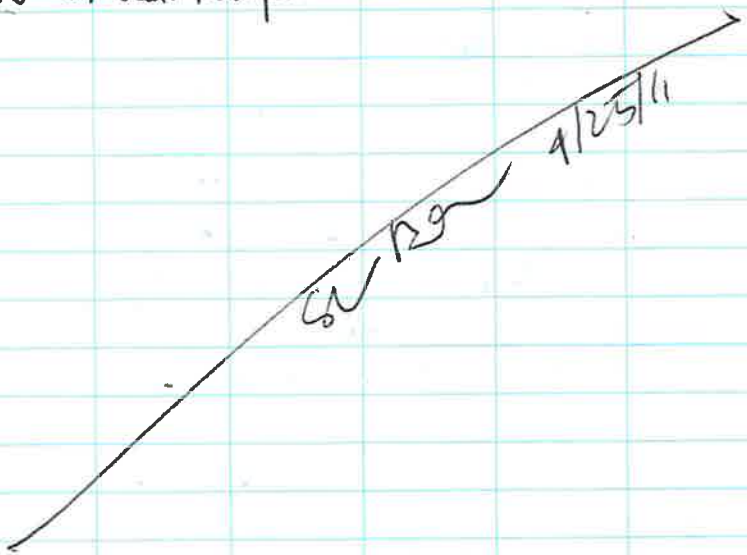
1059 At target location AA-443
oversight approves sampling
collect sample
1107 at target location AA ~~845~~ 819
oversight approves sampling
collect sample
1113 at target location AA-658
oversight approves sampling
collect sample
1122 at target location AA-601
oversight approves sampling
collect sample
1128 at target location AA-683
oversight approves sampling
collect sample
1133 at target location AA-503
oversight approves sampling
collect sample
1140 at target location AA-216
oversight approves sampling
collect sample
Complete composite A
1203 at target location AA-98
oversight approves sampling
collect sample

VCR Beach Sampling 4/25/11 S. Barber

1211 at target location AA-548
oversight approves location
Collect sample
1218 at target location AA-592
oversight approves sampling
Collect sample
1224 at target location AA-587
oversight approves sampling
collect sample
1233 at target location AA-621
oversight approves sampling
Collect sample
1240 at target location AA-425
oversight approves location
collect sample
1246 at target location AA-338
oversight approves sampling
Collect sample
1254 at target location AA-224
oversight approves sampling
Collect sample
1259 at target location AA-196
oversight approves sampling
Collect sample

UCR Beach Sampling 4/25/11 S. Barber

1305 at target location AA-724
oversight approves sampling
collect sampling
1311 at target location AA-775
oversight approves sampling
collect sample
1316 at target location AA-783
oversight approves sampling
collect sample
Slight rain, overcast, wind
1320 return to boat for sample processing
1610 leave site
1715 at boat ramp



UCR Beach Sampling 4/26/11 S Barber

0800 at boat ramp
0840 leave dock
Parametrix: I. Soul, L. Linde, B. Sullivan
Gravity: J. Wilson
Integral: J. Moore, S. Barber
CHZ: H. Rectenwald
observers will drive to site today:
EPA: M. Steifeldman
URS: M. Stegner
CCT: E. Oosahwee-Voss, B. Kavaghan
overcast, slight rain, cold
completed health & safety meeting
1030 arrive at site Nez Perce
1103 at target location NZ-401
oversight approves sampling
collect sample
1117 at target location NZ-98
oversight approves sampling
collect sample
1124 at target location NZ-64
oversight approves sampling
collect sample
1130 at target location NZ-18
oversight approves sampling
collect sample

UCR Beach sampling 4/26/11
S. Barber

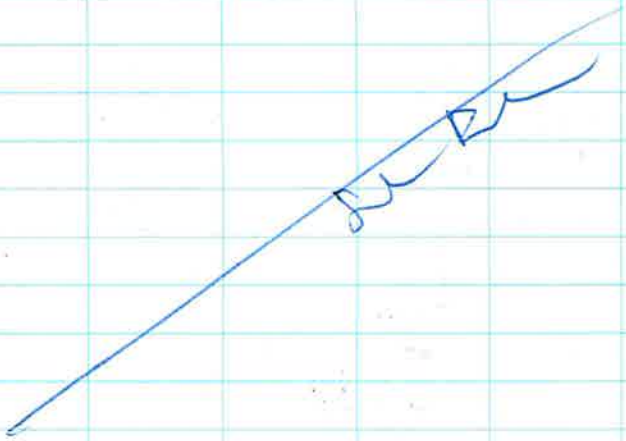
1136 at target location NZ-29
oversight approves sampling
collect sample
1142 at target location NZ-40
oversight approves sampling
collect sample
1150 at target location NZ-75
oversight approves sampling
collect sample
1156 at target location NZ-154
oversight approves sampling
collect sample
1204 at target location NZ-214
oversight approves sampling
collect sample
1214 at target location NZ-581
oversight approves sampling
collect sample
1223 at target location NZ-716
oversight approves sampling
collect sample
1228 at target location NZ-735
oversight approves sampling
collect sample
complete composite A

UCR Beach sampling 4/26/11
S. Barber

1300 at target location NZ-443
oversight approves sampling
collect sample
1306 at target location NZ-598
oversight approves sampling
collect sample
1310 at target location NZ-563
oversight approves sampling
collect sample
1315 at target location NZ-627
oversight approves sampling
collect sample
1320 at target location NZ-699
oversight approves sampling
collect sample
1327 at target location NZ-337
oversight approves sampling
collect sample
1330 at target location NZ-251
oversight approves sampling
collect sample
1341 at target location NZ-59
oversight approves sampling
collect sample

UCR Beach Sampling — 4/26/11 — S. Barber

1349 at target location NZ-127
oversight approves sampling
collect sample
1358 at target location NZ-271
oversight approves location
collect sample.
1403 at target location NZ-216
oversight approves sampling
collect sample
1408 at target location NZ-285
oversight approves sampling
collect sample
1745 leave site
1815 back to boat ramp



UCR Beach Sampling — 4/28/11 — S. Barber

0800 at boat docks
0830 meet by boats
Parametrix: I. Saul, L. Linde, B. Sillivan
Integral: J. Moore, S. Barber
Gravity: J. Wilson
CH_2: N. Badon
URS: M. Stogner
CCT: E. Poselnee-Voss, B. Nowaglan
sunny, windy
0950 at site Wilmont Creek
1020 at target location WC-223
Oversight approves sampling
collect sample
1029 at target location WC-262
oversight approves sampling
collect sample
1035 at target location WC-295
oversight approves sampling
collect sample
1040 at target location WC-175
oversight approves sampling
collect sample
1047 at target location WC-212
oversight approves sampling
collect sample

UCR Beach Sampling 4/28/11
S. Barber

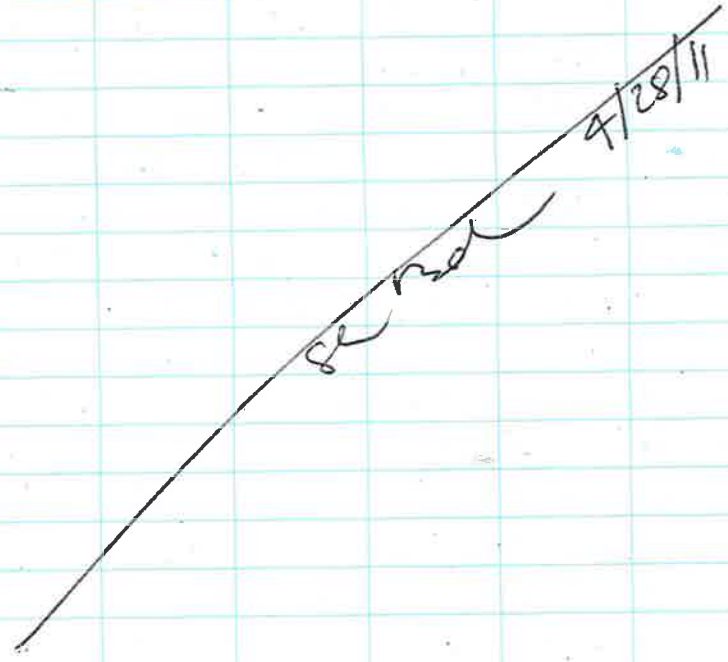
1051 at target location WC-182
oversight approves sampling
collect sample
1057 at target location WC-284
oversight approves sampling
collect sample
1101 at target location WC-307
oversight approves sampling
collect sample
1106 at target location 424
oversight approves sampling
collect sample
1111 at target location 513
oversight approves sampling
collect sample
1116 at target location 509
oversight approves sampling
collect sample
1121 at target location 520
oversight approves sampling
collect sample
complete composite A
1156 at target location 156
oversight approves sampling
collect sample

UCR Beach Sampling 4/28/11
S. Barber

1201 at target location 224
oversight approves sampling
collect sample
1208 at target location 106
oversight approves sampling
collect sample
1216 at target location 166
oversight approves sampling
collect sample
1220 at target location 203
oversight approves sampling
collect sample
1224 at target location 413
oversight approves sampling
collect sample
1228 at target location 365
oversight approves sampling
collect sample
1233 at target station 480
oversight approves sampling
collect sample
1239 at target location 485
oversight approves sampling
collect sample

 UCR Beach Sampling 4/28/11 S. Barber

1243 at target location 486
oversight approves sampling
collect sample
1246 at target location 500
collect sample oversight approves.
1250 at target location 512
oversight approves sampling
collect sample
complete composite B
1630 leave site
1730 back at docks. Demos.



UCR Beach Sampling 4/29/11 S. Barber

0800 at boat docks, safety meeting
Parametrix: I. Saul, L. Linde, B. Sullivan
Integral: J. Moore, S. Barber
Grantg: I. Wilson
CH2: N. Badon
URS: M. Stegner
CCT: E. Oosthuizen-Vos, B. Monaghan
rainy, cool, cloudy
0840 leave docks, head to Enterprise
0940 arrive at site.. Enterprise Beach
1012 at target location EN-361
oversight approves sampling
collect sample
1016 at target location 335
oversight approves sampling
collect sample
1022 at target location 6
oversight approves sampling
collect sample
1029 at target location 213
oversight approves sampling
collect sample
1034 at target location 264
oversight approves sampling.
collect sample

UCR Beach Sampling 4/29/11 S. Barber

1038 at target location 462
oversight approves sampling
collect sample
1042 at target location 430
oversight approves sampling
collect sample
1046 at target location 484
oversight approves sampling
collect sample
1050 at target location 512
oversight approves sampling
collect sample
1055 at target location 280
oversight approves sampling
collect sample
1059 at target location 364
oversight approves sampling
collect sample
1105 at target location 599
oversight approves sampling
collect sample. complete composite A.
1137 at target location 220
oversight approves location
collect sample

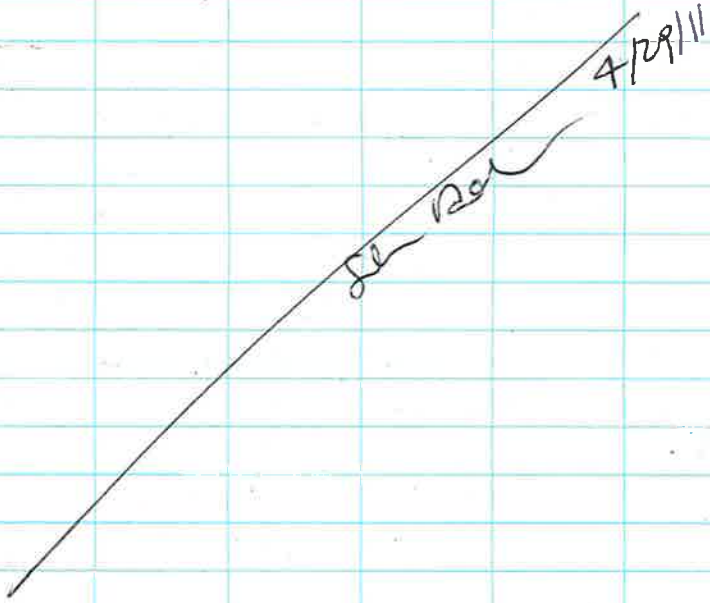
UCR Beach Sampling 4/29/11 S. Barber

1145 at target location 42
oversight approves sampling
collect sample
1150 at target location 147
oversight approves sampling
collect sample
1155 at target location 80
oversight approves sampling
collect sample
1200 at target location 137
oversight approves sampling
collect sample
1205 at target location 297
oversight approves sampling
collect sample
1208 at target location 296
oversight approves sampling
collect sample
1211 at target location 321
oversight approves sampling
collect sample
1215 at target location 289
oversight approves sampling
collect sample

UCR Beach Sampling

4/29/11
S Barber

1230 at target location 710
oversight approves sampling
collect sample
1234 at target location 637
oversight approves sampling
Collect sample
1239 at target location 657
oversight approves sampling
collect sample
Complete composite B
1610 leaving site
1705 arrive at marina. Demob



UCR Beach Sampling

4/30/11
S. Barber

0830 meet at docks, health & safety
0840 leave docks, head to Naborlee
Parametrix: I. Saeed, C. Linde, B. Sullivan
Integral: J. Moore, S. Barber
Gravity: J. Wilson
CH_2: N. Badon
URS: M. Stegner
CCT: E. Dosamee-Voss, B. Monaghan
sunny, cool
0925 at site.
0944 at target location NA-249
oversight approves sampling
collect sample
0950 at target location 292
oversight approves sampling
collect sample
0956 at target location 289
oversight approves sampling. Collect sample
1004 at target location ~~556~~ 559 SB 4/30/11
oversight approves sampling. Collect sample
1011 at target location 566. Oversight
approves location. Collect sample
1016 at target location 574. Oversight
approves sampling. Collect sample

4/30/11
S. Barber

1022 at target location 769. Oversight approves sampling. Collect sample
1026 at target location 588. Oversight approves sampling. Collect sample
1031 at target location 537. Oversight approves sampling. Collect sample
1035 at target location 592. Oversight approves sampling. Collect sample
1040 at target location 549. Oversight approves sampling. Collect sample
1046 at target location 283. Oversight ~~colle~~ approves sampling. Collect sample. Complete composite A.
1114 At target location 257. Oversight approves sampling. Collect sample
1119 At target location 247. Oversight approves sampling. Collect sample
1124 at target location 290. Oversight approves sampling. Collect sample
1129 at target location 809. Oversight approves sampling. Collect sample
1135 at target location 829. Oversight approves sampling. Collect sample
1140 at target location 586. Oversight

approves sampling. Collect sample
1144 at target location 484. Oversight approves sampling. Collect sample
1149 at target location 419. Oversight approves sampling.
1155 at target location 427. Oversight approves sampling. Collect sample
1201 at target location 557. Oversight approves sampling. Collect sample
1206 at target location 197. Oversight approves sampling. Collect sample
1211 at target location 319. Oversight approves sampling. Collect sample. Complete composite B
1300 leave site to avoid storm. Slowly motoring back while processing samples.
1445 arrive at docks.
1500 finish processing samples
1515 demob

4/30/11
S. Barber

UCR Beach Sampling 5/1/11
S. Barber

0800 meet at boat docks
health & safety meeting
Parametrix: I. Saul, L. Linde, B. Sillman
Integral: J. Moore, S. Barber
URS: M. Stegner Gravity: J. Wilson
CCT: E. Dashnee-Voss, B. Monaghan
CH_2: N. Badow
Sunny warm
0830 leave docks
0917 arrive at Mitchell Point beach
0932 at target location MP-108. Oversight Approves sampling. Collect sample
0939 at target location 168. Oversight approves sampling. Collect sample
0944 At target location 112. Oversight approves sampling. Collect sample
0951 at target location 228, Oversight approves sampling. Collect sample
0958 at target location 266. Oversight approves sampling. Collect sample
1002 at target location 277. Oversight approves sampling. Collect sample
1007 at target location 290. Oversight approves sampling. Collect sample

UCR Beach Sampling 5/1/11
S. Barber

1013 at target location 289. Oversight approves sampling. Collect sample
1017 at target location 276. Oversight approves sampling. Collect sample
1023 at target location 307. Oversight approves sampling. Collect sample.
1029 at target location 324. Oversight approves sampling. Collect sample
1033 at target location 339. Oversight
A approves sampling. Collect sample
B 1053 at target location 130. Oversight approves sampling. Collect sample
1059 at target location 100 Oversight approves sampling. Collect sample.
1105 at target location 173. Oversight approves sampling. Collect sample
1108 at target location 212. Oversight approves sampling. Collect sample
1113 at target location 205. Oversight approves sampling. Collect sample
1118 at target location 90. Oversight approves sampling. Collect sample
1125 at target location 23. Oversight approves sampling. Collect sample

UCR Beach Sampling 5/1/11
S. Barber

1130 at target location 57. Oversight approves sampling. Collect sample
1137 at target location 202. Oversight approves sampling. Collect sample
1141 at target location 255. Oversight approves sampling. Collect sample.
1149 at target location 311. Oversight approves sampling. Collect sample
1153 at target location 318. Oversight approves sampling. Collect sample. Complete composite B
1445 Finish processing samples
1500 demob
1600 at docks. Demob

5/1/11

UCR Beach Sampling 5/2/11
S. Barber

0800 at boat ramp
0830 meet w/ processing team for sample shipping.
Integral: J. Moore, S. Barber
Parametrix: I. Saul, L. Linde, B. Silliman
Grainy: J. Wilson
CH2: N. Bodon URS: M. Stegner
CCT: E. Dosahwee-Voss, B. Monaghon
cloudy, cool
0905 Health & Safety meeting
leave docks
1010 arrive at site: Jones Bay
1029 at target location JB-261. Oversight approves sampling
Collect sample
1037 at target location 178. Oversight approves sampling. Collect sample
1041 at target location 208. Oversight approves sampling. Collect sample
1044 at target location 165. Oversight approves sampling. Collect sample
1047 at target location 192. Oversight approves sampling. Collect sample
1050 at target location ~~19~~ 142. Oversight

UCR Beach Sampling 5/2/11
S Barber

approves sampling. Collect sample
1055 at target location 129. Oversight approves sampling. Collect sample
1100 at target location 104. Oversight approves sampling. Collect sample
1104 at target location 79. Oversight approves sampling. Collect sample
1108 at target location 81. Oversight approves sampling. Collect sample
1113 at target location 18. Oversight approves sampling. Collect sample
1117 at target location 65. Oversight approves location. Collect sample
1137 at target location 49. Oversight approves sampling. Collect sample
1141 at target location 25. Oversight approves sampling. Collect sample
1145 at target location 95. Oversight approves sampling. Collect sample
1150 at target location 114. Oversight approves sampling. Collect sample.
1153 at target location 141. Oversight approves sampling. Collect sample
1156 at target location 131. Oversight

approves sampling. Collect sample
1203 at target location 252. Oversight approves sampling. Collect sample.
1208 at target location 302. Oversight approves sampling. Collect sample
1212 at target location 282. Oversight approves sampling. Collect sample.
1216 at target location 267. Oversight approves sampling. Collect sample
1219 at target location 224. Oversight approves sampling. Collect sample
1222 at target location 175. Oversight approves sampling. Collect sample
1330 start motoring back slowly while processing samples. Started raining.
1530 back at docks. Rain. Demob.

5/2/11
S Barber

UCR Beach Sampling 5/3/11
S. Barber

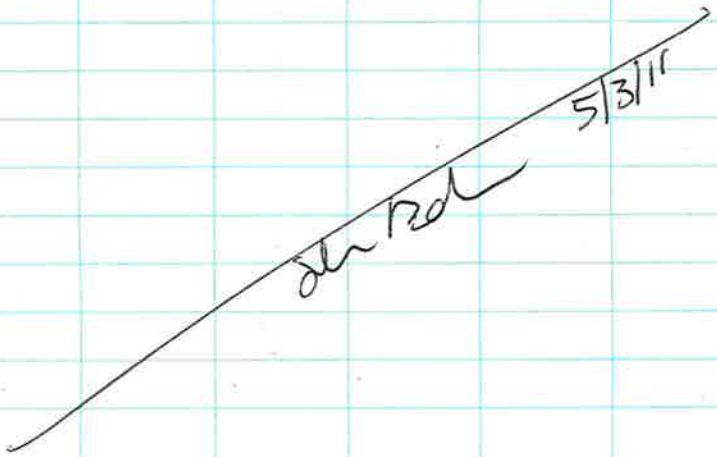
0800 meet at docks, ~~Sac~~
Parametrix: I. Saeel, C Linde, t
Integral: J. Moore, S. Barber
Granty: J. Wilson
CCT: E. Cosahnee-Voss, B. Monaghan
CH2: N, Bodow URS: M. Stegner
sunny, cool
0830 health & safety meeting
0840 leave docks
0925 at site: Whitestone campground
0940 at target location WS-102. Oversight approves sampling. Collect sample
0946 at target location WS-118. Oversight approves sampling Collect sample
0950 at target location WS-119. Oversight approves sampling. Collect sample
0956 at target location 149. Oversight approves Sampling Collect sample
1001 at target location 185. Oversight approves sampling Collect sample
1007 at target location 135. Oversight approves Sampling Collect sample
1010 at target location 144. Oversight

UCR Beach Sampling 5/3/11
S. Barber

approves sampling collect sample
1014 at target location 162 Oversight approves sampling Collect sample
1018 at target location 125. Oversight approves Sampling Collect sample
1022 at target location 115. Oversight approves sampling Collect sample
1027 at target location 57. Oversight approves Sampling collect sample
1033 at target location 13. Oversight approves sampling Collect sample
Compute composite A
1049 at target location 121. Oversight approves Sampling collect sample
1053 at Target location 139. Oversight approves sampling Collect sample
1055 at target location 156. Oversight approves sampling Collect sample
1100 at target location 167. Oversight approves sampling Collect sample
1103 at target location 180. Oversight approves sampling Collect sample
1107 at target location 195. Oversight approves sampling Collect sample

UCR Beach sampling 5/3/11
S. Barber

1111 at target location 226. Oversight approves location. Collect sample
1115 at target location 229. Oversight approves sampling. Collect sample.
1120 at target location 187. Oversight approves location. Collect sample
1128 at target location 8. Oversight approves sampling. Collect sample
1134 at target location 34. Oversight approves sampling. Collect sample
1138 at target location 50. Oversight approves sampling. Collect sample
complete composite B
1400 leave site
1500 arrive at docks. Demob



UCR Beach sampling 5/4/11
S. Barber

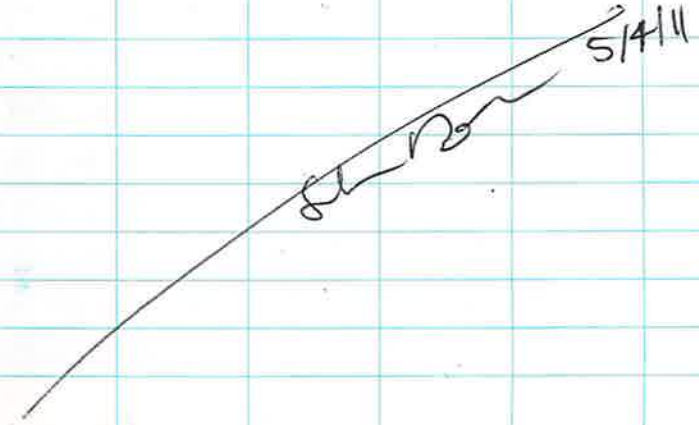
0800 meet at boat docks.
health & safety meeting
Integral: J. Moore, S. Barber
~~Gravity~~ L. Linde, I. Saul: Parametrix
CCT: E. Oschwee-Voss, B. Monaghan
CH_2: N. Badon URS: M. Stegner
Gravity: J. Wilson
0835 leave docks
0900 at site: Hawk Creek
0917 at target location HC-225. Oversight approves sampling. Collect samples
0920 at target location 210. Oversight approves location. Collect sample
0924 at target location 195. Oversight approves sampling. Collect sample
0929 at target location 174. Oversight approves sampling. Collect sample
0933 at target location 106. Oversight approves sampling. Collect sample
0937 at target location 152. Oversight approves sampling. Collect sample
0951 at ~~target~~ location reserve 92. Stations 124 was inaccessible as eroded cliff. Oversight approves

UCR Beach Sampling 5/4/11 S Barber

Sampling Collect sample
0957 at target location 71. Oversight approves sampling Collect sample.
1001 at target location 44. Oversight approves sampling Collect sample
1004 at target location 27. Oversight approves sampling Collect sample
1008 at target location 15. Oversight approves sampling Collect sample
1016 at target location 98. Oversight approves sampling Collect sample
1032 at target location 14 Start Composite B. Oversight approves sampling Collect sample.
1037 at target location 26. Oversight approves sampling Collect sample
1041 at target location 37. Oversight approves sampling Collect sample
1048 at target location 75. Oversight approves sampling Collect sample.
1054 at target location 102. Oversight approves sampling Collect sample
1057 at target location 119. Oversight approves sampling Collect sample

UCR Beach Sampling 5/4/11 S. Barber

1101 at target location 128. Oversight approves sampling Collect sample
1109 at reserve location 160. Oversight approves sampling Collect sample
1114 at target location 168. Oversight approves sampling Collect sample
1122 at reserve location 167. Oversight approves sampling Collect sample
1128 at target location 211. Oversight approves sampling Collect sample
1132 at target location 158. Oversight approves sampling Collect sample Complete Composite B.
1445 leave site
1515 back at docks. Demob



VCR Beach Sampling 5/5/11
S. Barber

0800 meet at boat docks
Integral: S. Barber, J. Moore
Parametrix: I. Saul, L. Linde
Gravity: J. Wilson
CH_2: N. Badow VRS: M. Stegner
CCT: E. Casbourne-Voss, B. Monaghan
cloudy, cool
0830 health & safety meeting
0845 leave docks
0926 at target location SB-433. Oversight approves sampling, collect sample
0932 at target location 428. Oversight approves sampling Collect sample. slight rain
0936 at target location 408. Oversight approves sampling Collect sample
0944 at target location 319. Oversight approves sampling collect sample
0951 at target location 275. Oversight approves sampling Collect sample
0955 at target location 257. Oversight approves location. collect sample
1000 at target location 241. Oversight approves location collect sample

VCR Beach Sampling 5/5/11
S. Barber

1004 at target location 255. Oversight approves sampling Collect sample
1009 at target location 192. Oversight approves sampling. Collect sample
1012 at target location 191. Oversight approves sampling collect sample
1015 at target location 159. Oversight approves sampling collect sample
1018 at target location 145. Oversight approves sampling Collect sample. Complete composite A
1031 at target location 38. Oversight approves sampling Collect sample
1045 at reserve location 93 72 was not accessible Oversight approves sampling Collect sampling
1049 at target location 114. Oversight approves sampling Collect sample
1054 at target location 190 Oversight approves sampling Collect sample
1058 at target location 205. Oversight approves sampling Collect sample
1103 at target location 261. Oversight approves sampling Collect sample

UCR Beach sampling. 5/5/11
S. Barber

1107 at target location 334. Oversight approves ~~collect~~ sampling. Collect sample
1113 at target location 282 Oversight approves sampling. Collect sample
1117 at target location 281. Oversight approves sampling. Collect sample.
1122 at target location 181. Oversight approves sampling. Collect sample.
1131 at target location 44. Oversight approves sampling. Collect sample.
1325 back at docks. Finish processing sample at docks
1415 finish processing samples
Demob

5/5/11

C 521

"Rite in the Rain"®
ALL-WEATHER
LEVEL
No. 311

UCR 2011

Van Team 2

Blue

(composites C+D)

UCR BEACH Sampling

I. Stupakoff

4/22/11

Crew: Ian Stupakoff - Integral
Michael Baxter - Parametrix
Cultural Resources Lauren Riser
from NPS cleared area for
digging samples at Evans
Campground beach.

5/3/11 Composite C

Samplers: Mike Baxter - Parametrix
Bob Sullivan "
oversight Kathy Black URS

0940 Comp C STA CS-134
1036 Comp C Finish CS-24
1053 Comp D STA CS-204 MOB to
1147 Comp D Finish AT CS-3

VAN TEAM 3

"Rite in the Rain"®
ALL-WEATHER
LEVEL
No. 311

UCR Beach Sediment
2011
April 22 – May 6.

April 22, 2011 I. Strykoff

0830 At Evans Campground

0912 Health and Safety meeting
Lauren Riser, NPS
Marcella Caldwell, CH_2MHILL
Jesse Bennett, Parametrix
Brea Franco, Spokane Tribes
Kim Magruder Carlton, Integral
Monica Tonel, EPA
Don Brown, EPA
Cyrus Bullock, Parametrix
Jim Kolbszar Parametrix
Jerry Doty, URS - archeologist
Jeff Ninnemann, Integral
Michael Duffield, Integral
Bill Lawrence, Integral
Ian Strykoff, Integral
Michael Baxter, Parametrix

1000 Discussions with NPS about Jerry Doty being able to be an oversight person for cultural resources. Monica Tonel placed a call with the NPS and we are awaiting a response.

4/22/11 I Strykoff

Setting up decon area and sample processing area.

1115 Started initial sampling with entire group including all observers. Monica Tonel was pleased with all procedures.

1210 Monica Tonel spoke to Ray De Puyal from NPS and it was decided to maintain original agreement on Special Use Permit PWR LARCHFTCAI-003, paragraph 12.

1218 Called Joss Moore and relayed above information. For the time being Jerry Doty will be following the team as a cultural resources standby staff.

1224 Michael Duffield reported that the existing impact hammer is not strong enough to collect a core. Logistical discussions are taking place to decide how to replace unit.

4/22/11 I. Stupakoff

1430 Finished collecting composite D.

1435-1515 Lunch break.

1520 Resume sampling.

1535 At EV-25

2030 Finished processing all samples Done for the day

I. Stupakoff

9/23/11 I. Stupakoff

0825 At Welty Bay Beach setting up station.

Lauren Risser, NPS
Marella Caldwell, CH2MHILL
Brea Franco, Spokane Tribes
Jerry Doty, URS
Jim Koloszar } Parametrix
Cyrus Bullock } Parametrix
Michael Baxter } Parametrix
Bill Lawrence } Integral
Jeff Ninnemann } Integral
Michael Duffield } Integral
Ian Stupakoff } Integral

0850 Health and Safety meeting

0900 Finished meeting.

0902 Started sampling

1248 Finished sampling composites A, B, C, D.

1625 Finished processing all samples

1630 Heading back to Colville

1650 At Colville.

Done for the day

I. Stupakoff

4/24/11 I. Shpaloff

0815 Left Colville to Kamloops Island.

0830 At Kamloops Island setting up processing area.
Crew same as on page number 5.

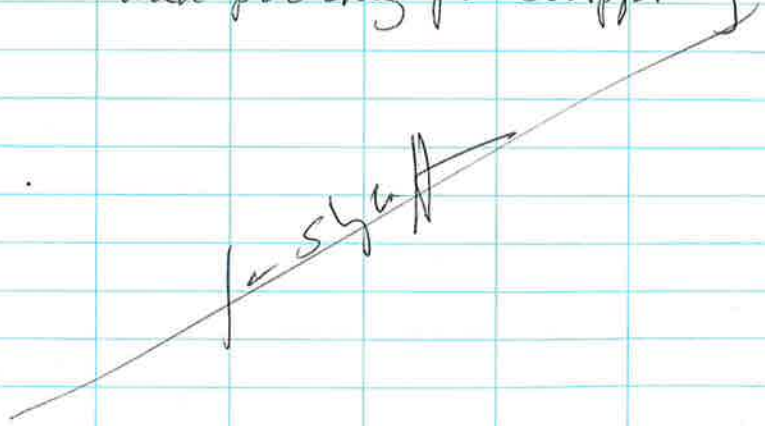
0920 Health and Safety meeting.
Set processing area across from railroad tracks. Will use pickup truck to transport sampling equipment and samples to and from beach.

0940 Started sampling.

Finished sampling
Left site towards Colville

16:30 Arrive at Colville

17:35 Finished processing all samples and packing for shipping



9/25/11 I. Shpaloff

0810 Left Colville towards Boasberg Flat Beach

0840 At Boasberg Flat Beach setting processing station

0926 Health and Safety meeting
James Retzer, NPS
Brea Falco, Spokane tribes
Marcella Caldwell, CH2MHill
Michael Baxter, } PHX
Tim Kolosszar }
Cyrus Bulloch }
Ian Shpaloff }
Bill Lawrence } Integral
Jeff Ninnemann }

0930 Ms. Retzer gave a brief description of cultural resources of the area. Pre-historic sites will most likely be encountered in core contents. Brea Falco will be observing core processing for cultural resources.

0940 Started sampling.

1252 While sampling for composite D a transposing error was made and

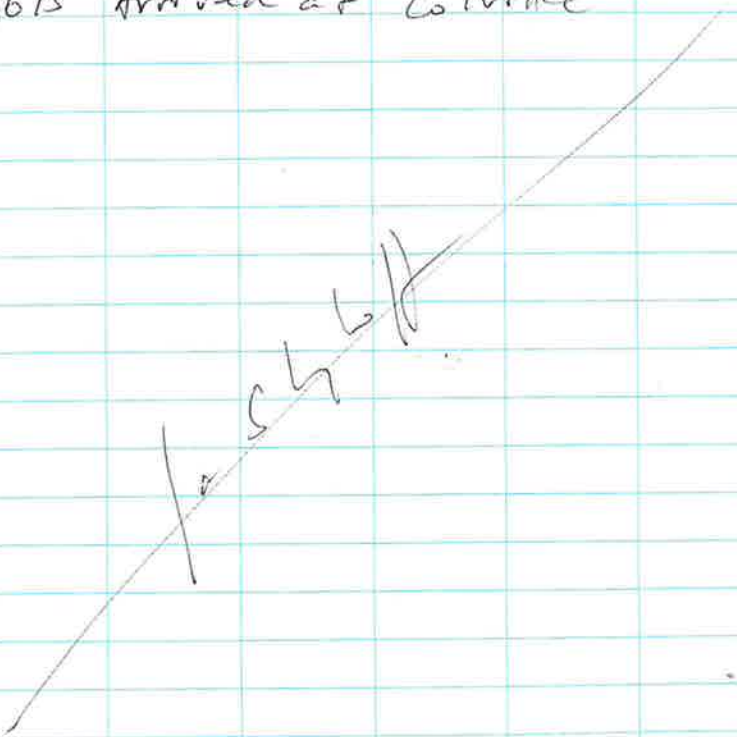
4/25/11 I. Stychoff

a sample was collected from BF-325 instead of BF-235. Will not collect a sample at BF-235 to maintain the same number of samples (12) per composite.

1414 Finished sampling composites.

1545 Left beach towards Colville

1615 Arrived at Colville



4/26/11 I. Stychoff

0835 At Kettle Falls Marina Beach setting processing area.

0910 Health and Safety meeting
Helen Bottcher EPA
Joe Wichmann, CCC
Lauren Rizer, NPS
Brea Falls, Spokane tribes
Marcella Caldwell, CH2MHILL
Ian Stychoff
Bill Lawrence
Jeff Ninnemann
Kim Magruder Carlton } Integral
Jesse Bennett
Michael Baxter
Jim Kolosszar
Cyrus Bullock } PMX
Michael Duffield Integral
Terry Doty, URS

0925 Started sampling.

1428 Finished sampling

1540 Finished processing all samples.

1600 Done for the day

I. Stychoff

4/27/11 — I. Strpahoff

0810 Left Colville towards Colville Flats Beach.
Stopped to get fuel and DI water.

0850 At Colville Flats Beach setting up processing area.

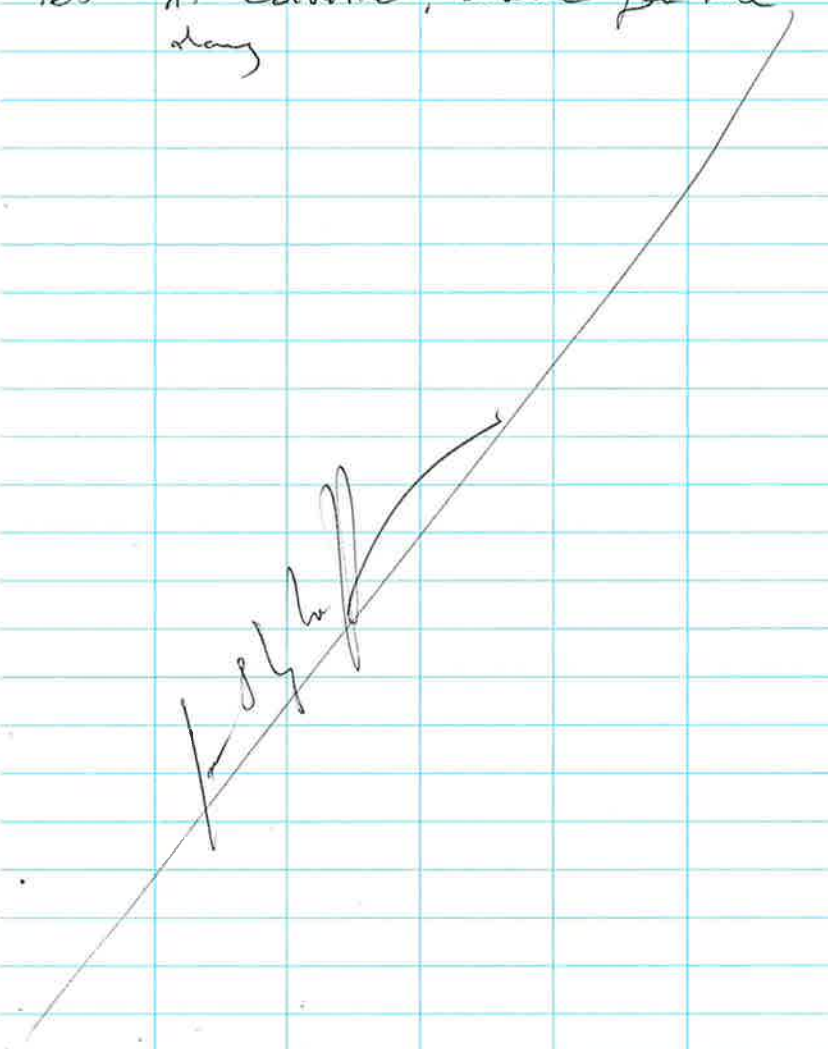
0928 Health and Safety Meeting.
Terry Doty, CRS
Lauren Riser, NPS
Marcella Caldwell, CH2MHill
Brea Franco, Spokane Tribes
Ian Strpahoff
Bill Lawrence } Integral
Jeff Ninnemann
Michael Duffield
Jim Koloszar
Cyrus Bullock
Michael Baxter } PNNL
Jesse Bennett
Kim Magruder, Integral
Lauren Riser gave an explanation of what types of prehistoric stones we will find on the beach.

0949 Started sampling beach

4/27/11 — I. Strpahoff

1610 Finished processing all samples

1650 At Colville, done for the day



4/28/11 I. Shpeko ff

0830 At Colville River Beach

0 Setting sample processing area

0904 Finished quick reconnaissance of beach area for hazards and sampling obstacles

0937 Health and Safety meeting.

Ian Shpeko ff
Kim Magruder Carlton
Bill Lawrence
Jeff Ninnemann
Michael Duffield
} Integral

Jesse Bennett
Jim Kolaszar
Cyrus Bullock
Michael Baxter
} Parametrix

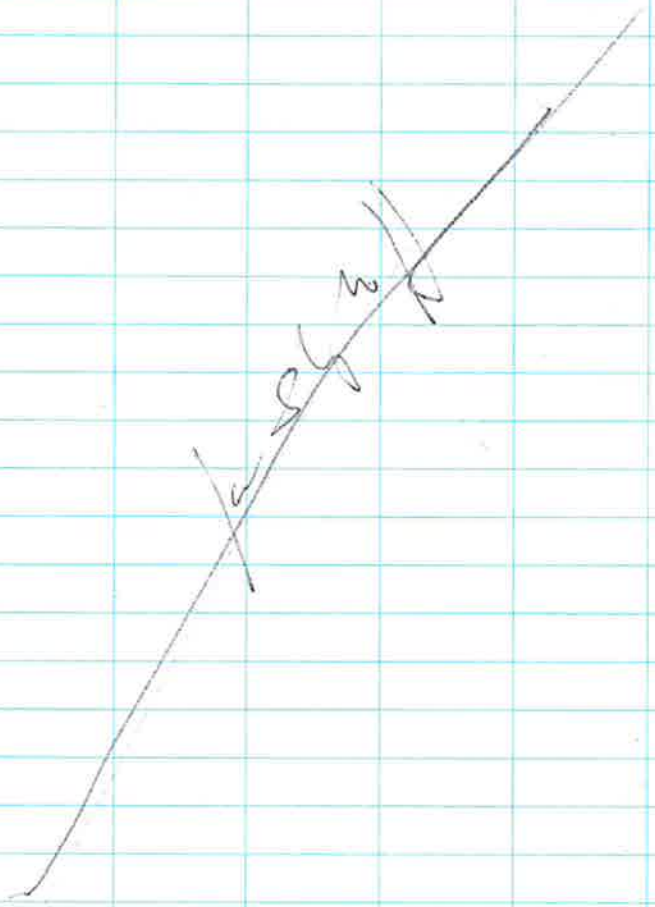
Marcella Caldwell, CH2MHILL
Lauren Reiser, NPS
Brea Franco, Spokane Tribes
James Retzer, NPS
Kathy Black, UES

0945 Started sampling at Colville River Beach

1520 Finished processing all samples heading to Colville

4/28/11 I. Shpeko ff

1700 ~~At~~ Colville. Done for the day.



4/24/11 J. Stupakoff

0810 left Colville to Bradbury Beach

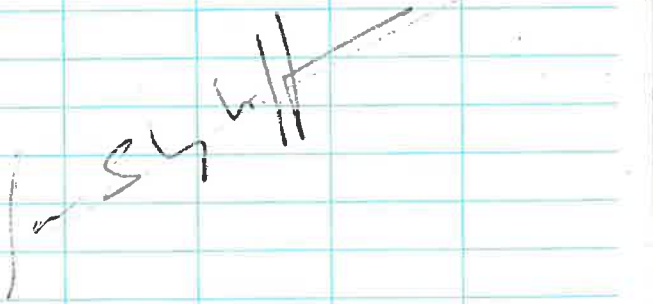
0825 At Bradbury Beach setting up processing area.

0856 Health and safety meeting by Stupakoff, same crew as in page 12.
James Retzer (NPS) gave brief description of historical site at Bradbury Beach.

0910 Start sampling at Bradbury Beach.

1550 Finished processing all samples. On the way to Colville.

1650 At Colville



5/1/11 J. Stupakoff

0836 Left Electric City to Swanilla Basin Beach

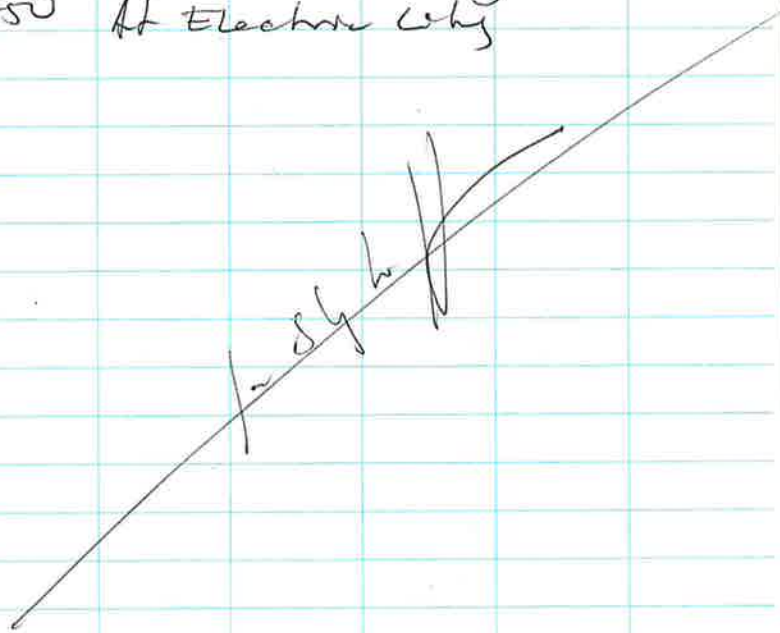
1002 At Swanilla Basin Beach

1030 Health and Safety Meeting Huckleberry Palmer, CH2MHILL replacing Marcella Caldwell. Crew same as in page 12

1040 Start sampling beach.

1655 Finished processing all samples. Heading back to Electric City.

1750 At Electric City



5/2/11 J. Stypka/ft

0840 At Spring Canyon Beach

0845 Health and safety meeting

Integral:
- Jan Stypka/ft
- Bill Lawrence
- Jeff Ninnemann
- Michael Driscoll

Parametrix:
- Cyrus Bullock
- Jim Kolosgar
- Michael Bandler

Mark Stefelman EPA
Lauren Riser, NPS
Breen Falco, Spokane Tribes
Kathy Black, URS
Huckleberry Palmer, CH2MHill.

0850 Setting up processing area

0903 Called into a conference call with the National Park Service

Discussions about NPS observers oversight in the field.

Ray Dupuyt - NPS feels they are short in human resources and would like the extra time to accomodate observers at Hunters Beach. Therefore, Hunters will be sampled last this week.

5/2/11 J. Stypka/ft

0923 Finished conference call.

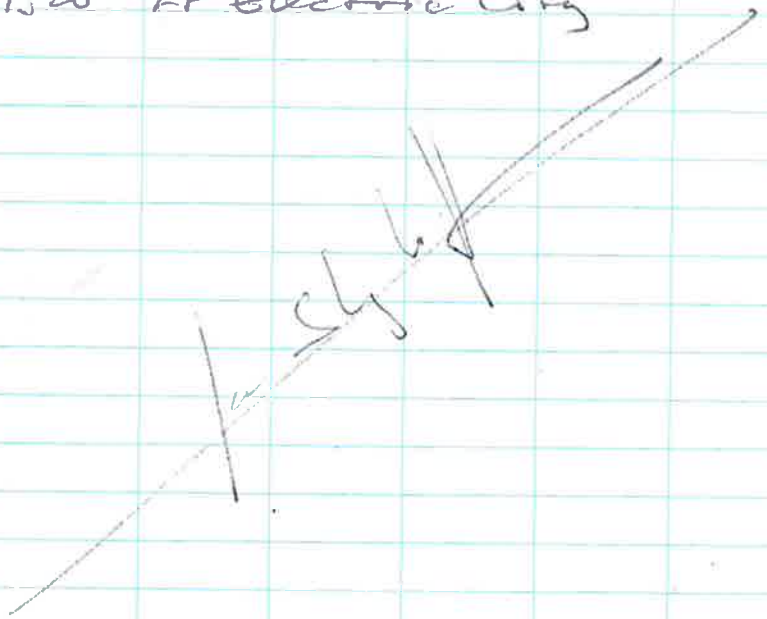
0925 Started sampling.

0950 Lauren Riser called Ray Dupuyt and confirmed that Kathy Black can clear sampling sites for surface sediment grabs.

1450 Finished Sampling at Spring Canyon Beach

1505 Leaving site towards Electric City.

1520 At Electric City



5/3/11 J. Shupchoff

0850 At Crescent Beach setting up processing station

0925 Health and Safety Meeting

- Ian Shupchoff
- Kim Magruder Carlton
- Jeff Ninnemann
- Bill Lawrence
- Mike Duffield

(Integral)

Marc Stiefelman EPA
Huckelberry Palmer CH2MHill
Brea Falco, Spokane Tribes
Lauren Riser, NPS
Kathy Black, URS

- Bob Sullivan
- Michael Baxter
- Jim Kolosgar
- Cyrus Bullock

(Parametrix)

0940 Started sampling Crescent Bay Beach

1340 Finished sampling and processing samples. Heading to Two Rivers.

1610 At Two Rivers unloading truck.

Ian Shupchoff

5/4/11 J. Shupchoff

0815 Left Two Rivers towards McGuire Beach.

0904 At McGuire Beach setting area. Health and safety meeting. crew same as in page 16

0950 Started sampling McGuire Beach

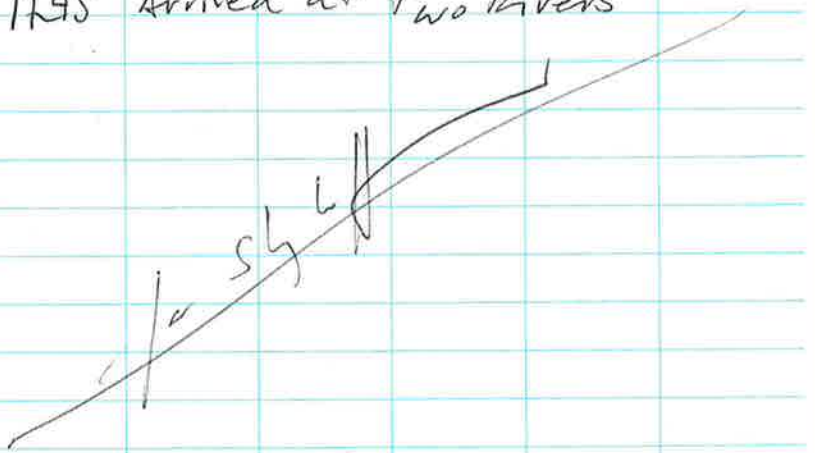
1335 Sarah McDaniel visited the site with Michelle Stegner, Brian Monaghan, Eric Ooshwee-Voss

1450 They left the site at

1505 Randy Connoly from Spokane tribes visited the site.

1652 Finished processing all samples. On route to Two Rivers

1745 Arrived at Two Rivers



5/5/11 I. Stapleton

0820 Left Two Rivers towards Hunters.

0905 At Hunters Campground Beach setting up processing area.

Ian Stapleton
Kim Hagmeier Carlton
Jeff Ninnemann
Michael Duffield
Bill Lawrence
} Integral

Bob Sullivan
Michael Baxter
Jim Kolosszar
Cyrus Bullock
} Parametrix

Sarah McDaniel
Kathy Blacke
} USGS

Brea Falen, Spokane Tribe

Lauren Ritser, NPS

Huckleberry Palmer, CH2MHill

0935 Health and Safety meeting

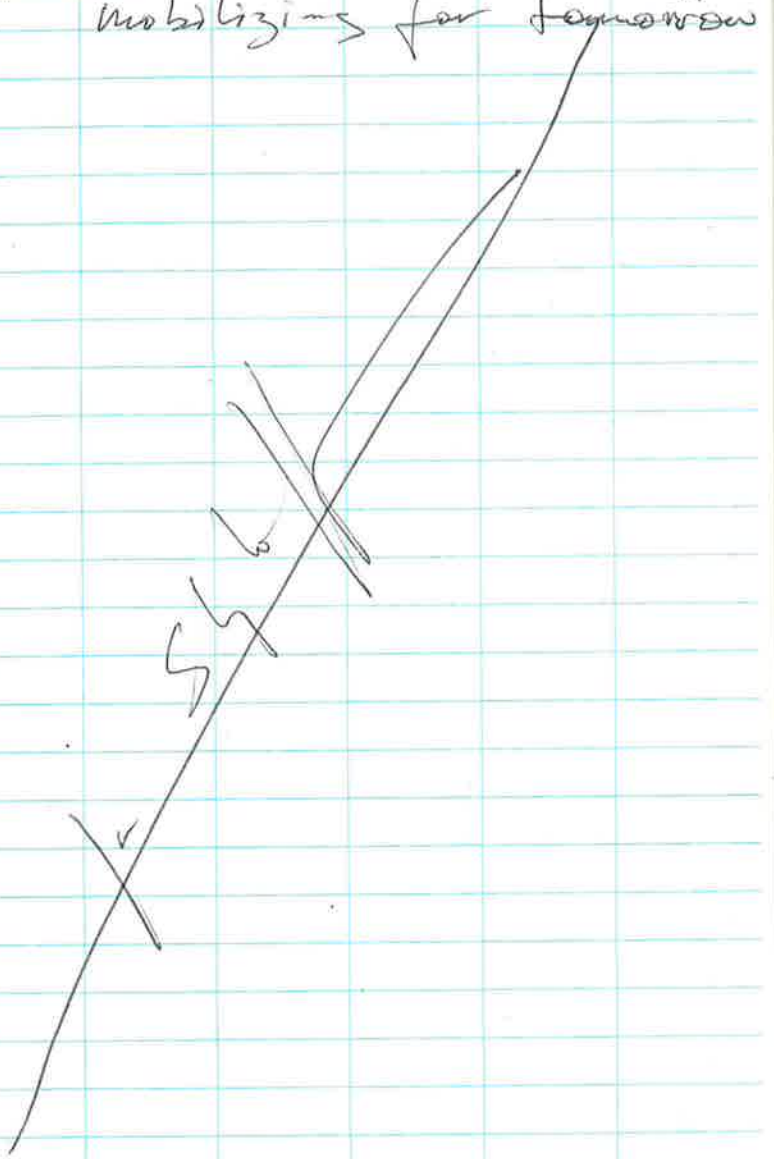
1000 Start sampling at Hunters.

1400 Huckleberry Palmer will leave the site in 30 minutes or so.

1815 At Two Rivers unloading vans and truck and

5/5/11 I. Stapleton

Mobilizing for tomorrow



C521

"Rite in the Rain"®
ALL-WEATHER
LEVEL
No. 311

UCR 2011

Van Team 3

Green

pg 1

4-22-11 B. Lawrence

0810 On site at Evans Campground
Crew: Bill Lawrence - Integral
Jeff Ninnemann - "
Mike Duffield - "

Attempt core location - equipment failure
- Mike D. mobilize to get replacement equipment

1321 Start Surface Composite E
- Oversight - Lauren

1445 Done w/ Composite E

1700 Attempt Core at EV-122
#1 - refusal at 39 cm
#2 - refusal at 49 cm

Attempt Core EV-203 - Core A
1731 photo 0013

@ EV-113 Core B 1742
photo 0014

4-23-11

0800 onsite Welty Bay Beach
Crew = Bill Lawrence - Integral
Jeff Ninnemann "
Mike Duffield "

0936 Core A WB-626
- Oversight Lauren

0956 Core B WB-618
- oversight Brea

1015 Core C WB-376
- oversight Brea

1040 Core D WB-210
- oversight ~~Laure~~ Brea

1102 Core E WB-175
- Oversight Lauren

1143 Started Surface E
WB-613
- oversight Lauren

1156 WB-517
- oversight Lauren

~~WB~~ 92

1205 WB-500
-oversight Lauren

1215 WB-473
-oversight Lauren

1225 WB-361
-oversight Breq

1237 WB-306
-oversight Breq

1247 WB-244
-oversight Breq

1255 WB-336
-oversight Breq

1305 WB-354
-oversight Breq

1310 WB-267
-oversight Lauren

1320 WB-249
oversight Lauren

1350 WB-10
oversight Lauren

4-24-11
onsite @ Kamloops Island
crew B: N ~~Laur~~ Lawrence
Jeff Nimmermann
Mike Duffield
-all Integra /
S0780

0954 KL-140 Core A D:#40
-oversight Lauren

-lost bottom 3" of sample
due to sand.
-resampling second
recovered 29" plus 3"
compaction

1015 KL-69 Core ~~&~~ B
- oversight Brea
3- refusal → moved to KL-87

1051 KL-87
- oversight Lauren
Pic #41

1108 KL-45
- oversight Brea
Pic #42

1124 KL-47
- oversight Brea
Pic #43

1138 KL-23
- oversight Brea
Pic #44

1245 KL-121
oversight Lauren

1251 KL-104
oversight Lauren

~~12~~1258 KL-127
oversight Lauren

1309 KL-115
oversight Lauren

1316 KL-15
oversight Lauren

1321 KL-14
oversight Lauren

1326 KL-4
oversight Lauren

4-25-11
Onsite @ Bossberg Flat
crew = Bill Lawrence
Jeff Ninnemann

0952 BF-275
oversight - Breq
Picture LG-Verison (Jeffs)
04251109524

1003 BF-185
oversight - Breq
Picture #04251110054

1015 BF-41
oversight - Breq
Pic # 04251111021

1025 BF-28
oversight - Breq
Pic # 04251110334

1039 BF-~~X~~11
oversight - Breq
Pic# 04251111045

BCrew = Jeff N.
Mike Duffield

BF-326 (1154)
-oversight Jim

BF-322 (1202)
-oversight Jim

1213 BF-304
-oversight Jim

1222 BF-296
-oversight Jim

1228 BF-251
-oversight Jim

1235 BF-239
-oversight Jim

1245 BF-253
-oversight Jim

1250 BF-245
-oversight Jim

1302 BF-137
-oversight Jim

1315 BF-48
-oversight Jim

1322 BF-45
-oversight Jim

1331 BF-133
-oversight Brea

4-26-11
onsite @ Kettle Falls Marina
crew - Mike Duffield
- Jeff Hinnemann
- Bill Lawrence

0934 - KF-220
oversight - Lauren
-refusal
-made 5 attempts

0957 - Moved to Reserve
KF-241 - Reserve
oversight Brea (Core A)

1014 - KF-212
-oversight - Brea
-refusal @ 5'
-made 4 attempts

1017 - KF-151 - Reserve (Core B)
-oversight Brea

1035 - KF-117
-oversight Brea
Refusal @ 1.5'

- jack hammer broke screw

1102
KF-97 & KF-60
Cleared by oversight (Brea)

1141 - KF-97 (Core C)
pre-cleared (Brea)

1202 - KF-60 Reserve (Core D)
(Brea)

1209 - KF-49 Brea
~~Hetter~~ ~~Battcher~~ Battcher
Helen - EPA
refusal thru shovel test
EPA authorized us to move to Reserve

1220 KF-28 Reserve (Core E)
oversight Lauren

1317 KF-233
- oversight Brea/Lauren

1331 KF-181
- oversight Brea/Lauren

1337 KF-147
- oversight Brea/Lauren

1344 KF-116
- oversight Brea/Lauren

1350 KF-120
- oversight Brea/Lauren

1355 KF-112
- oversight Brea/Lauren

1400 KF-90
- oversight Brea/Lauren

1406 KF-75
- oversight Brea/Lauren

1412
~~1422~~ KF-61
- oversight Brea/Lauren

1417 KF-59
- oversight Breq/Lauren

1422 KF-55
- oversight Breq

1428 KF-1.6
- oversight Breq

4-27-11
onsite @ Colville Flats
crew - Bill Lawrence
- Jeff Ninneman
- ~~Bill to~~ Mike Duffield

0957 ~~CF~~ CF-473
- oversight Breq

1012 CF-615
- oversight Breq

1026 CF-934
- oversight Breq

1042 CF-629
- oversight Breq

1053 CF-537
- oversight Breq
- refused by oversight
- moved to ~~atl~~ reserve

1104 CF-617
- oversight Breq

1251 CF-180
- oversight Lauren

1305 CF-554
- oversight Lauren

~~1311~~ 1312 CF-421
- oversight Lauren

1319 CF-289
- oversight Lauren

1328 CF-928
- oversight Lauren

1343 CF-309
- oversight Lauren

1350 CF-23
- oversight Lauren

1405 CF-265
- oversight Lauren

1415 CF-58
- oversight Lauren

1426 CF-274
- oversight Lauren

1436 CF-93
- oversight ~~Lauren~~ Brea

1446 CF-21
- oversight Brea

4-28-11 onsite @ Colville River
Crew = Bill Lawrence, Mike Duffield
Jeff Ninnemann

0947 CR-323
- surface Refusal to Cobbly
- oversight Lauren

0950 CR-273 (Core A)
- oversight Lauren

1003 CR-264
- oversight Lauren
- four tries refusal @ 3" to 6" deep

1011 CR-220 Reserve
- oversight Lauren
- 3 refusals @ 4" to 6"

1023 CR-205
- oversight Lauren (Core B)

1031 CR-168 (Core C)
- oversight Lauren

1045 CR-62 Core D
- oversight Lauren

1052 CR-10 Core E
- oversight Lauren

1225 CR-347
- oversight Lauren
- refusal due to Cobbles

1227 CR-358 (Reserve)
- oversight Lauren

1237 CR-523
- oversight Lauren
refusal due to cobbles

1243 CR-298
- oversight Lauren

1250 CR-253
- oversight Lauren

1256 CR-188
-oversight Lauren

1305 CR-289
-oversight Lauren

1312 CR-184
-oversight Lauren

1320 CR-199
-oversight Lauren

1330 CR-233
-oversight Lauren

1338 CR-155
-oversight Lauren

1342 CR-121
-oversight Lauren

1353 CR-73
-oversight Lauren

1400 CR-16
-oversight Lauren

4-29-11
crew - Bill Lawrence
Mike Duffield
Jeff Winnemann

0934 BB-554
-oversight - Jim Core A

0945 BB-445
-oversight - Jim Core B

0957 BB-401 Core C
-oversight - Jim

1011 BB-184 Core D
-oversight - Jim

1018 BB-260 ~~Core E~~
-oversight Jim
refusal @ 1½ ft

1033 BB-61 Reserve
-oversight Jim
refusal @ 1½ ft

1045 BB-11 Core E
-oversight Jim

1240 BB-563
-oversight Lauren

1246 BB-555
-oversight Lauren

1255 BB-456
-oversight Lauren

1302 BB-505
-oversight Lauren

1308 BB-407
-oversight Lauren

1315 BB-311
-oversight Lauren

1322 BB-266
-oversight Lauren

1330 BB-378
-oversight Lauren

1340 BB-3
-oversight Lauren

1354 BB-60
-oversight Lauren

1406 BB-158
-oversight Lauren

5-1-11
onsite Swansilia Basin

crew - Bill Lawrence
Mike Duffield
Jeff Zimmermann

1057 SW-248 (core A)
- oversight - Lauren

1118 SW-212 (core B)
- oversight - Brea ~~Lauren~~

1130 SW-150
- oversight - ~~Brea~~ ~~Lauren~~
[Core C (I)]

- lost some from bottom of tube, took second core to recover enough for split

1146 SW-150 (Core C (II))

1200 SW-260 (Core A)
- oversight Brea

1219 SW-433
- oversight Brea
- refusal @ (1½)
- second try, lost bottom ½
- refusal (3rd) (1¾')

1243 SW-372 Reserve
- oversight Brea Core E

1333 SW-209
- oversight Brea

1344 SW-21
- oversight Brea

1350 SW-79
- oversight Brea

1357 SW-183
- oversight Brea

1403 SW-235
- oversight Brea

1411 SW - 120
oversight Breq

1418 SW - 58
oversight Breq

1428 SW - 279
oversight Breq

1432 SW - 278
oversight Breq

1443 SW - 463
oversight Breq

1452 SW - ~~395~~ 387
oversight Breq

1500 SW - 311
oversight NT Breq

5-2-11
onsite Spring Canyon
crew = Bill Lawrence
Mike Duffield
Jeff Winnemann

0928 SC - 209 Core ~~A~~
- oversight Lauren

0943 SC - 165 Core B
- oversight Lauren

0957 SC - 269 Core C
- oversight Breq

1009 SC - 242 Core D
- oversight Lauren

1020 SC - 71 Core E
- oversight Lauren

1118 SC - 295
- oversight Lauren
- Picture says Cores

Picture say cores

1125 SC-212
-oversight Lauren

1138 SC-78
-oversight Lauren

1142 SC-379
-oversight Lauren

1150 SC-410
-rejected by Mark Stifelman
due to Elevation

1157 SC-357
-oversight Lauren

1201 SC-231
-oversight Lauren

1210 SC-66
-oversight Lauren

1216 SC-20
-oversight Lauren

1222 SC-12
-oversight Lauren

1228 SC-102
-oversight Lauren

1233 SC-149
-oversight Lauren

1240 SC-422
-oversight Lauren

Composite D

1325 SC-154 Brea M
-oversight ~~Lauren~~

1330 SC-156
-oversight Brea

1336 SC-258
-oversight Brea

1341 SC-263
-oversight Brea

1345 SC-266
-oversight Brea

1351 SC-383
-oversight Breq

1356 SC-87
-oversight Breq

1401 SC-235
-oversight Breq

1406 SC-68
-oversight Breq

1421 SC-289
-oversight Breq

1427 SC-327
-oversight Breq

1432 SC-418
-oversight Breq

5-3-11
onsite Crescent Bay
crew - Bill Lawrence
Mike Outfield
Jeff Ninnemann

0939 CS-146
-oversight Breq
-(Core A)

0950 CS-196 (Core B)
-oversight Breq

0957 CS-102 (Core C)
-oversight Breq

1003 CS-110 Core D
-oversight Breq

1022 CS-67 Core E
-oversight Breq

1106 CS-166 Composite E
-oversight Breq

1113 CS-190
-oversight Brea

1121 CS-205
-oversight Brea

1126 CS-157
-oversight Brea

1132 CS-119
-oversight Brea

1138 CS-46
-oversight Brea

1142 CS-2
-oversight Brea

5-4-11

onsite @ McGaires
crew = Jeff Nimmermann / Mike Duffield
Bill Lawrence

1008 MG-583
-oversight Lauren (Core A)

1023 MG-566
-oversight Lauren (Core B)

1039 MG-137
-oversight Lauren
(Core C)

1116 MG-87 (Core D)
-oversight Lauren
-Three core tubes ~~were~~ used to retrive the full 30" due to clay. ~~Composite~~

1153 MG-106
-oversight Lauren
(Core B)

Composite E

1301 MG-535
-oversight Lauren

1309 MG-481
-oversight Lauren

1315 MG-466
-oversight Lauren

1325 MG-283
-oversight Lauren

1335 MG-156
-oversight Lauren

~~1345~~ MG-299
-oversight Lauren
-reject due to Cobbles

1350 MG-405
-oversight Lauren

1400 MG-330
-oversight Lauren

1405 MG-327
-oversight Lauren

1412 MG-120
-oversight Lauren

1420 MG-61
-oversight Lauren

1428 MG-39
-oversight Lauren

1432 MG-70
-oversight Lauren

Composite D

1457 MG-304
-oversight Lauren

1503 MG-230
-oversight Lauren

1510 MG-395
-oversight Lauren

1520 MG-318
-oversight Lauren

1526 MG-45 Lauren
-oversight

1535 MG-6
-oversight Lauren
~~-refusal due to clay~~
~~@ 8"~~

5-5-11
onsite @ Hunters
crew = Bill Lawrence
Mike Duffield
Jeff Nimmermann

Cores

1000 HT-1573
-oversight Lauren
-refusal due to clay

1031 HT-1087 (Reserve)
-oversight Lauren
-refusal due to clay

1048 HT-1295
-oversight Lauren
-refusal due to clay

1056 HT-759 (Core A)
-oversight Lauren

1123 HT-515 Reserve
-oversight Lauren
-refusal due to clay
@ 8"

1145 HT-1383 Reserve
-oversight Lauren
-refusal @ 6" clay

1200 HT-398 (Core B)
-oversight Lauren

1230 HT-313
-oversight Lauren
-refusal @ 6" due to Clay

1236 HT-304 (Core C)
-oversight Lauren

1250 HT-410
-oversight Lauren (Core D)

1307 HT-291
-oversight Lauren
-refusal due to bad sediment sampling location out of inundation/grass/gravel

1322 HT-55 (Core E)
-oversight Lauren

Composite E

1430 Ht-1779
oversight Sarah McDaniel

1446 Ht-1548
oversight Sarah

1500 Ht-512
oversight Sarah

1510 Ht-922
oversight Sarah

1518 Ht-1258
oversight Sarah

1525 Ht-1138
oversight Sarah

1532 Ht-942
oversight Sarah

1540 Ht-831
oversight Sarah

1547 Ht-956
oversight Sarah

1554 Ht-685
oversight Sarah

1605 Ht-121
oversight Sarah

1614 Ht-128
oversight Sarah

C521

"Rite in the Rain"®
ALL-WEATHER
FIELD
No. 351

Van Team 1

Orange

UCR 2011

4/22/11 Evans Campground Beach
composites A & B

Crew: Jim Koloszar
Cyrus Bullock
Brea Franco

CAMERA = FinePix E550

- completed composite A (~1400)
turned over datasheets at processing station to Kim

- completed composite B (1655)
turned over completed datasheet at processing station to Kim

weather: partly sunny, windy late in the day

4/23/11 Welty Bay Beach

Crew: Tim Koloszar
Cyrus Bullock
Lauren ~~Lofin~~ Riser
Brea Franco

Composite A completed at 1030
retained datasheet to give to Ian

Composite B - Brea verified the 2nd half composite
Finished composite at ~1245

Weather: sunny & clear

4/21/11 Kamloops Island Beach

Crew: Cyrus Bullock
Jim Kolosziar
Brea Franco
Lauren ~~Jim~~ Riser

composite A - Started 0945
- Finished 1030

composite B - started: ~1100
Finish: ~1145

composite D - start: 1240

weather: sunny & clear at start

4/25/11 Bossburg Flat

Crew: Cyrus Bullock
Jim Kolosziar
Brea Franco
Jim Retzer

Composite A - started 0941
Finished 1104

Composite B - started 1205
Finished 1403

weather: partly cloudy, slight wind

4/26/11 Kettle Falls Marina Beach

Crew: Jim Koloszar
Cyrus Bullock
Drea Franco
Lauren Riser
Helen Bottcher

Composite A: Started 0933
Finished 1056

Composite B: Started ~~1111~~ CM3 1119
Finished ~~1159~~ CM3 1227

Weather - Rain Showers

4/27/11 Colville Flats

Crew: Jim Koloszar
Cyrus Bullock
Drea Franco
Lauren Riser

Composite A: Started 0950
Finished 1140

Composite B: Started 1245
Finished 1430

Weather - Mostly cloudy, windy
Rain shower during comp. B

4-28-11 Colville River

Cyrus Bullock
Jim Koloszar
Bria France
Lauren Riser
Jim Retzer - verified pts.

Composite A ~~start: 0940~~
Finish: 1115
sleet during collection

Composite B Start: 1215
Finish: 1300
sleet & rain during collection

weather: Sunny, windy, scatter clouds.
changing to scattered rain/sleet.

4-29-11 Bradbury Beach

Cyrus Bullock
Jim Koloszar
Bria Franco - composite A
Jim Retzer

Composite A Start: 0915
Finish: 1030
photo series: 7176 to 7187

Composite B Start: 1230
Finish: 1356

weather: Overcast, no wind

5-1-11 Swawilla Basin ~~Beach~~ Jko

Jim Koloszar
Cyrus Bullock
Brea Franco
Lauren Reser - Comp. A & B

Composite A : start : 1040
Finish : 1205

Composite B : start : 1252
Finish : 1430

weather : Sunny Clear

5-3-11 Spring Canyon Beach

Jim Koloszar
Cyrus Bullock
Brea Franco - composite A & B
Lauren Reser

Composite A: Start - 0915
Finish - 1030

Composite B : Start - 1110
Finish - 1230

Weather : Partly Cloudy, windy

5-3-11 Crescent Bay Beach

Jim Holoszar
Cyrus Bullock
Brea Franco
Lauren Reser - composite A & B

Composite A Start - 0930
Finish - 1026

Composite B Start - 1050
Finish - 1140

weather - sunny

5-4-11 McGrews Beach

Jim Holoszar
Cyrus Bullock
Brea Franco - composite A & B
Lauren Reser - ~~composite D~~ cmd
Cathy Block - composite D

Composite A Start - 0950
Finish - 1145

Composite B Start - 1245
Finish - 1434

Huckleberry Palmer
Marc Stifflemire

Composite D Start - 1450
only 6 samples - Finish - 1545
broke up into 2 teams and split up the holes
Huckleberry Palmer
Marc Stifflemire

weather - sunny

5-5-11 Hunters Campground

Jim Kolozar
Cyrus Bullock
Erin Franco - composite A & B
Huck Palmer - composite A

Composite A Start: 0950
Finish: 1144

Composite B Start: 1315
Finish: 1530

gleyed soils near HT-25

weather: overcast and cool in Am
partly sunny pm

APPENDIX C

BEACH SURFACE SEDIMENT DESCRIPTION FORMS

BLACK SAND BEACH SURFACE SEDIMENT LOGS

BLACK SAND BEACH
SEDIMENT SAMPLE LOG

Date: 9 SEPT 2009 Page: 1 of 1

Time	Station	Rep	Pen (cm)	Texture	Color	Debris	Odor	Sample Quality/Comments
1438	BSB2		15cm	50% gravel & cobbles 50% fine & med sand snail shell.	Brown/ Black			
1445	BSB3		15cm	40% gravel & cobbles 60% Fine sand	Tan/ Brown			
1455	BSB4		15cm	60% Fine to med sand 40% gravel & cobbles	Brown/ Black			
1505	BSB5		15cm	100% fine to med sand	Black/ Brown			
1520	BSA3		15cm	20% sand cobbles 20% silt 60% fine - med sand	Brown/ tan			
1530	BSA4		15cm	60%-70% gravel & cobble 30-40% med - coarse sand	Brown/ Black			
1545	BSB6		15 cm	40% gravel & cobbles 60% fine-med sand	Brown/ Black			
1555	BSA5		15 cm	100% sandy silt	Brown/ Black			
1605	BSB7		15cm	100% fine - med sand	Brown/ Black			
1610	BSB8		15cm	100% fine - med sand *	Brown/ Black			

Comments:

* Top 2 inches 95% Black
2"-6" 50/50% Brown/Black

Black Sand Beach
Surface Sediment Sampling

SEDIMENT SAMPLE LOG

Date: 9/9/09 in

Time	Station	Rep	Pen (cm)	Texture	Color	Debris	Odor	Sample Quality/Comments
1407	E3		6"	20% Gravel & Cobble 80% fine to med sand	Brown	roots		
1418	D4		6"	30% Gravel + Cobble 80% Fine to med Sand	Brown	Roots		
1427	E4		6"	40% gravel & cobbles 60% fine to med sand	Brown	Roots		
1434	C4		6"	40% gravel + cobbles 60% Fine to med. sand	Brown	Roots		
1441	C3		6"	40 % gravel & cobbles 60% fine to med sand	Brown/ Black			
1453	E 5		6"	60% gravel + cobble 40% Fine to med Sand	Brown/ Black			
1507	C5		6"	65% silt 35% Fine Sand Trace gravel	light Brown	Roots		
1512	E6		6"	85% silt 15% fine sand	light Brown	Roots		
1519	C6		6"	85% silt 15% Fine Sand	light Brown	Roots		
1525	D5		6	85% Sand fine 15% Silt	gray to Black	Roots		

Comments:

NOTE: All STATION IDs should be preceded by a "BS"

Black Sand Beach
SURFACE SEDIMENT SAMPLING

SEDIMENT SAMPLE LOG

Date: 9.9.09

Time	Station	Rep	Pen (cm)	Texture	Color	Debris	Odor	Sample Quality/Comments
1145	E1		6"	60-70% gravel and cobbles 30-40% fine to med gr. sand gray/black	gray/black			
1215 ~~1203~~ AR	B1		6"	70% gravel and cobbles 30% fine to med sand	brown/ black			
1220	~~B1~~		~~6"~~	~~50%~~ gravel and cobbles 50% fine to med sand	brown/ black			
1240	D1		6"	50% ~~gray~~ gravel & cobbles 50% fine to med sand	brown/ black			
1250	E2		6"	30-40% gravel & cobbles 60-70% fine to med sand	brown/ black			
1305	A1		6"	60% gravel & cobbles 40% fine to med sand	brown/ Black			
1330	A2		6"	80% gravel & cobbles 20% fine to med sand	brown/ black			
1335	D2		6"	80% gravel + cobbles 20% fine to med sand	brown/ black			
1345	C2		6"	70% gravel & ~~sand~~ cobbles 30% fine to med. sand	brown/ black			
1352	D3		~~6"~~ 5"	70% gravel & cobbles 30% fine to med sand	brown/ black			

Comments:

ADAM ROMEY
LILY VAGIELATOS
MICHAEL MARSHALL

Black Sand Beach
Surface Sediment
Sampling

SEDIMENT SAMPLE LOG

Date: 9/9/09 in

Time	Station	Rep	Pen ~~(cm)~~	Texture	Color	Debris	Odor	Sample Quality/Comments
1534	D6		6"	95% silt 15% fine sand				
1539	C7		6"	90-100% fine sand trace-10% silt	gray to Black			
1545	E8		6"	30% gravels & cobbles 70% fine sand	black			
1553	C8		6"	60-70% gravel + cobbles 30-40% fine to med sand	gray black			
1559	D8		6"	60% gravel & cobbles 40% fine to med. sand	gray/ black			
1605	C9		6"	60% gravel + cobbles 40% Fine to med sand	gray/ black			
1612	E9		6"	95% fine sand 5% silt	gray/ Black			
1617	E10		6"	95% fine sand 5% silt	gray/ black			
1620	E7		6"	95% Fine Sand 5% Silt	gray black			
1627	C10		6"	20% gravel & cobbles 65% fine sand 5% silt	gray black			

Comments:

Black Sand Beach
Surface Sediment Sampling

SEDIMENT SAMPLE LOG

Date: 9/9/09

Time	Station	Rep	Pen (cm)	Texture	Color	Debris	Odor	Sample Quality/Comments
1830	B11		6"	40% gravel & Cobbles 60% fine to med sand	Black/ Brown			
1837	B12		6"	40% gravel & Cobbles 60% fine to med sand	Black/ Brown			

Comments:

Black Sand Beach.

SEDIMENT SAMPLE LOG

Date: 9/9/09

Time	Station	Rep	Pen (cm)	Texture	Color	Debris	Odor	Sample Quality/Comments
1615	BSA6		15cm	100% ~~black~~ fine-med sand	black			
1625	BSA7		15cm	100% f-m sand	black & tan			
1635	BSA11		15cm	100% f-m sand	black			
1640	BSA10		15cm	100% fine to med sand	black/ tan			
1650	BSB9		15cm	50% gravel 50% f-m sand	black & brown			
1700	BSB10		15cm	50% gravel + pebbles 50% f-med sand	black & brown/tan			
1820	BSE12		15cm	60% gravel + cobble 40% sand f-m	black & brown			
1830	BSE11		15cm	100% silty sand	brown			

Comments:

Black Sand Beach
Surface Sediment Sampling

SEDIMENT SAMPLE LOG

Date: 9/9/09

Time	Station	Rep	Pen (cm)	Texture	Color	Debris	Odor	Sample Quality/Comments
1651	A8		6"	95% Fine Sand 5% Silt	gray Black			
1702	A12		6"	95% Fine Sand 5% Silt	gray Black			
1720	A9		6"	95% fine Sand 5% silt	gray/ black			
1733	C11		6"	95% fine Sand 5% Silt	gray black			
1739	D10		6"	30% gravel and cobbles 70% fine to med sand	gray/ black			
1746	D12		6"	30% gravel and cobbles 70% fine to med sand	black/ brown			
1752	D9		6"	60% gravel + cobbles 40% Fine to med Sand	black/ Brown			
1800	D11		6"	40% gravel & cobbles 60% fine to med sand	black/ brown			
1811	D7		6"	95% Fine Sand 5% Silt	lightbrown for 2" then blacksand			
1820	C12		6"	30% gravel & cobbles 70 fine to med sand	brown/ black			

Comments:

Upper Columbia R.V. Park Surface Sediment Logs

RV

SEDIMENT SAMPLE LOG

Date: 10 SEPT 2009

	Time	Station	Rep	Pen (cm)	Texture	Color	Debris	Odor	Sample Quality/Comments
~~122~~ ~~160~~	9:25	RVC1		15cm	100% f-m sand	tan brown			
123	0940	RVE1		15cm	100% f-m sand	brown & black			
124	0947	RVC2		15cm	100% f-m sand	tan & black			
125	0955	RVE2		15cm	100% f-m sand	tan & black			
126	1000	RVC3		15cm	100% f-m sand	tan & black			
127	1010	RVD1		15cm	100% f-m sand	tan & black			
128	1005	RVE3		15cm	100% f-m sand	tan/black brn sand	2" 4"		
129	1012	RVE4		15cm	same	tan & black			
~~130~~ 131	1017	RVE5		15cm	"	tan	pine needles		
~~132~~ 132	1020	RVC5		15cm	"	tan & black			

Comments:

RV Beach

SEDIMENT SAMPLE LOG

Date: 9/10/09 Page: 2

Time	Station	Rep	Pen (~~cm~~)	Texture	Color	Debris	Odor	Sample Quality/Comments
1039	RV B6		6"	70% Fine Sand 30% Fines	light Brown	Roots		
1045	RV A6		6"	70% fine sand 30% fines	light brown	Roots		
1054	RV B7		6"	70% Fine Sand 30% Fines	light Brown	Roots		
1100	RV B8		6"	90% fine sand 10% fines	brown			
1214	RV A8		6"	90% fine Sand 10% fines	brown			
1220	RV A9		6"	90% fine sand 10% fines	brown			
1225	RV A12		6"	90% fine sand 10% fines	brown			
1230	RV A10		6"	90% fines 10% fines	brown			
1235	RV A11		5"~~6"~~	90% fine sand 10% fines	brown			
1240	RV A7		6"	90% fine sand 10% fines	brown			

Comments:

ADAM ROMEY
MICHAEL MARSHALL

R.V

SEDIMENT SAMPLE LOG

Date: 9/10/09

	Time	Station	Rep	Pen (cm)	Texture	Color	Debris	Odor	Sample Quality/Comments
133	1030	RVD2		15cm	100% sand f-m	tan & black			
130	1015	RVC4		15cm	same	same			
134	1037	RVC6		15cm	same	same			
135	1050	RVC7		15cm	95% f-m sand 5% Roots	same			
136	1052	RVC8		15cm	100% sand f-m	tan * brown black			
137	1058	RVC9		15cm	100% sand f-m	tan & black			
138	1103	RVD3		15cm	same	same			
139	1115	RVD4		15cm	same	same			
140	1222	RVB9		15cm	same	tan & black			
141	1231	RVB12		15cm	100% f-m sand	tan * brn black			

Comments:

* sand in layers. Slag sand in darker brown layers.

~~top 2"~~ LL

RV

SEDIMENT SAMPLE LOG

Date: 9/10/09

	Time	Station	Rep	Pen (cm)	Texture	Color	Debris	Odor	Sample Quality/Comments
:42	1239	RVB10		15cm	100% f-m sand	black & tan			
:43	1247	RVB11		15cm	same	black & tan 2" brn fed 4"			
144	~~1327~~	RVC11		15cm	same	black & tan			
145	1340	RVC10		15cm	95% f-m sand 5% Roots & plant	black & tan			
146	1342	RVC12		15cm	100% f-m sand	black & tan			
147	~~1439~~	RVE6		15cm	100% f-m sand	same			
148	~~1445~~	RVE10		15cm	same	same			
149	1450	RVE8		15cm	same	~~black & tan~~ brn red	laminated		
150	1455	RVE9		15cm	same	black & tan ~~brn @ bottom~~			
151	~~1500~~	RVE7		15cm	same	black & tan top 4" black & dk brn 3"			

Comments:

152	1510	RV E12	15cm	same	~~black & blank~~	black & tan
153	1516	RVE11	15cm	~~50% tan~~ sand 50% gravel/cobble		black & tan

RV BEACH

SEDIMENT SAMPLE LOG

Date: 9/10/09 Page: 1

Time	Station	Rep	Pen (cm)	Texture	Color	Debris	Odor	Sample Quality/Comments
0916	RV A1		6"	90% Fine sand 10% fines	light Brown			
0921	RV B1		6"	90% Fine Sand 10% silt	light brown			
0926	RV A3		6"	90% fine sand 10% fines	light Brown			
0937	RV A2		6"	90% Fine Sand 10% silt	light Brown			
0945	RV B3		6"	90% fine sand 10% fines	light Brown			
0955	RV A4		6"	90% Fine Sand 10% Fines	light Brown			
1007	RV B4		6"	90% Fine Sand 10% Fines	light Brown			
1020	RV A5		6"	90% fine sand 10% fines	lt. Brown			
1026	RV B5		6"	90% Fine Sand 10% Fines	light Brown			
1032	RV B2		6"	90% fine sand 10% fines	light Brown			

Comments:

ADAM ROMEY
MICHAEL MARSHALL

RV BEACH

SEDIMENT SAMPLE LOG

Date: 9/10/09

Time	Station	Rep	Pen (cm)	Texture	Color	Debris	Odor	Sample Quality/Comments
1415	RV D10		6"	90% fine sand 10% fines	Brown			
1420	RV D5		6"	90% fine sand 10% fines	Brown			
1425	RV D8		6"	90% fine sand 10% fines	Brown			
1429	RV D9		6"	90% Fine sand 10% fines	Brown			
1433	RV D7		6"	90% fine sand 10% fines	Brown			
1437	RV D12		6"	90% fine sand 10% fines	Brown			
1441	RV D6		6"	90% fine sand 10% fines	Brown			
1445	RV D11		6"	90% fine sand 10% fines	Brown			

Comments:

ADAM ROMEY
MICHAEL MARSHALL

NORTHPORT SURFACE SEDIMENT LOGS

integral consulting inc.

Northport

SURFACE SAMPLE LOG

Date: 4/30/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1445	NP-141	15	0-15 sand, fine grain Abundant 2 inch minus fill	yellow brown to gray	- none	- none	5836	
1450	NP-146	15	Surface gravel + cobble 0-15 sand, fine grain, trace gravel, fine grain subangular, few silt lenses 5-7 10-12	yellow to gray silt - yellow to brown	- none	- none	5837	
1455	NP-127	15	- as above (NP-146) without lenses	yellow to gray	- none	- none	5838	
1500	NP-86 C4	15	0-13 sand, fine grain 13-15 fine to med grain sand sub angular, abundant black	dark brown to gray	- none	- none	5839	- one chironomid - trace rootlets throughout
1502	NP-61	15	0-15 gravel, fine to coarse grain, sub round few sand, fine grain, trace silt isolated cobbles, trace rootlets	yellow to olive brown	- none	- none	5840	
1504	NP-64	15	- as above	yellow to olive brown	- none	- none	~~5840~~ 5841	

Samplers: J. Moore, P. Jensen

integral consulting inc.

Northpoint

SURFACE SAMPLE LOG

Date: 4/30/2010

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1506	NP-51	15	0-15 gravel, fine to coarse subround, few sand, fine grain, trace silt	yellow brown	none	none	5842	
1508	NP-38	15	0-15 sand, fine-med grain subangular, poorly sorted, trace silt, isolated gravel, fine grain subround	light yellow brown to olive gray with little black sand	none	none	5843	
1512	NP-24	15	0-5 sand, fine grain with surface cobbles, isolated rootlets 5-15 sand, fine-med grained subangular, trace silt, few gravel	yellow to grey with few orange mottling	none	none	5844	
\	\	\	subround → to subangular	light gray to olive brown w few black				
1516	NP-17	15	0-15 sand, fine to coarse grain w cobbles subangular to subround	light yellow gray w some black	none	none	5845	
1520	NP-14	15	as above (NP-17)		none	none	5846	

Samplers: J. Moore, P. Jensen

integral consulting inc.

Northport

SURFACE SAMPLE LOG

Date: 4/30/10 **Page:** 3 of 5

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1524	NP-9	15	0-15 sand, fine to coarse grain w cobbles subangular to subround	light yellow gray w some black	none	none	5847	
								P//
								P//
								P//
								P//
								P//

Samplers: J, Moore, P Jensen

integral consulting inc.

Northport

SURFACE SAMPLE LOG

Date: 4/30/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1540	NP 144 B1	15	0-15 Sand, fine-med grain subangular; subround - isolated cobble, gravel throughout fine-med, subround	yellow to brown gray	~~4 cans~~ PS glass and ceramic	none	5848	
1543	NP 133	15	0-15 sand, fine-med grain subround, sub - trace course sand, subangular	yellow to light brown gray	wood fragments	none	5849	
1546	NP 143	15	0-15 sand, fine grain few silt lens at 10-12 cm	light yellow brown to gray	~~none~~ PS glass on surface	none	5850	
1550	NP 125	15	0-15 sand, fine grain	yellow brown to gray	1 pr mens khaki pants 40x32 inch	none	5851	
1552	NP 110	15	0-15 sand, fine grain 13-14 silt lense	yellow brown to gray	none	none	5852	
1555	NP 100	15	0-15 sand with silt - fine grain, - low plasticity silt as bands from 0-2, 3-5, 7-9	yellow brown to gray trace orange bands are olive brown	none	none	5853	

Samplers: J. Moore, P. Jensen

integral consulting inc.

Northport

SURFACE SAMPLE LOG

Date: 4/30/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1557	NP 90	0-15	Sand with silt -low plasticity silt - trace med grain sand subangular - abundant large cobble	yellow to gray silt is dark olive gray	- none	- none	5854	
1600	NP 83	0-15	Sand with silt - fine grain, low plasticity - wet, isolated angular gravel, med grain	olive brown to gray w/ black excess mottling	- none	- none	5855	- plant material and rootlets on surface - chironomids
1604	NP 66	0-15	Sand, fine-med grain large gravel, abundant gravel trace silt	brown to gray abundant black	- none	- slag smell	5856	- local ~~on~~ large slag fragments and black sand
1607	NP 65	0-15	- same as above	- same	- none	- same slag smell	5857	- local large slag fragments and black sand
1610	NP 39	0-15	Sand, fine-med grain sub round, subangular - little cobble, large gravel sub round	light yellow gray abundant black sand	- none	- none	~~5858~~ no photo	(15) 5/5/10
1613	NP 18	0-15	- as above (NP 39) without cobble		- none	- none	5859	(15) 5/5/10

Samplers: J. Moore, P. Jensen

integral consulting inc.

SURFACE SAMPLE LOG Northport

Date: 4/30/10 (in)

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1434	NP-148	0-3" 3-6"	SAND(f), tr, Silt SAND(f) w/ Silt lenses (30%. mottled) Gravel @ depth.	olive /	—	—	105-3571 2 (15) 5/5/10	A1
1437	NP-121	0-6"	SAND (f) w/ Silt lenses ~10% black grains & isolated gravel.	olive & l. brown	—	—	105-3572 3 (15) 5/5/10	A3
1440	NP-112	0-2" 2-6"	SAND(f) + silt layers Sandy SILT w/ gray lenses (Silt)	olive & l. brown olive	—	—	105-3573 4 (15) 5/5/10	A4
1444	NP-107	0-6"	SAND (f-coarse) + Gravel (f-coarse) gravel angular to rounded.	olive	—	—	105-3574 5 (15) 5/5/10	A2
1449	NP-80	0-6" 5-6"	Alternating layers of Sandy SILT & SAND (f) ~1" thick Cobble	olive & l. brown	—	—	105-3575 6 (15) 5/5/10	A5 surface debris (leaves) + sand
1454	NP-71	0-3" 3-6"	Sandy SILT w/ l. brown SAND(f) lenses SILTY sand (f-m) w/ gravel	olive gray olive-brown	rootlets + slag		105-3576 7 (15) 5/5/10	A6 2 chironomids + many snail shells

Samplers:

JSUND, B LAWRENCE

integral consulting inc.

NORTHPORT

SURFACE SAMPLE LOG

Date: 4/30/10 (cm)

Olympus Stylus

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1503	NP-46	0-2" 2-6"	SILT w/ brn + black SAND interlayers w/ tr. gravel SAND (m). Black is 70%. gravelly (30%) angular	olive brown + black	tr. brick	–	100-0083	A8
1505	NP-73	0-1" 1-2" 2-6"	SILT Sand (f-m) w/gravel (coarse) well rounded to angular + cobbles + tr. black sand SAND (m) w/gravel (30%) w/ tr blk sand	olive brown olive	rootlets tr brick fragments	–	100-0084	A7 1 Chironomid
1510	NP-41	0-2" 2-3" 3-6"	Sandy SILT w/ rootlets SAND (f) w/gravel + brk fragments SAND (m) w/ 40% gravel	olive brown brown + black	brick fragments up to 1" (many) angular material	4/30/10	100-0085	A9 1 chironomid
1512	NP-31	0-1" 1-2" 2-6"	silty SAND (f) w/ cobbles + gravel 2 layers ½" thick (1) SAND (m), SAND (m) SAND (m) w/ gravel w/ cobble	olive brown black olive	–	–	100-0086	A10
1523	NP-7	0-6"	SAND (m) black is angular. w/ tr. cobbles. 90% black	black + brown	–	–	100-0087	A12
1526	NP-29	0-2" 2-6"	SILT Sandy w/ cobbles SAND (m) + gravel (40%	olive black brown	tr. isolated angular black material	–	100-0088	A11

Samplers: JSUND BLAWRENCE

DALLES ORCHARD SURFACE SEDIMENT LOGS

integral consulting inc.

DAVIS ORCHARD

SURFACE SAMPLE LOG

Date: 04/29/2010

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0935	DS 248 B1	15	0-15 fine-med grain sand subangular and subround - trace fine slag fragments (?) - poorly sorted, trace silt	0-8 light yellow to brown w trace black 8-15 as above w little black	- none	- none	5768	
0940	DS 217 B2	15	- as above but without darker lower horizon - bedrock at 15 cm	light yellow to brown w trace black	- none	- none	5769	
0945	DS 220 B3	15	- as above - little black sand - slightly moist	slightly laminated yellow brown orange mottling	- none	- none	5770	
0947	DS 242 B4	15	- as above - poorly sorted - few black sand, no laminations	yellow brown	- none	- none	5771	
0951	DS 144 B5	15	- as above with break in dark material like DS-248	yellow brown	- none	- none	5772	
0954	DS 203 B6	15	- as in DS 144	yellow brown	- none	- none	5773	

Samplers: J. Moore, P. Jensen

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DRUGS RECOVERED

SURFACE SAMPLE LOG

Date: 4/29/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0957	DS-43 B7	15	0-8 Sand with black fragments 8-11 Brown to olive, few silt 11-15 Sand w trace silt w black	yellow brown brown olive yellow brown	none	none	5774	
0959	DS-84 B8	15	0-15 Sand fine-med sub angular sub-round	yellow brown - few black	- none	- none	5775	
1002	DS-66 B9	15	- same as DS-84	yellow brown	- none	- none	5776	
1005	DS 140 B10	15	- fine grain sand with few med grain, trace silt	yellow brown to grey w trace black	- none	- none	5777	
1007	DS-21 B11	15	- same as DS-140	- same	- none	- none	5778	
1007	DS-1 B12	15	- same as DS-140	- same	- none	- none	5779	

Samplers: J. Moore, P. Jensen

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DALLES ORCHARD

SURFACE SAMPLE LOG

Date: 4/29/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0941	DS-238	0-6"	Sand (f) w/ dark laminations. (SW)	l. olive	—	—	103-3524	C1
0944	DS-221	0-6"	Sand (fine) (SW)	l. olive	—	—	103-3525	C2
0947	DS-243	0-6"	Sand, fine w/ tr. gravel (SW)	l. olive w/ l. brown layers	—	—	103-3526	C3
0950	DS-176	0-6"	Alternating layers (1/2" to 1") of l. olive to olive, SAND, fine w/ black sands	l. olive to olive	—	—	103-3527	C4
0954	DS-180	0-3" 3-4" 4-6"	Sand (fine), SW Sand (fine), SW Sand (fine), SW	l. olive dk brown light brown	—	—	103-3528	C5
0958	DS-108	0-1" 1-6"	Sand (fine), SW Sand (fine) w/ dk ~~dk thrilig layers~~ increased dk coloration in sands	l. olive	—	—	103-3529	C7

Samplers: J. SUND, B. Lawrence

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DAVIES ORCHARD

SURFACE SAMPLE LOG

Date: 4/29/10 (in)

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1002	DS-47	0-6"	sand, fine (SW) w/ ~~dk~~ black grains 4/29/10	l.olive	—	—	102-3530	C6
1007	DS-14	0-6"	Sand, fine (SW) w/ black granules	l.olive	—	—	102-3531	C8
1010	DS-191	0-6"	sand, fine, alternating layers of l.olive, brown and black	l.olive brown black	—	—	102-3532	C9
1013	DS-115	0-3"	sand, fine (SW) w/ dk + light layering	l.brown / l.olive	—	—	102-3533	C10
		3-6"	sand, fine (SW) no layering					
1016	DS-76	0-6"	Alternating bands of l.olive to olive SAND, fine (SW), isolated cobble	l.olive / olive	—	—	102-3534	C11
1019	DS-12	0-6"	Sand, fine (SW) w/ several ¼" thick dk gray silt lenses	olive	—	—	102-3535	C12

Samplers: JSmith, BLawrence

integral consulting inc.

Dalles Orchard

SURFACE SAMPLE LOG

Date: 4/29/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1028	DS172	0-3"	Alternating layers of l.olive + black sand (¼-1" thick) SAND, fine	l.olive + black	—	—	104-3536	A1
		3-6"	black SAND, fine(m)	black				
1031	DS-200	0-6"	Alternating layers of l.olive, l.brown + dk gray SAND (f-m) (SW)	l.olive brown dk gray	—	—	104-3537	A2
1034	DS-149	0-3"	Alternating layers (½-1") SAND (f-m) olive layer is silty fine sand	olive, dk gray, l.brown	—	—	104-3538	A3
		3-6"	SAND, fine, SW	dk olive				
1036	DS-205	0-3"	3 layers of SAND (f-m) 0-1" l.brown 1-2" olive silty sand 2-3" l.olive fine sand	l.brown olive l.olv	— tr. dk grey black flecks	—	104-3539	A4
		3-6"	SAND, fine (SW) w/ micaceous	l.brown				
1040	DS-125	0-6"	SAND, fine (SW)	dk olive	—	—	104-3540	A5
1042	DS-104	0-2"	SAND, fine (SW)	l.olive	—	—	104-3541	A6
		2-6"	SAND, fine (SW)	dk olive				

Samplers:

JSund, Blawrence

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DALLES ORCHARD

SURFACE SAMPLE LOG

Date: 4/29/10 (JM)

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1044	DS-107	0-6"	SAND (fine) (SW) indistinct layering (olive, l.brown, black layers)	olive gray	—	—	104-3542	A8
1047	DS-28	0-6"	Sand (f) (SW) w/ indistinct layers (as above)	olive gray	—	—	104-3543	A9
1049	DS-111	0-3" 3-6"	SAND (fine) (SW) Alternate layers (Olive, dk olive) SAND (fine)	l.olive	— tr wood fragments isolated black amount fled	—	104-3544	A7
1053	DS-192	0-1" 1-6"	SAND (fine) (SW) tr organics Sand (fine) (SW)	l.brown l.olive	tr organics ↓	—	104-3545	A10
1055	DS-142	0-1" 1-3" 3-6"	Sand (fine) (SW) Silt w/ tr fine sand silt is wet. Sand (fine) (SW), gravel @ 4"	l.olive olive gray l.olive	— — —	—	104-3546	A11
1059	DS-41	0-6"	Alternate SAND (fine) + Silt layers. Tr. gravel in silt. tr. dark flecks in silt	l.brown (sand) olive (silt)	—	—	104-3547	A12

Samplers: J GUND BLAWRENCE

SUMMER ISLAND SURFACE SEDIMENT LOGS

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SUNKER ISLAND

SURFACE SAMPLE LOG

Date: 4/27/10

Page: 1 of 6

Time	Station	Depth (~~cm~~ in)	Texture	Color	Debris	Odor	Photo No.	Comments
0920	SR-901	0-6"	Silty fine sand	light olive to light brown	tr. organic material	—	102-3475	E1
0932	SR-522	0-6"	Silty fine sand	light olive to light brown	tr organic material	—	102-3476	E2
1002	SR-667	0-6"	Silty fine sand tr. pebbles.	light brown	tr. organics	—	102-3477	E3
1010	SR-540	0-6"	fine sand w/ tr. silt	light brown - dk brown	tr. organics	—	102-3478	E4
1016	SR-465	0-6"	fine sand w/ tr. silt	light-dk brown	tr. organics	—	102-3479	E5
1023	SR-513	0-3" 3-6"	fine sand w/ silt w/ tr. gravel (1/2" (-)) sandy silt w/ subrounded gravel (2"(-)) - 30% gravel	l. brown dk brown	—	—	102-3480	1 worm (1" long) E6

Samplers: J SUND
B CANNELL

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Summer Island

SURFACE SAMPLE LOG

Date: 4/27/10 in

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1033	SR-394	0-3" 3-6"	sandy silt (fine sand) gravelly silt (25% gravel)	H olive gray - med-dk brown	↑ tr organics ↓	—	102-3481	E7
1041	SR-302	0-5" 5-6"	silt, tr. gravel med. gravelly (20%) in silt	olive gray - lt brown med brown	tr, organics ↓	—	102-3482	E8 snail shell
1050	SR-93	0-6"	sandy silt.	olive gray - lt brown	tr organics ↓	—	102-3483	E9
1056	SR-83	0-6"	sandy silt w/ gravel (20%) subrounded upto (1"-1)	dk brown - light brown	tr organics	—	102-3484	E10
1101	SR-63	0-5" 5-6"	silt w/ tr. gravel gravelly sand and silt, subrounded gravel	olive gray	grass on stc tr organ.	—	102-3485	E11
1108	SR-28	0-6"	silt, gravelly w/ sand. Gravel (1"-), 40%	olive gray	grass, roots on stc.	—	102-3486	E12

Samplers: J. SUNDAY B. LAWRENCE.

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Summer Island

SURFACE SAMPLE LOG

Date: 4/27/10 (JH)

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1200	SR-808	0-6"	gravelly silt w/sand (up to 4" gravel!) rest a/e ~ 2" cobble	med brown	—	—	102-3487	B2
1207	SR-805	0-2" 2-6"	silt w/sand fine sand	olive gray l. brown	tr organic charcoal? organic	—	102-3485	B1
1215	SR-732	0-2" 2-6"	silt silt	olive gray l. brown l. brown	— —	— —	102-~~3487~~ 3491	B3
1220	SR-703	~~0-2"~~ 2-4" 0-6"	silt	olive gray to l. brown	—	—	102-3492	B4
1225	SR-640	0-1" 1-6"	sand, fine silt w/ sand gravelly	l. brown olive gray - l. brown	— tr. organic		102-3493	B5
1230	SR-470	0-6"	silt w/sand, 50% gravel 2" (-)	dk-l brown	—	—	102-3494	B7

Samplers: J. SUND, B. LAWRENCE

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Summer Island

SURFACE SAMPLE LOG

Date: 4/27/10 (km)

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1235	SR-452	0-6"	gravelly silt w/ sand. 50% gravel up to 2"	Olive gray to brown	—	—	102-3496	B8
1236	SR-453	0-4" 4-6"	silt w/ sand silt w/ sand + gravel (30% gravel up to 1")	med brown ↓	tr. organics	—	102-3497	B9
1301	SR-189 alt for SR-443	0-6"	sandy silt w/ gravel (20%). gravel is 1/2"-1"	l. brown - olive gray	tr organics	—	102-3498	B10
1307	SR-127 alt for SR-779	0-3" 3-6"	silt w/ sand + gravelly silt w/ gravel (5-10% gravel - 1"-1) XS 4/27/10	olive gray med brown	5% organics —	—	102-3499	B5
1314	SR-65	0-4" 4-6"	sandy silt silt w/ gravel (30%, 1")	Olive gray brown	tr organics	—	102-3500	B11
1325	SR-69	0-6"	silt w/ sand + 10-20% gravel.	Olive gray ↓ l-brown	tr organics	—	102-3501	B12

Samplers:

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Summer Island

SURFACE SAMPLE LOG

Date: 4/27/10

Time	Station	Depth (~~cm~~ in)	Texture	Color	Debris	Odor	Photo No.	Comments
1410	SR-777	0-6"	silt w/sand @ bottom rust stained due to wire + metal fragments.	olive gray w/ ~~oliv~~ mottling	metal frag @ depth	—	102-3502	D2
1420	SR-726	0-6"	Sand, fine	l. brown	tr. organics	—	102-3503	D1
1425	SR-503	0-6"	sand, fine	olive gray w/ mottling (med brown)	tr. organics	—	102-3504	D3
1428	SR-340	0-6"	sand, fine	olive gray w/ brown mottling	tr. organics	—	102-3505	D10
1431	SR-397	0-6"	sandy silt w/ gravel (30-40%) @ depth change to l. brown	olive gray	—	—	102-3506	D4
1436	SR-384	0-6"	gravelly silt w/ sand 50% gravel	olive gray	—	—	102-3507	D5

Samplers: J SUND, B. LAWRENCE

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SUMNER ISLAND

SURFACE SAMPLE LOG

Date: 4/27/10 (YY)

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1440	SR-271	0-4"	Silt	olive gray w/ brown mottling	tr. organics	—	102-3508	D6
		4-6"	Silt w/ gravel (20%.)	brown	↓			
1445	SR-199	0-2"	Silt	olive gray	—	—	102-3509	D7
		2-6"	Silt w/ gravel (30-40%.) subrounded	brown				
1450	SR-163	0-3"	Silt w/ 5%. gravel	olive gray w/ brown mottly	tr. organics	—	102-3510	D9
		3-6"	Silt, w/ 10%. gravel	brown	↓			
1455	SR-166	0-2"	Silt	olive gray w/ lt. brown mottly	tr. organics	—	102-3511	D8
		2-6"	Silt w/ gravel (30%.)	↓ brown				
1501	SR-90	0-4"	Silt w/ gravel (10%.)	olive gray w/ brn mottly	twigs/ organics	—	102-3512	D11
		4-6"	Silt w/ gravel (10%.)	brown				
1505	SR-76	0-3"	Silt w/ sand	olive gray w/ brn mottling	organics	—	102-3513	D12
		3-6"	Silt w/ gravel (10%.)	brown				

Samplers:

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Sumner Island

SURFACE SAMPLE LOG

Date: 4/27/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0915	C1 SR769	15cm	0-15 sand, trace silt fine - medium grain sub round, poorly sorted	yellow-brown	none	none	5689	
0930	C2 SR865	15cm	- same as above	- same	- same	- same	5690	
0946	C3 SR721	15cm	0-15 fine sand, trace-few silt orange - light gray moist isolated small grass w rootlets	orange to light gray	- none	- none	5691	
1000	C4 SR620 (alt)	15cm	0-15 fine sand, trace-few silt moist, isolated small grass with rootlets	orange to light gray	- none	- none	5692	
1010	C5 SR607	15 cm	0-15 fine sand, isolated medium gravel on surface moist, isolated small grass w rootlets	orange to light gray	- none	- none	5693	
1020	C6 SR475	15 cm	0-15 ~~surface~~ isolated gravel fine-med grain sub round - sand, fine grain - isolated small grass w rootlets	- orange to olive gray	- none	- none	5694	

Samplers: J. Moore, P. Jensen

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Summer Island

SURFACE SAMPLE LOG

Date: 4/27/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1030	C7 SR374	15 cm	0-15 fine sand, trace silt - moist - isolated grass w rootlets	Yellow-brown w slight orange mottling	-none	-none	5695	
1035	C8 SR311	15 cm	0-15 fin-med grain sand - subround, few silt - few medium grain gravel subround	brown to olive brown	-none	none	5696	
1040	C9 SR224	15 cm	0-15 - med grain sand subround - few silt - few-little gravel subround med grain	brown to olive brown	-none	-none	5697	
1045	C10 SR215	15 cm	- as above with few gravel	brown to olive brown	-none	-none	5698	
1050	C11 SR124	15	- surface - plants + rootlets 0-10 - sand fine grains, isolated silt 10-15 - as above but olive gray w orange mottling - few gravel med grain subround	light gray - olive brown	-none	-none	5699	
1055	C ~~12~~ 13 ~~47~~ 15 SR47 5/5/10	15	- same as above	olive gray	-none	-none	5700	

Samplers: J. Moore, P. Jans

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SUMNER ISLAND

SURFACE SAMPLE LOG

Date: 4/27/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1205	A1 SR845	15cm	- sand, fine grain (0-15) - trace silt - slightly sorted (color banding)	brown yellow to gray	- none	- none	5701	
1210	A2 5884	15cm	- same as above	orangy yellow to gray	- none	- none	5702	
1215	A3 SR710	~~15cm~~ 15cm	- same as above	- same	- none	- none	5703	
1220	A4 SR742	15cm	- fine sand, trace silt	- gray to olive gray - orange mottling	- none	none	5704	
1250	A5 SR350	15cm	- surface - isolated veg and rootlets - fine to medium grade gravel (few) 0-15 sand, with trace silt and few gravel	- olive brown to gray	- none	- none	5705	
22	22		as above - moist					

Samplers: J. Moore, P Jensen

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Summer Island

SURFACE SAMPLE LOG

Date: 4/27/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1255	SR331 A6	15	- Surface veg + isolated rootlets - sand, fine grained - few gravel, medium grained sub round	olive brown to gray	-none	-none	5706	
1300	SR301 A7	15	Isolated veg & rootlets 0-15 sand, fine grained 10-15 gravel fine-med grain (few)	olive brown to dark gray	-none	-none	5707	
4	4	4		dark gray				
1335	SR150 A8	15	- same as above	olive brown to dark gray	-none	-none	5709	
1340	SR105 A9	15	- same as above	olive brown to dark gray	-none	-none	5710	
1345	SR64 A10	15	- same as above	olive brown to dark gray	-none	-none	5711	

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SUMMER ISLAND

SURFACE SAMPLE LOG

Date: 4/27/2010

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1350	SR31 A11	15 cm	Surface: Isolated vegetation w rootlets 0-15 sand, fine grained 10-15 gravel, fine-med gram (few)	olive brown to dark gray	-none	-none	5912	
1355	SR37 A12	15 cm	- same as above but trace gravel	olive brown to dark gray	-none	-none	5913	
								P. Jensen

Samplers: J. Moore, P. Jensen

BARNABY ISLAND CAMPGROUND SURFACE SEDIMENT LOGS

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BARNABY ISLAND

SURFACE SAMPLE LOG

Date: 4/28/10 in

Page: 1 of 6

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0913	BC-3540	0-6"	Sand, medium w/ gravel (20%.)-subrounded +occassional cobble gravel m-c. (2"-)	l-olive gray	—	—	102-3514	D1
0925	BC-3104	0-3" 3-6"	sandy silt, sand is l-olive (medium) silty sand w/ tr. gravel sand is med.	olive gray	—	—	102-3515	D2
0935	BC-3005	0-6"	sand, medium w/ rootlets	l-olive gray	—	—	102-3516	D3
0946	BC-2910	0-6"	sand (f-m) w/ 5% gravel	brown	—	—	102-3517	D4
0952	BC-2325	0-2" 2-5" 5-6"	silt gravelly sand(fm) 10%. gravel sand (f-m) w/gravel (30%.)	olive gry w/brn mottles dk brown	rootlets	—	102-3518	D5
0956	BC-2245	0-2" 2-6"	Sand (m) w/ gravel (30%. gravel) sand (f-m) w/ gravel (30% gravel) w/tr. silt	olive gray mottled brown	—	—	102-3519	D6

Samplers: J. SUND, R. LAWRENCE

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BARNABY ISLAND

SURFACE SAMPLE LOG

Date: 4/28/10 (cm)

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1000	BC-2263	0-6"	sand (fm) w/tr. silt w/ tr. gravel submuddy	olive gray	organics rootlets top 3"	—	102-3520	D7
1008	BC-1656	0-6"	sand (fm) w/ 5% gravel, subrounded	olive gray mottled	rootlets (top 2")	—	102-3521	D8
1016	BC-1966	0-6"	sand (fm) ^ silty	olive gray mottled	plastic @ 3" (visqueen!)	—	102-3522 (15) 2	5/5/10 D9
1022	BC-1461	0-3" 3-6"	sand (f-m) sand (f-m) w/ 50% gravel (1"-1), fine-med	brown	—	—	102-3523 (15) 3	5/5/10 D10
1150	BC-1799	0-6"	sand (m) w/ gravel (50%), subrounded	brown	rootlet in top 2"	—	~~102-3533~~ 85 100-0032	D11 → switch to Olympus Stylus.
1155 ~~1200~~	BC-2743	0-1" 1'-6"	sand (m) w/ tr. gravel + rootlets sand (f-m) w/ 10% gravel	olive brown	rootlets	—		AH for BC-1192 D12

Samplers: J. SUND, B. LAWRENCE

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BARNABY ISLAND

SURFACE SAMPLE LOG

Date: 4/28/10 (lm)

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1213	BC-3182	0-1"	sand(m) w/ rootlets	1. brown	—	—	100-0034	C4
		1-3"	sand(f-m)	olive gray				
		3-6"	sand(f-m) w/ tr. gravel	1. ~~olive~~ brown				
1221	BC-3263	0-3"	sand(m) w/ tr gravel + rootlets	1. olive gray		—	100-0035	C3
		3-6"	sand(f-m) w/ tr gravel	1. brown mottled				
1228	BC-3660	0-6"	sand (m) w/ gravel (med) (20%)	1. olive gray	—	—	100-0036	C1
1235	BC-3452	0-4"	sand(m) w/ abundant rootlets w/ tr. gravel	1. olive gray	rootlets	—	100-0037	C2
		4-6"	sand(f-m), tr. gravel	½ brown	—			
1242	BC-2820	0-6"	sand (f-m) w/ gravel (<5%)	1. brown	—	—	100-0038	C5
1247	BC-2348	0-3"	sand(m) w/ silt, rootlets w/ 20% gravel	olive gray	rootlets	—	100-0039	C6
		3-6"	silty sand (f-m) w/ gravel (20%)	dk brown				

Samplers: J. SUND, B. CAWRENCE

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BARNABY ISLAND

SURFACE SAMPLE LOG

Date: 4/28/10 in

Time	Station	Depth (~~cm~~)	Texture	Color	Debris	Odor	Photo No.	Comments
1256	BC-1797	0-3"	Sand (f-m) w/ gravel 10% rootlets	l. olive gray	rootlets	—	100-0040	C8
		3-6"	sand (f) w/ gravel (5%)	l. brown				
1303	BC-1286	0-3"	sand (f-m) w/ gravel (20%) + rootlets throughout	~~l. brown~~ l. olive gray	~~4/28/10~~ rootlets	—	100-0041	C11
		3-6"	sand (f-m) w/ silt, 20% gravel	"	↓			
1309	BC-1337	0-3"	Sand (m) w/ gravel (30%) subrounded + rootlets	l. brown	rootlets	—	100-0042	C9
		3-6"	silty sand (f-m), fr. gravel.	brown	—			
1312	BC-1253	0-6"	Sand (f-m) w/ rootlets	l. olive	organic rootlets	—	100-0043	C10
				"	"			
1328	BC-478	0-1"	Sand (m) w/ rootlets	l. olive gray	rootlets	—	100-0044	C12
		1-6"	Sand (f-m) w/ gravel (5%)	brown mottled	—			
1334	BC-99	0-2"	Sand (f) w/ gravel (20%) gravelly	olive gray	—	—	100-0045	C7
		2-6"	Sand (f). 40% gravel	brown mottled				

Samplers:

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BARNABY ISLAND

SURFACE SAMPLE LOG

Date: 4/28/10 (m)

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1454	BC-690	0-6"	sand (f-m), w/ tr. gravel	brown mottled	—	—	100-0046	E8
1509	BC-3470	0-6"	sand (f-m) w/ silt.	brown mottled	—	—	100-0047	E3
1514	BC-3387	0-6"	sand (f-m)	brown	—	—	100-0048	E2
1520	BC-3678	sfc 0-6"	Gravel to cobble onsfc sand (f-m), well graded.	l. brown	—	—	100-0049	E1
1536	BC-2384	0-6"	sand (f-m) w/ tr gravel (fine)	brown mottled	—	—	100-0050	E11
1542	BC-2130	0-4 4-6	sand (f-m) sand (f-m) w/ 5% gravel	brown	—	—	100-0051	E10

BC 2384 is alt for BC-703
BC 2130 is alt for BC-2980

BC46 is alt for 1117

Samplers: D. SUND, P. Jensen

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BARNABY ISLAND

SURFACE SAMPLE LOG

Date: 4/28/10 (4/27)

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1550	BC-1520	0-6"	sand (f-m) w/ 20% gravel + rootlets	brown	—	—	100-0052	E5
1557	BC-1633	0-6"	Sand (f-m) w/ 30% gravel, subang to subrounded	brown	—	—	100-0053	E6
1606	BC620	0-4" 4-6"	sand (f), poorly graded sand (f) w/ tr. gravel subrounded. large cobble @	l. olive gray w/ brown mottles	—	—	100-0054	E7
1614	BC-345	0-5" 5"-6"	sand (f) w/ rootlets in top 2" as above w/ tr gravel	l. brown	—	—	100-0055	Alt for BC-2150 E9
1621	BC-149	0-6"	Silty sand. sand is fine. @ 4" layer of l. brown sand.	l. olive gray w/ brn mottles	—	—	100-0056	E4
1628	BC-46	0-6"	Silty sand (sand is fine) w/ 30% gravel subrounded	brown	wood debris @ 3"	—	100-0057	E12 Alt for BC117

Samplers: J. SUND, P. JENSEN

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BARNABY ISLAND

SURFACE SAMPLE LOG

Date: 4/28/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0915	BC 3488 B1	15	- Sand, fine-med grain subround - few, med-coarse grain gravel, subround	yellow to brown	-none	-none	5732	
0940	BC 2268 B2	15	0-15 - Sand, fine-med grain - few silt - trace rootlets 12-15 - dark brown, little silt	yellow brown to olive gray	-none	-none	5733	
0945	BC 2515 B3	15	- as above, but dark brown starts at 6 cm	yellow brown to olive gray	-none	-none	5734	
1000	BC 1824 B4	15	0-15 sand, few silt fine-med grain - trace gravel, fine grain sub round, trace rootlets	yellow brown to olive gray	-none	-none	5735	
1005	BC 1492 B5	15	0-15 Sand, med-coarse grain - sub angular, moist - little gravel, fine-med grain - sub round to subangular	yellow brown to gray	-none	-none	5736	
1010	BC 1143 B6	15	0-15 Sand, med grain, moist - sub angular, few silt - isolated gravel, fine grain subround	yellow brown to olive gray	-none	-none	5737	

Samplers: J. Moore, P. Jensen

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BARNACLE ISLAND

SURFACE SAMPLE LOG

Date: **Page:** 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1020	BC 2017 B8	15 cm	0-15 sand, med grain, subangular, few silt - isolated plants and rootlets	yellow brown to gray with trace orange and black mottling	-none	-none	5738	
1045	BC 778 B9	15 cm	- same as above	- same	- none	- none	5739	
1050	BC 596 B10	15 cm			- none	- none	5740	
1055	BC 168 B11	15 cm			- none	- none	5741	
1120	BC 2022 B7	15 cm	0-15 sand, fine-med grain sub angular, few silt few fine grain gravel sub round, moist	yellow brown to olive gray	- none	- none	5742	
1130	BC 2749 B12 (alt)	15 cm	0-15 sand, fine-med grain sub angular, slightly sorted few silt, moist - isolated plants + rootlets	orange brown to olive gray	-none	-none	5743	

Samplers:

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BRANNEBY ISLAND

SURFACE SAMPLE LOG

Date: 4/28/2010 **Page:** 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1200	BC 2759 A2	15	0-15 sand, fine-med grain sub round, little gravel, fine to med grain, sub round - slightly moist, loose	yellow-brown	-none	-none	5744	
1205	BC 2692 A3	15	0-15 sand, fine-med grain - slightly sorted, few silt - few plants and rootlets at surface 11-15 few gravel fine grain sub round	yellow brown to olive grey	-none	-none	5745	
1215	BC 2713 A4	15	- as above	with slight orange mottling	-none	none	5746	
1220	BC 1735 A5	15	- as above but with gravel only in 14-15 cm at bottom.	same	-none	-none	5747	
1225	BC 1313 A6	15	- as above, gravel in bottom cm	same	-none	-none	5748	
1230	BC ~~850~~ ~~830~~ 815 A7 5/5/10	15	- as above, gravel in bottom cm	-same	-none	-none	5749	

Samplers:

integral consulting inc.

BARNABY ISLAND

SURFACE SAMPLE LOG

Date: 4/28/10 Page: 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1235	BC 1214 A8	15	Sand, fine-med grain sub-round, little gravel fine, medgrain, subround and subangular, trace silt, dry	yellow -brown	- none	-none	5750	
1240	BC 1255 A9	15	Sand, fine-med grain subround, few plant material and rootlets, few silt, moist 9-15 little silt	yellow -brown 9-15 dark brown	-none	-none	5751	
1245	BC 1586 A10	15	Sand, fine-med grain sub-round, few plant material and rootlets, few gravel	yellow -brown	-none	-none	5752	
1250	BC 1590 A11	15	- same as above	yellow -brown	-none	-none	5753	
1255	BC 2749 A12	15	0-15 sand, fine-med grain sub round, slightly sorted - isolated plant + rootlet on surface - moist, few silt.	yellow brown			5754	
~~0915~~ 1315	BC 186 (Alalternate)	15	0-15 sand, fine grained subround, trace silt moist,	light yellow to gray	-none	-none	5755	

Samplers: J. Moore, P. Jensen

CHINA BEND SURFACE SEDIMENT LOGS

integral consulting inc.

China Bend

SURFACE SAMPLE LOG

Date: 4/30/2010 **Page:** 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0905	CB-70 A2	15	- surface w few cobbles, subround 0-15 sand, fine-med grain, trace silt poorly sorted, sub rounded - little gravel, fine-med, subangular	yellow brown w few black	- none	- none	5812	
0910	CB-7 A1	15	0-14 sand, fine grain trace silt, isolated rootlets - moist 14-15 sand, fine grain, few gravel fine-med	yellow brown to grey yellow-orange	- none	- none	5813	
0920	CB-530 A3	15	0-15 sand, fine grain with few silt, little to some gravel fine med grain subangular to subround	0-6 yellow brown-grey trace range 6-15 yellow slight gray trace orange	- none	- none	5814	
0935	CB-438 A7	15	0-15 Sand, fine grain, few silt, few - little gravel, subangular to subround fine med grain, dry 9-15 few black sand	yellow brown to grey trace orange	- none	- none	5815	
0940	CB-463- A4	15	0-15 fine grain sand, w few gravel fine med grain, trace silt 5-15 slightly moist	0-5 cm yellow brown to grey trace orange 5-15 cm yellow grey	- none	- none	5816	
0945	CB-313 A5	15	0-15 sand, fine grain, trace silt few gravel, fine grain sub rounded 10-15 gravel is fine-med, few coarse sand	yellow brown to gray w few orange	- none	- none	5817	

Samplers: J. Moore, P. Jensen

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China Bend

SURFACE SAMPLE LOG

Date: 4/30/2010

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0950	CB385 A6	15	- gravel with sand in 0-3cm med grain subrounded 3-15 sand, fine grained, w few gravel fine-med grain subang/sub subround, trace silt	0-5 yellow brown to grey few orange 5-15cm yellow brown to grey	- none	- none	5818	
1000	CB 783 A9	15	0-6 sand, fine grained, trace gravel, fine grained 6-15 sand, fine to med grain, poorly sorted, subround, little gravel fine med grain ↳ trace black sand	yellow to gray yellow brown to gray	- none	- none	5819	
1005	CB 828 A8	15	0-15 sand, fine grained few gravel, fine-med, subround 6-15 yellow grey	yellow brown to gray trace orange	- none	- none	5820	
1010	CB783 A11	15	0-11 sand, fine grain trace rootlets, few silt 11-15 fine-med grain sand/sub round, few black sand	yellow brown to gray trace orange	- none	- none	5821	
1015	CB-754 A10	15	2-5 sand, fine-med grain subround few silt 0-2 fine grain sand (yellow gray 5-15 - fine to coarse grain sand trace silt, poorly sorted, few black sand sand subangular, subround	yellow brown to grey	- none	- none	5822	
1020	CB 97 A12	15	- same as above		- none	- none	5823	

Samplers: J. Moore, P. Jansen

China Bend

integral consulting inc.

SURFACE SAMPLE LOG

Date: ~~4/30/2009~~ (SV) 4/30/2010 Camera # 1098 Page: 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1055	CB-673 C-12	15cm	Sand fine to med. grain poorly sorted w/ few silt; little grave fine/med grain, subrounded moist	yellow/ brown/ grey/ trace organic black	few wood fragments	No	5824	No
1100	CB-510 C-7	15cm	Surface vegetation, abundant rotting moss → below is sand w/ gravel. Sand = fine grained, gravel fine/med grain subround, poorly sorted few silt	0-5cm yellow/brn grey/ 5-15cm blk/brown/ grey	No	No	5825	No
1108	CB-~~7~~8 C-10	15cm	Surface - 0-11cm: fine sand. orange/ brown/grey w/ few silt 11-15 Sand fine to med grain sub angular/subrounded w/ trace silt trace coarse grain sand few black sand	0-11cm orange brown grey 11-15cm few black	No	No	5826	No
1113	CB-847 C-11	15cm	same as above but little intervals 0-5cm 5-15cm few coarse grain sand	same as above 0-5cm 5-15cm	No	No	5827	No
1115	CB-720 C-8	15cm	0-15cm fine to med sand 0-5cm few coarse sand 0-15cm trace silt	0-5 ylw/ brn/ trace grey blk sand 5-15cm ylw/orig/grey	No	No	5828	No
1122	CB-853 C-9	15cm	0-6 fine sand, w/ few med/coarse trace silt sand. 6-15 - as above, w/ little grvl subround to sub angular	yellow/brown/ grey. coarse sand blk 6-15	No	No	5829	No

Samplers: JM & SW

integral consulting inc.

China Bend

SURFACE SAMPLE LOG

Date: 4/30/2010 Camera # 1098 Page: 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1126	CB-692 C-6	15cm	0-13cm - fine to coarse grain sand subround/subangular w/ few gravel trace silt w/ few blk 13-15 fine grained, few silt, few gravel fine to med grain	orange/ylw grey w/ few blk 0-13 13-15 dk ylw/brn grey	No	No	5830	No
1131	CB-522 C-5	15cm	0-5 fine sand w/ few silt 5-15 same - fine to coarse grain subround to subangular w/ trace gravel subround subangular trace silt	0-5 ylw/brown grey 5-15 ylw-lo-brn/brn grey, few blk.	No	No	5831	No
1137	CB-528 C-4	15cm	0-5cm fine to med grain sand subround cobble trc blk, few silt poorly sorted. 5-15 sand, fine grain, fine to med grain gravel subrounded/subangular	0-5 org/brn grey 5-15 ylw/ grey/ brn	No	No	5832	No
1146	CB-347 C-2	15cm	0-10cm fine sand trc coarse sand subang, blk. few silt 10-15cm sand, med coarse grain subrnd/ subang trace silt.	0-10 ylw/brn/grey trc org/blk 10-15 org/brn/grey few blk	No	No	5833	No
1151	CB-207 C-3	15cm	same as before only diff intervals are 0-12cm 12-15cm	0-12 same 12-15 same	No	No	5834	No
1157	CB-325 C-1	15cm	Soilfree - cobbles 0-8 cm. sand fine to med sub rnd/ sub ang silt few silt silt grnl med grn. sub rnd trace silt (subang sub rnd) 8-15 sand fine to med grain. w/ few gravel fine to med grain	gel like/ light brn/grey trc blk sand 0-15 cm	No	No	5835	No

Samplers: JM & SW

integral consulting inc.

SURFACE SAMPLE LOG China Bend

Date: 4/30/10 (JM) Page: 1 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0858	CB-268	0-6"	gravelly sand (f-m) Gravel (f-coarse) w/ cobbles up to 3" Gravel - 50%.	olive gray brown	paint flecks	—	105-3548	D1
0906	CB-295	0-3"	SAND (f-m) w/ dk lenses (black sand)	olive & l. brown	—	—	105-3549	D2
		3-6"	Sandy gravel (gravel is f-m) sand is f-m - 40%. subang."	dk olive				
0912	CB-344	0-2"	gravelly SAND (f-m) w/ cobbles	brown-black	—	—	105-3550	D3
		2-6"	SAND (fine) w/ cobbles gravelly Gravel is 40-50%	brown-olive gray				
0917	CB-341	0-1"	~~Sandy Silt~~ SAND (f) w/ silt	l brown-olive			105-3551	D5
		1-6"	SAND (m) w/ gravel Sand is angular. Gravel subang to subrounded	brown-black	bark fragments (tr)			
0923	CB-289	0-4"	Alternating layers of SAND (fine) w/ silt	brown-olive	tr. organics (black)	—	105-3552	D4
		4-6"	SAND (fine). black sand is angular. other sand is subrounded	brown + black				
0935	CB-281	0-6"	Layered SAND (f) w/ silt lenses.	l. brown olive gray	rootlets to 3"	—	105-3553	D6

Samplers: JSUND, BIANCENZE

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SURFACE SAMPLE LOG China Bend

Date: 4/30/10 (JN)

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0941	CB-904	0–4"	SAND (f-m), tr. silt	Brown	—	—	105-3554	D7
		4–6"	SAND (m), black sand is angular. brown is subround	brown + black				
0954	CB-770	0-2"	Layered sand (f) w/ gravel (20%) w/ tr. cobbles	brown + olive	rootlets + tr. organics	—	105-3555	D8
		2-6"	SAND(f) mottled	l. brown + l. olive				
0958	CB-1073	0-5"	SAND(f) w/ lenses of brown-black gravelly SAND @ 3" (½" thick)	brown-olive	rootlets to 2"	—	105-3556	D9
		5-6"	SAND(m) w/ brown (m) sand black is angular	brown + black				
1004	CB-1058	0-1"	Sandy silt (tr. sand)	brown + black	abundant organics	—	105-3557	D10
		1-6"	Alternating Sand + silt brown is fine sand olive layers are silt.	olive + brown				
1011	CB-774	0-2"	SAND (f-coarse) w/ 20% black grains (angular)	l brown - l. olive	—	—	105-3558	D11
		2-6"	SAND (m-coarse) blk grains are angular	black + l. brown				
1016	CB-1040	1-5"	Silty SAND (fine) w/ rootlets + tr. organics	l. brown-olive (mottled)	tr. organics	—	105-3559	D12
		5-6"	SILT	Olive				

Samplers: JSUND, BLAWRENCE

integral consulting inc.

SURFACE SAMPLE LOG China Bend

Date: 4/30/10 (in)

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1034	CB168	0-4"	SAND (f) + black interlayers of SAND(m), angular. w/ tr. silt lenses	brown to olive mottled	—	—	105-3560	B8
		3-6"	50/50 brown + black SAND (f-m)	brown + black				5-6" (f-c gravel - 10%)
1039	CB159	0-1"	Gravelly SAND (f) w/ SILT.	olive-brown	—	—	105-3561	B10
		1-6"	SAND (coarse). Black is 20%, angular w/ gravel (5%)	brown + black				
1044	CB1058	0-3"	Sandy SILT w/ brown + black lenses (1/4" thick)	olive-brown mottled	—	—	105-3562	B11
		3-6"	SAND (fine) w/ 20% black + tr. coarse sand.	l. olive				
1049	CB992	0-2"	Silty SAND(f) w/ tr. gravel + woody debris (twig, barks)	brown-olive	tr. plant debris	—	105-3563	B9
		2-6"	SAND (f) w/ tr. gravel.	orange-l. olive-olive	tr. plant debris.			
1056	CB-723	0-6"	SAND(f-c) w/ gravel (40%) subrounded. Gravel (f-c) + cobbles tr. black sand.	olive-brown	rootlets to depth	—	105-3564	B6
1101	CB-945	0-3"	SAND(f) w/ SILT w/ black lenses of SAND(m)	olive	—	—	105-3565	B7
		3-6"	SANDY GRAVEL. gravel is f-c. tr. black sand.	brown-olive	tr. organics			

Samplers: JSund, BLawrence

integral consulting inc.

Date: 4/30/10

SURFACE SAMPLE LOG China Bend

Page: 4 of 4

Time	Station	Depth (cm) (in)	Texture	Color	Debris	Odor	Photo No.	Comments
1107	CB-620	0-3"	Sandy Silt. Sand is fine	olive-brown	—	—	105-3566	B5
		3-6"	Gravelly SAND. Gravel is coarse + rounded w/ cobbles black sand is 20%	brown + black				
1111	CB-587	0-3"	Same as CB-620	SAA	—	—	105-3567	B4
		3-6"	same as CB-620 except + black sand is 40% + only fine gravel					
1116	CB-704	0-1"	SANDY SILT w/ gravel (f-c) - 40%	olive-brown mottled	—	—	105-3568	B3
		1-3"	SAND (m) w/ f-c gravel	brown + black				3-6" olive gravelly SAND (f). 40% gravel.
1120	CB635	0-1"	Silty SAND (fg) w/ f-c gravel + cobbles (40%)	olive-brown	—	—	105-3569	B2
		1-2"	SAND (m) w/ gravel (f-c)	brown + black				
		3-6"	SAND (f) w/ gravel (30%)	olive				
1124	CB-320	0-1"	Sandy Gravel. Sand is fine. Gravel is f-c w/ abundant cobbles (3" dia) well rounded (f-coarse)	olive-brown	—	—	105-3570	B12
		1-6"	Sandy Gravel (f-coarse) Sand (f) w/ cobbles.	olive				tr. black sand in 0-1"
1132	CB-283	0-2"	Gravelly SAND (f-m) 40% gravel w/ a cobble	brown + blk	—	—	105-3571	B1
		2-6"	SAND (f) w/ 50% gravel Gravel is rounded / subrounded	olive				w/ tr. cobble

Samplers:

JSUND BLAWRENCE

(15)
PS

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CHINA BEND

SURFACE SAMPLE LOG

Date: 4/30/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1057	CB233 E1	15	0-5cm fine sand w/ trace silt subround sand, w/ few gravel medium grain. Few coarse cobble. 5-15cm finer sand w/ trace gravel.	yellow brown / yellow brown to grey	No	No	0054	
1107	CB-324 E2	15	0-5cm same as above black sand band at approximately 5 to 6cm. 5-15cm same as above	same / same	No	No	0055	
1113	CB-267 E3	15	0-15cm, sand fine to medium grain, subangular with fine gravel	yellow brown w/ orange mottling	No	No	0056	
1118	CB-394 E5	15	0-3cm, fine sand 3-15cm, fine to medium sand subangular, medium to coarse gravel subround	orange brown w/ black for all	No	No	0057	
1123	CB-424 E6	15	same as CB-267	same as CB-267	No	No	0058	
1126	CB-262 E4	15	~~fine~~ 0-15cm fine sand w/ few silt	yellow brown to grey	No	No	0059	

Samplers:

integral consulting inc.

CHINA BEND (15) P5

SURFACE SAMPLE LOG

Date: 4/30/10 **Page:** 2 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
~~1152~~	~~CB-592 CB-737 E8~~	15					~~0060~~	(15)
1132	CB-592 E8	15	0-10cm sand medium grain subangular, rootlets 10-15cm sand medium grain w/ few medium coarse gravel	yellow brown to gray w/ black orange	NO	NO	0060	
1138	CB-737 E7	15	0-10cm fine to medium sand w/ few gravel, gravel is medium to coarse 10-15cm Medium sand, trace silt	yellow brown At 5 to 8cm black sand gray black orange	NO	NO	0061	
1152	CB-703 CB-707 E11 E12	15	0-15cm fine sand, few silt trace gravel w/ fine to medium grain gravel	yellow brown	NO	NO	0062	
1200	CB1071 E10	15	0-5cm fine to medium sand, trace gravel, 5-15cm same w/ few gravel - medium to coarse	yellow brown to gray	NO	NO	0063	organic debris at 3cm.
1204	CB 1054 E11	15	0-10cm fine to medium grain sand, trace silt, trace gravel 10-15cm Sand - fine, with some subangular gravel	yellow brown yellow brown w/ black orange	NO	NO	0064	

Samplers:

integral consulting inc.

CHINA BEND (15) PS

SURFACE SAMPLE LOG

Date: 4/30/10

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1208	CB-75S E9	15	same as CB-1054	same as CB-1054	NO	NO	0065	

Samplers:

AA Campground Surface Sediment Logs

integral consulting inc.

AA CAMPGROUND - COMPOSITE A

SURFACE SAMPLE LOG

Date: 4/25/11 Camera # 1098 Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1025	AA-6	15	0-4cm sandy silt, moist, soft, slight mottling, fine grained 4-15cm silty sand, fine grained, moist, medium stiff, moderate mottling, micaceous	dark brown grey	trace of organics none	none none	105-7977	
1033	91	15	fine grained sand, trace of silt, moist, medium dense, moderate mottling, micaceous	grey/brown	trace of organics	none	105-7978	
1038	118	15	sand, fine to medium grained, subrounded, well sorted, damp, medium dense, trace of coarse grained sand, subrounded, trace of fine gravel subrounded, micaceous	brown	none	none	105-7979	
1044	194	15	Surface: fine subrounded gravel. gravelly sand, fine to coarse grained, subrounded subangular, poorly sorted, fine subrounded gravel, damp, loose, micaceous	tan	none	none	105-7980	
1051	253	15	0-2cm and 5-8cm: sand, fine grained, moist, loose, micaceous 2-5cm and 8-15cm: sand, fine to medium grained, subrounded, well sorted, trace of fine subrounded gravel, micaceous, damp, loose	tan tan	none none	none none	105-~~78~~ 7981	
1059	443	15	Surface: fine subrounded gravel 0-2cm: gravelly sand, fine to coarse grained, subrounded, poorly sorted, fine subrounded gravel, damp, loose, micaceous 2-15cm sand fine grained, moist, dense, slight mottling, micaceous	tan	none	none	105-7982	

Samplers: J. Sand
B. Barker

integral consulting inc

AA CAMPGROUND - COMPOSITE A

SURFACE SAMPLE LOG

Date: 4/25/11 camera # 1098 Page: 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1107	AA-819	15	sand fine to coarse grained, subrounded, trace of fine subrounded gravel, moist, medium dense poorly sorted micaceous	tan	none	none	105-7983	
1113	658	15	0-3cm: sand fine grained, trace of medium grained subrounded, some fine subrounded gravel, damp, loose, well sorted, micaceous 3-15cm: gravelly sand, medium to coarse grained, subrounded, trace of fine grained sand, fine subrounded gravel, damp, loose, micaceous	tan	none	none	105-7984	
1122	601	15	sand, fine grained, moist, dense, trace of medium to coarse grained sand, subrounded micaceous at 3cm: thin layer of medium to coarse grained sand, subrounded, poorly sorted	tan	none	none	105-7985	
1128	683	15	sand fine to coarse grained, subrounded to poorly sorted damp, loose, trace of fine subrounded gravel, micaceous	tan	none	none	105-7986	
1133	503	15	0-2cm: silty sand fine grained wet, loose, slightly bioturbated, 2-15cm: sand fine to medium grained, subrounded, trace of coarse grained sand. Found a clay nodule. Poorly sorted	grey / tan	trace of organics / none	none	105-7987	
1140	216	15	sand fine grained, moist, dense, moderately bioturbated,	tan	none	none	105-7988	

Samplers: I. Saad
S. Barber

integral consulting inc.

AA CAMCLOUDS - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/25/11 camera # 1098 Page: 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1203	AA-98	15	sand fine to coarse grained subrounded, damp, medium dense, poorly sorted at 6 cm: thin layer of coarse grained sand	tan	none	none	105_7989	
1211	AA-548	15	surface gravel fine subrounded, Gravelly sand, fine to coarse grained, subrounded, fine to coarse gravel subrounded, poorly sorted, damp, medium dense, 0-4 cm: trace of silty sand	tan	none	none	105_7990	
1218	592	15	0-0.5cm: silty sandy, moist, loose, fine grained .5-15 cm: sand, medium to coarse grained subrounded, dry, loose, trace of fine grained sand, some fine subrounded gravel,	tan grey	none	none	105_7991	
1224	587	15	Surface: gravel, fine, subrounded; 0-5 cm: gravelly silty sand, fine grained sand, fine to coarse subrounded gravel, trace of coarse grained gravel, damp, loose 5-9 cm: sand, fine grained, moist,	tan tan tan	none	none	105_7992	9-15cm: sand, medium to coarse grained, damp, loose, trace of fine subrounded gravel
1233	621	15	0-3cm and 5-7cm: fine grained sand, trace of silt, damp, loose 3-5cm and 7-15cm: Sand, medium to coarse grained, damp, loose, subrounded, some fine subrounded gravel	tan grey	none	none	105_7993	
1240	425	15	0-8cm: sand, fine grained, damp, loose, 8-15cm: sand, medium grained, subrounded, damp, medium dense, trace of fine grained sand	tan	none	none	105_7994	

Samplers: J. Barber
I. Saul

integral consulting inc.

AA CAMPGROUND - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/25/11 Camera # 1098 Page: 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1246	AA 338	15	0-5cm and 6-8cm and 9-15cm: sand fine grained, damp, loose to dense, 5-6cm and 8-9cm: sand, medium to coarse grained, subrounded, poorly sorted, damp, medium dense	tan tan	none	none	105-7995	
1254	224	15	Sand fine grained, moist, dense, moderately bedded	tan	trace of organics	none	105-7996	
1259	196	15	sand fine grained, damp, very dense, ~~slight~~ slightly bedded.	tan	none	none	105-7997	
1305	724	15	gravelly sand, medium to coarse grained, sand, subangular to subrounded, fine subrounded gravel, trace of fine grained sand, damp, medium dense poorly sorted	tan	none	none	105-7998	
1311	775	15	Sand fine to medium grained subrounded, trace to coarse grained, subrounded sand, some fine subrounded gravel, damp, medium dense	tannish grey	none	none	105-~~7998~~ 7999	
1316	783	15	0-2cm and 4-8cm: silty sand, fine grained, damp, loose, slightly bedded 2-4cm and 8-15cm: sand fine to coarse grained, subangular to subrounded, damp loose poorly sorted	tan	none	none	105-8000	

Samplers: S. Barker
I. Sand

integral consulting inc.

AA CAMPGROUND - COMPOSITE C

UC12 Beach Sampling

SURFACE SAMPLE LOG

Date: 4/25/11 Camera #1321 Page: 1 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1035	AA1	15cm	0-15cm: silt w/ some fine sand and pebbles (small)	dark brown	NO	NO	0094	moist
1043	AA89	15cm	0-15cm: fine sand, well sorted w/ silt and small pebbles	light brown	NO	NO	0095	moist
1047	AA127	15cm	0-15cm: same as above	light brown	NO	NO	~~0096~~ 96 (JW)	moist
1052	AA160	15cm	0-5cm: med-coarse sand w/ some silt, well sorted 5-8cm: silt w/ some fine sand 8-15cm: fine-coarse sand w/ some silt, poorly sorted (JW)	light brown dark brown light brown	NO	NO	~~0098~~ 97 (JW)	moist Pine needle in sample Leaf debris
1102	AA188	15cm	0-6cm: fine-coarse sand w/ some silt, poorly sorted. small-med gravel 6-15cm: fine sand, well sorted w/ some silt	light brown light brown	NO	NO	0098	3-6cm: lense of coarse black sand moist
1108	AA297	15cm	0-15cm: med-coarse sand, well sorted	light brown/ black	NO	NO	0099	moist

Samplers: T. Wilson
L. Linde

integral consulting inc.

AA CAMBRIA - COMPOSITE C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/25/11 **Page:** 2 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1115	AA568	15cm	0-4cm: fine-med sand, well sorted w/ some silt 4-15cm: silt (compact)	grey/ brown light brown	NO	NO	0100	dry on top moist near bottom
1123	AA566	15cm	0-15cm: fine-coarse sand, poorly sorted w/ some silt	light brown	NO	NO	0101	moist 3.5cm: lense of coarse sand at specified depth.
1129	AA340	15cm	0-7cm: fine-coarse sand, poorly sorted w/ some silt. 7-15cm: fine sand, well sorted with some silt.	light brown Light brown/ orange	JW some organic debris on bottom	NO	0102	dry - moist
1137	AA553	15cm	0-8cm: fine-coarse sand w/ some silt, sand poorly sorted 8-15cm: med-coarse sand, well sorted w/ small pebbles	light brown brown black	NO	NO	0103	dry - moist
1144	AA599	15cm	0-15cm: fine-med sand, well sorted w/ some silt and small pebbles	dark brown	NO	NO	0104	moist
1149	AA549	15cm	0-15cm: silt w/ some fine sand.	dark brown	NO	NO	0105	moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

AA CAMPGROUND - COMPOSITE B

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/25/17 **Page:** 3 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1216	AA4	15cm	0-15cm: med-coarse sand, poorly sorted, small to large gravel w/ some silt	brown	NO	NO	0106	moist.
1222	AA27	15cm	0-15cm: med-coarse sand well sorted w/ some silt	brown	NO	NO	0107	moist
1226	AA35	15cm	0-15cm: fine-med sand, well sorted w/ some silt	brown	NO	NO	0108	moist
1230	AA49	15cm	0-15cm: med-coarse sand, well sorted w/ some silt and small-med gravel	brown	NO	NO	0109	moist
1240	AA675	15cm	0-15cm: med-coarse sand, poorly sorted w/ small pebbles and small-large gravel	brown/ black	NO	NO	0110	moist.
1246	AA582	15cm	0-15cm: fine-coarse sand, poorly sorted, w/ small-large gravel	brown	NO	NO	0111	moist

Samplers:

integral consulting inc.

AA CAMPGROUNDS - COMPOSITE 5

UCI2 Beach Sampling

SURFACE SAMPLE LOG

Date: 4/25/11 **Page:** 4 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1253	AA834	15cm	0-15cm: fine sand w/ silt w/ some coarse sand	grey/ brown	NO	NO	0112	saturated
1258	AA797	15cm	0-15cm: med-coarse sand, poorly sorted w/ small-large gravel	brown	NO	NO	0113	Moist
1307	AA685	15cm	0-15cm: med-coarse sand, well sorted w/ occaisonal small-med gravel	brown/ black	NO	NO	0114	moist
1311	AA457	15cm	0-15cm: silt w/ some fine sand	light brown	NO	NO	0115	moist
1316	AA412	15cm	0-15cm: Same as above	orange/ brown	NO	NO	0116	dry - moist
1320	AA223	15cm	0-15cm: same as above, with laminations	All. dark & orange brown	Root debris 0-5cm	NO	0117	Moist.

Samplers: J. Wilson
L. Lindle

integral consulting inc.

UCR BEACH Sampling

SURFACE SAMPLE LOG

Date: 4/25/11 AA Campground 2 surface composite Page: 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1013	AA-177	0-15cm	SAND Fine-med grain sub Round - sub Angular few GRAVEL -MED - COARSE grain sub round, TRACE SILT Slightly MOIST	LT Yellow BROWN / LT GRAY	NONE	NONE	Fil. 107 4175	
1019	AA-102	0-15cm	SAND Fine grain few SILT, TRACE PLANT FRAGMENTS, Isolated GRAVEL med grain sub ROUND, Slightly MOIST	BROWN TO light Yellow-BROWN slight BANDING	NONE	NONE	4176	
1023	AA-43	0-15cm	SAND Fine-med grain sub round, TRACE GRAVEL FINE GRAIN sub round TRACE SILT, TRACE WOOD FRAGMENTS, SLIGHTLY MOIST	LT. Yellow BROWN TO LT. GRAY SLIGHT BANDING	NONE	NONE	4177	
1030	AA-249	0-15cm	SAND Fine-med GRAIN sub ROUND, TRACE GRAVEL fine-med GRAIN sub ROUND, TRACE SILT DRY-slightly moist	LT. Yellow BROWN	NONE	NONE	4178	
1035	AA-424	0-15cm	SAME AS AA-249	"	NONE	NONE	4179	
1040	AA-473	~~0-25~~ 0-15cm	SAME AS AA-249 6-8cm multiple DARK GRAY BAND UP to 2mm thick	" SEE TEXTUR DESCRIPTION	NONE	NONE	4180	

Samplers: Joss Moore
Bob Sullivan
Michele Stigma oversight

integral consulting inc.

UCR BOACH Sampling

SURFACE SAMPLE LOG

Date: 4/25/11 AA CAMP GROUNDS 2 Composite E SURFACE SED

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1045	AA-516	0-15cm	SAME AS STA AA-473	SAME AS AA-473	NONE	NONE	4181	
1050	AA-335	0-15cm	SAND Fine grain TRACE Silt, TRACE wood FRAGMENTS Slightly moist	LT Yellow BROWN DISCONTINUOUS BROWN & GRAY BANDING UP TO 5 cm	some trash in AREA	NONE	4182	
1055	AA-649	0-15cm	0-2 cm SAND Fine GRAIN TRACE Silt, slightly moist 2-15 cm SAND Fine - med GRAIN, SUB ROUND few GRAVEL fine GRAIN SUB ROUND Slightly moist, slightly SORTED	LT BROWN TO Yellow	NONE	NONE	4183	
1100	AA-767	0-15cm	SAND with GRAVEL med-COARSE GRAIN, TRACE Silt SUB ROUND GRAVEL fine - COARSE GRAIN SUB ROUND, slightly moist	LT Yellow BROWN/GRAY	NONE	NONE	4184	old TREE STUMP NEXT TO Sample LOCATION
1105	AA-751	0-15cm	SAME AS AA-767	SAME AS AA 767	NONE	NONE	4185	
1109	AA-593	0-15cm	GRAVEL with SAND Fine - COARSE GRAIN GRAVEL SUB ROUND, Fine - med SAND SUB ROUND	LT BROWN TO Yellow/GRAY	NONE	NONE	4186	

Samplers:

BOSSBURG FLAT SURFACE SEDIMENT LOGS

integral consulting inc.

Bossburg Flat – Composite A

CAMERA = ~~Fuji Fix~~ JKo
Canon PowerShot (personal camera, JKo)

SURFACE SAMPLE LOG

Date: 4/25/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0941	BF-87	15 (0-15)	Fine sand, crusted top layer (¼-½")	brown/light brown	minor	none	103-0080	Single Strata, some mottling, few pebbles below crusted layer
0950	BF-66	15 (0-15)	Fine sand/silty loam, crusted top layer (¼-½")	brown/light brown	lots of little dead roots	none	103-0081	Single Strata, some mottling, roots below crusted layer
0958	BF-103	15 (0-15)	Fine sand, crusted top layer (¼-½")	grey/light brown	minor	none	103-0082	pebbles, roots, Single strata below crusted layer some mottling
1003	BF-132	15 (0-15)	Fine sand	brown/light brown	minor	none	103-0083	some mottling, few pebbles Single strata-uniform
1009	BF-122	15 (0-15)	Fine sand/loam	light brown/grey	minor	none	103-0084	some mottling, Single strata-uniform some roots
1014	BF-138	15 (0-15)	Fine sand/loam, crusted top layer (¼-½")	light brown/grey	minor/root liter	none	103-0085	some mottling, single strata below crusted layer

Samplers: J.m Kolaszny
Cyrus Bullock

integral consulting inc.

Bossburg Flat - Composite A

Canon Powershot (personal camera, Jke)

SURFACE SAMPLE LOG

Date: 4/26/11 **Page:** 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1021	BF-140	15 (0-15)	fine sand/loam	light brown/ brown	minor leaf debris	None	103-0086	Some mottling Bottom of walleye bed Single strata - uniform
1026	BF-154	15 (0-15)	fine sand/loam Crusted upper layer ($\frac{1}{4}$-$\frac{1}{2}$")	light brown/ brown	minor	none	103-0087	Some mottling; single strata - cmb
1032	BF-329	~~15 cms (0-15)~~ 0-3 4-15	fine sand) top strata (1") fine sand/loam bottom layer	light gray light brown/ brown	minor debris throughout	none	103-0088	top layer No mottling 2nd layer - Some mottling, few pebbles
1040	BF-363	~~15 cms (0-15)~~ 0-3 4-15	fine sand top strata (1") fine sand/loam bottom layer	light gray light brown	Minor	none	103-0089	top layer no mottling, Some pebbles 2nd layer Some mottling, pebbles
1048	BF-382	~~15 cm (0-15)~~ 0-8 9-10 11-15	Fine sand top strata ($3\frac{1}{2}$") clay loam ~~bottom~~ Strong cmg layer (1") fine sand third layer (bottom)	light gray dark gray light gray	Some wood debris cmb 2nd layer	None	103-0090	top layer Some mottles, few pebbles 2nd layer mottling 3rd layer Some mottles, pebbles
1059	BF-330	15 (0-15)	fine sand	light brown	None	None	103-0091	Steep hillside - lots of rocks, sample between rocks Single Strata - uniform

Samplers: Jim Kalasnar
Lyons Bullock

integral consulting inc.

Bossburg Flat - Composite B

Camera = Canon Powershot (Personal Camera - JK)

SURFACE SAMPLE LOG

Date: 4/25/11 **Page:** 1 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1205	BF-~~1307~~ 335	~~15~~ 5ko						refusal - large rocks / cobble
1211	BF-~~1307~~ 250	0-3 4-15 ~~15 (0-15)~~ cms	Fine sand top layer (1") Fine sandy loam	light grey grey/brown	None	None	103-0092	Reserve list Mottling in second layer
1222	BF-325	15 (0-15)	Fine sand	light grey/ light brown	Minor	None	103-0093	Steep hillside - between large rocks Single stratified uniform small pebbles - some rocks
1227	BF-315	15 (0-15)	Sand dominant with ~~cms~~ lots of gravel/pebbles	light brown	None	None	103-0094	Slight mottling area consist of rock w/ areas of open sand
1234	BF-309	15 (0-15)	Sand dominant w/gravel/pebbles	light brown	None	None	103-0095	Slight mottling area consist of rock w/ areas of open sand
1240	BF-284	0-3 4-15 ~~15 (0-15)~~ cms	Fine sand top layer w/loam (1") Fine sand w/pebbles bottom layer	dark grey brown	None	None	103-0096	top layer No mottling bottom layer slight mottling

Samplers: Jim Kolesar
Cyrus Bullock

integral consulting inc.

Bossbury Flat - composite B

camera = Canon Powershot (personal camera - JK)

SURFACE SAMPLE LOG

Date: 4/25/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1349	BF-239	15 (0-15)	fine sand w/ pebbles & gravel	light brown/ brown	none	none	103-0097	Toe of rocky slope Single stratum - uniform pebbles/gravel
1303	BF-276	15 (0-15)	Crusted top layer (1") fine sand w/ pebbles	light brown/ brown	minor-	none	103-0098	Some roots
1314	BF-234	15 (0-15)	Silt clay	light brown/ grey	minor	none	103-0099	Single Stratum Some mottling, little vegetation dark grey mottling
1322	BF-232	15 (0-15)	Top layer - Silt clay (3½") bottom layer - fine sand	brown light grey/ brown	none	none	103-0100	Dark mottling - top layer Some mottling - bottom layer grey
1334	BF-233	cm ~~15~~ 0-3 4-15	Crusted top layer (1") fine sand	brown/ light grey	none	none	103-0101	Some mottling
1341	BF-101	cm 15 0-15	Sandy loam	dark brown/ grey	organic	none	103-0102	lots of organic debris Single Stratum - Some mottling

Samplers: Jim Kolosza
Cyrus Bullock

integral consulting inc.

Bossburg Flat - Composite B

camera = canon powershot (personal camera - SK)

SURFACE SAMPLE LOG

Date: 4/25/11

Page: 3 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1347	BF-103	0-3 +5 cm 4-15	Top upper crust (1") Fine sand w/ pebbles	brown/ light brown	organic	none	103-0103	Mottling throughout

Samplers: Jim Lowsley
Cyrus Bullock

integral consulting inc.

BOSSBURG FLAT BEACH

COMPOSITE C

SURFACE SAMPLE LOG

Date: 4/25/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0951	BF-10	0-15	Surface fine silty sand medium to fine sand to 15cm with some clay	Surface tan. Dark olive brown, w/ mottling to 15cm	Grass sprouts Snail shells	none	001-003	
0957	BF-13	0-15	Argillibarbation at surface fine sand w/ silt. Fine silty sand w/ some clay to 15cm. living root at depth	Light tan mottled dark olive brown w/ reddish brown and gray	Sprouts Grass, snail shells	none	(15) ~~002 003~~ 004	
1003	BF-149	0-15	Surface fine silty sand. Medium to fine silty sand with subround pebbles and rocks up to 7.5cm. Composition uniform through 15 ~~cm~~ Mottling with silt and clay	Surface cold-brown. Brown to dark olive to dark brown to 15cm	Pine needles grass, moss, sprouts Snail shells	none	005	
1010	BF-192	0-15	Surface coarse to medium sand with gravel Coarse to medium sand w/ subround gravel and rocks up to 11cm to depth of 15cm, w/ mottled clay & silt	Light tan surface. Brown to light brown and dark olive to 15cm	Pine needles sprouts twigs, Snail shells	none	006, 007	
1018	BF-197	0-15	Argillibarbation at surface with silty sand. Medium to fine silty sand to 15cm	Light tan at surface, Olive brown w/ mottling to light to brown 15cm	Grass detritus, sprouts Snail shells	none	008	
1025	B-227	0-15	Surface medium to fine sand with areas of silty sand Medium to fine sand layered with silty sand to 15cm some roots	Light tan to Dark olive brown to light brown	Pine needles, Snail shells grass detritus sprouts	none	009, 010	

Samplers: IAN SQUASHOFF
MICHAEL BAXTER

integral consulting inc.

Bossburg Flat Beach

Composite C

SURFACE SAMPLE LOG

Date: 4/25/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1032	BF-179	0-15	surface fine silty sand. Fine silty sand w/ clay to 15cm	light grey at surface Brown to light brown to 15cm	none	none	~~010~~ 011	
1037	BF-209	0-15	Argillibturbation at surface coarse to medium sand w/ silt. Clump of roots at surface to 5cm. Medium to fine sand w/ bands of silt and clay to 15cm	light tan surface. Dark olive brown with layers of tan and reddish brown	Snail shells, glass and rest 1.5" shard	none	012	
1043	BF-249	0-15	Surface medium to fine silty sand w/ clay with angular and subround gravel to 1cm. From 0-7cm silt w/ clay 7-11 medium to fine sand 11-15 mottling medium to fine sand w/ silt & clay	surface tan 0-7cm dark olive brown 7-11cm brown 11-15cm brown dark olive brown	Snail shells, sprouts, pine needles grass debris glass shard	none	013	
1051	BF288	0-15	Surface metabasite pebble 3-4mm fine silty sand w/ subround gravel to 7cm. Mixture coarse to medium sand w/ silt and clay and subround gravel to 3.0cm. coarse (1S)	olive brown to light tan Light brown	pine needles Snail shell grass debris charcoal 1/2" piece	~~none~~	014	
1058	BF-285	0-15	Surface medium to ~~fine~~ coarse sand w/ gravel (angular) and round rocks to 10cm. Medium to fine Sand with silt and clay w/ ~~pebbles~~ round pebbles To 1.5cm. Consistent to 15cm	light tan at surface Redish brown to dark olive to 15cm	charcoal bark fragments grass shard pine needles	none	015	
1108	BF-334	0-15	Surface fine to coarse sand with gravel with rocks greater than 15cm. Medium to fine sand with gravel to 11cm, angular to subround. rocks and cemented rocks from old foundation debris historical (1S)	light tan at surface light brown to brown to 15cm	pine needles and cones,	none	016	

Samplers:

integral consulting inc.

BOSSBURG FLATS BEACH (13)

COMPOSITE D

CAMERA DROID PHONE

SURFACE SAMPLE LOG

Date: 4/25/11 **Page:** 1 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1210	BF-300 ~~BF-36~~ (13)	~~0-15~~					~~017~~	rejected. Bank is too steep to start out with saturated silty sand that easily slumped down. It is a hazardous area for sampling.
1214	BF-321 reserve	0-15	Surface ~~medium~~ to fine sand with angular gravel ~~and~~ round rocks greater than 15cm. Medium to fine sand with silt with rounded rocks up to 15cm. clump of pine needles at depth	Surface light tan Brown to light brown to 15cm	pine needles small twigs	none	017	
1224	BF-327	~~0-15~~						Rejected. Cobble area
1229	BF-269 reserve	0-15	Fine silty sand w/ angular and subround gravel up to 0.5cm and 10cm round rocks. Fine silty sand to 3.5cm 3.5-15cm is clay	Surface dark brown 0cm to 3.5cm dark olive brown to reddish brown 3.5-15cm ~~gray~~	none	none	018-020	
1241	BF-305	0-15	organic turbation at surface Some angular and subround gravel and rocks up to 6cm and fine silty sand. Medium to fine sand, with angular and subround rocks up to 5cm all the way to 15cm depth	Surface light tan Brown to 15cm	pine needles snail shells pine cone sprouts	none	021, 022	
1252	BF-325	0-15	Surface medium to fine silty sand w/ rocks greater than 15cm. Medium to fine silty sand with subround rocks to 5.5cm. consistent to 15cm depth.	light tan Silt free. light brown to brown to black to 15cm	glass shards pine needles bark, leaves sprouts	none	023	collected mistakenly from composite B site. Original target was BF-235. A transposing error. will not collect one

Samplers: IAN SIVAKOFF
MICHAEL BAXTER

Sample ~~elsewhere~~ (13) at BF-235 to maintain a number of 12 samples per composite

BOSSBURG FLATS BEACH
COMPOSITE D

CAMERA DROID PHONE

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4/25/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1302	BF241	0-15	surface medium to fine sand with angular gravel - pto 3.5cm Medium to fine silty sand to 15cm	Light tan surface. Reddish brown to green to dark olive to 15cm	bark, snail shells, pine needles	none	024	
1324	BF199	0-15	surface fine sand w/ silt rootlets. Medium to fine silty sand to 15cm	surface is light tan. Olive brown with mottling of light brown to 15cm	snail shells sprouts	none	025	
1333	BF218	0-15	surface subround to round rocks greater than 15cm Medium to fine silty sand at surface to 15cm depth	light tan at surface brown to light brown to 15cm	pine needles, sprouts, snail shells,	none	026	
1340	BF-172	0-15	surface medium to fine silty sand, rootlets. Medium to fine silty sand to 15cm	light tan surface Brown to reddish brown to 15cm	dried aquatic vegetation, sprouts, snail shells	none	027	
1352	BF-190	0-15	surface coarse to medium silty sand, with angular, subround and round rocks up to 8.5cm, all continuous to 15cm	light tan at surface Brown to 15cm	fine muddy	none	028	
1358	BF-191	0-15	from surface to 15cm coarse to medium sand with angular to subround to round up to 10cm	light tan surface Brown to 15cm	pine needles snail shells sprouts	none	029	

Samplers: IAN STOPAKOFF
MICHAEL BAXTER

integral consulting inc.

BOSSBOOR FLAT BEACH

COMPOSITE D

SURFACE SAMPLE LOG

Date: 9/25/11 **Page:** 3 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1403	BF-12b	0-15	fragill disturbed at surface silty clay w/ fine sand to 15cm. some rootlets	light tan at surface light tan to brown to 15cm	fresh water vegetation sprouts	none	030	
1411	BF-36	0-15	fragill disturbation at surface 0-15cm medium to fine sand to 15cm	light tan surface brown to 15cm	small shells, sprouts	none	031	

Samplers: IAN SLIPAKOFF
MICHAEL BARKER

integral consulting inc.

Bass bay Flat

Composite E

camera = Cannon

SURFACE SAMPLE LOG

Date: 4-25-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1154	BF-326	0-3 3-6	F to M Sand F to M Sand w/ gravel coarse gravel	Light to dark Brown	No No	No No	#52	
1202	BF-322	0-6	F to M Sand w/ medium gravel rounded	Light to dark Brown	No	No	#53	
1213	BF-304	0-6	F to M Sand w/ F to Coarse gravel rounded - sub angular	Light to dark Brown	No	No	#54	
1222	BF-296	0-3 3-6	F to M Sand w/gravel round to sub angular Medium Sand	Light to dark Brown	No	No	#55	
1228	BF-251	0-6	F to M Sand	Light to dark Brown	No	No	#56	
1235	BF-239	0-4 4-6	Medium Sand medium Sand w/silt	Light Brown dark Brown	No ~~No~~ yes	No No	#57	

Samplers: Jeff Nimmerdahl
Mike Duffield

integral consulting inc.

Bossburg Flat
Surface E Composite

Camera = Canon

SURFACE SAMPLE LOG

Date: 4-25-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1245	BF-253	0-6	F to M Sand	Light to Dark Brown	yes wood chips	No	#58	large wood chucks
1250	BF-215	0-6	F to M Sand	"	No	No	#59	some redox concentration
1302	BF-137	0-6	F to M Sand w/ silt	"	No	No	#60	
1315	BF-49	0-6	M Sand ~~w/ gr~~	Dark Brown	yes ~~wood~~ organics	No	#61	
1322	BF-45	0-6	F to M Sand w/ gravel rounded to subangular	Light to Dark Brown	yes wood chips	No	#62	
1331	BF-133	0-6	F to C Sand w/ F to C gravel (2½") rounded to subround	Medium to Dark Brown	No	No	#63	

Samplers: Jeff Ninnemann
Mike Duffield

BRADBURY BEACH SURFACE SEDIMENT LOGS

integral consulting inc.

Bradbury Beach - Composite A

Camera - Fuji Pix E550

SURFACE SAMPLE LOG

Date: 7-29-11

Page: 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0921	BB-527	0-15	medium sand w/ pebbles single Stratta	lt. grey	none	none	100-7176	single stratta
0927	BB-503	0-15	medium sand w/ pebbles	lt. grey	none	none	100-7177	single stratta
0934	BB-379	0-15	0-10cm: Medium sand w/ pebbles & gravel 11-15cm Silty Clay	0-10cm: grey 11-15cm: Brown	Minor organic debris	none	100-~~70~~ 7178	slight mottling in 11-15cm
0940	BB-345	0-15	0-2cm: Medium sand w/ pebbles & gravel 3-15cm: Silty Clay	0-2cm: grey 3-15cm: dark Brown	none	none	100-7179	no mottling
0946	BB-325	0-15	0-1cm: medium sand w/ gravel & pebbles 2-15cm: Silty Clay	0-1cm: grey 2-15cm: Dark Brown	none	none	100-7180	no mottling
0951	BB-253	0-15	Medium sand	Light grey	none	none	100-7181	single stratit red mottling

Samplers:

J. Kolosiar

C. Bullock

integral consulting inc.

Bradbury Bench - Composite A

camera - FinePix E550

SURFACE SAMPLE LOG

Date: 4-29-11 **Page:** 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0958	BB-143	0-15	0-1cm: Silt & Fine Sand 2-15 cm: Medium Sand w/ trace gravels	0-1 cm: Lt. grey 2-15 cm: grey	none	none	100 - 7182	mottling in 2-15cm red
1005	BB-179	0-15	0-7 cm: Fine Sand 8-15 cm: Silty clay	0-7 cm: Lt. grey grey 8-15 cm Brown	organic debris ~~5ko~~	none	100 - 7183	dark grey and red mottling in 8-15 cm.
1014	BB-155	0-15	0-12 cm: Fine Sand 13-15 cm: Silty clay some pebbles mix w/ fine sands	0-12 cm: grey 13-15 cm: Brown	none	none	100 - 7184	~~Fine is actual~~ 5ko
1018	BB-184	0-15	Fine Sand w/ trace pebbles	grey	none	none	100 - 7185	single strata
1021	BB-52	0-15	Fine sand w/ trace pebbles	grey	none	none	100 - 7186	single strata
1026	BB-49	0-15	0-4cm: Fine Sand trace pebbles 5-15 cm: Silty clay	0-4 cm: Lt. grey 5-15 cm: brown	organic debris	none	100 - 7187	red and dark grey mottling in 5-15 cm.

Samplers:

J. Kalosziak

C. Bullock

integral consulting inc.

Bradbury Beach - Composite B
camera = FinePix F550

SURFACE SAMPLE LOG

Date: 4-29-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1239	BB-529	0-15	0-3cm: Medium Sand w/ lots of Fine gravel 4-15 cm: Silty Clay w/ lots of fine gravel	0-3cm: Lt. Gray 4-15cm: dark Brown	None	none	100-7188	
1247	BB-431	0-15	0-7cm - Fine sand w/ fine gravel 8-15cm: Silt Clay mixed w/ Fine sand & gravel	0-7cm: grey 8-15cm: Lt. Brn.	minor debris At 0-7cm	none	100-7189	
1255	BB-~~340~~ 339	0-15	0-2cm = medium Sand w/ fine gravel 3-15cm: Silty Clay w/ Fine and medium gravel	0-2cm: grey 3-15cm: dark Brown	~~none~~ organic debris	none	100-7190	red mottling in 3-15cm
1304	BB-268	0-15	0-3cm: Medium Sand some fine gravel 4-15cm: Silty Clay some fine gravel	0-3cm. Lt. grey 4-15cm: Brown	none	none	100-7191	red mottling in 4-15cm
1309	BB-165	@-15	Silty clay mixed heavily with sand and fine gravel	Brown	none	none	100-7192	Light red mottling
1317	BB-254	0-15	0-1 cm - Fine sand 2-15 cm - Silt Clay w/ rocks and med. gravel	0-1 cm: Lt. grey 2-15cm: Dark Brown	None	none	100-7193	slight reddish mottling

Samplers: J.M Kolodzint
Cyrus Bullock

Bradbury Beach – Composite B

Camera = FinePix E550

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4-29-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1324	BB-203	0-15	0-2 cm: Fine Sand w/ ~~fine~~ Fine gravel and rocks 3-15 cm: Silty Clay w/ fine sands and gravel	0-2cm: grey 3-15cm: Black and grey	none	none	100-7194	
1330	BB-139	0-15	Fine Sand	grey	none	none	100-7195	dark grey and red mottling
1336	BB-97	0-15	Silty Clay w/ fine sand	Lt. Brown	organic debris	none	100-7196	red and dark grey mottling
1341	BB-27	0-15	0-4 cm: Fine Sand 5-15 cm: Silt Clay w/ some fine gravel.	0-4 cm: grey 5-15 cm: Brown	none	none	100-7197	red mottling in 5-15cm
1348	BB-15	0-15	0-1 cm: Fine Sand 2-15 cm: Silty Clay	0-1 cm: grey 2-15 cm: dark Brown	none	none	100-7198	red and dark grey mottling in 2-15 cm
1350	BB-50	0-15	Fine sand w/ some silty Clay	Light grey to Brown	minor organic debris	none	100-7199	

Samplers: Jim Kolosznyi
Cyrus Bullock

BRADBURY BEACH

COMPOSITE C

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4/29/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0931	BB553	0-15	Arguillitorbation and sand ripples with fine silty sand at surface 0-5 coarse to fine silty sand 5-15 sandy silt w/ sub angular to sub round 2.5cm gravel	light tan to olive brown olive brown brown	bark, mussel shell, sea lettuce	none	001	
0941	BB592	0-15	Surface with sand ripples w/ coarse to medium sand w/ angular, subangular and round gravel to 11cm diameter to 9cm depth 9-15 fine silty sand w/ coarse gravel	light tan to brown light brown	twigs, bark	none	002	
0951	BB459	0-15	Surface coarse to medium sand to 7cm. At 7cm 1cm layer of silty sand. 7cm-15cm coarse to medium sand w/ angular 0.5cm gravel	light tan light brown	bark,	none	003	
1001	BB380	0-15						reject cobble
1007	BB318 Alternate	0-15	Surface coarse to medium sand w/ coarse to medium sub round and angular gravel to 2.5cm diam. to 3cm in depth 3-12cm dark brown organic clayey/silty clay loam	light tan dark brown	twigs	none	004	
1020	BB361	0-15	12-15cm dark brown silty clay Surface coarse to medium sand with angular and sub round gravel to 8cm depth 8-15 clayish silt w/ coarse to medium angular to subround gravel to 5cm diam	light tan brown	none	none	005	

Samplers: IAN STUBBCOFF
MICHAEL BAXTER

integral consulting inc.

BRADBURY BEACH

COMPOSITE C

SURFACE SAMPLE LOG

Date: 4/29/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1031	BB340	0-15	Surface coarse to medium sand w/ angular and subround gravel 1 to 3.5cm diam to 12cm depth 13-15cm clayish silt w/ angular to rnd gravel to 3.5cm	light tan brown	leaves,	none	006-007	
1040	BB164	0-15	Surface medium to fine sand w/ sand ripples to 0.5cm depth 0.5-2.5cm silty sand 2.5-7.5cm coarse to medium sand 7.5-11.0cm silty sand 11-12cm mix medium to fine sand and fine silty sand 12-13cm clay 13-15 fine silty sand	light tan dark brown light tan dark brown light brown grey light tan	bark, pine needles	none	008 ~~006~~ ~~007~~ (15)	
1049	BB124	0-15	Surface medium to fine sand and fine silty sand w/ angular-subangular to 4cm depth 4-15 - sandy clay (organic)	light tan to light brown dark brown.	pine cones, twigs, bark	none	009	
1057	BB69	0-15	Same as above for surface 4-11 - brown silty clay 11-15 - Sandy clay and clay	Same as above dark brown	none	none	010	
1107	BB209	0-15	Surface medium to fine sand subround gravel to 0.75cm to 14cm depth. 14-15cm same as above w/ subangular rocks to 3.5cm diameter	light tan light brown	twigs, leaves,	none	011	

Samplers: IAN SCHRAGOFF
MICHAEL BAXTER

integral consulting inc.

BRADBURY BEACH
COMPOSITE C

SURFACE SAMPLE LOG

Date: 4/29/11 **Page:** 3 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1116	BB160	0-15	Surface medium to fine sand angular gravel to 1.5cm to 3cm depth. 3-5cm - medium to fine sand 5-12cm - stratified medium to fine sand 12-15cm - fine silty sand	light tan light brown mottled light tan to dark grey	bark	none	012	
1128	BB163	0-15	Surface medium to fine sand angular to sub rounded gravel to 4cm to 5cm depth 5-11cm mostly gravel ~~to 6cm~~ to 6cm mixed with medium to fine sand 11-14cm - medium to fine sand 14-15cm - silty fine sand	light brown light tan light brown and dark grey light brown light other brown	leaf	none	013	

Samplers: IAN STUPAKOFF
MICHAEL BARTON

integral consulting inc.

BRADBURY BEACH

COMPOSITE D

SURFACE SAMPLE LOG

Date: 4/29/11 **Page:** 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1235	~~BBD~~ (15) BB541	0-15	Surface argillitorbation coarse sand and fine silty/ angular and sub-angular gravel to 5cm down to 7cm depth 7-15 same as above but with fine silty sand	light tan brown	roots, twigs, gravel shell, mussell shell	none	014	
1243	BB467	0-15	Surface medium to coarse sand w/ angular and subangular gravel up to 2cm and to 5cm depth 5cm - band of gravel 5-15cm - medium to fine silty sand	light tan striated light brown to brown to olive brown	none	none	015	
1249	BB417	0-15	Surface coarse to medium sand to 8cm depth 8-13cm fine silty sand 13-15cm - coarse to medium sand w/ coarse angular and subangular gravel to 3cm	light tan olive brown light browns and grey	fine needles, sprouts	none	016	
1255	BB387	0-15	Surface w/ sand ripples, medium to coarse sand and silty sand to 15cm striated with medium silty sand lenses	light tan and olive brown	twigs, pine needles	none	017	
1303	BB342	0-15	Surface medium to coarse sand w/ angular rock >15cm coarse gravel angular and subangular to 7cm depth 7-15cm fine silty sand w/ medium to fine subangular and sub	light tan olive browns	none	none	018	sand gravel and cobble to 5cm
1310	BB169	0-15	Surface coarse to medium sand w/gravel angular to subangular to 0-1cm depth. 1-9cm fine silty sand 9-15cm silty clay w/ sub angular to subround gravel to 1.5cm	light tan light brown mottled brown light grey and reddish brown	dried fresh water vegetation pine needle	none	019	

Samplers: IAN STUDAKOFF
MICHAEL BAXTER

integral consulting inc.

BRADBURY BEACH

COMPOSITE D

SURFACE SAMPLE LOG

Date: 4/29/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1320	BB230	0-15	Surface medium to fine sand to 9 cm depth 9-15cm same as above w/ angular and subangular gravel >1cm.	light tan light brown	none	none	020, 021	
1326	BB286	0-15	Surface medium to fine sand to 3cm depth 3-12cm coarse to medium sand with >15cm basalt rock 12-15cm silty sand w/ subangular gravel to 3cm	light tan light brown brown	leaves, twigs, bark	none	022	picture labeled as 131 instead of 286
1334	BB131	0-15	Surface medium to fine sand to 3cm. 3-10cm - medium to fine sand 10-12cm - Sandy silt 12-14cm - medium to fine sand 14-15cm - sandy silt	light tan light brown olive brown reddish brown olive brown	rootlets twigs, snail shell	none	023	~~bbs~~ picture has a snail shell from surface
1345	BB20	0-15	evidence of bioturbation at surface covered with medium to coarse sand, silty sand underneath 0-15cm, fine silty sand	light tan brown	none	none	024, 025	
1352	BB264	0-15	Surface to 15cm medium to fine sand w/ angular 1.5cm gravel	light tan brown	pine needles bark, alder flowers/seeds	none	026	
1400	BB140	0-15	Surface coarse to medium sand with angular gravel to 8 cm to 5cm depth 5-15cm medium to fine sand	light tan light brown	yellow glazeware red brick fragments leaf.	none	027	

Samplers: IAN STUDNICKOFF
MICHAEL BAXTER

integral consulting inc.

Broadway Beach

Composite E

Camera = Canon

SURFACE SAMPLE LOG

Date: 4-29-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1240	BB -563	0-6	Silt w/ Fine Sand & gravel (2")	Brown	No	No	#120	
1246	BB -555	0-2 2-6	Medium Sand w gravel (1") Silty Loam w/ gravel (1")	Light Brown/Grey Dark Brown	No	No	#121	
1255	BB -456	0-6	Medium Sand w/gravel (1")	Light Brown	No	No	#122	
1302	BB -505	0-6	Medium Sand w/ medium gravel (1")	Light Brown	No	No	#123	
1308	BB -407	0-6	Medium Sand w/ Fine to Medium gravel (1") Subangular to Rounded	Light Brown	No	No	~~#123~~ gm 125	
1315	BB -311	0-4 4-6	Medium Sand w/ Fine gravel (1/2") Silt w/ Fine Sand	Light Brown Dark Brown	No	No	#126	

Samplers: Mike Duffield
Jeff Nimmermann

integral consulting inc.

Bradbury Beach

Composite E

Camera = Cannon

SURFACE SAMPLE LOG

Date: 4-29-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1322	BB -266	0-4	Fine to Medium Sand	Light Brown	No	No	# 127	
		4-6	Silt w/ Fine Sand	Brown				
1330	BB -378	0-1	F to M Sand w/ gr F to C gravel (3")	Light Brown	No	No	#128	
		1-6	Silt w/ M to C Sand & F to C gravel (3")	Brown				
1340	BB -3	0-6	Fine Sand w/ Silt	Brown	No	No	#129	
1347	BB -13	0-6	Fine to Medium Sand	Light Brown	No	No	#~~130~~ 131	
1354	BB -60	0-6	Find Sand w/ silt	Brownish red	No	No	#132	
1402	BB -158	0-6	Medium Sand	Light Brown	No	No	#133	

Samplers: Mike Duffield
Jeff Nimerman

COLVILLE FLATS SURFACE SEDIMENT LOGS

integral consulting inc.

Colville Flats
Composite A

Camera - FinePix E550

SURFACE SAMPLE LOG

Date: 9/27/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0959	CF-385	0-15	Silty Clay	dark grey	None	None	100-7128	Mottling - dark red/rusty color Single Strata - uniform
1007	CF-143	0-15	Silt	grey	None	None	100-7129	Mottling Single Strata - uniform
1013	CF-696	0-15	Silt	grey/ dark grey	None	None	100-7130	Mottling - dark red color Single Strata - uniform
1022	CF-440	0-15	Silt	light grey/ light brown	None	None	100-7131	Heavy mottling - dark red color Single strata - uniform
1040	CF-351	0-15	Silt	light grey/ brown	None	None	100-7132	Mottling - dark red color Single strata - uniform
1051	CF-580	0-15	Silt	light grey/ light brown	None	None	100-7133	Heavy mottling Single strata - uniform

Samplers: Jim Icicleer
Cyrus Bullock

integral consulting inc.

Colville Flats
Composite A

Canon - FinePix E550

SURFACE SAMPLE LOG

Date: 4/27/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1056	CF-447	0-15	Silt	light grey/ light brown	none	none	100-7134	Mottling - red/grey color Single Strata - uniform
1105	CF-1037	0-12 12-15	Silty sand sand/fine sand	light grey light brown	None	None	100-7135	0-12 - heavy mottling
1113	CF-770	0-7 8-15	Sand/fine sand Silt some gravels	light grey brown	minor-rocks none	None	100-7136	Mottling throughout
1123	CF-34	0-15	Silt	dark grey	minor-roots	None	100-7137	Some mottling Single Strata - uniform
1129	CF-122	0-15	Silt	grey/light brown	minor-roots	None	100-7138	some mottling Single strata - uniform
1136	CF-133	0-15	Silt w/ gravel & pebbles	dark brown	None	None	100-7139	Single strata - uniform

Samplers: Jim Kalocsay
Cyrus Belleci

integral consulting inc.

Colville Flats
Composite B

Camera - Fine Pix E550

SURFACE SAMPLE LOG

Date: 4/27/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1251	CF-948	0-15	Silt/clay	dark grey	none	none	100-7140	Mottling Single Strata - uniform
1257	CF-953	0-15	Silt	dark grey	minor-organic	none	100-7141	Mottling Single Strata - uniform
1307	CF-382	0-15	Silt	dark grey	None	None	100-7142	Mottling - dark red color Single strata - uniform
1316	CF-251	0-15	Silt	light brown	None	None	100-7143	Mottling - grey color Single Strata - uniform
1320	CF-155	0-15	Silt, silt/clay	dark brown	None	None	100-7144	Mottling - grey color Single Strata - uniform
1330	CF-48	0-15	Silt	dark grey/brown	minor-organic	None	100-7145	Mottling Single Strata - uniform

Samplers: Jim Hollowzer
Cyrus Bullock

integral consulting inc.

Coluville Flats
Composite B

Camera - FinePix E550

SURFACE SAMPLE LOG

Date: 4/27/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1343	CF-540	0-15	Silt	grey/light brown	roots - organics	None	100-7146	Mottling Single strata - uniform
1349	CF-673	0-15	Silt	grey/ light brown	minor - roots	None	100-7147	Mottling Single strata - uniform
1358	CF-588	0-7 8-15	Silt Sands/ gravels - coarse sand	grey brown	None	None	100-7148	8-15: mottling
1406	CF-364	0-15	Silt/fine sand - lots of gravel	light brown/ grey	minor - organic	None	100-7149	Mottling & gravel throughout Single strata - uniform
1416	CF-269	~~0-15~~ cm 0-5 6-15	Silt/fine sand - lots of gravel Coarse sand - gravel/pebbles	dark grey/ brown dark brown	None	None	100-7150	mottling & gravel throughout
1423	CF-56	0-15	Silt	dark grey/ brown	minor - organic	None	100-7151	Mottling Single strata - uniform

Samplers: Jim Kaiser
Chris Bullock

COLVILLE FLATS BEACH

COMPOSITE C

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4/27/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1002	CF-185	0-15	Argillitorbation at surface surface to 15cm. Fine silty sand w/ clay	olive brown surface grey, olive brown and brown to 15cm	none	none	001	
1010	CF-909	0-15	Surface medium to fine sand and silty fine sand. 0-5cm medium to fine sand w/ silt 5-15cm (13) silty clay	surface tan mottled w/ olive brown 0-5cm same as surface 5-15cm dark olive brown	pine needle twigs bird feather and grass	none	002	
1020	CF-792	0-15	Surface to 15cm fine silty sand	brown	none	none	003	sensitive area digging gently and with shallow scoops
1032	CF-800	0-15	Surface fine silty sand 1-9cm silt with clay 9-15cm fine sand w/ silt	reddish olive, and light brown 1-9 olive brown and grey 9-15cm brown	twigs and sprouts snail shells	none	004	
1041	CF-929	0-15	Surface fine silty sand 0-15cm fine sand with silt and clay	light tan to light brown Dark olive brown, grey and brown	Snail shells sprouts	none	005	
1052	CF-852	0-15	Surface silt, subround and round (scabble) >15cm. 0-15cm medium to fine sand with silt, with angular, subround round gravel 4-6cm	dark olive brown to brown to 15cm	leaves, sprouts,	none	006	

Samplers: Ian Sivertsen
Michael Baxter

integral consulting inc.

COLVILLE FLATS BEACH

COMPOSITE C

SURFACE SAMPLE LOG

Date: 4/27/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1103	CF1057	0-15	surface medium to fine sand with silt, 0-15cm fine sand w/silt	light tan at surface brown to 15cm	mussel shell, clam siphon debris, bark.	none	007	
1110	CF544	0-15	Coarse to medium gravel w/ silty sand, and cobble to 12cm. 0-15cm - Cobble >15cm, coarse to medium subround to round gravel, mottled coarse to medium sand, clayish silt	light tan to olive brown, Light brown to brown and olive brown	dried organic vegetation, sprouts	none	008	
1127	CF209	0-15	surface fine sand w/silt angular to subround coarse gravel 0-15cm clayish silt	light tan to olive brown brown	twigs, sprouts	none	009	
1135	CF314	0-15	Argillaceous bioturbation at surface mostly silt w/ fine sand 0-1cm. 1-15cm coarse to medium sand w/ silt	olive brown Brown and light brown	Sprouts	none	010	
1146	CF502 ~~CF502~~ (13)	0-15	fine silty sand to 2cm 2-8cm silt w/ clay 8-15cm medium to fine sand w/ subround to round gravel up to 4.5cm	tan to olive brown 2-8cm - dark olive brown 8-15cm - red brown, grey	charred organic vegetation sprouts	none	011	
1154	CF96	0-15	Surface coarse to medium sand to 1.5cm. Coarse to medium angular and subround gravel to 40cm in diameter. 1.5 to 15cm fine sand with silt (charcoal at 3cm.	light tan Brown	grass, pine cone.	none	012	

Samplers: IAN SVOBODNOFF
MICHAEL BARNES

COLVILLE FLATS BEACH

COMPOSITE D

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4/27/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1253	CF140	0-15	Arrowillitur bation at surface 0-3cm fine silty sand 3-15cm fine sand with silt and clay	brown to reddish brown & dark olive Light brown to brown & dark olive	sprouts	none	013	
1300	CF76	0-15	Surface fine sand w/ silt to 2 cm. 2-15cm fine sand	light tan to dark olive brown to reddish brown	none	none	014	
1313	CF566	0-15	Surface fine sand w/ silt 0-15cm Fine sand w/ silt and silty clay	light tan to olive brown. light brown to reddish brown & olive	Snail shell	none	015	
1316	CF828	0-15	Surface fine sand w/ silt 0-15cm Fine sand w/ silt and clay	light tan light brown to mottled brown to grey	none	none	016	
1327	CF729	0-15	Surface fine sand w/ silt 0-15cm fine sand w/ silt and silt w/ clay	olive & fresh water vegetation & snail shells	light tan light brown to brown and grey	none	017	
1335	CF1005	0-15	Surface fine sand w/ silt and arrowillitur bation. 0-15cm Fine sand w/ silt	light tan Reddish brown & olive	leaves sprouts	none	018	

Samplers: JON STUDNICKA

MICHAEL BAXTER

COLVILLE FLATS BEACH
COMPOSITE D

integral consulting inc.

SURFACE SAMPLE LOG

Date: 9/27/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1346	~~CF673~~ (15) CF715	0-15	fine sand w/silt at surface 0-15cm fine sand w/silt	light tan reddish to olive brown	straw sprouts snail shells	none	019	
1350	CF260	0-15	Argillaturbation at surface fine sandy ~~silt~~ silt 0-15cm sandy silt and clay bed worm	olive brown brown to olive to grey	snail shells dried fresh water veg.	none	020	
1402	CF311	0-15	Argillitrbation at surface with gravel visible at 7cm dia. sandy silt to 15cm w/rocks	olive brown to 15cm	dried fresh water veg. sprout snail shell	none	021	
1422	CF-681	0-15	Argillaturbation fine sand w/ silt and cobbles greater than 15cm. Medium to fine sand with angular to subrounded gravel up to 4cm diameter to 15cm depth	Light tan olive brown to reddish brown	dried out vegetation sprouts	none	022	
1433	CF-684	0-15	Surface coarse to fine sand to 2cm 2-7cm medium to fine sand 7-15cm fine sand w/silt	light tan light brown to reddish brown.	none	none	023	
1441	CF-130	0-15	Surface coarse to medium sand 0-15cm coarse to medium sand	tan light tan	leaves, twigs pine needle bark	none	024	

Samplers: IAN SIVAKOFF
MICHAEL BAXTER

integral consulting inc.

Colville Flats Composite E

SURFACE SAMPLE LOG

Date: 4-27-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1251	CF-180	0-6	Silts w/ Fine Sand	Brown	No	No	#86	ready concentration ~~depletion~~ depletion pr
1305	CF-554	0-6	Same as above	Light Brown to Brown	No	No	#87	windy - rainy
1312 ~~1317 1311~~	CF-421	0-6	Same as above	Brown	No	No	#88	
1319	CF-259	0-6	Fine Sand	Light Brown	No	No	#89	
1328	CF-928	0-2 2-6	~~Fine Sand w/ silts~~ Silts w/ fine sand Fine Sand w/ silts	~~Brown~~ Light Brown	No	No	#90	
1343	CF-309	0-6	Silts w/ Fine Sands	Brown to Dark Brown	No	No	#91	

Samplers: Jeff Nimmenguan
Mike Duffield

integral consulting inc.

Colville Flats
Composite E

SURFACE SAMPLE LOG

Date: 4-27-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1350	CF-23	0-2	Medium Sand	Light Brown	NO	No	#92	
		2-6	Silts w/ Fine Sand	Brown				
1405	CF-265	0-4	Silts w/ Fine Sand	brown	No	No	#93	
		4-6	Silts	Light Brown				
1415	CF-58	0-2	Medium Sand w/cobbles	Light Brown	No	No	#94	cobbles throughout layers
		2-4	Silts w/ Fine sand & cobbles	reddish Brown				
		4-6	Silt w/cobbles	Light Brown				
1426	CF-274	0-6	F to M sand	Light Brown	No	No	#95	
1436	CF-93	0-4	Medium Sand w/cobbles	Light Brown	No	No	#96	
		4-6	Silt w/Fine Sand & Cobbles	Dark Brown				
1446	CF-21	0-3	Fine to Medium Sand w/ F to M gravel (1/2")	Light Brown	No	No	#97	
		3-6	Silt w/fine sand & gravel F to C (2 1/2")	Brown				

Samplers: Jeff Ninnemann
Mike Duffield

COLVILLE RIVER SURFACE SEDIMENT LOGS

Composite A
Colville River - Central Fine Area

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4-28-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0956	CR-355							refusal - heavy cobble on slope
0958	CR 310	0-15	0-2 cm coarse sand/pebbles 3-15 cm silty clay	Lt grey Brown	None	None	100-7152	reserve layer 0-2 - Lt grey layer 3-15 - Brown w/ dk grey mottles
1007	CR-353							refusal - heavy spike cobble and steep slope
1013	CR-225	0-15	0-1 cm coarse sand 2-15 cm silty clay w/ slight mottling	0-1 cm Lt. grey 2-15 cm Lt. brown	none	none	100-7153	reserve
1020	CR-305	0-15	Coarse sand w/ small pebble	grey to Lt. Brn.	none	none	100-7154	
1027	CR 303	0-15	0-3 cm Coarse sand w/ cobble 4-15 cm silty clay w/ small pebbles w/ mottling	0-3cm lt. grey 4-15 Brown	none	None	100-7155	

Samplers:
J. Kolosza
C. Bullock

integral consulting inc.

Composite A

Colville River - camera = Fuji FinePix E550

SURFACE SAMPLE LOG

Date: 4-28-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1032	CR-315	0-15	0-1 cm Medium sand, pebbles 1-15 - Silty Clay w/ pebbles & gravel mottling	0-1 cm Lt. grey 1-15 cm Lt. Brn.	none	none	100-7156	pebbles throughout layers
1039	CR-226	0-15	0-1 cm - medium sand 1-15 cm - silty clay slight mottling some pebbles	0-1 cm Lt. grey 1-15 cm Lt. Brn.	Minor debris in layer 2	none	100-7157	mottling in dark grey
1047	CR-214	0-15	0-2 cm - med. um/coarse sand w/ pebbles & gravel 3-15 cm - silt minor mottling	0-2 cm. Lt. grey 3-15 cm Lt. Brn.	none	none	100-7158	mottling is reddish
1054	CR-210	0-15	coarse sand w/ pebbles and gravel	dark grey	none	none	100-7159	no mottling
1100	CR-137	0-15	Medium sand, few pebbles	Lt. grey	none	none	100-7160	
1103	CR-108	0-15	medium sand, w/ few pebbles	Lt. grey	none	none	100-7161	

Samplers: J. Koloszar
C. Bullock

Composite 4

Colville River – Camera Fuji Fin Pix E550

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4-28-11

Page: 3 of 7

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1108	CR-129	0-15	medium Sand; w/ few pebbles	lt. grey	none	none	100-7162	
1113	CR-57	0-15	Medium Sand; w/ few pebbles	lt. grey	none	none	100-7163	

Samplers: JKaloszar
C. Bullock

integral consulting inc.

Colville River - Composite B

Fine Rx ESSO

SURFACE SAMPLE LOG

Date: 4-28-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1227	CR-357							Refusal - Heavy cobble & gravel
1236	CR-186	0-15	0-1 cm - Coarse Sand 2-15 cm - Fine Sand w/ some pebbs	0-1 cm Lt. grey 2-15 cm Lt. Brn.	none	none	100-7164	Reserve slight mottling in second layer
1239	CR-257	0-15	medium to coarse sand; lots of pebbles; some gravel	Lt. grey	none	none	100-7165	no mottling
1245	CR-194	0-15	0-1 cm - medium Sand 2-15 cm - Silty Clay	0-1 cm Lt. grey 2-15 cm Lt. Brown	none	none	100-7166	mottling - rusty red in second layer (2-15 cm)
1250	CR-158	0-15	0-1 cm - medium Sand 2-15 - Silty Clay	0-1 cm Lt. grey 2-15 cm Lt. Brn.	none	none	100-7167	mottling - rusty red and dark grey mottling in second layer (2-15 cm)
1257	CR-181	0-15	0-1 cm - Coarse Sand w/ pebbles 2-15 cm - Brown Silty Clay w/ some pebbles w/ red & Grey mottling	0-1 cm Lt. grey 2-15 cm Brown	none	none	100-7168	mottling in second layer (2-15 cm) red & dark grey

Samplers:

T. Koloszar

C. Bullock

integral consulting inc.

Columbia River; Composite B

FinePix E550

SURFACE SAMPLE LOG

Date: 4-28-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1302	CR-183	0-15	0-1 cm - Coarse Sand w/ pebbles 2-15 cm - Silty Clay w/ some pebbles; mottling	0-1 cm: Lt. grey 2-15 cm: Brown	none	none	100 - 7169	mottling 2-15 cm. red and dark grey
1306	CR-117	0-15	medium sand	grey	none	none	100 - 7170	
1310	CR-106	0-15	medium Sand	grey	none	none	100 - 7171	
1314	CR-102	0-15	0-1 cm - medium Sand 2-15 cm - Silty Clay	0-1 cm: Lt. grey 2-15 cm: Brown	none	none	100 - 7172	mottling (2-15 cm) rusty red color
1319	CR-72	0-15	medium Sand	grey	none	none	100 - 3b 71773	
1322	CR-27	0-15	0-8 cm - medium Sand 9-15 cm - Silty Clay w/ mottling	0-8 cm: Lt. grey 9-15 cm: Brown				dark grey mottling at 9-15 cm ? red

Samplers:

JKoloszar

C. Bullock

integral consulting inc.

Colville River - Composite B

FinePix E550

SURFACE SAMPLE LOG

Date: 4-28-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1328	CR-14	0-15	Medium Sand	grey	none	none	100-7175	

Samplers: J. Kolosz
C. Bullock

Colville River Beach

Composite C

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4/28/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0954	CR341	0-15	surface medium to fine sand with angular to subangular gravel up to 3.5cm. 0-15cm medium to fine sand	light tan brown	~~kelp~~ (is) (sprouts)	none	001	
1004	CR324	0-15	surface ~~fine~~ silty sand 0-15cm fine sand with silt cobble 11cm diameter. Gravel angular and subround to 4 cm dia.	~~light brown~~ light brown	~~kelp~~ (is) (sprouts)	none	002	moved 2m inland 250° bearing photo was labeled as CR-310 instead
1010	CR-310	0-15	surface fine silty sand w/ subround gravel up to 3.5cm 0-15cm fine silty ~~sand~~	light tan brown	sprouts	none	003	
1015	CR-275	0-15	same as above	same as above	sprout	none	004	
1019	CR-229	0-15	surface coarse to fine sand medium angular to subround gravel up to 3.5cm. Medium to fine sand 0-15cm	light tan brown to reddish brown	none	none	005	
1025	CR-271	0-15	surface fine silty sand with angular to subround gravel 0-4cm fine silty sand 4-11 cm clayish silt 11-15cm fine silty sand	light tan light brown olive brown light brown	bivalve, mussel shell sprouts	none	006	

Samplers: IAN STUDNICKI
MICHAEL BAXTER

integral consulting inc.

Colville River Beach
Composite C

SURFACE SAMPLE LOG

Date: 4/28/11 **Page:** 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1039	CR-332	0-15	surface angular to subround gravel to 4cm w/ coarse to fine SS and to 4cm in depth. 4-9cm fine silty sand 9-14cm clayish silt 14-15cm fine silty sand	light tan — olive brown — dark olive brown — olive brown	twigs	none	007	
1046	CR-256	0-15	Surface coarse to medium sand w/ angular to subround and round gravel to 6cm diam. medium to coarse sand. 0-15cm medium to coarse sand, w/ >15cm dia cobble, with coarse to medium subround/round cobble	light tan — light brown	twigs, shore side	none	008	
1053	CR-189	0-15	Surface coarse to medium sand w/ angular and round ~~cobbles~~ gravel to 5cm dia. Coarse to medium sand w/ some gravel as surface and cobble to 11cm dia.	light tan. light brown	twigs ~~stone~~ (15)	none	009	
1101	CR-179	0-15	Surface angular to subround fine to med silty sand, with occasional fine to round gravel to 3.5cm Medium to fine silty sand to 15cm.	light tan — light brown	pine needle sprouts terrestrial shoots	none	010	
1108	CR48	0-15	0-10cm coarse to medium sand 10-15cm medium to fine silty sand	light tan — light brown	pine needle, ~~rock~~ terrestrial shoots	none	011	
1113	CR31	0-15	0-15cm coarse to medium sand	light tan — light brown	twigs (4) dead ~~bark~~ bushes	none	012	

Samplers: Jan Stupakoff
Michael Baxter

integral consulting inc.

Colville River Beach Composite D

SURFACE SAMPLE LOG

Date: 4/28/11 **Page:** 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1221	CR356	0-15	Surface cobbles >15cm fine gravel and silty sand. Coarse to medium sand subround gravel 6cm dia. to 15cm depth	light tan — brown	fine needles sprouts	none	013	
1242	CR328	0-15	surface coarse to medium subangular to subround gravel up to 4.5cm 15cm to bottom fine silty sand	light tan — light brown	twig bark	none	014	moved 262° from site to 5m from station
1251	CR227	0-15	surface angular to subround gravel up to 30.5cm dia. 0-15cm sandy silt	brown — brown	sticks pine needle	none	015	
1300	CR301	0-15	surface silt with fine sand 0-7cm silt w/ clay 7-15cm coarse to medium sand w/ subangular to subround gravel up to 5.5cm.	tan brown to light gray light brown	mussel shells bark straw sprouts	none	016	
1311	CR243	0-15	Surface coarse (3) to fine sand w/ angular, subround and rounded cobbles up to 11cm dia., sand to 15cm	light tan surface light brown	none	none	017	
1317	CR200	0-15	Arquillite rubble on surface with fine silty sand all the way to 15cm	surface light tan — brown	none	none	018	

Samplers: IAN SIVIAKOFF
MICHAEL BAXTER

3402271503

integral consulting inc.

Colville River Beach
Composite D

SURFACE SAMPLE LOG

Date: 4/28/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1323	CR191	0-15	Surface coarse to medium sand with angular to round gravel to 7cm dia. Same to 0 to 6 inches in depth	black and tan	pine needle	none	019	
1329	CR-139	0 - 15	surface coarse to fine sand to 15cm depth	tan and green light brown	sprouts	none	020	
1335	CR-54	0-15	Same as above	same as above	none	none	021	
1338	CR59	0-15	Same as above	"	"	"	022	
1341	CR40	0 -15	0-10.5cm Coarse to medium Sand 10.5 to 15cm fine silty sand	light tan light brown	Twigs	none	023	
1345	CR23	0 - 15	0-15cm coarse to medium Sand	light tan light brown to yellow brown	none	none	024	

Samplers: IAN SOUSAKOFF
MICHAEL BAKER

Colville River
Composite E

Camera = Cannon

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4-28-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1227	CR-358	0-6	Coarse Sand and Fine to Coarse gravels w/Cobbles (6")	grays	No	No	#103	
1243	CR-298	0-6	Fine to Medium Sand	Light Brown	No	No	#104	
1250	CR-253	0-6	Same as above	"	No	No	#105	
1256	CR-158	0-6	Fine to Medium Sand w/Medium gravels (3/4")	"	No	No	#106	
1305	CR-289	0-3	Medium Sand	Brown	yes	No	#107	@ Stick
		3-6	Fine Sand w/Silt	Light Brown				
1312	CR-184	0-6	Fine Sand w/Silt	Light Brown Reddish	No	No	#108	Redox Concentrations

Samplers: Mike Duffield
Jeff Nimmermann

integral consulting inc.

Camera = Canon

Colville River

Composite E

SURFACE SAMPLE LOG

Date: 4-28-11 **Page:** 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1320	CR-144	0-2 2-4 4-6	Medium Sand Fine Sand w/ Silt Silt	Light Brown Brown Brown	No	No	#109	
1330	CR-233	0-2.5 2.5-6	Fine Sand Coarse Sand w/ Medium to Coarse gravel (2")	Light Brown grey	No	No	#110	
1338	CR-155	0-6	Medium Sand	Light Brown grayish	No	No	#111	
1342	CR-121	0-6	"	"	No	No	#112	
1353	CR-73	0-6	"	Light Brown	No	No	#113	
1400	CR-16	0-6	"		No	No	#114	

Samplers: Mike Duffield
Jeff Winneman

CRESCENT BAY BEACH SURFACE SEDIMENT LOGS

integral consulting inc.

Crescent Bay Beach
Composite A

Camera - Finepix E550

SURFACE SAMPLE LOG

Date: 5-3-11 **Page:** 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0935	CS-99	0-15	Silty sand - Fine to medium sand w/ trace of pebbles mixed w/ silt	light grey	None	none	100-7247	Steep hillslope - Silty sand dominated Single Strata - uniform
0940	CS-100	0-15	Sandy silt - Fine sands dominant trace pebbles & gravel	light grey	none	none	100-7248	Steep hillslope - Fine sand dominate w/ silt Single Strata - uniform
0943	CS-53	0-15	Same as above	" "	" "	" "	100-7249	" "
0955	194 CS-~~101~~ CMB	0-15	Fine to medium sand dominant mixed w/ silt	light grey	None	None	100-7250	Steep hillslope Single Strata - uniform
1001	CS-142	0-15	Same as above	" "	" "	" "	100-7251	" "
1006	CS-140	0-15	Same as above	" "	" "	" "	100-7252	" "

Samplers: Jim Kulesza
Cyrus Bullock

Camera - Finepix E550

Crescent Bay Beach
Composite A

integral consulting inc

SURFACE SAMPLE LOG

Date: 5-3-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1012	CS-7	0-15	Fine to medium sand	light grey	None	None	100-7253	Steep hillslope Single stratum - uniform

Samplers: Jim Kolesar
Cyrus Bullock

integral consulting inc.

Crescent Bay Beach
Composite B

Camera - FinePix E550

SURFACE SAMPLE LOG

Date: 5-3-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1055	CS-185	0-15	medium sand - trace pebbles	light brown	None	None	Photo time (PST) should be 1055. 100-7254 on board reads 1155	Steep hillslope Single strata - uniform
1103	CS-179	0-15	same as above	" "	" "	" "	100-7255	" "
1108	CS-103	0-8 cm 8-15	silt clay Fine to medium sand	grey-dark grey grey-light brown	None	None	100-7256	Steep hillslope 2 strata
1113	CS-101	0-15	Fine to medium sand w/trace pebbles	light grey	None	None	100-7257	Steep hillslope Single strata - uniform
1120	CS-74	0-15	Fine to medium sand w/trace pebbles	light grey	none	None	100-7258	Steep hillslope Single strata - some granules up?
1127	CS-20	0-15	Fine to medium sand	light grey	none	None	100-7259	Steep hillslope Single strata - uniform

Samplers: Jim Kolesar
Cyrus Bullock

Crescent Bay Beach
composite B

comm - Firepit ESSO

integral consulting inc.

SURFACE SAMPLE LOG

Date: 5-3-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1134	CS-36	0-15	medium sand	light grey	None	None	100-7260	Sheen noticed Single stratum - uniform

Samplers: Jim Kolosew
Chris Bullock

integral consulting inc.

UCR BEACH Sampling COMPOSITE C

SURFACE SAMPLE LOG

Date: 5/3/11 — Crescent Bay Beach —

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0940	CS-134	0-15cm	surface fine silty sand few gravel med subangular to 2 cm / Fine silty sands	LT Gray / LT Gray	Few sticks Twigs Leaf	NONE	498	
0952	CS-106	surface / 0-15cm	SURFACE Coarse to Fine Silty SAND, Med - Fine gravel, Few cobble up to 9 cm / Fine silty sand, Few med gravel to 6.5 cm	LT GRAY to olive / olive	NONE	NONE	496	
1002	CS-105	0-15 cm	SAME AS CS-106 BUT NO cobble FEW GRAVEL to 4 cm	SAME AS CS-106	~~SAME~~ FEW Twigs ON SURFACE	NONE	495	DIDN'T change time ON white BOARD. From CS-106
1010	CS-58	surface / 0-15cm	Coarse - Fine silty sand Few med gravel sub Angular to sub Round to 2 cm / med to Fine silty SAND with sub Angular gravel to 2.5 cm	LT TAN TO olive / olive BROWN	twigs & Rootlets	NONE	494	
1020	CS-218	surface / 0-15cm	Med - Fine SAND / Med - fine SAND cobble up to 13.5 cm	LT TAN to LT BROWN / LT BROWN	FEW TWIGS / NONE	NONE	493	LARGE cobble extended From HOLE 13.5 cm
1028	CS-66	SURFACE / 0-15cm	COARSE to Fine silty SAND / MED to Fine SAND	LT TAN TO olive BROWN / LT BROWN	WEATHERED wood & CHARCOAL Root OR Branch	NONE	492	

Samplers: MIKE BAXTER
BOB SULLIVAN
observer KATHY BLACK

integral consulting inc.

UCR BEACH Sampling

SURFACE SAMPLE LOG

SURFACE

Date: 5/3/11 CRESCENT BAY BEACH Comp. C Page: 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1036	CS-24	0-15cm	SAME AS CS-66	SAME AS CS-66	NONE	NONE	491	

Samplers: MIKE BAXTER
Bob Sullivan
Kathy Black

integral consulting inc.

UCR BEACH Sampling

SURFACE SAMPLE LOG

Date: 5/3/11 CRESCENT BAY BEACH SURFACE Composite D Page: 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1059	CS-204	SURFACE	COARSE to FINE SILTY SAND Sub Rounded cobble to 24 cm	LT TAN to olive BROWN	WOOD + TWIGS PLANT FRAG.	NONE	490	
		0-15 cm	MED - FINE SILTY SAND Sub Rnd - Sub Angular Rocks to 4 cm	OLIVE BROWN				
1105	CS-176	SURFACE	COARSE to FINE SAND FEW GRAVEL SUB ROUND 2.5 cm	LT TAN	WOOD > 15cm	NONE	489	
		0-15 cm	MED - FINE SAND	OLIVE BROWN				
1104	CS-120	SURFACE	COARSE to FINE SILTY SAND FINE SUB ANGULAR GRAVEL TO 1 cm	LT TAN	STICK >15cm BRANCH	NONE	488	~~SAMPLE ON 45° SIDE SLOPE~~
		0-15 cm	MED to FINE SAND	OLIVE BROWN				
1115	CS-71	SURFACE 0-2 cm	COARSE to FINE SILTY SAND SUB-ANGULAR GRAVEL to 3cm	LT TAN	NONE	NONE	487	SAMPLE ON 45° SIDE SLOPE
		2-4 cm	FINE to MED SAND	OLIVE BROWN				
		4-5 cm	FINE GRAVEL to COARSE SAND	LT GREY				
		5-8 cm	MED - FINE SAND 5-8cm	OLIVE BROWN				
		8-9 cm	FINE SILTY SAND 8-9cm	DARK OLIVE BROWN				
		9-15 cm	MED - FINE SAND 9-15cm	OLIVE BROWN				
1125	CS-10	SURFACE	COARSE - FINE SILTY SAND FINE ANGULAR - SUB ANGULAR GRAVEL to 1 cm	LT TAN to olive BROWN	NONE	NONE	486	
		0-15 cm	MED to FINE GRAIN SAND	MED BROWN				
1131	CS-44	SURFACE	COARSE to FINE SILTY SAND FINE GRAVEL ANGULAR to 1 cm	LT TAN	1.5" WOOD	NONE	485	
		0-4 cm	SAME AS SURFACE	"				
		4-5 cm	BANDS of FINE SILTY SAND	OLIVE BR.				
		5-15 cm	MED TO FINE SILTY SAND	LT OLIVE BROWN				

Samplers: MIKE BAXTER Parametrix
Bob Sullivan "
Observer: Kathy Black WRS
Huckleberry Cuzin

integral consulting inc.

UCR BEACH Sampling

SURFACE SAMPLE LOG

Date: 5/3/11 CRESCENT BAY BEACH Comp. D **Page:** 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1141	CS-3	Surface	Coarse - Fine Silty Sand Fine Sub Angular gravel to 1cm	LT TAN	LEAFS small	NONE	484	
		0-15cm	Med to Fine Sand	LT BROWN				
		5 + 10 cm	Lenses of fine silty SAND	OLIVE BROWN				

Samplers: MIKU BAXTER
Bob Sullivan
observer KATHY BLACK

integral consulting inc.

Crescent Bay

Composite E

camera = Canon

SURFACE SAMPLE LOG

Date: 5-3-11

Page: 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1106	CS-166	0-3	Coarse Sand w/ Coarse gravel & Cobble (5%)	Light Brown grey	No	No	# 186	
		3-6	F to M Sand w/ Coarse gravel & cobble (5%)	Brown reddish				
1113	CS-190	0-4	Fine Sand	Light Brown	No	No	#187	
		4-6	Coarse Sand w/ Coarse gravel (2")	Light Brown				
1121	CS-205	0-6	F to M Sand	Light Brown	No	No	#188	
1126	CS-157	0-2	Fine Sand	Light Brown	No	No	~~#189~~ #190	
		2-4	M to C Sand w/ C. gravel (2")	Brown grey				
1132	CS-119	0-6	M to C Sand	Light Brown grey	No	No	#191	
1138	CS-46	0-6	Medium Sand	Light Brown grey	No	No	#192	

Samplers: Mike Duffield
Jeff Ninneman

integral consulting inc.

Crescent Bay

Composite E

Camera = Cannon

SURFACE SAMPLE LOG

Date: 5-3-11

Page: 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1142	CS-2	0-6	F to M ~~M to C~~ Sand	Light Brown gray	No	No	# 193	

Samplers: Mike Duffield

Jeff Ninemann

ENTERPRISE BEACH SURFACE SEDIMENT LOGS

integral consulting inc.

ENTERPRISE - COMPOSITE A

SURFACE SAMPLE LOG

Date: 4/29/11 La Mesa # 1098 Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1012	EN-361	15	Sand, damp, loose, medium to fine, subangular well sorted. Nodules of silt.	grey	none	none	101-8051	
1016	335	15	Sand, moist, loose, fine to medium, subangular. Trace of fine subrounded gravel	grey	none	none	101-8052	
1022	6	15	0-1cm: sand, fine to medium damp, loose, 1-15cm: silt, damp, very stiff, low plasticity	grey brown	none	none	101-8053	
1029	213	15	Sand, fine to medium subangular to subrounded, damp, loose. Trace of fine subangular gravel	brown	none	none	101-8054	
1034	264	15	Sand, fine to medium subrounded, damp, medium dense, thin silt layer at 3cm	grey	none	none	101-8055	
1038	462	15	Sand, fine to medium subrounded, damp, medium dense	grey	none	none	101-8056	

Samplers: S Barber
I. Saul

integral consulting inc.

ENTERPRISE - COMPOSITE A

SURFACE SAMPLE LOG

Date: 4/29/11 camera # 1098 Page: 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1042	430	15	sand, fine to medium, subrounded, trace of silt damp, dense	grey	none	none	101-8057	
1046	484	15	sand, fine to medium subrounded, damp, loose 13-15 cm some fine subrounded gravel	grey	none	none	101-8058	
1050	512	15	gravelly sand, fine to medium, subrounded, damp, loose, fine to coarse subrounded gravel + cobbles	grey	none	none	101-8059	
1055	280	15	sand, fine to medium. subrounded, damp, loose	grey	none	none	101-8060	
1059	364	15	surface: silty sand sand, fine to medium, subrounded, damp medium dense	grey	none	none	101-8061	plenty of tiny shells
1105	599	15	sand, fine to medium subrounded, damp, medium dense	grey	none	none	101-8062	

Samplers: J. Saul
S. Barber

integral consulting inc.

ENTERPRISE - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/29/11 camera # 1098 Page: 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1137	220	15	0-7cm sand, 10-13CM: sand fine to medium, subrounded moist, loose, trace of coarse grained sand 7-10cm sand 13-15cm: silt trace of fine sand, wet, soft	grey grey	none trace of organics	none none	101-8063	
1145	42	15	0-14CM: sand, fine to med, subrounded, damp, loose thin silt layer at 7cm. 14-15cm: silt, moist, very dense, moderate mudding	grey brown	none none	none none	101-8064	
1150	147	15	sand, medium to fine subrounded, damp, loose	grey	none	none	101-8065	
1155	80	15	sand, fine to medium, subrounded, damp, loose	grey	none	none	101-8066	
1200	137	15	sand, fine to med, damp loose, subrounded	grey	trace of organics	none	101-8067	
1205	297	15	sand, fine to medium subrounded, damp, loose	grey	none	none	101-8068	

Samplers:

integral consulting inc.

ENTERPRISE - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/29/11 camera # 1098 Page: 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1208	296	15	same as 297	grey	none	none	101-8069	
1211	321	15	sand, medium to fine subrounded, moist, loose scattered silt nodules	grey	trace of organics	none	101-8070	
1215	289	15	surface: fine to med. sand. 0-2cm: silt, trace of fine sand, low plasticity, wet, soft 2-8cm: sand, fine, moist medium dense, slightly rounded 8-13cm: sand, fine to med., subrounded	dark grey / dive grey / grey	none / moist,	none / medium	101-8071 / dense	
1230	710	15	sand, med. to fine subrounded, damp, loose	dive grey	none	none	101-8072	
1234	637	15	0-3cm: sand, fine, some silt, moist, loose 3-15cm: sand, fine to med. subrounded, damp, medium dense	dark grey / grey	none	none	101-8073	
1239	657	15	sand, fine to medium subrounded, damp, loose to med. dense	grey	none	none	101-8074	

Samplers:

integral consulting inc.

ENTERPRISE - COMPOSITE C

UCR Beach Sediment

SURFACE SAMPLE LOG

Date: 4/29/11 **Page:** 1 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1020	EN553 (reserve)	15cm	0-15cm: fine-coarse sand, poorly sorted w/ some silt and clay	dark brown	wood debris throughout	NO	0166	moist.
1026	EN526	15cm.	0-1cm: silt, w/ some fine-coarse sand. 1-13cm: fine-med sand, well sorted 13-15cm: silt w/ some clay	dark grey tan dark grey	NO	NO	0167	moist
1031	EN496	15cm.	0-1cm: silt 1-15cm: fine-med sand, well sorted.	dark grey tan/black	NO	NO	0168	moist.
1041 (3rd)	EN417	15cm	0-15cm: sand, fine-med well sorted.	tan/black	NO	NO	0169	moist
1049	EN223	15cm.	0-4cm: fine-coarse sand, poorly sorted 4-9cm: silt 9-15cm: fine-coarse sand, poorly sorted w/ med-large gravel+cobble	tan/black dark brown tan/black	NO	NO	0170	dry-moist.
1055	EN246	15cm	0-15cm: fine-coarse sand, poorly sorted	tan/black	NO	NO	0171	dry-moist.

Samplers: J. Wilson
L Linde

integral consulting inc.

ENTERPRISE - COMPOSITE C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/29/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1101	EN 34	15cm	6-15cm: fine-coarse sand poorly sorted	tan/ black	NO	NO	0172	morst.
1109	EN 262	15cm	0-5cm: fine-med sand, well sorted 5-8cm: silt w/some fine sand. 8-15cm: fine-med sand, well sorted.	tan/ black grey dark tan/ black	NO	NO	0173	dry-moist.
1115	EN 408	15cm	0-15 cm: fine-med sand w/some silt.	tan/ black	NO	NO	0174	dry-moist
1119	EN 464	15cm	0-15cm: fine-med sand well sorted	tan/ black	NO	NO	0175	dry-moist
1129	EN 419 (reserve)	15cm	0-15cm: same as above	tan/ black	NO	NO	0176	dry-moist.
1135	EN 596	15cm	0-15cm: fine-med sand, well sorted	tan/ black	NO	NO	0177	dry-moist

Samplers:

J. Wilson

L. Linde

integral consulting inc.

ENTERPRISE - COMPOSITE D

UC12 Beach Sampling

SURFACE SAMPLE LOG

Date: 4/29/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1226	EN646	15cm	0-15cm: fine-med sand, well sorted.	tan/black	NO	NO	0178	moist
1234	EN400	15cm	0-2cm: fine-med sand, well sorted. 2-4cm: silt w/ fine sand. 4-7cm: fine sand, well sorted 7-15cm: fine-coarse sand, well sorted	light tan dark grey tan/black tan/black	NO	NO	0179	dry-moist.
1240	EN344	15cm	0-7cm: fine sand, well sorted 7-11cm: silt w/ some fine sand. 11-15cm: fine-coarse sand, poorly sorted.	tan/black dark grey tan/black	NO	NO	0180	moist
1247	EN325	15cm	0-15cm: fine-med sand, well sorted.	tan/black	NO	NO	0181	11-13cm: 3 black horizons moist.
1257	EN294 (reserve)	15cm	0-15cm: same as above	tan/black	NO	NO	0182	moist
1303	EN178	15cm	0-3cm: fine-med sand, well sorted. 3-8cm: silt w/ some clay 8-15cm: fine-med sand w/ some silt	tan/black dark grey brown/orange	Root debris @ 5cm.	NO	0183	moist.

Samplers: J. Wilson
C. Lade.

integral consulting inc.

ENTERPRISE - COMPOSITE D

UC12 Beach Sampling

SURFACE SAMPLE LOG

Date: 4/29/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1309	EN 118	15cm.	0-5cm: fine sand, well sorted. 5-15cm: silt w/ some fine sand.	tan/ black tan/ black	NO	NO	0184	dry - moist
1316	EN123	15cm	0-9cm: fine-med sand, well sorted. 9-15cm: silt w/ some fine sand + clay	tan/ black dark grey brown	NO	NO	0185	dry - moist
1324	EN52	15cm	0-15cm: med-coarse sand, well sorted.	tan/ black	NO	NO	0186	moist
1338	EN 442 (reserve)	15cm.	0-15cm: fine-med sand, well sorted.	Tan/ black	NO	NO	0187	moist
1342	EN567	15cm	0-15cm: silt w/ some fine sand.	dark brown	Plant debris 0-7cm.	NO	0188	moist
1349	EN 245	15cm	0-11cm: fine-med sand, well sorted 11-15cm: med-coarse sand, well sorted	tan/ black tan/ black	NO	NO	0189	dry - moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

UCR BEACH Sampling

SURFACE SAMPLE LOG

Date: 4/29/4 SURFACE SED 0-15cm ENTERPRISE BEACH Composite E **Page:** 1 OF 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1002	EN-639	0-15cm	SAND, FINE GRAIN, TRACE MED GRAIN, TRACE SILT	LT GRAY TO LT. BROWN SLIGHT BANDING 0-4 cm	NONE	NONE	FILE 101 Photo 4282	
1008	EN-589	0-15 cm	SAME AS EN-639 EXCEPT NO COLOR BANDING	"	"	"	Photo 4283	
1013	EN-547	0-15cm	SAND FINE-MED GRAIN SLIGHTLY MOIST SUB ROUND FEW PLANT FRAGMENTS POORLY SORTED	LT YELLOW BROWN TO LT. GRAY	"	"	4284	
1017	EN-520	0-15	SAND, FINE GRAIN DRY TO SLIGHTLY MOIST COLOR BAND 11-13 cm SAME AS ABOVE WITH FEW SILT AND PLANT FRAG.	LT YELLOW BROWN TO LT GRAY	NONE	NONE	4285	
1021	EN-300	0-15cm	SAND, FINE GRAIN, DRY TO SLIGHTLY MOIST, TRACE ROOTLETS	0-3 cm LT YELLOW BROWN & LT. GRAY TRACE BANDING SAND 3-15 cm LT ORANGE LT GRAY	NONE	NONE	~~4286~~ 05 4287 - BROWN TO	
1027	EN-179		SAND, FINE-MED GRAIN FEW SILT, SLIGHTLY MOIST	LT GRAY TO LT. BROWN	NONE	NONE	~~4287~~ 06 4286	

Samplers: JOSS MOORE
BOB SULLIVAN
OVERSIGHT Michele Steyner

integral consulting inc.

UCR BEACH SAMPLING

SURFACE SAMPLE LOG

ENTERPRISE BEACH - COMPOSITE E

Date: 4/29/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1038	EN-276	0-15 cm	SAND FINE-MED GRAIN SUB ROUND, TRACE SILT, TRACE PLANT FRAGMENTS SLIGHTLY MOIST	LT BROWN TO LT. GRAY	NONE	NONE	4288	
1043	EN-28	0-3 cm 3-15 cm	FINE-MED GRAIN SAND SUB ROUND - SUB ANGULAR DRY SAND FINE GRAIN, TRACE SILT SLIGHTLY MOIST	LT GRAY LT YELLOW BROWN LT ORANGE BROWN	NONE	NONE	4289	STA. ON MUDSTONE FORMATION
1049	EN-27	0-2 cm 2-15 cm	FINE GRAIN SAND, DRY, LOOSE SILT, SLIGHTLY MOIST, MED PLASTICITY, VERY FIRM	LT YELLOW GRAY LT OLIVE GRAY	NONE	NONE	4290	STA ON MUD STONE FORMATION
1056	EN-117	0-6 cm 6-15 cm	FINE GRAIN SAND, DRY SILT, SLIGHTLY MOIST MED PLASTICITY	LT YELLOW GRAY LT ORANGE GRAY WITH RED-BROWN MOTTLING	NONE	NONE	4291	
1102	EN-171	0-15 cm	SAND FINE GRAIN, DRY TO SLIGHTLY MOIST	LT YELLOW BROWN TO LT GRAY 5-6 cm DARK GRAY BANDING UP TO 3 mm	NONE	NONE	4292	
1105	EN-319	0-15 cm	SAME AS EN-171 BUT NO DARK GRAY BANDING	"	NONE	NONE	4293	

Samplers:

EVANS CAMPGROUND SURFACE SEDIMENT LOGS

integral consulting inc.

Evans Campground Beach - Composite A

Camera = FinePix E550

SURFACE SAMPLE LOG

Date: 4/22/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1207	EV-42	0-15	Silty Clay w/ Sand	Dark grey	None	None	100-7015	
1222	EV-116	0-15	Silty Clay w/ Sand w/ some Mottling (redox)	Dark grey	None	None	100-7016	
1232	EV-50							refusal - heavy cobble
1240	EV-19	0-15	Sandy Silt w/ mix gravel, some cobble	Dark Grey	None	None	100-7017	replaces EV-50
1250	EV-97							refusal - cobble
1254	EV-100							refusal - too far up the bank, probably not in the water and vegetated

Samplers: Jim Kolosyar
Cyrus Bullock

integral consulting inc.

Evans campground Beach Composite A

SURFACE SAMPLE LOG

Date: 4/22/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1258	EV-182							refusal — cobble
1304	EV-236	0-15	Silty Sand w/ Some mottling. Fine Sands	Dark grey	None	None	100-7018	
1311	EV-259	0-15	Silty Clay w/ mottling visible redox	Dark Grey	None	None	100-7019	
1317	EV-336	0-15	Sandy 2-layer/ 0-7cm - DK Grey Layer 2 - 7-15 mottled	Layer 1 = dark grey Layer 2 = mottled w/ grey	None	None	100-7020	
1326	EV-2-330 (15 5/24/11)							Refusal - out side of water line on "dry" land, vegetation
1335	EV-499	0-15	Silty Clay	Dark Grey	None	None	100-7021	

Samplers: Jim Kolesar
Cyrus Bullock

integral consulting inc.

Evans Campground Beach – Composite A

SURFACE SAMPLE LOG

Date: 4/22/11 **Page:** 1 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1342	EV-626	0-15	Silt Clay w/ heavy gleyed soils	gleyed Dark Grey	None	None	100-7022	
1349	EV-766	0-15	Silt Clay w/ heavy gleyed soils	gleyed Dark Grey	None	None	100-7023	
1357	EV-799	0-15	Fine Sands, Some mottling	rusty Brown	None	None	100-7024	
1402	EV-889	0-15	Fine Sands, Some mottling	rusty Brown	None	None	100-7025	
1406	EV-887	0-15	Silty Clay Some Sand	dark Brown	None	None	100-7026	

Samplers:
Jim Koloszar
Cyrus Bullock

integral consulting inc.

Evans Campground Beach – Composite B

Camera = FinePix F550

SURFACE SAMPLE LOG

Date: 4-22-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1532	EV-~~139~~ ~~JKo~~ 23	0-15	Silty Clay w/ some sand, some mottling	drk grey Brown	None	None	100-7027	
1538	EV-145	0-15	Silty clay w/ some sand, some mottling	drk grey Brown	None	None	100-7028	
1544	EV-262	0-15	Sandy Silt	drk Brown/ grey	None	None	100-7029	
1548	EV 239	~~15~~ JKo						Refusal - cobble
1555	EV-310	0-15	Fine Sands	Brown drk grey	None	None	100-7030	Some Aquatic plant roots
1605	EV 397	0-~~EV-JKo~~ 15 ~~397 JKo~~	Fine Sands w/ some cobble	grey	none	None	100-7031	

Samplers: Jim Koloszar
Cyrus Bullock

integral consulting inc

Evans Campground Beach - Composite B

Cam. A - FinePix E550

SURFACE SAMPLE LOG

Date: 4-22-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1612	EV-374							refusal - Cobble
1628	EV-447	0-15	Fine Sandy Silt	dark grey	None	None	100-7032	
1624	EV-653	0-15	Silty Clay	dark grey, gleying	None	None	100-7033	
1630	EV-739	0-15	Silty Clay w/ some mottling + gleying	dark grey	None	None	100-7034	
1635	EV-765	0-15	Silty clay, lots of gleying, some shells	dark grey	None	None	100-7035	
1638	EV-818	0-15	Silty Clay, some mottling	dark grey	None	None	100-7036	

Samplers:

Jim Kolesar

Cyrus Bullock

integral consulting inc.

Evans Campground Beach - Composite B

SURFACE SAMPLE LOG

Date: 4-22-11

Page: 3063

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1642	EV-851	0-15	Silt clay, gleying mottling	dark grey	none	none	100-7037	
1647	EV-913	0-15	Silt clay, gleying, mottling	dark grey	none	none	100-7038	

Samplers:

Jim Kolorzar
Cyrus Bullock

integral consulting inc.

EVANS CAMPGROUND BEACH
COMPOSITE C

camera Olympus Stylus Tough

SURFACE SAMPLE LOG

Date: 4/22/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1533	EV-25	0-15	medium to coarse sand coarse sand to 1/2"	brown	fresh water vegetation and fresh sprouts, small shells	none	33, 34	
1540	EV-174	0-15	medium silty sand	brown mottled w/ red and gray	fresh water vegetation sprouts, snail shells	none	35	
1547	E-290	0-15	clayish-silt	dark brown with mottled black	Same as above	none	36	
1553	EV-341	0-15	surface dry sand medium to fine sand	tan	same as above	none	37	
1602	EV-393	0-15	medium to fine sand	tan turning to brown	same as above with rootlets	none	38	
1608	EV-450	~~0-15~~						refused cobble

Samplers: JW STURHOFF

EVANS CAMPGROUND BEACH
COMPOSITE C

camera Olympus Stylus Tough.

integral consulting inc.

SURFACE SAMPLE LOG

Date: 9/22/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1613	EV-420 reserve	0-15	medium to fine sand 0-1 cm light tan	0-1 cm light tan to olive brown at depth	freshwater vegetation snail shells	none	39	
1620	EV659	0-15	medium to fine sand	light brown with mottling mustard brown	freshwater vegetation and sprouts rootlets	none	40	
1630	EV738	0-15	clayish silt uniform 0-1cm !	0-1 cm brown 1-15 cm mottling black and brown	mussel fresh water vegetation	none	41	
1639	EV762	0-15	clayish silt uniform	brown mottle w/ reddish brown	fresh water vegetation sprouts	none	42, 43	
1646	EV-911	0-15	clayish silt uniform same sand at 15cm	dark olive brown mottled with grey	none	none	44, 45	
1653	EV-771	0-15	medium to fine sand ~~mottled brg~~ (13) 2" to 6" cobbles	mottled light tan w/ reddish brown to dark brown at bottom	grass, rootlets	none	46,	

Samplers:

EVANS CAMPGROUND BEACH

Composite C

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4/22/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1658	EV691	0-15	0-5 medium to coarse dry sand, pebbles to 1" 5-15cm medium to fine sand	tan, brown	pine needles	none	47	

Samplers:

integral consulting inc.

EVANS CAMP GROUND BEACH
COMPOSITE D

Camera Stylus Tough Olympus

SURFACE SAMPLE LOG

Date: 4/22/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1130	EV-16							refused - cobble area
1134	EV-17							"
1150	EV31	0-15	gravelly ~~sand~~, 2"-3" cobble sand fine to coarse	olive gray	none	none	# 20	4.5m downstream from target. 299° bearing to target.
1240	EV-115	0-15	gravelly sand, with 3/8" gravel (5) fine ~~to coarse~~ (15) sand	olive brown	none	none	# 21	
1252	EV-177	0-15	sandy silt, from 0-8cm fine sand from 8-15cm	dark brown for sandy silt, reddish brown for fine sand	none	none	#22, 23	dried out caked angled turbation, shrink swell at surface
1300	EV-125							cobble area - refused

Samplers: IAN SYDDALL
MICHAEL BARKER

integral consulting inc.

EVANS CAMPGROUND BEACH

COMPOSITE D

camera Olympus Stylus tough

SURFACE SAMPLE LOG

Date: 4/22/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1313	EV-120 reserve	0-15cm	sandy silt, from 0-15cm	dark olive brown, with mottled specks of reddish brown	none	none	#24	
1315	EV-209	0-15cm	silty sand, 2" to 4" cobbles	dark olive brown	none	none	#25	fresh sprouts and grass.
1322	EV-313	0-15cm	sandy silt, from 0-15cm	light tan at surface to olive brown at depth	dry algae at surface and stream	none	#26	
1330	EV-530							refused, cobble area
1333	EV-452							refused cobble
1336	EV607 reserve	0-15	medium to fine sand 2" to 4" cobble	tan brown	none	none	#27	

Samplers: IAN STUPAKOFF
MICHAEL BAXTER

integral consulting inc.

EVANS CAMPGROUND BEACH

COMPOSITE D

camera: Olympus Stylus Tough

SURFACE SAMPLE LOG

Date: 4/22/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1344	EV-550	0-15cm	~~silty~~ (13) sandy silt	dark olive brown with red specks	small shells, small seedlings	none	28	
1354	EV-652	0-15cm	0-5cm reddish silty-clay 5-15cm mottled black, grey dark brown to black clay	reddish brown mottled grey dark brown	none	none	29	
14:02	EV-741	0-15cm	~~0-5~~ (15) medium to fine sand some silt at 7-15cm, 0-7cm, layering of light tan to dark brown	light tan, brown to darker brown at depth	roots dried out vegetation, several shells	none	30	
14:13	EV-915	0-15cm	Sandy silt, Argillaturbation at surface Sandier at depth	mottled between dark brown and light brown	none	none	31	
1423	EV-947	0-15cm	0-2cm Argillaturbation coarse. Silty sand w/ some clay 2-15cm silty sand	dk brown at surface, dark grey at	small vegetation mussel shell	none	32	

Samplers: IAN STUPAKOFF
MICHAEL BAXTER

integral consulting inc.

Evans Campground Beach
Composite E (black)

SURFACE SAMPLE LOG Canon SD 780

Date: 4/22/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1321	EV-6							Refusal due to cobbles
1326	EV-33	15	Gravelly Sand Sand fine to med Gravel rounded to 6"	Brown	None	None	0001	
1337	EV-51							Refusal due to cobbles
1345	EV-72	15	Gravelly Sand Sand fine to med Gravel subround to round to 3"	LT Brn	None	None	0002	
1355	EV-207	15	Silt w/ trace fine sand	DK Brn	None	None	0003	
1400	EV-228	15	Silt w/ trace fine sand	Dk Brn	None	None	0004	

Samplers:

integral consulting inc.

Evans Campground Beach
Composite E (black)

SURFACE SAMPLE LOG

Canon SD 780

Date: 4/22/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1405	EV-230	15	Silt w/ trace fine sand	DK Olive Brn	Yes	None	0005	1/2 inch of vegetative debris on surface
1412	EV-287	15	Silt w/ trace fine sand	DK Brn	None	None	0006	
1416	EV-317	15	Silt w/ trace fine sand	DK Brn	None	None	0007	
1420	EV-423	15	Sand fine	Lt Brn to tan	None	None	0008	
1425	EV-575	15	Silty fine Sand	DK Brn	None	None	0009	
1430	EV-657	15	Silt w/ trace sand slightly mottled	DK Brn to Olive Gray	None	None	0010	Trace vegetative debris on surface

Samplers:

integral consulting inc.

Evans Campground Beach
Composite E (black)

SURFACE SAMPLE LOG

Canon SD 780

Date: 4/22/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1436	EV-636	15	Sand w/ trace 5% gravel fine to med sand gravel rounded to 1 inch	Lt olive to Lt brn to tan	None	None	0011	trace rootlets
1444	EV-976	15	Silt	Dk Brn	None	None	0012	red worm

Samplers:

FLAT CREEK SURFACE SEDIMENT LOGS

integral consulting inc.

FLAT CREEK - COMPOSITE A

SURFACE SAMPLE LOG

Date: 4/23/11 Camera # 1098 Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0958	FC-77	15	silty sand. Top 2-3 cm very dry. Rest moist fine grained sand, medium dense micaceous. Slight modeling.	grey	trace of organics	none	103-7927	
1006	FC-94	15	silty sand, fine grained, moist, top 2 cm dry, trace of coarse grained sand, subrounded to subangular, moderately modeled, Dense.	brown/grey	trace of organics	none	103-7928	
1013	FC-136	15	fine grained sand, trace of silt. Slight modeling. Moist. Medium dense.	dark grey	trace of organics	none	103-7929	
~~1017~~ 1019	FC-138	15	Sand fine grained, trace of silt, heavily modeled. Moist medium dense. Micaceous well sorted.	dark grey	trace of organics	none	103-7930	
1026	FC-118	15	sand fine grained, trace of silt. Moist. Medium dense Top 2 cm dry.	grey	trace of organics	none	103-7931	
1033	FC-43	15	0-10cm sand, fine to coarse grained, subangular to subrounded poorly sorted, trace of fine gravel subrounded to subangular, damp, loose 10-15cm silty sand, fine grained, moist, loose	grey, light. grey	trace of organics	none	103-7932	

Samplers: I. Saul
S. Barber

integral consulting inc.

FLAT CREEK - COMPOSITE A

SURFACE SAMPLE LOG

Date: 4/23/11 Camera # 1095 **Page:** 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1042	FC-122	15	silty sand, fine grained, moist, medium dense slight modeling, micacious	grey	trace of organics	none	103 7933	
1054	FC-305	15	silty sand, fine grained, loose, moist, micacious,	grey	trace of organics	none	103-7934	
1102	FC-327	15	sand, fine to medium grained subangular to subrounded, well sorted, moist, medium dense. Trace of fine gravel, subrounded to subangular. Micacious	brown	trace organics	none	103-7935	
1108	FC-369	15	Sand fine grained, trace of medium grained, subrounded to subangular, moist, dense, well sorted	brown	trace of organics	none	103-7936	
1113	FC-364	15	Sand fine grained, moist, medium dense, well sorted, micacious top 2cm trace of silt, moderately modeled	grey	some of organics	none	103-7937	
1117	FC-353	15	Sand fine grained, moist medium dense, top 2cm slight modeling micacious, well sorted	grey	trace of organics	none	103-7938	

Samplers: I. Sauk
S. Barber

integral consulting inc.

FLAT CREEK - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/23/11 Camera # 1098

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1136	FC-10	15 4-15 cm ss	0-4cm silty sand, fine grained damp, loose micaceus. ~~4-15~~ 4cm sand fine to coarse grained, subrounded, poorly sorted, moist, loose, some fine to coarse gravel and cobbles	grey	some organics	none	103-7939	
1146	FC-130	15	0-5cm fine grained sand, trace of silt, ~~damp~~, loose, saturated, moderate rippling 5-15cm sand medium to coarse grained, subrounded, poorly sorted, wet, loose, micaceus, trace of fine to coarse gravel and cobbles	grey brown	none mollets ~~trace of fine~~	fishy	103-7940	
1155	FC-140	15	sand fine grained, moist, medium dense, moderate rippling, micaceus	grey	trace of organics	none	103-7941	
1201	FC-163	15	Sand fine grained, trace of silt, wet, medium dense, slightly rippled, well sorted, micaceus	grey	trace of organics	none	103-7942	
1208	FC-18	15	Sand fine to coarse grained, subrounded, well sorted, damp, loose, some fine to coarse gravel subrounded and micaceus	grey	trace of organics	none	103-7943	
1217	FC-151	15	0-5cm sand fine to coarse grained subrounded, poorly sorted, dry, loose, trace of fine subrounded gravel 9+10 cm 5-9cm sand fine grained, moist 10-15cm medium dense, micaceous	grey grey	none trace of organics	none none	103-7944	

Samplers: L. Saul
S. Barber

integral consulting inc.

FLAT CREEK - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/23/11 camera # 1098

Page: 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1225	FC-250	15	sand fine grained, trace of coarse grained sand subrounded, moist, dense, slight modeling micacious. Trace of fine subrounded gravel	grey	trace of organics	none	103-7945	
1234	FC-365	15	sand fine grained, moist, loose trace of silt, slight modeling, micacious.	dark grey	some organics	none	103-7946	
1239	FC 373	15	sand fine grained, ~~moist~~, loose, trace of silt, wet, slightly modeled, micacious.	dark grey	trace of organics	none	103-7947	
1244	FC 389	15	sand fine grained, trace of silt, wet, medium dense, micacious.	dark grey	trace of organics	none	103-7948	
1248	FC-390	15	sand fine grained, trace of silt, moist, loose, slight modeling, micacious.	dark grey	some organics	none	103-7949	
1255	FC-384	15	sand fine grained, moist, dense, heavily modeled, micacious.	grey/ brown	trace of organics	none	103-7950	

Samplers: I. Saul
S. Barber

integral consulting inc.

FLAT CREEK - COMPOSITE C

SURFACE SAMPLE LOG

Date: 4/23/11 Camera # 1321 Page: 1 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0958	FC 396	15 cm	0-15cm: Fine sand + silt. well sorted.	Dark grey/ brown	NO	NO	0046	moist
1005	FC 260	15 cm	0-9cm: Fine sand. well sorted 9-11 cm: silt lense. Well sorted 11-15cm: Fine sand. Well sorted	Light grey dark grey brown/grey	NO	NO	0047	dry, root fragments in upper 4cm.
1012	FC 226	15cm	0-7cm: Fine sand + silt. well sorted 7-15cm: Fine sand + silt, laminated. well sorted	Dark grey/ brown Alternating light brown + grey	NO	NO	0048	dry to moist
1019	FC 270	15cm	0-13cm: Fine sand + silt. Silt lense at 10cm. well sorted 13-15cm: Fine sand + silt. well sorted	dark grey brown	Live mussel burned wood fragments; at 5cm and 9.5cm depths	NO	0049	moist.
1031	FC 182	15cm	0-11cm: Fine sand with some silt. well sorted 11-15cm: Silt with some fine sand.	Brown/ grey Dark grey	wood fragments at 5cm and 8cm depths	NO	0050	moist
1041	FC 141	15cm	0-10cm: silt w/ some fine sand. 10-15cm: Fine sand with silt lenses	dark grey brown (silt grey)	7cm wood frags.	NO	0051	moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

FLAT CREEK – COMPOSITE C

SURFACE SAMPLE LOG

Date: 4/23/11 Camera # 1321 **Page:** 2 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1048	FC 99	15cm	0-12cm: Silt w/ some fine sand 12-15cm: Fine sand with some silt. Well sorted.	Dark grey Light brown	At 6cm a root horizon	NO	0052	moist. Snail shell at 2cm
1056	FC 155	15cm	0-9cm: silt w/ some fine sand. 9-15cm: Fine - med sand with some silt. Well sorted	grey brown/ orange	wood frags @ 9cm.	NO	0053	moist.
1102	FC 93	15cm	0-15cm: Fine - Coarse sand. Small to medium gravel. Poorly sorted	brown/ orange	NO	NO	0054	dry
1111	FC 13	15cm	0-15cm: Silt w/ some fine sand.	grey	10cm, woody burned debris	NO	0055	moist
1119	FC 55	15cm	0-15cm: Fine sand w/ some silt. Laminated	Alternating dark grey & brown	NO	NO	0056	Snail shells on surface Roots 0-4cm, 8cm
1126	FC 57	15cm	0-15cm: Med- coarse sand w/ small-med gravel. Poorly sorted.	Dark grey	NO	NO	0057	Roots throughout moist

Samplers: J. Wilson
L. Lindle

integral consulting inc.

FLAT CREEK - COMPOSITE 5

SURFACE SAMPLE LOG

Date: 9/23/11 Camera # 1321

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1142	FC 47	15cm	0-15cm: Silt w/ some fine sand	brown/ grey	NO	NO	0058	moist
1149	FC 31	15cm	0-15cm: coarse sand w/ some silt. Poorly sorted small to med gravel	brown/ orange	NO	NO	0059	moist
1154	FC123	15cm	0-15cm: ~~Fine~~ -Silt w/ some fine sand. Laminated from 12-15cm	Dark grey & brown	NO	NO	0060	Roots throughout
1200	FC143	15cm	0-9cm: Silt w/ some fine sand 9-15cm: fine sand, well sorted.	dark grey brown/ grey	3cm: burned wood frags.	NO	0061	moist
1206	FC116	15cm	0-15cm: Fine sand w/ some silt, well sorted, laminated.	grey w/ brown alternating	8cm: burned wood frags.	NO	0062	moist. Dead bivalve
1213	FC199	15cm	0-4cm: Fine sand w/ some silt. well sorted. 4-15cm: Fine - med. sand. well sorted	grey orange/ brown	2.5cm: burned wood frags.	NO	0063	moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

ELAT CREEK - COMPOSITE D

SURFACE SAMPLE LOG

Date: 4/23/11 Camera #1321

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1219	FC223	15cm	0-7cm: Fine sand w/ some silt. Well sorted. 7-15cm: Silt w/ some fine sand.	grey / grey/ brown	4cm: burned woody debris	NO	0064	moist
1226	FC293	15cm	0-15cm: silt w/ some fine sand. Laminated	Alt. light grey + dark grey	NO	NO	0065	moist. Roots throughout
1231	FC292	15cm	0-8cm: fine sand w/ some silt. well sorted. Laminated 8-15cm: Silt w/ some fine sand.	Alt. light + dark grey / dark grey	0-4cm root frags.	NO	0066	moist
1236	FC330	15cm	0-9cm: silt w/ some fine sand. 9-15cm: fine sand w/ some silt, well sorted	dark grey / brown / brown/ orange	4cm: burned woody debris	NO	0067	moist
1242	FC354	15cm	0-15cm: fine sand w/ some silt. well sorted. Laminated	Alt. dark + light grey w/ some orange brown	5cm: burned woody frags.	NO	0068	moist
1248	FC388	15cm	0-15cm: fine sand w/ some silt. well sorted. laminated	Alt. dark + light grey	NO	NO	0069	Roots top 4cm

Samplers: J. Wilson
L. Linde

Samplers: Bob Sullivan
Joss Moore
Marc Steelman
Michele Stigma

integral consulting inc.

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/23/11 Flat Creek Beach Composite E **Page:** 1 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0955	FC-396	0-15cm	Surface-Sand fine-med grain, Isolated shells trace plants 0-15 Fine sand/silt trace rootlets, slightly moist	Lt. Brown Brown/ Lt Br	None	None	105-4105	
1005	FC-383	0-15cm	Same as FC-396	Same as FC-396	Same as FC-396	None	#4106	mud cracks on surface
1009	FC-361	0-15cm	Sand fine-med grain subrounded trace silt Dry-slightly moist	Lt. Brown - light Gray	None	None	#4107	
1014	FC-298	0-15cm	Surface Sand fine-med grain w/ few Gravel Sand coarse grain sub Angular, trace Plants & Rootlets Dry-Slightly moist Poorly sorted	Light Brown to light Gray	None	None	#4108	
1022	FC-266	0-15cm	Sand-fine-med grain sub round w/ some gravel fine-med grain, sub Angular 0-15cm trace silt, sand, trace Plants & Rootlets Dry, Slightly moist	Light Brown to light Gray	None	None	#4109	
1028	FC-346	0-15cm	Surface Fine grain, trace silt, same 0-15cm few Rootlets/ Surface high contour in vegetation moist	Brown to light Gray	None	None	#4110	

Samplers:

integral consulting inc.

UCR BEACH Sampling

SURFACE SAMPLE LOG

Date: 4/23/11 — FLINT CREEK BEACH Composite "E" —

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1033	FC-215	0-15 cm	Surface Fine-med Sand Subround few Gravel Fine-coarse-grain Sub Angular, Isolated Snail Shell, trace silt Slightly moist	Lt. Brown to Lt. Gray	NONE	NONE	4111	
1038	FC-170	0-15 cm	Fine grain Sand few silt, TRACE Rootlets Surface-high WATER veg. moist	Brown to lt. Gray	NONE	NONE	4112	
1042	FC-107	0-15cm	0-1 cm SAND med-coarse grain sub Round to Sub Angular few Gravel med-coarse sub Round-sub Angular, trace silt 0-15 Fine Sand Some silt	0-1 cm Lt. Brown to Lt. Gray	NONE	NONE	4113	
			TRACE Gravel Fine-med Grain, Subround, Slightly moist	Brown to Lt. Gray				
1048	FC-186	0-15	0-15cm Fine SAND with Discontinuous Lenses of silty SAND up to 1cm thick 0-1cm, DRY 1-15 Slightly moist GB	0-1 cm Lt. Brown to Light Gray; ~~Brown~~ Brown to lt. gray 1-15cm	NONE	NONE	4114	
1056	FC-45	0-15cm	0-15cm SAND Fine-med Grain, Subround, few Gravel med-coarse grain Subround Isolated cobble up to 8" trace silt, DRY-Slightly moist	Light Brown to light Gray	NONE	NONE	4115	

Samplers:

integral consulting inc.

UCR BEACH Sampling

SURFACE SAMPLE LOG

Date: 4/23/11 FLAT CREEK BEACH COMP E **Page:** 3 OF 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1102	FC-1	0-15 cm	SAND FINE-MED GRAIN SUB ROUND, TRACE SILT SURFACE - HIGH WATER VEG, ISOLATED SNAILS, FEW GRAVEL FINE-COARSE SUB ROUND	LT. BROWN TO GRAY	NONE	NONE	4116	

Samplers:

HAWK CREEK SURFACE SEDIMENT LOGS

integral consulting inc.

HAUL CREEK - COMPOSITE A

SURFACE SAMPLE LOG

Date: 5/4/11 Camera # 1098 Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0917	HC-225	15	Sand, fine to medium, trace of coarse sand, subangular to subrounded, dry to damp, loose	grey	no	no	106-8173	
0920	210	15	Same as 225	"	"	"	106-8174	
0924	195	15	0-8cm: sand, fine to med., some coarse subangular to subrounded sand. Dry to damp loose 8-15cm: sand, fine, some med. sand, moist, med. dense, ~~trace~~ pockets of ~~sandy~~ silt	grey brown	no	no	106-8175	
0929	174	15	sand, fine to med., some coarse subangular sand dry to damp. loose trace of fine subrounded gravel	grey	no	no	106-8176	
0934 33	166	15	Same as 174. But no gravel. 11-13cm fine sand, trace of med. sand, moist, dense, thin silt layer	grey	"	"	106-8177	
0937	152	15	sand, fine to med. trace of coarse sand, subangular to subrounded dry to damp, loose	grey	no	no	106-8178	surface: trace of subrounded gravel

Samplers: S. Barber
I. Saul

integral consulting inc.

HAWK CREEK - COMPOSITE A

SURFACE SAMPLE LOG

Date: 5/4/11 Geotech #1098 Page: 2 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0951	HC-~~124~~ 92 ~~131~~	15	Sand, fine to med trace of coarse subrounded subangular sand scattered clusters of clayey silt, Damp. loose	grey	no	no	106-8179	target location 124 not accessible. Weed reserve
0957	71	15	Sand, fine to med. subrounded to subangular damp, med. dense	grey	no	oil odor	106-8180	
1001	44	15	Sand, fine to coarse, subrounded subangular poorly sorted, damp med. dense. slightly moduled	grey	no	no	106-8181	trace of fine to coarse subangular subrounded gravel
1004	27	15	Sand, fine to med trace of coarse subrounded subangular damp loose	grey	no	no	106-8182	trace of fine subangular subrounded gravel
1008	15	15	Sand, fine to med, trace of coarse subrounded subangular sand. damp, med dense	grey	no	no	106-8183	6-7cm: sandy silt layer fine sand, grey, wet soft
1016	98	15	0-8cm: fine to coarse sand subangular subrounded poorly sorted, dry to damp loose, 8-15cm: fine sand, some silt, wet, loose	grey grey	no	no	106-8184	

Samplers: S. Barber
I. Saul

HAWK CREEK - COMPOSITE B

integral consulting inc.

SURFACE SAMPLE LOG

Date: 5/4/11 camera # 1098

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1032	HC 14	15	sand, fine to med, trace of coarse sand subangular subrounded, damp, dense	grey	no	no	106-8185	
1037	26	15	sand, fine to ~~coarse~~ med., trace of coarse subr. suba. trace of fine subr. suba. gravel. Scattered silt nodules	grey	no	no	106-8186	Damp Med. dense
1041	37	15	sand w/ gravel, fine to med trace of coarse subr. suba., sand. some fine to coarse subr. gravel. Damp, med. dense	grey	no	no	106-8187	surface: cobbles boulders
1048	75	15	Sand, fine to coarse suba. to subr. poorly sorted damp, loose	grey	no	no	106-8188	
1054	102	15	sand, fine to coarse, subr. to suba., dry to damp, med. dense	grey	no	no	106-8189	
1057	119	15	Sand, fine to coarse, subr. to suba. trace of fine subr. gravel dry to damp, loose	grey	no	no	106-8190	surface: cobbles boulder

Samplers: S. Barber
I. Soell

integral consulting inc.

HAUK CREEK - COMPOSITE B

SURFACE SAMPLE LOG

Date: 5/4/11 camera #1098

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1101	MC 128	15	same as 119	grey	no	no	106- 8191	
1109	~~154~~ 160	15	sand w/ gravel, fine to coarse, subr. to suban., some fine to coarse subr. suba gravel cobbles. Dry to damp. Loose to med dense	grey	no	no	106- 8192	reserve location surface: cobbles boulders
1114	168	15	0-10cm: sand, fine to coarse suba, to subr. poorly sorted. Moist. Loose 10-15cm: silt, high plasticity moist, very stiff	grey brown	no	no	106- 8193	trace of clay bottom layer
1122	~~177~~ 167	15	sand, fine to med. trace of coarse sand suba. to subr. scattered silt lenses dry to moist, loose.	grey	no	no	106- 8194	reserve location surface: cobbles, boulders, some fine to coarse suba. subr. gravel
1128	211	15	sand, fine to med. some coarse suba. subr. sand dry to damp, loose	grey	no	no	106- 8195	
1132	158	15	0-5cm: sand, fine to med., trace of coarse subr. suba. sand. Wet. Loose 5-15cm: sandy silt, fine sand. Wet. Stiff. Moderately	grey brown	no	no	106- 8196	

Samplers: S. Barber
I. Sacel

integral consulting inc.

HAWK CREEK - COMPOSITE C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 5/4/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0920	HC 241	15cm	0-15cm: med-coarse sand, well sorted	grey/ brown	NO	NO	0288	moist
0927	HC 236	15cm	0-15cm: fine-coarse sand, poorly sorted	grey/ brown	NO	NO	0289	moist
0932	HC 220	15cm	0-15cm: same as above	grey/ brown	NO	NO	0290	dry-moist
0936	HC 207	15cm	0-15cm: fine sand	dark brown	NO	NO	0291	dry-moist
0942	HC 181	15cm	0-15cm: fine-med sand, well sorted	grey/ brown	NO	NO	0292	moist
0945	HC 159	15cm	0-15cm: same as above	grey/ brown	NO	NO	0293	moist

Samplers: J. Wilson
L. Lindle

HAUK CREEK - COMPOSITE C

integral consulting inc.

HC12 Beach Sampling

SURFACE SAMPLE LOG

Date: 5/9/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1002	HC40	15cm	0-15cm: fine sand, well sorted.	Brown	NO	NO	0294	dry-moist
1006	HC47	15cm	0-15cm: fine-med sand, well sorted	brown	NO	NO	0295	dry-moist
1010	HC25	15cm	0-11cm: fine sand, well sorted 11-15cm: silt, w/ some fine sand.	brown light/ brown	NO	NO	0296	dry-moist
1015	HC11	15cm	0-15cm: fine-med sand, well sorted	brown	NO	NO	0297	dry-moist
1019	HC2	15cm	0-15cm: same as above	brown	NO	NO	0298	dry-moist
1023	HC10 (reserve)	15cm	0-15cm: fine-coarse sand, poorly sorted w/ clasts of silt	brown	NO	NO	0299	dry-moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

HAWK CREEK - COMPOSITE D

SURFACE SAMPLE LOG

Date: 5/4/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1044	HC 237	15cm	0-15cm: med-coarse sand, well sorted.	grey/ brown	NO	NO	0300	dry-moist
1048	HC 226	15cm	0-15cm: fine-med sand, well sorted	brown	NO	NO	0301	dry- moist.
1055	HC 179 (reserve)	15cm	0-13cm - med-coarse sand, well sorted 13-15cm: fine sand, well sorted	grey/ brown brown	NO	NO	0302	dry-moist.
1101	HC204	15cm	0-15cm: med-coarse sand, poorly sorted	brown	NO	NO	0303	dry-moist
1106	HC 197	15cm	0-12cm: fine-coarse sand, poorly sorted 12-15cm: clay w/ some silt.	grey/ brown light tan	NO	NO	0304	dry-moist.
1113	HC 180	15cm	0-15cm: med-coarse sand w/ some silt, well sorted	brown	NO	NO	0305	dry-moist

Samplers:

integral consulting inc.

HAWK CREEK COMPOSITE D

SURFACE SAMPLE LOG

Date: 5/4/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1119	HC126	15cm	0-15cm: fine-med sand, well sorted	brown	NO	NO	0306	dry-moist
1122	HC115	15cm	0-15cm: fine-med sand, well sorted	brown	NO	NO	0307	dry-moist
1128	HC ~~54~~ 55	15cm	0-15cm: same as above	brown	NO	NO	0308	dry-moist
1132	HC 56	15cm	0-15cm: same as above	brown	NO	NO	0309	dry-moist
1135	HC39	15cm	0-9cm: fine-med sand well sorted. 9-15cm: fine sand w/silt well sorted	grey/brown brown	NO	NO	0310	moist
1139	HC19	15cm	0-15cm: med-coarse sand w/ lenses of fine sand	grey/brown	NO	NO	0311	dry-moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

HAWK CREEK - COMPOSITE E

SURFACE SAMPLE LOG

Date: 5/4/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0917	HC-12	0-15	SAND, FINE TO MED GRAIN, SUBROUND, TRACE SILT, FEW COBBLES <5" SUB RDS.	LT BROWN GRAY TO LT BROWN	-	-	(106) 4459	
0925	HC-17	0-15	SAND, AS ABOVE, BUT WITH ISOLATED COBBLE, MOIST.	"	-	-	4460	
0930	HC-36	0-15	SAND, AS ABOVE BUT SURFACE FEW COARSE SAND-SUBROUNDS, SLIGHTLY MOIST	"	-	-	4461	
0934	HC-45	0-15	SAND, AS AT HC-17 BUT NO COBBLE	"	-	-	4462	
0938	HC-80	0-15	SAND, AS ABOVE	"	-	-	4463	
0944	HC-123	0-15	SAND, AS ABOVE, BUT ABUNDANT SUBROUNDED COBBLES.	"	-	-	4464	

Samplers: JM

integral consulting inc.

HAUK CREEK - COMPOSITE E.

SURFACE SAMPLE LOG

Date: 5/4/04

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0950	HC-110	0-15	SAND, AS AT HC-17 BUT WITH TRACE GRAVEL MED GRAIN, SUBROUND ON SURFACE.	LT YELLOW GRAY TO LT BROWN	-	-	4466	
0959	HC-155	0-15	AS ABOVE WITH SURROUNDING COBBLE <24".	"	-	-	4467	
1007	HC-196	0-15	SAND, FINE TO COARSE SUBROUND, POORLY SORTED, TRACE SILT SLIGHTLY MOIST, FEW GRAVEL ON SURFACE - MED GRAIN	"	-	-	4468	ALTERNATE TO HC-178.
1016	HC-214	0-15	SAND, FINE TO MED GRAIN, SUBROUND, TRACE GRAVEL, MED GRAIN ON SURFACE, SLIGHTLY MOIST,	"	-	-	4469	
1025	HC-89	0-15	AS AT HC-196	"	-	-	4470	
1037	HC-91	0-15	AS AT HC-196, BUT WITH ISOLATED COBBLE - <6"	"	-	-	4471	

Samplers: JR

HUNTERS CAMPGROUND SURFACE SEDIMENT LOGS

integral consulting inc.

Hunters Campground - Composite H

camera - Cine Pix ESSO

SURFACE SAMPLE LOG

Date: 5-5-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1003	HT-1746	0-15	Silt Clay few pebbles	Dark grey Brown	none	none	100-7293	Single Layer, slight mottling (Lt. Brown)
1014	HT-1703	0-15	Silt Clay	Greyish Brown	lots of plant roots	none	100-7294	Single Strata, slight mottling (Lt. Brown)
1021	HT-1619	0-15	Silt Clay w/ gravel & pebbles	Greyish Brown	none	none	100-7295	Single strata, mottling (Lt. Brown & grey)
1031	HT-1579	0-3cm 4-15cm	Silty Clay - w/ pebbles Silt Clay	dark grey Brown	some minor debris none	none none	100-7296	2 Strata ~~Mott~~ Mottled Heavy gleying in 0-3cm
1036	HT-1569	0-15	Silt clay w/ medium sands	dark grey	none	none	100-7297	Single Strata
1042	HT-1521	0-1cm 2-4cm 5-15cm	Silt Clay Silt Clay Silt Clay	Lt. grey dark grey dark greyish Brown	minor none none	none none none	100-7298	0-1 light grey crust

Samplers:

J. Kolosznar

C. Bullock

integral consulting inc.

Hunters Campground – Composite A

Camera = Fine Pix F55

SURFACE SAMPLE LOG

Date: 5-5-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1050	HT-1557	0-3cm 4-15cm	coarse sand & pebble mixed w/ Fine sand Silty Clay	Lt. grey Lt. brown	none	none	100-7299	w/ dark brown mottling
1103	HT-1070	0-15	Silty Clay	dark greyish Brown	minor debris	none	100-7300	Single Stratta w/ heavy rusty red mottling
1113	HT-658	0-1cm 2-15	Silt clay crust Silty Clay	Lt. grey dark greyish Brown	slight debris	none	100-7301	2-15 heavy mottling (rusty red color)
1120	HT-1171	0-1 cm 2-15cm	Silt Clay crust Silty Clay	Ltgrey dark greyish Brown	slight debris	none	100-7302	2 Stratta
1125	HT-1270	0-1cm 2-15cm	Silt Clay crust w/ coarse sand Silt clay	Lt. grey dark grey Brown	slight debris	none	100-7303	2 stratta charcoal at ~5cm
1135	HT-159	0-1 cm 2-15cm	Silt crust Silty Clay mixed w/ Fine sands.	Lt. grey olive Brown	none	none	100-7304	mottling in 2-15 cm (rusty red color)

Samplers:

J. Ickes WRT

C. Bullock

integral consulting inc

Hunters Campground - Composite B

CAMERA - Fuji Pix F550

SURFACE SAMPLE LOG

Date: 5-5-11 **Page:** 1 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1332	HT-1740	0-2cm 3-15cm	Silt w/ med. to coarse sand Silty Clay w/ med. to coarse sand and pebbles	Lt. grey dark grey	none	none	100-7305	2 stratta
1340	HT-1663							refusal - heavy cobble
1352	HT-1636	0-2cm 2-15cm	Silty Clay crust w/ pebbles Silty Clay	Lt. grey dark greyish brown	none	none	100-7306	reserve dark grey mottles 2-15cm
1406	HT-005	0-1cm 2-6cm 7-8cm 9-15cm	Silty Clay crust w/ pebble gravel → Lt. grey Silty Clay mixed w/ fine sand → Lt. brown Silty Clay ; Black silt → Black Silty Clay → Brown		none	none	100-7307	rusty red mottling (2-6cm) rusty red mottling (2-6cm)
1417	HT-659	0-15	Silty clay	Greyish Brown	none	none	100-7308	red and yellow mottling
1424	HT-1126	0-1 2-15	Silt Clay crust Silt Clay	Brown	minor none	none	100-7309	red and yellow mottling (2-15)

Samplers:

J. Kokes-LAS

C. Bullock

integral consulting inc.

Hunters Campground - composite B

Camera: Fine Pix E550

SURFACE SAMPLE LOG

Date: 5-5-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1433	HT-1311	0-15	Hard Silty Clay	Lt. greyish Brown	none	none	100-7310	dark grey and rusty red mottling
1440 ~~1485~~ Ike	HT-1185	0-2 3-15	Silt Clay crust Hard Silty Clay	Lt. grey Lt greyish Brown	veg. debris none	none	100-7311	veg. growing on surface. dark grey, red, Black mottling At 3-15cm
1447	HT-1004	0-2 3-15	Silty Clay crust Silty Clay	Lt. grey dark Brown	veg. none	none	100-7312	veg. growth on surface
1453	HT-744	0-15	Silty Clay	Olive Brown	minor debris	none	100-7313	red mottling
1459	HT-185	0-15	Silty Clay mixed w/ Fine Sand	Lt. olive Brown	none	none	100-7314	minor mottling
1505	HT-250	0-15	Silty Clay mixed w/ Fine Sand	Lt. Olive Brown	none	none	100-7315	minor mottling

Samplers:

J. Kolostar

C. Bullock

integral consulting inc.

Hunters Campground - Composite B

camera: FinePix E550

SURFACE SAMPLE LOG

Date: 5-5-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1510	HT-99						~~7315~~ JKO	refusal - cement boat ramp
1514	HT-25	0-11 ~~0-15~~ JKO 11-15	Silty Clay w/ Fine Sand Silty Clay	Lt. Brown greyish ~~Steel~~ JKO ~~Dark~~ JKO ~~Grey~~ JKO	none	none — yes	100 - 7316	color at 11-15 = greyish green

Samplers: J. Kolszar
C. Bullock

integral consulting inc.

HUNTER'S CAMPGROUND

COMPOSITE C

SURFACE SAMPLE LOG

Date: 5/5/11 **Page:** 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1020	HT1733	0-1 1-15	clay silt w/ coarse to fine gravel angular to subround to 2 cm w/ occasional rocks tumbling down >15cm, and coarse to fine silty sand silty clay + (13)	tan to olive brown olive brown mottled red	none brown and light gray	none	001	
1036	HT-1718	0-15	riprap angular rocks > 15 cm silty clay silty clay to 15cm. ~~Clay to 15~~ (13)	light gray & light brown light brown to reddish brown	twigs	none	002	
1046	HT-1617	surface 0-15	mixture of riprap and road cobble to 7cm in size. medium to fine gravel in silty clay Dry clay	tan, light gray tan	none	none	003	
1056	HT-1583	surface 0-15	clay silt w/ fine silty sand silty clay	light tan to olive brown olive brown	small brown seed shells	none	004	
1106	HT-876	0-2 2-4 4-15 8to9cm	Angular to subangular w/ fine silty sand, little angular gravel to 2 cm size. fine silty sand fine silty sand w/ some clay piece of charcoal	light tan to olive brown light brown brown	dried out vegetation, sprouts, pine needles, snail shells	none	005	
1127 ~~1119~~ (13)	(13) ~~HT-874~~ HT-948	surface 0-15cm	Angular to subangular w/ sandy silt Sandy silt	light tan to olive brown light brown yellowish, olive and gray brown	twigs sprouts	none	007	

Samplers: IAN SUPALOFF
MICHAEL BAXTER
KATHY BLACK

integral consulting inc.

HUNTERS CAMPGROUND

COMPOSITE C

SURFACE SAMPLE LOG

Date: 5/5/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1119	~~HT-948~~ (15) ~~HT-984~~ HT-674 (15)	surface 0-15	Argillibirbation w/ fine silty sand and sandy silt multiple layers of fine silty sand and clayey silt two red worms (chironomids?)	light tan to olive brown olive brown to brown and gray	pine cones pine needles snail shells sprouts	none	006 photo #007 above	
1136	HT1061	0-2 2-15	medium to fine silty sand argillibirbation, w/ subangular gravel 2.5cm size silty clay.	light tan to brown brown.	pine needles, bark roots.	none	008	
1148	HT-1660	0-1 1-15	medium to fine silty sand medium to fine silty sand w/ clay	light tan olive, brown, gray	snail shells sprouts	none	009	
1157	HT-200	0-1 1-15	Argillibirbation fine silty sand angular to subround cobble to 7.5cm in size. sandy silt w/ clay	light tan brown, olive brown	sprouts, pine needle drie aquatic vegetation	none	010	
1207	HT-44	0-2 2-15	Argillibirbation ~~silty~~ sandy silt multiple layering of fine silty sand, sandy silt and clay red worm (Chiranomid)?.	dark brown, light brown, brown, reddish brown, gray	Sand shells sprouts.	none	011	
1217	HT-37	surface-2cm 2-8 8-15	coarse to fine silty sand w/ argillabirbation. Angular to round cobble to 9cm in size. Medium to fine silty sand fine silty sand	grayish to light tan olive light brown	dried out vegetative vegetation	none	012	

Samplers: IAN STUPAKOFF
MICHAEL BARTER
KATHY BLACK

integral consulting inc.

HUNTER'S CAMPGROUND
COMPOSITE D

SURFACE SAMPLE LOG

Date: 5/5/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1334	HT-1277	0-6 6-15	sandy silt and clay; Subangular to round cobble >13cm in size Sandy silt w/ subangular and subround cobble >13cm	grey and light brown brown	twigs	none	013	
1352	HT1685	0-15	Argillaceous turbation w/ subangular to subround cobble to 7.5cm in size clay to 15cm in depth	light tan to brown to light brown and grey	none	none	014	
1404	HT-1645	0-2 2-15	Sandy silt w/ Argillaceous turbation riprap rocks (basalt) >15cm in size. Silty clay	light tan brown	twigs iron oxide	none	015	
1414	HT-1362	surface 0-15	Sandy silt Sandy silt	brown brown and light brown	sprouts pine cone snail shell pistachio nut shell	none	016	
1426	HT-1369	0-1 1-15	Silty sandy silt w/ argillaceous turbation Dry clayish silt	light tan brown	sprouts snail shells	none	017	
1429	HT-1498	0-2 2-15	riprap rocks to 6.5cm in size Argillaceous turbation silty clayish silt, clayish silt	light tan brown	dried grass, sprouts, fresh grass pine needle	none	018	

Samplers: IAN SHIPAKOFF
MICHAEL BAXTER
KATHY BLOCK

integral consulting inc.

HUNTERS CAMPGROUND

COMPOSITE D

SURFACE SAMPLE LOG

Date: 5/5/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
(IS) ~~1517~~ 1524	HT81	0-2.5 2.5-15	coarse to fine silty sand w/gravel subrounded to 3cm in size Sandy silt	light tan — brown	Pine needle, leaf	none	023	

Samplers: IAN STUPAKOFF
MICHAEL BAXTER
KATHY BLACK

integral consulting inc.

HUNTERS CAMPGROUND
COMPOSITE D

SURFACE SAMPLE LOG

Date: 5/5/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1442	HT-800	0-1 1-15	Sandy silt, angular turbation Clayish silt	brown olive brown and brown	sprouts, twigs, maple seed bank	none	019	
1453	HT-229	~~0-4~~ (15) 0-15 ~~4-15~~ (15)	Subangular to round gravel to 6.5cm Sandy silt, to 15 cm depth ~~Sandy silt and~~ (15)	light tan brown	pine needle sprouts	none	020	
1502	HT-144	0-4 4-15	Angular to subround gravel to 2 cm in size, coarse to fine silty sand medium to fine sand	light tan light brown	small shells pine needles pine cones	none	021	
1512	HT-118	0-2 2-5 5-7	Angular turbation medium to fine silty sand w/ angular gravel to 3 cm in size. medium to fine sand w/ subangular to sub round gravel Sandy silt	light tan light tan and grey brown	none	none	022	
1515	HT-49	7-15	silty clay	greenish brown	none	none	—	rejected cement coat ramp.
1527 ~~1517~~	HT-34 ~~HT-81~~ (15) alternate	0-2 2-6.5 6.5-15	Angular to subround gravel to 4cm Medium to fine silty sand Fine silty sand	light tan ~~light tan~~ (15) light brown reddish brown	none	none	024	

Samplers: ~~IAN STUBAKOFF~~
MICHAEL BAXTER
KATHY BLACK

integral consulting inc.

Hunters Campground
Composite E

Camera = Cannon

SURFACE SAMPLE LOG

Date: 5-5-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1430	Ht -1779	0-4	Silty Clay w/ Fine Sand and gravel (3/4")	Lt Brown	No	No	# 222	
		4-6	Silty Clay	greenish grey				
1446	Ht -1548	0-6	Silt w/ Clays	Lt Brown to greenish grey	No	No	# 223	Dry
1500	Ht -512	0-1	F. Sand	grey	No	No	# 224	
		1-6	Silt w/ F. Sand	Lt Brown				
1510	Ht -922	0-6	Silt w/Fine Sand	Brown	No	No	# 225	Redox concentration depletions
1518	Ht -1258	0-6	Silt w/ Clays	Lt Brown	No	No	# 226	Dry
1525	Ht -1138	0-3	Silt w/ clays	Lt Brown to greenish grey	No	No	# 227	
		3-6	F. Sand w/ silts	Brown reddish				

Samplers: Jeff Hinnemann
Mike Duffield

integral consulting inc.

Hunters Campground
Composite E

Camera
= Canon

SURFACE SAMPLE LOG

Date: 5-5-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1532	Ht - ~~942~~	0-6	Silt w/clay	Lt Brown grey	No	No	# 228	
1540	Ht -~~931~~	0-6	Fine Sand w/ Silt	Lt Brown reddish	No	No	# 229	
1547	Ht - ~~955~~ 956	0-6	Silt w/ clay	Lt Brown grey	No	No	# 230	
1554	Ht - 685	0-6	"	"	No	No	# 231	
1605	Ht - 121	0-1 1-6	F to M Sand Silt w/ Fine Sand	Lt Brown Lt Brown grey	No	No	# 232	
1614	Ht -128	0-4 4-6	Coarse Sand w/ gravel F to Coarse Silt w/ F to C gravel	Brown grey Brown grey	No	No	# ~~234~~ 233	

Samplers: Mike Duffield
Jeff Ninnemann

JONES BAY SURFACE SEDIMENT LOGS

integral consulting inc.

JONES BAY - COMPOSITE 4

SURFACE SAMPLE LOG

Date: 5/2/11 camera # 1098

Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1029	JB-261	15	Sand, medium subrounded, trace of fine and coarse sand subrounded Damp. Med. dense trace of fine subrounded gravel	grey	no ine	no	104-8123	
1037	178	15	Sand, fine to med, subangular grey trace of coarse sand, subrounded dry to damp loose		no	no	104-8124	
1041	208	15	Sand, fine to coarse, subangular, subrounded, damp, loose,	grey	no	no	104-8125	
1044	165	15	same as 208	"	"	"	104-8126	
1047	192	15	Same as 208 and 165	"	"	"	104-8127	
1050	142		Same as 208, 165, 192. Plus surface: fine to coarse subrounded gravel + cobble scattered silt loose	"	"	"	104-8128	

Samplers: S. Barba
I. Saul

integral consulting inc.

SOUR BAY - COMPOSITE A

SURFACE SAMPLE LOG

Date: 5/2/11 camera # 1098 Page: 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
~~1054~~ 1055	JB-129	15	Surface: fine to med. sand. 0-15cm: sand, fine, moist dense, trace of coarse subrounded gravel. slightly modeled	grey	no	no	104-8129	
1100	104	15	sand, fine to med, dry to damp; loose trace of coarse subrounded gravel, and cobbles	grey	no	no	104-8130	
1104	79	15	0-5cm: sand, fine to coarse, subrounded, dry, loose trace of fine subrounded gravel poorly sorted 5-15cm: sand, fine, moist, medium dense.	grey / grey	no / trace of organics	no / no	104-8131	
1108	81	15	sand, fine to med. trace of coarse subrounded sand trace of fine subrounded gravel, damp, loose	grey	no	no	104-8132	
1113	18	15	sand, fine to med. some coarse sand subangular to subrounded. Dry to damp loose	grey	no	no	104-8133	
1117	65	15	Sand, fine to med., trace of coarse sand subrounded moist, loose to med. dense	olive grey	trace of organics	dirt odor	104-8134	

Samplers: S. Barber
I. Saul

integral consulting inc.

JONES BAY - COMPOSITE B

Date: 5/2/11 camera # 1098 **SURFACE SAMPLE LOG** Page: 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1137	JB-49	15	sand, fine to med. Subrounded moist, loose	grey	trace of organics	no	104-8137	drift wood at surface
1141	25	15	sand, med. to coarse subrounded trace of fine subrounded gravel damp loose	grey	no	fishy	104-8138	
1145	95	15	surface coarse sand and fine gravel, 0-7cm: sand, fine, trace of med. sand, damp, loose 7-15cm: sand, fine to coarse, subrounded, poorly sorted, damp, med. dense	grey	no	no	104-8139	
1150	114	15	sand, fine to med., subrounded trace of fine subrounded gravel damp, med. dense	grey	no	no	104-8140	
1153	141	15	surface: gravel + cobbles sand, fine to coarse, subrounded, poorly sorted, trace of fine subrounded gravel, damp, med. dense	grey to brownish grey	no	no	104-8141	
1156	131	15	sand, fine to med trace of fine to coarse subrounded gravel dry to damp, loose	grey	no	no	104-8142	

Samplers: S Barber
I. Saul

integral consulting inc.

JDEG BAY - COMPOSITE B

SURFACE SAMPLE LOG

Date: 5/2/11 camera #1098 Page: 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1203	JB 252	15	surface: gravel + cobbles sand, fine to coarse subangular, poorly sorted some fine subrounded gravel damp, loose	grey	no	no	104-8143	
1208	302	15	sand, fine to med, subrounded damp, loose	grey	no trace organics	no	104-8144	drift wood at surface
1212	282	15	sand, fine to mid. subrounded dry to damp, loose trace of coarse subrounded sand	grey	no	no	104-8145	
1216	267	15	same as 282	"	"	"	104-8146	
1219	224	15	surface: gravel+cobbles sand, fine to med., trace of coarse subrounded sand damp, med dense	grey	no	no	104-8147	
1222	175	15	same as 224, no surface gravel/cobbles	"	"	"	104-8148	

Samplers: S. Barber
I. Saul

integral consulting inc.

JONES BAY - COMPOSITE C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 5/2/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1033	JB 260	15cm	0-15cm: med-coarse sand. well sorted	grey/ brown	NO	No	0239	gravel at surface dry-moist
1044	JB 222 (reserve)	15cm	0-15cm: med-coarse sand well sorted	grey/ brown	tree roots @ 14cm	organic	0240	dry-moist
1055	JB 174	15cm	0-15cm: fine-coarse sand. well sorted	grey/ brown	NO	NO	0241	dry-moist
1059	JB 199	15cm	0-15cm: fine-coarse sand well sorted	grey/ brown	NO	NO	0242	dry-moist
1102	JB 158 (JW)	15cm	0-15cm: med-coarse sand well sorted	grey/ brown	NO	NO	0243 (JW)	moist
1108	JB 166	15cm	0-15cm: same as above	grey/ brown	NO	NO	0245	dry-moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

Jones Bay - Composite C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 5/2/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1112	JB235	15cm	0-15cm: fine-med sand, well sorted.	grey/ brown	scattered wood debris @ surface	NO	0246	dry-moist.
1115	JB171	15cm	0-15cm: fine sand w/ some silt & small-large gravel, cobble @ surface	light/ tan	NO	NO	0247	moist.
1120	JB144	15cm.	0-15cm: med-coarse sand wellsorted w/ cobble	grey/ brown	NO	NO	0248	dry-moist
1124	JB128	15cm.	0-15cm: coarse sand, w/ small to med gravel wellsorted.	grey/ brown	ND	ND	0249	dry-moist
1132	JB7 (reserve)	15cm	0-15cm: fine-coarse sand w/ lenses of coarse sand, well sorted.	grey brown	NO	NO	0250	moist
1137	JB3	15cm	0-15cm: fine-coarse sand well sorted	grey/ brown	NO	NO	0251	dry-moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

JUAN BAY - COMPOSITE D

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 5/2/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1158	JB217	15cm	0-15cm: fine-coarse sand, well sorted	grey/ brown	NO	NO	0252	dry-moist
1202	JB293	15cm	0-15cm: fine-coarse sand, poorly sorted w/ large gravel.	grey/ brown	NO	NO	0253	dry-moist
1207	JB245	15cm	0-15cm: med-coarse sand, well sorted.	grey/ brown	NO	NO	0254.	dry-moist
1211	JB289	15cm	0-15cm: fine-med sand well sorted	grey/ brown	NO	NO	0255	dry-moist
1217	JB250	15cm	0-15cm: fine-coarse sand, poorly sorted	grey/ brown	NO	NO	0256	dry-moist
1222	JB145	15cm	0-15cm: same as above w/ small-med gravel	grey/ brown	NO	NO	0257	dry-moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

JONES BAY - COMPOSITE D

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 5/2/11 **Page:** 4 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1226	JB188	15cm	0-15cm: fine - coarse sand, poorly sorted	grey/ brown	NO	NO	0258	dry - moist
1231	JB154	15cm.	0-15cm: same as above	grey/ brown	NO	NO	0259	dry
1237	JB97	15cm	0-15cm: fine - med sand, well sorted	grey/ brown	NO	NO	0260	dry - moist
1241	JB30	15cm	0-15cm; med - coarse sand w/ small gravel	grey/ brown	NO	NO	0261	dry - moist
1244	JB16	15cm	0-15cm: med - coarse sand w/ small - med gravel	grey/ brown	NO	NO	0262	dry - moist.
1248	JB23	15cm	0-15cm: fine - med sand, well sorted	grey/ brown	NO	NO	0263	dry - moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

UCR Beach Sampling

SURFACE SAMPLE LOG

Jones Bay Beach Composite E Surface

Date: 5/2/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1027	JB-37	0-15	Fine - med grain sand subrounded, dry to slightly moist, Loose sand	Lt gray to Lt brown	None	None	File 104 # 4384	
1032	JB-86	0-15cm	As above (JB-37) except few coarse grain sand subround, few granual fine grain subround	"	None	None	4385	
1036	JB-135	0-15cm	Same as above (JB-86) except surrounding cobble up to 10" subround, subangular	"	None	None	4386	
1040	JB-215	0-15cm	Same as JB-86	"	None	None	4387	
1043	JB-167	0-15cm	Same as JB-215	"	None	None	4388	
1045	JB-230	0-15cm	Same as JB-215 except few cobble to 8" on surrounding surface		None	None	4389	

Samplers: Joss Moore
Bob Sullivan
observer Michele Stegmeir

integral consulting inc.

UCR BEACH SAMPLING

SURFACE SAMPLE LOG

Date: 5/2/11 JONES BEACH Composite of SURFACE Page: 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1050	JB-279	0-15 cm	Fine-med grain sand, sub round dry to slightly moist few gravel, sub round med-coarse grain, isolated cobble to 4" Loose sand	LT gray to LT Brown	NONE	NONE	4390	
1054	JB-262	0-15 cm	SAME AS JB-279	SAME AS ABOVE	NONE	NONE	4391	
1056	JB-239	0-15 cm	SAME AS ABOVE	SAME AS ABOVE	NONE	NONE	4392	
1059	JB-219	0-15 cm	SAME AS ABOVE But NO gravel	SAME AS ABOVE	NONE	NONE	4393	
1102	JB-177	0-15 cm	SAND Fine grain, sub round few med grain SAND sub round, Poorly sorted Dry to slightly moist	LT gray to LT BROWN	NONE	NONE	4394	
1107	JB-121	0-15 cm	SAND Fine grain fw med grain sub round Poorly sorted Dry to slightly moist	LT GRAY to LT. YELLOW BROWN	NONE	NONE	4395	

Samplers: JESS MOORE
BOB SULLIVAN
observer MICHELE STEGNER

KAMLOOPS ISLAND SURFACE SEDIMENT LOGS

integral consulting inc.

Kamloops Island Beach - composite A

Camera = Fine Pix E550

SURFACE SAMPLE LOG

Date: 4/24/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0959	KL-119	0-15	Fine to coarse sand w/ pebbles & gravel - Uniform single strata	grey	none	none	100-7081	
1004	KL-102	0-15	Fine sand / Medium sand w/ some pebbles, uniform single strata	grey	minor debris	none	100-7082	
1009	KL-110	0-15	Silt Clay - uniform single strata	Dark grey to brown	minor debris	none	100-7083	
1014	KL-74	0-15	Fine/medium sand, some ~~fine~~ pebbles, uniform single strata	grey	minor debris	none	100-7084	
1019	KL-33	0-15	Coarse Sands, w/ pebbles strata 1 ~~Uniform single strata~~ Fine sand silt (strata 2) below 3"	grey	~~none~~ minor debris	none	100-7085	
1025	KL-18	0-15	2 strata 1- coarse sand & pebbles 2" 2- Fine sands fewer pebbles 4"	medium grey	~~none~~ minor debris	none	100-7086	

Samplers:

Jim Kolaszar

Cyrus Bullock

integral consulting inc.

Kamloops Island Beach Composite A

camera = FinePix E550

SURFACE SAMPLE LOG

Date: 4/24/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1030	KL-20	0-15	Rocks; pebbles ~~Fine~~/medium sands dominant ~20 uniform single strata	grey	minor debris; roots	none	100-7087	

Samplers:

J.M Kolasznay

Cyrus Pollock

integral consulting inc.

Kamloops Island Beach - Composite B

Camera: Fine Pix E550

SURFACE SAMPLE LOG

Date: 4/24/11 **Page:** 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1051	KL-139	0-15	2 Strata 1 - Fine sand crust (1") 2 - Fine/medium sand (5")	grey	minor debris & roots	none	100 - 7088	
1059	KL-122	0-15	2 Strata 1 - Fine sand crust (1") 2 - Fine/medium sand (5")	grey	none	none	100 - 7089	
1105	KL-155	0-15	Fine/medium sand; lots of small pebbles, uniform single strata	grey	none	none	100 - 7090	
1112	KL-156	0-15	Silt/clay; roots; mottling (rust color)	Dark Brown mottle= dark grey & rust	minor debris roots	none	100 - 7091	
1119	KL-129	0-15	Silt/clay; roots; w/ mottling (rust color)	Dark brown mottles w/ dark grey & rust	Minor debris roots	None	100 - 7092	
1124	KL-93	0-15	Fine/medium sand w/ pebbles, - Strata 1 Silt/clay - Strata 2	strata 1 - grey strata 2 brown	Minor, debris; roots	none	100 - 7093	

Samplers: Jim Kolosyar
Cyrus Bullock

Kamloops Island Bench - Composite B

Camera = FujiFilm FinePix E550

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4/24/11 **Page:** 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1134	KL-36	0-15	Fine sand crust (1") - grey medium sands (1") - grey silt/clay (5") mottling		minor debris	none	100-7094	

Samplers: J Kolesar
C Bullock

integral consulting inc.

KAMLOOPS ISLAND BEACH

COMPOSITE C

camera. Digital phone

SURFACE SAMPLE LOG

Date: 4/24/11 **Page:** 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0957	KL158	0-15	surface angilliturbation clayish silt uniform to 15cm worm tubes	surface brown to reddish brown Dark olive brown, grey and reddish brown to 15cm	twigs	none	001	
1004	KL107 ~~KL107~~ (15)	0-15	Surface course homedium sand with angular and subround gravel to 3cm and clay pebbles to 4cm sand to 6cm. 6 to 15cm ~~silt~~ clayish silt 8 to 15 coarse to medium sand	Surface tan to grey, ~~and~~ ~~brown~~ (15) 6-8 olive brown 8-15 tan	twigs, sprout	none	002	
1018	KL-148 ~~KL148~~ (15)	0-15	surface angilliturbation silt with clay to 15cm Uniform red worms (chironomids?)	surface dark olive brown. Dark grey with mottled reddish brown to 15cm	twigs grass feather	none	003, 004 → insect larva? 005 → soil	
1032	KL132	0-15	Surface angilliturbation ~~silt~~ (5) clayish silt to 15cm Small band of fine sand at 0.5cm red worms (chironomids?)	olive brown to tan Surface dark olive brown w/ dark grey and brown to 15cm	twigs, rootlets	none	006	
1041	KL134	0-15	Surface Sandy silt subsurface clayish silt with ~~some~~ plasticity to worm tubes 15cm.	surface dark olive brown to tan Dark olive brown mottled with reddish brown to 15cm	twigs, rootlets pod husks	none	007	
1050	KL-97	0-15	Surface coarse to medium sand with cobbles to 6cm 0-4cm clayish silt with sand and round and subround gravel to 0.25cm. 4 to 8cm medium to fine sand with round to subround rocks to 6cm and driftwood. to 8-15cm 8-15cm silt with clay	light tan surface dark olive brown to dark grey 4-8cm. Dark olive	twigs, rootlets, pine cone seed husks	none	008	

Samplers: IAN SINCLAIR
MICHAEL BAKKER

integral consulting inc.

KAMLOOPS ISLAND BEACH

COMPOSITE C

SURFACE SAMPLE LOG

Date: 4/24/11 **Page:** 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1101	KL-80	0-15	surface organic bioturbation 0-3.5cm ~~silty~~ sandy silt 3.5-7.0cm coarse to medium sand with large gravel (rounded) to 6cm 7.0-15cm clayish silt	surface brown sand and gravel is light brown clayish silt with olive brown	grass clippings twigs, mussel shell	none	009	

Samplers: IAN STRAKOFF
MICHAEL BAXTER

integral consulting inc

Kamloops Island Bench - Composite D

Camera = FinePix E550

SURFACE SAMPLE LOG

Date: 4/24/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1246	KL-152	15	2 strata 1- fine sand crust (1") 2- medium / coarse sand lots of pebbles	grey	minor Debris	none	100 - 7095	
1253	KL-57	15	3 strata 1- fine sand crust (1") 2- medium sand (1") 3 - silt/clay	1- lt Brown 2- lt. grey 3- grey Brn.	minor debris & roots	none	100- 7096	
1259	KL-114	15	Silty Clay uniform single strata	Brown	none	none	100- 7097	
1308 ~~1208~~ SV	KL-79	15	3 strata 1- fine sand crust (1") 2- medium sand w/ lots of pebbles 3- fine sand	grey	none	none	100- 7098	
1314	KL-53	15	3 strata 1- fine sand crust (1") 2- medium sand/gravel (3") 3 - silt/clay (2")	g-2-l	none	none	100 - 7099	
1322	KL-31	15	2 strata 1- fine sand crust (0.5") 2- medium sand (5.5")	grey	none	none	100- 7100	

Samplers: J. Kolesar

C. Bullock

integral consulting inc.

Kamloops Island Beach - Composite D

Current = Fine Ply E-558

SURFACE SAMPLE LOG

Date: 4-24-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1327	KL-19	15	3 strata 1- fine sand crust (1") 2- med-fine sand w/ pebbles (4") 3- Silt/Clay (1")	lt. grey drk. grey	lots of fine debris	none	100 - 7101	

Samplers: C. Bullock
J. Kolasar

integral consulting inc.

Kamloops Island
Composite E

camera = Cannon

SURFACE SAMPLE LOG

Date: 4-24-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1245	KL-121	0-6 ~~06~~	M to Coarse Sand w/gravel F to 1¼" round to angular	grey	No	No	#45	
1251	KL-104	0-6	Coarse Sand w/gravel M to 2" round to angular	light brown greyish	No	No	#46	
1258	KL-127	0-6	Silts w/Fine Sands	brown	yes	No	#47	~~Sta~~ Some redox concentrations
1309	KL-115-	0-5 5-6	Silts w/Fine Sands M to C gravels w Fines	brown grey	No No	No No	#48	
1316	KL-15	0-6	M to C sand	brown grey	No	No	#49	
1321	KL-14	0-6	M to C sand w/gravel M to C (1'2")	brown grey	No	No	#50	

Samplers: Mike Duffield
Jeff Ninnemann

integral consulting inc.

Kamloops Island

Composite E

Camera = Cannon

SURFACE SAMPLE LOG

Date: 4-24-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1326	KL-4	0-6	M to C Sand w/ Medium Gravels 3/4" to 1"	brown gray	No	No	#51	

Samplers: Mike Duffield

Jeff Ninneman

KETTLE FALLS MARINA SURFACE SEDIMENT LOGS

integral consulting inc.

Kettle Falls Marina Beach
Composite A

Camera: Fine Pix E50

SURFACE SAMPLE LOG

Date: 4/26/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0932	KF-237	15 (0-15)	coarse sand, gravel/pebbles	Gray	None	None	100-7102	mottling Single strata - uniform
0939	KF-209	~~15~~ cm 0-5 6-15	Coarse sand - top layer (2") medium sand - bottom layer Pebbles/gravel throughout	Dark gray light brown	None	None	100-7103	Top of slope
0946	KF-205	~~15~~ cm 0-3 4-6 7-15	Coarse Sand/gravel (1") Silt/clay (1") medium sand bottom layer	Gray Brown light gray	None	None	100-7104	no mottling in top layer mottling in second layer fewer pebbles in bottom layer
0952	KF-183	15 (0-15)	medium to coarse sand gravels/pebbles	light gray	None	None	100-7105	Single Strata some mottling
0957	KF-187	15 (0-15)	coarse sand and gravel	gray	None	None	100-7106	Single Strata large gravels hillslope terrace
1005	KF-135	15 (0-15)	Coarse sand and gravel/pebbles	light brown	None	None	100-7107	Single Strata ~~no~~ cms

Samplers: Jim Kuroczy
Cyrus Bullock

integral consulting inc.

Kehle Falls Marina Beach
Composite A
(MB)

Camera - Fuji IS50

SURFACE SAMPLE LOG

Date: 4/26/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1010	KF-119	15 (0-15)	Coarse sand w/ gravel / pebbles	light gray to brown	None	None	100-7108	Single strata
1017	KF-108	15 (0-15)	Coarse sand w/ gravel	light gray to brown	None	None	100-7109	Single strata
1026	KF-107	15 (0-15)	Coarse sand and gravel	light gray	None	None	100-7110	Single strata hillslope terrace
1032	KF-56	15 (0-15)	Coarse sand and gravel / Pebbles	light gray	None	None	100-7111	Single strata rocks hillslope terrace
1040	KF-53	15 (0-15)	Coarse sand some pebbles	light gray/ brown	None	None	Delete pic ~~100-7112~~ ens 100-7113	Single strata top of slope some mottling
1046	KF-2	15 (0-15)	Coarse sand w/ gravel	light gray/ brown	None	None	100-7114	Single strata hillslope terrace

Samplers: Jim Kolisz
Cyrus Bullock

integral consulting inc.

Kettle Falls Marina Beach

Composite B

Canon - FinePix E50

SURFACE SAMPLE LOG

Date: 4/26/11

Page: 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1113	KF-343	15 (0-15)	Coarse sand and gravel/pebbles	light brown/ gray	piece of Metal	None	100-7115	Single Strata - Some mottling hillside terrace
1119	KF-334	15 (0-15)	Coarse sand and gravel/pebbles	brown to gray	None	None	100-7116	Single Strata top of hillslope
1125	KF-307	15 (0-15)	Coarse Sand and gravel/pebbles	brown/ light gray	None	None	100-7117	Single Strata
1131	KF-306	15 (0-15)	Coarse sand and gravel/pebbles	brown/ light gray	None	None	100-7118	Single Strata
1136	KF-303	15 (0-15)	Coarse sand and gravel/Pebbles	brown/ light gray	None	None	100-7119	Single Strata
1142	KF-155	15 cm 0-11 12-15	Top Strata Coarse Sand and gravel (5") Bottom Strata Silt	brown/ light gray brown	None	None	100-7120	Bottom thin layer of Silt hillside terrace

Samplers: Jim Kalosza
Cyrus Bullock

integral consulting inc.

Kettle Falls Marina Beach
Composite B

camera - Fire Pit ESO

SURFACE SAMPLE LOG

Date: 9/26/11

Page: 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1149	KF-158	15 (0-15)	Course ~~gravel~~ Sand (cmb) & gravel	light gray/ brown	none	none	delete photo ~~100-7121~~ (cmb) 100-7132	Single Strata
1155	KF-152	15 (0-15)	Course sand and pebbles w/gravel	brown/ light gray	none	none	100-7123	Single Strata
1200	KF-67	15 (0-15)	Course Sand and gravel/pebbles	light brown/ gray	none	none	100-7124	Single Strata hillslope terrace
1206	KF-65	15 (0-15)	Course Sand and gravel/pebbles	brown to gray	none	none	100-7125	hillslope terrace bb of cobble/rock Single Strata
1212	KF-23	15 (0-15)	Course Sand and gravel	light gray/ brown	none	none	100-7126	hillslope terrace Single Strata
1217	KF-5	15 (0-15)	course sand and gravel/Pebbles	light gray/ brown	none	none	100-7127	Single Strata

Samplers:
Jim Kuiksow
Cyrus Bullock

KETTLE FALLS MARINA BEACH
COMPOSITE C

camera Droid

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4/26/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1119	KF-221	0-15	Surface coarse to medium sand w/ subround and round gravel 3cm and rocks to 11cm 8-5cm as above 5-3cm medium to fine silty sand 3-15cm coarse to medium sand w/ gravel to 6cm	light brown 0-5cm and 8-15cm 5-8cm is dark brown	none	none	013	
1130	KF211	0-15	surface to 15cm medium to coarse sand with coarse to medium angular subround and round gravel, >3cm.	light brown	none	none	014	
1138	KF-196	0-15	Same as above	light brown	none	none	015	
1143	KF-175	0-15	Same as above but mostly sand at depth to 15cm	light brown	none	none	016	
1148	KF-164	0-15	Same as KF-211 but with coarse to medium subround to round to 6.5cm	light brown	roots and bark	none	017	
1153	KF-163	0-15	Same as above	light brown	sprout	none	018	

Samplers: IAN SIVAKOFF
MICHAEL BAXTER

KETTLE FALLS MARINA BEACH

COMPOSITE C

camera droid

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4/26/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1202	KF-138	0-15	Same as KF-211 but with less coarse gravel at surface upto 4.5cm	light brown to brown	none	none	019	
1210	KF-102	0-15	Surface coarse to medium sand w/ silt in grain interstices. Coarse to medium sand to coarse to medium gravel up to 6cm dia. to 15cm depth	Olive brown silt and light brown sand, light brown to 15cm	pine needles	none	020	
1219	KF-82	0-15	Same as above	same as above	pine needles	none	021	
1225	KF-38	0-15	Surface to 15cm coarse to medium sand one gravel at 2cm	light brown	pine cones & needles wood bricks	none	022	
1230	KF-26	0-15	Surface to 15cm coarse to medium silty sand with medium subround and round gravel up to 7.0cm	light ~~brown~~ brown at surface to 15cm	none	none	023	
1238	KF-8	0-15	Surface coarse to medium sand w/angular, subround and round gravel up to 4.5cm diameter to 15cm depth	light tan at surface to brown at depth	none	none	024	

Samplers: IAN STOAKNOFF
MICHAEL BAXTER

integral consulting inc.

KETTLE FALLS MARINA BEACH
COMPOSITE D

camera: Droid phone

SURFACE SAMPLE LOG

Date: 4/26/11

Page: 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0932	KF-222	0-15	surface to 15cm Coarse to medium sand, large round and subround rocks up to 12.5cm	surface light brown to 15cm	none	none	001	
0941	KF-226	0-15	Same as above with a band of fine sand w/ silt at 7cm.	same as above olive brown at 7cm	none	none	002	
0947	KF-191	0-15	surface to 15cm coarse to medium sand with round rocks to 5.5cm	brown	none	none	003	
0955	KF-103	0-15	Same as above with round cobble to 6cm. At 3-4cm fine sand w/ silt	brown 3-4cm olive brown	none	none	004	
0959	KF-81	0-15	Surface coarse to medium sand w/ silt and cobble, subround to 9cm diameter to 15cm depth	brown sand, olive brown to 15	crayfish claws, ½" charcoal twigs, pine needles, spruce	none	005	
1005	KF-80	0-15	Same as above with the cobble to 5.5cm	brown	pine needles, spruce	none	006	

Samplers: BW STUMHOFF
MICHAEL BAXTER

KETTLE FALLS MARINA BEACH

COMPOSITE D

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4/26/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1010	KF-73	0-15	same as in KF-80	brown	pine needle and sprouts	none	007	
1014	KF-58	0-15	at surface ~~fine~~ to (15) coarse to medium w/ some silt predominantely coarse to medium sand to 15cm At 4 to 5cm medium to fine sand/silt	brown 4-5cm dark olive	none	none	008	
1020	KF-24	0-15	Surface to 15cm coarse to medium sand w/ round cobbles to 6.5cm ~~from the~~ (15) and 12cm (at surface)	light brown	twigs and sprouts	none	009	
1039	KF-19	0-15	Surface to 15cm same as above, medium to coarse sand with gravel round to subround and cobble up to 4.5cm	light brown in color to 15cm	sprout	none	011	
1046	KF-13	0-15	Surface coarse to medium sand with subround to round gravel to 4cm. 0-8cm coarse to medium sand w/ subround gravel to 1.5cm 8-15cm medium to fine sand.	light brown. 0-8cm light brown 8-15 brown	pine needles	none	012	
1030	KF-245	0-15	Surface coarse to medium sand mixed with fine silty sand and round cobbles to 8cm Medium to coarse sand to 15cm w/ round cobbles to 3.5cm	light brown to olive brown at depth brown	none	none	010	

Samplers: IAN STUPAKOFF
MICHAEL BAXTER

integral consulting inc.

Kettle Falls Marina

Surface Composite E

Camera = Canon

SURFACE SAMPLE LOG

Date: 4-26-11

Page: 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1317	KF-233	0-3	Coarse Sand w gravel medium to Coarse (2")	Light Brown	No	No	#69	Picture mislabeled as "Cores"
		3-6	" Same as above but moist	"	Yes roots	No		
1331	KF-161	0-6	Coarse Sand w/gravel (2½")	Light Brown grey	No	No	#70	Picture mislabeled as "Cores"
1337	KF-147	0-6	Coarse Sand w/coarse gravel/cobbles	Light Brown grey	No	No	#71	
1344	KF-116	0-6	Coarse Sand w/ coarse gravel/cobbles	Light Brown grey	No	No	#72	
1350	KF-120	0-6	Coarse Sand w/medium gravel	Light Brown grey	No	No	#73	
1355	KF-112	0-6	Coarse Sand w/medium gravel	Light Brown grey	No	No	#74	

Samplers: Mike Duffield
Jeff Nimmermann

Kettle Falls Marina
Surface Composite E

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4-26-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1400	KF-90	0-6	Coarse Sand w/ Medium gravel	Light Brown grey	No	No	#75	
1406	KF-75	0-6	Coarse Sand w/ Coarse gravel	Light Brown grey	No	No	#76	
~~1422~~ 1412	KF-61	0-6	F to Coarse Sand w/ Fine gravels	Light Brown grey	No	No	#77	
1417	KF-59	0-6	M to Coarse Sand w/ Medium to Coarse gravel	Light Brown grey	No	No	#78	
1422	KF-55	0-6	Coarse Sand w/ Medium gravel	Light Brown grey	No	No	#79	
1428	KF-16	0-6	Coarse Sand w/ medium gravel	Light Brown grey	No	No	#80	

Samplers: Mike Duffield
Jeff Neumann

LYONS ISLAND SURFACE SEDIMENT LOGS

integral consulting inc.

LYONS ISLAND – COMPOSITE A

SURFACE SAMPLE LOG

Date: 4/24/11 camera #1098

Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0933	LY-53	15	0-5cm sand fine to coarse grained subrounded, dry, loose some fine to coarse subrounded gravel, poorly sorted 5-15cm ~~sand~~ silty sand, fine grained, moist, medium dense trace of fine to coarse gravel subrounded micaceous	tannish brown	none	none	104-7951	
0947	LY-132	15	sand fine to medium grained subrounded, damp, loose well sorted, micaceous	light tannish brown	none	none	104-~~7952~~ 7953 4/24	
0954	LY-475	15	sand fine to medium grained subrounded, moist, loose well sorted, trace of fine coarse sand, subrounded, micaceous	light tannish brown	none	none	104-7953	
1000	LY-468	15	0-.5cm silt, dry, soft, slightly modeled .5-15cm sand fine to coarse grained, subrounded, loose, damp, some fine to coarse subrounded gravel	grey	none	none	104-7954	
1009	LY-297	15	0-3cm sandy gravel, fine to coarse grained sand, subrounded fine to coarse gravel subrounded poorly sorted, dry, loose, 3-15cm silty sand, fine to medium grain, trace of coarse grain sand, subrounded, moist,	grey	none	none	104-7955	medium dense, trace of fine gravel, subrounded
1016	LY-384	15	0-6cm sand gravel same description as above 6-15cm same description as previous bottom layer	grey	trace of organic		104-7956	

Samplers: J. Seal
S. Barber

integral consulting inc.

796
Joss

CYNOSS ISLAND – COMPOSITE 4

SURFACE SAMPLE LOG

Date: 4/24/11 camera # 1098 Page: 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1023	FY-485	15	0–2cm same as previous location top layer 2-15cm same as previous bottom layer	grey	none	none	104-7957	
1030	507	15	sandy gravel, fine to coarse grain, subrounded fine to coarse subrounded gravel, moist, loose, miscellaneous	brown sand	none	none	104-7958	
1036	561	15	same as station 468				104-7959	
1041	704	15	0–.5cm silt, dry, soft, trace of fine grained sand .5-15cm sand, fine to coarse grained, subrounded, moist, loose; some fine to coarse subrounded gravel, miscellaneous	tan brown	trace of organics none	none none	104-7960	
1046	709	15	sand fine to medium grained, moist, dense, trace of coarse grained sand subrounded, trace of fine subrounded gravel, well sorted, miscellaneous	tannish brown	none	none	104-7961	
1053	395	15	gravel fine to coarse subrounded, trace of cobbles subrounded, trace of silt, trace of fine to coarse grained sand subrounded, moist, loose	brown	none	none	104-7962, 7963	

Samplers: I. Saul
S. Burger

integral consulting inc

LYONS ISLAND - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/24/11 camera # 1098

Page: 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1120	LY-227	15	0-5 CM sand coarse grained subrounded to subangular, dry, loose, trace of fine subrounded gravel 5-15cm sand fine to medium grain subrounded to subangular	grey brown	none moist, loose, trace of fine	none subrounded gravel, trace of coarse grained sand subrounded	104 7964	
1130	304	15	0-.5cm silt, dry, soft, trace of fine sand, micaceous .5-15cm sand fine grained, moist, dense, some silt, micaceous.	grey	trace of organics	none	104- 7965	
1135	420	15	0-.5cm silt dry soft slightly modeled .5-15cm sand fine to medium grained, damp, dense, well sorted, trace ~~of organics~~ fine subrounded gravel, micaceous	grey	trace of organics	none	104- 7966	
1142	411	15	0-1cm sand fine to coarse grained subrounded, dry, loose micaceous 1-15cm sand fine to coarse grained, subrounded, moist, medium dense, trace to fine to coarse subrounded gravel	brown	none	none	104- 7967	
1149	439	15	0-2cm gravel fine to coarse subrounded, some fine to coarse grained sand subrounded trace of silt 2-15cm sand fine to medium grained, trace of coarse grained sand some fine gravel subrounded	grey brown	none sand, some silt, micaceous	none	104- 7968	
1156	410	15	gravelly sand fine to medium grained sand, trace of coarse grained sand subrounded, some fine subrounded gravel, moist, dense, micaceous	brown	none	none	104- 7969	

Samplers: I. Saul
S. Barber

integral consulting inc.

LYON ISLAND - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/24/11 covera # 1098

Page: 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1206	698	15 subrounded	gravelly sand fine to coarse ~~subangular~~ gravel, fine to coarse grained sand subangular to subrounded, moist, medium dense, micaceous	brown	none	none	104-7970	
1214	701	15	surface: gravel and cobbles. Sand, fine to coarse grained subrounded to subangular, some fine subrounded gravel, moist, medium dense micaceous, slightly modeled	brown	none	none	104-7971	
1223	877	15	surface: gravel and cobbles. 0-12 cm: gravelly sand, fine to coarse grained sand subrounded, fine subrounded gravel, damp, loose, micaceous 12-15 cm: sand, fine grained, moist, dense, moderate modeling, micaceous,	light brown / tan	none	none	104-7972	trace of silt
1231	988	15	surface: fine gravel & sand, medium to coarse grained, subrounded, well sorted, trace of fine sand, some fine subrounded gravel, damp, dense, micaceous	grey	none	none	104-7973	
1236	999	15	0-2 cm sand coarse grained subangular subrounded, dry loose, micaceous 2-15 cm sand medium to coarse grained subrounded, trace of ~~fine grained sand~~, some fine	tan / brown	none	none	104-~~7974~~, 7975	subrounded gravel and cobbles; micaceous
1243	1020	15	surface: gravel and cobbles. Sand medium to coarse grained, subrounded, well sorted, trace of fine grained sand, some fine subrounded gravel and	brown	none	none	104-7976	cobbles, damp, dense, micaceous

Samplers: I. Saul
S. Barber

integral consulting inc.

LYON ISLAND - COMPOSITE C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/24/11 camera # 1321 Page: 1 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0934	LY50	15cm	0-15cm: gravel (small + large gravel) w/ fine to coarse sand. Poorly sorted.	brown	NO	NO	0070	moist
0943	LY257	15cm	0-15cm: small to large gravel (poorly sorted) w/ cobble, some sand; med - coarse grain. Well sorted	grey/ brown	NO	NO	0071	moist.
0953	LY235	15cm	0-3cm: small-med gravel; poorly sorted w/ some sand fine-coarse, poorly sorted 3-15cm: silt w/ some fine sand.	grey / dark brown	NO	NO	0072	dry to moist
1001	LY92	15cm	0-15cm: silt w/ occasional fine sand.	dark brown	0-2cm: root frags.	NO	0073	moist
1006	LY212	15cm	0-15cm: silt w/ occasional fine sand	dark brown	Plant material throughout	NO	0074	moist
1013	LY418	15cm	0-15cm: fine sand w/ some silt. Well sorted.	Dark brown	0-5cm: root frags.	NO	0075	moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

LYON ISLAND - COMPOSITE C

ULR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/24/11 Camera#1321 **Page:** 2 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1019	LY519	15cm	0-15cm: fine sand, well sorted with some silt	grey/ brown	NO	NO	0076	dry to moist
1025	LY580	15cm	0-15cm: small-med gravel, w/ fine sand and silt Poorly sorted	dark brown	NO	NO	0077	moist
1038	LY572	15cm.	0-15cm: fine-coarse sand, poorly sorted w/ gravel (small to large) and cobble	grey/ brown	NO	NO	0078	dry to moist
1045	LY677	15cm	0-15cm: silt w/ med-coarse sand. Well sorted w/ some small-large gravel	dark brown	NO	NO	0079	moist
1051	LY909	15cm	0-10cm: Small-large gravel, poorly sorted w/ cobble 10-15cm: fine-coarse sand, poorly sorted	grey/ browngrey	NO	NO	0080	dry to moist
1100	LY873	15cm	0-9cm: Large gravel, well sorted w/ med-coarse sand. 9-15cm: med-coarse sand, well sorted w/ small-med gravel	tan/grey brown/ grey	NO	NO	0081	dry to moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

Lyons Island - Complex D

UCIR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/24/11 Camera #1321

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1136	LY48	15cm	0-15cm: fine - coarse sand, well sorted, w/ small - - large gravel.	brown/ grey	NO	NO	0082	dry to moist
1143	LY112	15cm	0-3cm: small-large gravel w/ fine sand and silt. 3-15cm: silt w/ fine - coarse sand, poorly sorted	grey dark brown	NO	NO	0083	Dry to moist Live plant matter on surface.
1152	LY322	15cm.	0-15cm: med - coarse sand, well sorted. small - large gravel and some cobble.	brown/ black	NO	NO	0084	Dry to moist
1201	LY35	15cm.	0-15cm: silt w/ occasional fine sand	dark brown	plant debris through out	tree bark	0085	moist
1209	LY157	15cm	0-15cm: fine - med sand w/ trace silt well sorted.	grey to light brown	NO	NO	0086	dry - moist
1217	LY309	15cm	0-15cm: fine - med sand, well sorted.	light brown	NO	NO	0087	dry - moist

Samplers: J. Wilson
L Linde

integral consulting inc.

LYONS ISLAND - CAMPAIGN 5

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/29/11 Camera # 1321

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1224	LY543	15cm	0-3cm: silt w/ fine sand 3-15cm: fine-med sand, well sorted w/ some silt	light grey dark brown	NO	NO	0088	dry - moist
1230	LY582	15cm	0-15cm: small - large gravel, poorly sorted w/ fine - coarse sand.	brown	NO	NO	0089	dry - moist
1239	LY742	15cm	0-6 cm: small - large gravel w/ cobble. 6-15cm: small - large gravel w/ med-coarse sand, well sorted	grey tan/ black	NO	NO	0090	dry - moist
1246	LY741	15cm	0-6cm: cobble 6-15cm: gravel (small - large) poorly sorted w/ med-coarse sand.	grey tan/ black	NO	NO	0091	moist.
1257	LY996	15cm	0-15cm: small - large gravel w/ fine - coarse sand. Poorly sorted.	dark brown	NO	NO	0092	moist.
1304	LY1053	15cm	0-15cm: med - coarse sand. Poorly sorted w/ small - large gravel and cobble.	tan/ black	NO	NO	0093	dry - moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

UCR BEACH Sampling

BOB SULLIVAN
JOSS MOORE
MARC STIFELMAN
Michele Sicuta
ERIC DeSaithree-Voss (clearance)

SURFACE SAMPLE LOG

Date: 4/24/11 LYONS ISLAND BEACH COMPOSITE E **Page:** 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0930	LY-85	0-15cm	SAND FINE GRAIN TRACE SILT, ISOLATED PLANTS AND Rootlets, Slightly MOIST	LT. BROWN TO BROWN	NONE	NONE	Folder 106 Photo 4140	
0933	LY-61	0-15cm	SAME AS LY-85	"	"	"	~~Photo~~ 4141	
0936	LY-120	0-15cm	SAME AS LY-85	"	"	"	4142	
0942	LY-271	0-15cm	SAME AS LY-85	"	"	"	4143	
0947	LY-127	0-15cm	SAND Fine - med GRAIN Sub Round - Sub Angular TRACE SILT, DRY	LIGHT BROWN to YELLOW	NONE	NONE	4144	
0953	LY-458	0-15cm	SAND/GRAVEL FINE TO MED GRAIN SUB ANGULAR GRAVEL SUB ROUND TO SUB ANGULAR MED - COARSE GRAIN TRACE SILT	LT. BROWN to YELLOW/ GRAY	NONE	NONE	4145	

DRY - Slightly MOIST

Samplers: JOSS MOORE
BOB SULLIVAN

integral consulting inc.

UCR BEACH Sampling

SURFACE SAMPLE LOG

Date: 4/24/11 — Lyons Island Beach Composite E —

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1000	LY-542	0-15	SAND FINE GRAIN TRACE SILT, few plants AND ROOTLETS, DRY to Slightly MOIST	LT. BROWN to BROWN	NONE	NONE	4146	
1005	LY-495	0-15	SAME AS LY-542	"	"	"	4147	
1009	LY-520	0-15	SAND FINE GRAIN TRACE SILT, TRACE PLANT FRAGMENTS, DRY to Slightly MOIST	LT BROWN to YELLOW	NONE	NONE	4148	
1018	LY-927	0-15 cm	SAND - GRAVEL MED - COARSE GRAIN SUB ANGULAR GRAVEL - MED - COARSE GRAIN SUB ROUND, ROUNDING COBBLE UP TO 6" SLIGHTLY MOIST	LT BROWN TO YELLOW/ GRAY	NONE	NONE	4149	
ab 1024 1026	LY-1004	0-15 cm	SAME AS LY-927 BUT FEW COBBLES ON SURFACE	"	"	"	4150	
1029	LY-1035	0-15 cm	SAND - fine-med GRAIN SUB ROUND - SUB ANGULAR TRACE SILT SOME GRAVEL MED - COARSE GRAIN SUB ROUND, ISOLATED COBBLE UP TO 4" DRY - SLIGHTLY MOIST	LT BROWN to YELLOW/ GRAY	NONE SEE COMMENT	NONE	4151	old IRON SPIKE ON SURFACE

Samplers: JOSS MOORE
BOB SULLIVAN

McGuire's Beach Surface Sediment Logs

integral consulting inc.

McGuire's Beach

Composite A

Camera Fine Pix E550

SURFACE SAMPLE LOG

Date: 5-4-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1004	MG-594	0-3 4-15	Fine sand Fine sand	light grey brown	None	None	100-7261	No mottling top layer 4-15 = Slight Mottling - rusty red color
1013	MG-515	0-3 3-15	Fine sand Fine sand	light grey light brown	None	None	100-7262	Top layer dry - No mottling 3-15 = wet layer, slight mottling - grey color
1023	MG-309	0-2 3-5 ~~3-15~~ 6-11 cm3 12-15	Fine sand Fine sand ~~Fine~~ cm3 Silt clay Fine to Medium Sand	0-2 = light grey 3-5 = brown 6-11 = grey 12-15 = light brown	None	None	100-7263	0-2 No mottling 3-5 No mottling 6-11 Heavy Mottling - ~~dark grey~~ dark grey cm3 red 12-15 No mottling
1035	MG-331	0-1 2-15	coarse sand w/ pebbles medium to Fine sand	light grey light brown	None	None	100-7264	Top of hillslope in Rocky area No mottling throughout
1040	MG-302	0-1 2-~~15~~ 11 cm3 12-15	Dry silty clay top crust Silt clay Fine sandy clay	0-1 = light brown to grey 2-11 = grey 12-15 = light brown	None	None	100-7265	0-1 = no mottling 2-11 = red/rusty red mottling 12-15 = rusty red mottling
1049	MG-380	0-4 5-15	Sandy clay (fine sand) Medium to fine sand	grey greyish brown	None	None	100-7266	No mottling throughout

Samplers: J. Mercer, Cyrus Bullock

integral consulting inc.

McGuire's Beach

Composite A

Ventura - Fall 2011 ESSO

SURFACE SAMPLE LOG

Date: 5-4-11

Page: 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1055	MG-359	0-1 2-6 7-9 10-15	Medium sand w/pebbles 0-1= Fine to medium sand 2-6= medium sand 7-9= Fine to medium sand 10-15=	light grey light grey to brown grey light grey/brown	none	none	Cam3 ~~100-7267~~ 100-7268	No mottling throughout 100-7267 = bad photo - camera malfunction
1104	MG-374	0-15	Silt clay	grey to light brown	CMB ~~MGMT~~ minor debris	none	100-7269	Slight mottling - light grey
1112	MG-370	0-3 4-15	Fine to medium sand Silt clay	light grey light grey/brown	none	none	100-7270	0-3 - no mottling 4-15 = rusty red mottling
1122	MG-353	0-4 5-15	Fine to medium sand w/pebbles Silty sand w/pebbles & gravels	light grey dark brown	none	none	100-7271	No mottling throughout
1132	MG-46	0-2 3-6 7-15	Fine sand 0-2= medium sand 3-6= Fine sand 7-15=	light grey brown/light grey light grey	none	none	100-7272	No mottling throughout
1139	~~MG-17~~ CMB MG-17	0-2 3-10 11-15	Fine to medium sand 0-2= Fine to medium sand 3-10= Silty clay 11-15=	light grey light brown light brown/grey	none slight none	none	100-7273	No mottling throughout

Samplers: Jim Kellogg
Chris Bullock

Camera - FinePix ESSO

McGuire's Beach

Composite B

integral consulting inc.

SURFACE SAMPLE LOG

Date: 5-4-11

Page: mb 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1254	MG-504	0-2 3-15	Fine to medium Sand - dry Fine to medium Sand - moist	light grey light brown/native brown	Minor in 2nd layer	None	100-7274	Top of hillslope No Mottling throughout
1300	MG-549	0-3 3-15	Same as above	Same as above	None	None	100-7275	0-3 = No Mottling 3-15 = Slight mottling - dark grey
1306	MG-510	0-2 3-15	Same as above	Same as above	None	None	100-7276	Same as above
1311	MG-528	0-2 3-6 7-15	Medium Sand w/pebbles 0-2 = Silt clay 3-6 = Medium Sand w/pebbles and gravels 7-15 =	light grey dark grey/brown dark brown	Minor None None	None	100-7277	0-2 = No Mottling 3-6 = red/dark grey Mottling 7-15 = No Mottling
1322	MG-276	0-1 2-4 5-10 11-15	Fine sand 0-1= Silt clay 2-4= medium to Fine sand trace pebbles 5-10= Silt clay 11-15	light grey dark grey dark olive brown dark grey	None	None	100-7278	No Mottling Throughout
1331	MG-269	0-3 4-15	Medium Sand and gravel Silt clay	light grey Olive brown	None	None	100-7279	No Mottling Throughout

Samplers: Jim Ruiszo
Chris Bullock

integral consulting inc.

McGuires Beach
Composite B

camera - Fuji Pix 6550

SURFACE SAMPLE LOG

Date: 5-4-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1344	MG-329	0-1 2-15	Sandy silt w/lots of pebbles and gravel Silty clay	light grey dark brown	None minor	None	100-7280	Hole in an area w/lots of rocks No Mottling throughout
1350	MG-394	0-1 2-15	silt clay crust on top silt clay w/ trace gravels	light grey dark brown	None	None	100-7281	0-1 = no mottling 2-15 = dark grey/red mottling
1359	MG-186	0-8 9-15	Fine to medium sand w/pebbles & gravels clay	light grey light olive brown	~~wire~~ rust wire None	None	100-7282	0-8 = No mottling 9-15 = rusty red mottling
1408	MG-154	0-8 9-15	fine to medium sand w/pebbles & gravel silty fine sand	light grey dark brown	wire None	None	100-7283	0-8 = no mottling 9-15 = rusty red mottling
1415	MG-100	0-1 2-15	Fine to medium sand w/pebbles tan crusty layer Fine to medium sand w/pebbles	light grey reddish brown	None	None	100-7284	0-1 no mottling 2-15 greyish mottling
1425	MG-25	Same as above	" "	" "	" "	" "	100-7285	0-1 No Mottling 2-15 rusty red Mottling

Samplers: Jim Kolesar
Cyrus Bullock

integral consulting inc.

McGuire's Beach

Composite C

SURFACE SAMPLE LOG

Date: 5/4/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1009	MG552	0-6 6-15	coarse to fine sand, w/ angular and round gravel to 6cm Medium to fine sand	light tan light brown	sprouts	none	001,002	
1015	MG-492	0-1 1-15	medium to fine sand medium to fine sand	light tan light brown	pieces of bark and pine cones	none	003	
1023	MG-363	0-1 1-15	Coarse to fine sand and fine silty sand w/ subangular to subround gravel to 2.5cm Alternating layers of coarse to fine sand and silty sand	light tan and olive brown layered olive brown to light brown and gray	none none	none	004	
1030	MG-170	0-1.5 1.5-3.0 3.0-4.5 4.5-15	Argillibarbation medium to fine silty sand Medium to fine silty sand layer of fine silty sand medium to fine silty sand mottled with fine silty sand	light tan to gray light gray olive brown light brown light tan olive brown	pine needles, tree branches, dried out vegetation, sprouts	none	005	
1040	MG238	0-2 2-8 8-15	coarse to fine silty sand subangular to subround gravel to 1cm in size. Medium to fine sand & roots. Fine silty sand w/ clay	light tan light brown olive brown	none	none	006	
1048	MG192	0-1 1-4 4-9 9-15	Fine silty sand w/ subangular to subround cobble to 13cm size medium to fine sand coarse to medium sand w/ cobbles to 9.5cm in size Coarse to fine silty sand w/ cobbles >15cm	light tan light tan light brown and gray light brown	none	none	007	

Samplers: IAN STUPAKOFF
MICHAEL BAXTER
KATHY BLACK

integral consulting inc.

McGuire's Beach
Composite C

SURFACE SAMPLE LOG

Date: 5/4/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1100	MG-155	0-8 8-15	Coarse to fine sand w/ cobble angular and sub angular to 3cm and cobble >15cm medium to fine silty sand	light tan to gray Light brown	twigs, pine needles, bark	none	008	
1108	MG-271	0-3 3-6 6-15	coarse to fine sand and fine gravel - subangular to subround to 1cm in size, w/ angular and subangular and round >15cm. coarse to fine sand Medium to fine silty sand	light tan and gray light brown to gray light brown	pine needles	none	009	
1119	~~MG-286~~ (15) MG-286	0-1 1-8 8-15	Angular to subround gravel to 5.5cm in size Fine silty sand, w/ angrillo turbation Fine silty sand w/ clay Medium to fine silty sand	tan olive brown light brown	~~bark~~ (10) branch, bark, sprouts	none	010	
1130	MG-86	0-1 1-15	Subangular to subround gravel to 1cm in size. Medium to fine silty sand Fine silty sand w/ clay w/ lenses of fine sand	light tan olive brown light brown	twigs, sprouts dried and aquatic vegetation, pine needles	none	011	
1137	MG-57	0-5 5-9 9-15	Fine sand and sandy silt angrillo turbation, subangular to subround gravel to 8cm. Fine silty sand Fine silty sand	tan olive brown rabbs	bark, pine needles	none	012	
1147	MG-16	0-1.5 1.5-15	Coarse to fine silty sand w/ subround and angular to 5.5cm Several alternating layers of medium to fine sand and fine silty sand	light tan light tan light brown reddish brown and olive brown	pine needle, snail shells, sprout	none	013	

Samplers: IAN STUKAKOFF
MICHAEL BARTON
KATHY BLACK

integral consulting inc.

McGuire's Beach
Composite O

camera - FinePix E550

SURFACE SAMPLE LOG

Date: 5-4-11

Page: 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1503	MG-555	0-1 2-15	Fine to medium sand w/ gravel Fine to medium sand	light grey light brown	none	none	100-7286	0-1 = no mottling 2-15 = slight mottling - rusty red
1509	MG-571	0-3 3-15	Fine to medium sand w/gravel & pebbles medium sand w/ trace pebbles	light grey light brown/grey	none	none	~~100-7287~~ camera malfunction 100-7288	no mottling throughout
1515	MG-589	0-3 4-15	Fine to medium sand w/ pebbles & gravel Fine to medium sand w/pebbles	light grey light brown/grey	none	none	100-7289	no mottling throughout
1521	MG-467	0-3 3-15	Fine to medium sand Fine to medium sand	light grey light brown/grey	none	none	100-7290	no mottling throughout
1527	MG-465	same as above	" "	" "	" "	" "	100-7291	" "
1533	MG-477	0-1 2-10 11-12 13-15	Fine sand and silt upper crust 0-1 medium to fine sand 2-10 silty clay 11-12 medium to fine sand 13-15	light grey light brown brown light brown	none	none	100-7292	0-1 = no mottling 2-10 = no mottling 11-12 = mottling - dark grey 13-15 = no mottling

Samplers: Jim Kolosiar
Cyrus Bullock

integral consulting inc.

McGuires Beach
Composite D

Camera
= Cannon

SURFACE SAMPLE LOG

Date: 5-9-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1457	MG -304	0-6	Fine to Medium Sand w/ gravel (3")	Lt Brown	No	No	# 211	
1503	MG - 230	0-6	〃	Lt Brown	No	No	# 212	
1510	MG - 395	0-6	Silt w/ clay	Lt Brown greenish	No	No	# 213	
1520	MG - 318	0-6	Fine Sand w/ interbedded layers of Fine Sand w/ silts	Lt Brown greenish	No	No	# 214	
1526	MG -45	0-6	Same as above	〃	No	No	# 215	
1535	MG - 6	0-2 2-6	Silt w/ Fine Sand Medium Sand	Brown greenish Lt Brown	No	No	# 216	

Samplers: Mike Duffield
Jeff Ninneman

integral consulting inc.

McGuires Beach
Composite E

Camera = Cannon

SURFACE SAMPLE LOG

Date: 5-4-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1301	MG-535	0-2	M to C Sand	Lt Brown-grey	No	No	# 199	
		2-3	F to M Sand	Brown				
		3-5	Coarse Sand	Lt Brown				
		5-6	F to M Sand	Brown				
1309	MG-481	0-6	Medium Sand	Brown	No	No	# 200	
1315	MG-466	0-2	F to M Sand	Lt Brown-grey	No	No	# 201	
		2-4	Fine Sand	Brown				
		4-6	F to M Sand	Lt Brown-grey				
1325	MG-283	0-2	F Sand w/ gravel 2"	Lt Brown-grey	No	No	# 202	
		2-6	M to C Sand w/ Medium gravel (2")	Brown				
1335	MG-156	0-6	F to M Sand w/ coarse gravel (3")	Lt Brown	No	No	# 203	
1350	MG-~~299~~ 405	0-2	~~0~~ Silt w/ Fine Sand	greenish Brown	No	No	# 204	
		2-6	Fine Sand w/ Silt	Lt Brown				

Samplers: Mike Duffield
Jeff Ninneman

integral consulting inc.

McGuires Beach
Composite E

Camera
= Canon

SURFACE SAMPLE LOG

Date: 5-4-11

Page: 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1400	MG -330	0-6	Silt w/ clay	Light Brown	No	No	#205	
1405	MG -327	0-3	Silt w/ clay	Light Brown	No	No	#206	
		3-6	Fine Sand w/ Silt	Brown				
1412	MG -120	0-2	Silt w/ Fine Sand	~~Lt Brown gravish~~	No	No	#207	
		2-4	Fine Sand	Lt Brown				
		4-6	Silt w/ Fine Sand	Lt Brown gravish				
1420	MG -61	0-6	Fine Sand w/ silt w Coarse gravel top (1")	reddish Brown	No	No	#208	
1428	MG -39	0-6	Fine Sand w/ silt	Lt Brown	No	No	#209	
1432	MG -70	0-6	Silt w/ Coarse ~~gravel~~ Sand and Coarse gravel, Cobbles	Brown reddish	No	No	#210	

Samplers: Mike Duffield
Jeff Ninneman

MITCHELL POINT SURFACE SEDIMENT LOGS

integral consulting inc.

MITCHELL POINT – COMPOSITE A

SURFACE SAMPLE LOG

Date: 5/1/11 camera # 1098 Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0932	MP-108	15	surface: med. to coarse sand, fine subrounded cobble + gravel Sand, fine, trace of silt, damp, very dense, slightly modeled	tannish brown	none	none	103-8099	
0939	168	15	sand, fine, wet, med. dense slightly modelled	tan	none	none	103-8100	
0944	112	15	sand, fine, trace of med. subrounded ~~gravel~~ sand, fine subrounded gravel, moist, loose,	tan	none	none	103-8101	
0951	228	15	0-5cm: Sand, fine to coarse, subrounded, some fine subrounded gravel 5-15cm: silty sand, fine to med., trace of fine subrounded gravel, moist, dense, moderate modeling	grey brown	none	none	103-8102	
0958	266	15	fine to coarse subrounded gravel at surface Sand, fine to coarse, subrounded poorly sorted, trace of fine subrounded gravel, moist, loose	grey	none	none	103-8103	
1002	277	15	0-5cm: Sand, med. to coarse, subrounded, dry, loose 5-12cm: sand, fine, moist, loose 12-15cm: Silty sand w/gravel fine sand, fine to coarse subrounded gravel, wet dense	grey	none	none	103-8104	

Samplers: S. Barker
I. Saul

integral consulting inc.

MITCHELL POINT - COMPOSITE A

SURFACE SAMPLE LOG

Date: 5/1/11 Camera # 1098

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1007	MP-290	15	silt, moist, very stiff, moderately modeled, trace of fine subrounded gravel. Scattered lense of fine sand	brown	none	none	103-8105	
1013	289	15	same as 290	"	"	"	103-8106	
1017	276	15	sand, fine to coarse, damp subrounded, poorly sorted, med. dense, some fine subrounded gravel 2-3cm layer of sand, fine, trace of silt, moist, loose	grey	none trace of organics	none	103-8107	
1023	307	15	Sand, fine to coarse, subrounded, poorly sorted some fine to coarse subrounded gravel + cobbles, damp, loose	greyish brown	none	none	103-8108	
1029	324	15	same as 307	"	"	"	103-8109	
1033	339	15	Sand, fine to med., some coarse sand subrounded, trace of fine subrounded gravel, moist, med dense poorly sorted	grey	none	none	103-8110	

Samplers: S. Barber
I. Saul

integral consulting inc.

MITCHELL POINT - COMPOSITE B

SURFACE SAMPLE LOG

Date: 5/1/11 Collect # 1098 Page: 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1053	130	15	surface: gravel + cobbles sand, ~~gra~~ fine to coarse, subrounded, moist, loose poorly sorted	grey	none	none	103-8111	
1059	100	15	0-6cm: sand, fine to med. trace of coarse sand subrounded. Damp. loose. Poorly sorted 6-15cm: silt, moist, very stiff, moderately modeled	greyish brown olive brown	none	none	103-8112	0-6cm: trace of fine subrounded gravel
1105	173	15	sand, fine, trace of med., moist, medium dense	brown	none	none	103-8113	
1108	212	15	surface: gravel + cobbles silt, moist, stiff, moderately modeled	brown	none	none	103-8114	
1113	205	15	sand, fine, trace of fine subrounded gravel in top 2 cm. moist, dense,	greyish brown	no	no	103-8115	
1118	90	15	silt, moist, very stiff, trace of fine sand	brown	no	no	103-8116	

Samplers: T. Saul
S. Barbee

integral consulting inc.

MITCHELL POINT - COMPOSITE B

SURFACE SAMPLE LOG

Date: 5/1/11 Camera # 1098 Page: 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1125	MP-23	15	0-3cm + 6-7cm: sand, fine, some silt, moist, loose to med. dense 3-6cm + 7-15cm: sand, med, trace of coarse sand. Trace of fine subrounded gravel, damp, medium dense	brown	no	no	103-8117	
1130	57	15	0-4cm: sand, fine to coarse, subrounded, poorly sorted trace of fine subrounded gravel, damp. loose 4-15cm: fine sand, some silt, damp, very dense	grey	no	no	103-8118	
1137	202	15	sand fine to med, subrounded, trace of fine subangular gravel, damp med dense	grey/tan brown	no	no	103-8119	
1141	255	15	0-2cm: sand, fine, some silt, damp, loose. 2-15cm: sand, fine to coarse, subrounded, some fine subrounded gravel, damp, loose	dark grey grey	no	no	103-8120	
1149	311	15	sandy silt, wet, med. stiff Pockets of coarse subrounded sand	dark grey	trace of organics	no	103-8121	
1153	318	15	0-4cm: sand, fine, trace of silt, damp, loose 4-15cm = sand med., trace of fine subrounded gravel damp, dense	grey	no	no	103-8122	

Samplers: J. Soul
S. Barber

integral consulting inc.

MITCHELL POINT - COMPOSITE C

UCIB Beach Sampling

SURFACE SAMPLE LOG

Date: 5/1/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0936	MP179	15cm	0-15cm: fine-coarse sand, poorly sorted w/ small-med gravel. Cobble @ surface	dark brown	NO	NO	0215	moist
0942	MP151	15cm	0-15cm: silt, w/ lenses of med-coarse sand, gravel and cobble	dark brown	NO	NO	0216	moist
0947	MP195	15cm	0-15cm: silt w/ fine - coarse sand lenses, small--med gravel	dark brown/ grey	NO	NO	0217	moist
0951	MP222	15cm	0-15cm: fine sand w/ silt	dark grey	NO	NO	0218	wet.
0957	MP221	15cm	0-5cm: silt w/ some fine sand 5-15cm: fine sand, tightly packed	dark grey brown	NO	NO	0219	moist.
1002	MP207	15cm	same as above	dark grey brown	NO	NO	0220	moist

Samplers: J. Wilson
L. Lindt

integral consulting inc.

MITCHELL POINT - COMPOSITE C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 5/1/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1008	MP25	15cm	0-4cm: silt w/some fine sand 4-15cm: fine-coarse sand, poorly sorted	dark grey/ brown brown	NO	NO	0221	moist
1013	MP137	15cm	0-15cm: fine-coarse sand w/small pebbles	dark brown	NO	NO	0222	moist
1017	MP293	15cm.	0-15cm: gravel w/silt	dark brown	NO	NO	0223	moist
1022	MP322	15cm	0-15cm: sand fine-coarse small-large gravel	dark brown	NO	NO	0224	moist
1026	MP344	15cm	0-15cm: sand, grades, top-bottom from fine-coarse	dark brown	NO	NO	0225	moist
1029	MP342	15cm	0-15cm: sand, med-coarse well sorted.	dark brown	NO	NO	0226	moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

Mitchell Point - Composite D

UCI2 Beach Sampling

SURFACE SAMPLE LOG

Date: 5/1/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1044	MP104	15cm	0-10cm: silt w/ some fine sand. 10-15cm: med-coarse sand, poorly sorted w/ gravel and cobble	dark brown dark brown	NO	NO	0227	moist
1050	MP177	15cm	0-6cm: med-coarse sand poorly sorted 6-15cm: silt w/ some fine sand	dark brown dark brown	NO	NO	0228	moist
1055	MP124	15cm	0-9cm: fine-coarse sand w/ small-large gravel, poorly sorted 9-15cm: clay (stiff)	dark brown dark brown	pine needles at surface	NO	0229	moist
1103	MP192	15cm	0-15cm: fine sand w/ silt.	dark brown	NO	NO	0230	moist
1108	MP116	15cm	0-15cm: silt	dark brown	NO	NO	0231	moist
1116	MP218	15cm	0-15cm: sand, fine to coarse, w/ small-large gravel, cobble.	brown	NO	NO	0232	moist

Samplers: J. Wilson
L. Lindy

MITCHELL POINT - COMPOSITE D

integral consulting inc.

UCI2 Beach Sampling

SURFACE SAMPLE LOG

Date: 5/1/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1122	MP 284	15cm	0-15cm: gravel w/ silt and fine-coarse sand.	dark brown	NO	NO	0233	moist
1128	MP 282	15cm	0-15cm: fine-coarse sand w/ some silt + small-large gravel.	brown	NO	NO	0234	moist
1133	MP 241	15cm	0-15cm: fine-coarse sand w/ small-large gravel and cobble	brown	NO	NO	0235	moist
1141	MP 317	15cm	0-5cm: fine sand 5-8cm: fine-coarse sand 8-15cm: clay	brown tan/black light brown	NO	NO	0236	moist.
1147	MP327	15cm	0-15cm: med-coarse sand w/ small-large gravel and cobble.	brown	NO	NO	0237	moist
1151	MP345	15cm	0-15cm: fine sand w/ some silt	brown	NO	NO	0238	moist.

Samplers: J. Wilson
L. Linde

integral consulting inc.

UCR BEACH Sampling

SURFACE SAMPLE LOG

Date: 5/1/11 Mitchell Point Beach Composite 6 Surface **Page:** 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0930	mp-160	0-15 cm	SAND, MED-COARSE GRAIN SUB ROUND- SUB ANGULAR TRACE SILT, TRACE GRAVEL FINE GRAIN, SUB ANGULAR ISOLATED COBBLE TO 18" ISOLATED SILT STONE NODULES	LT GRAY TO LT. BROWN	NONE	NONE	FILE 103 photo 4351	
0936	mp-158	0-15cm	AS ABOVE (MP-160) BUT SOME SILT	"	NONE	NONE	4352	
0940	mp-153	0-15cm	SAND FINE - MED GRAIN SUB ROUND TO SUB ANGULAR FEW GRAVEL MED - COARSE GRAIN, SUB ROUND TRACE SILT ISOLATED SILT STONE NODULE, SURROUNDING COBBLE	LT GRAY TO LT. BROWN TO 6"	NONE	NONE	4353	
0945	mp-170	0-15 cm	SAND, FINE - MED GRAIN SUB ROUND, TRACE SILT, FEW GRAVEL SUB ROUND DRY TO SLIGHTLY MOIST ISOLATED SILT STONE NODULES	LT BROWN TO LT GRAY	NONE	NONE	4354	
0950	mp-117	0-4 cm	SAND MED - COARSE GRAIN SUB ANGULAR, FEW GRAVEL MED - COARSE GRAIN SUB ROUND	LT GRAY TO LT BROWN	NONE	NONE	4355	
		4-15 cm	SILT FEW FINE GRAIN SAND O PLASTICITY, SLIGHTLY MOIST	LT YELLOW BROWN				
0956	mp-51	0-6 cm	SAND FINE GRAIN, FEW GRAVEL MED-COARSE GRAIN SUB ROUND	LT YELLOW BROWN TO LT GRAY	NONE	NONE	4356	
		6-15 cm	SILT, SOME FINE GRAIN SAND SLIGHTLY MOIST, NO PLASTICITY	"				

Samplers: JUSS MOORE
Bob Sullivan PA
OBSERVER Michele Stenger URS
Nicole BADON CH2M

integral consulting inc.

UCR BEACH SAMPLING

SURFACE SAMPLE LOG

Date: 5/1/11 Mitchell Point BEACH **Page:** 2 OF 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1000	mp-29	0-15cm	SAND, Fine-med grain sub round, few gravel fine-med grain sub round-sub angular slightly moist	LT Brown	None	None	4357	
1005	mp-16	0-5cm	SAND, Fine grain, trace wood fragments	LT Brown	None	None	4358	
		5-15cm	same as above few med grain sand sub round, few gravel fine-med grain sub round	LT Brown to LT. Gray				
1010	mp-58	0-13 cm	SAND, Fine-med grain sub round, few gravel fine-coarse grain sub rnd trace plant material	LT Brown to LT Gray	None	None	4359	surface surrounding -cobble up to 6"
		13-15cm	Fine grain sand, trace silt slightly moist	LT Yellow Brown				
1014	mp-56	0-13 cm	As above (mp-58)	same as above	None	None	4360	same as above
		13-15 cm	As above "	"				
1017	mp-60	0-15 cm	SAND, med-coarse grain sub round, trace silt poorly sorted, dry to slightly moist, trace plant material	LT Yellow Brown to Brown	None	None	4361	
1025	mp-323	0-15 cm	SAND fine-coarse grain sbb round to sub angular some gravel fine-coarse grain, sub round, trace silt dry to slightly moist, poorly sorted	LT Brown to LT. Gray	None	None	4362	

Samplers: Joss Moore
Bob Sullivan
Observer Michele Stevenson
Nicole Badon

NABORLEE SURFACE SEDIMENT LOGS

integral consulting inc.

NABORLEE - COMPOSITE A

SURFACE SAMPLE LOG

Date: 4/30/11 Camera # 1098 Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0944	NA-249	15	surface: fine to coarse subrounded gravel and cobbles 0-8cm: gravelly sand, fine to coarse sand, subangular fine to coarse subrounded gravel, trace of cobbles, moist, loose. 8-15cm: silty sand, fine sand, some fine subrounded gravel, moist, medium dense	brown	none	none	102-8075	
0950	292	15	surface: fine subrounded gravel and cobbles 0-3cm: sand, fine to coarse, subangular, moist, loose, trace of fine subrounded gravel 3-15cm: silty sand, fine, some fine to coarse subrounded gravel	brown / brown	none / trace of organics	none / musty	102-8076	moist, dense
0956	289	15	surface: gravel, cobbles 0-10cm: gravelly sand, fine to coarse sand, subangular fine to coarse subrounded gravel, moist, loose 10-15cm: silt, some fine sand, moist, stiff, slightly moottled	brown / brown	none	none	102-8077	
1004	559	15	Surface: gravel and cobbles sand, fine to coarse, subrounded trace of fine subrounded gravel, poorly sorted, moist loose	brown	none	none	102-8078	
1011	566	15	gravelly sand, fine to med., trace of coarse grained sand subangular, some fine subrounded gravel, Free of silt, medium dense	brown	trace of organic	none	102-8079	
1016	574		same as 566.	"	"	"	102-8080	

Samplers: S. Barber
I. Saul

integral consulting inc.

NABORLÉE - COMPOSITE A

Date: 4/30/11 Cruise # 1098

SURFACE SAMPLE LOG

Page: 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1022	769	15	sand, fine, damp, medium dense, slightly mottled	brown	trace of organic	none	102-8081	
1026	588	15	sandy silt, fine, moist, soft, slightly mottled lenses of fine to med sand trace of fine subangular gravel	brown	trace of organics	none	102-8082	
1031	537	15	surface: gravel, cobbles sand, fine to med., trace of coarse subrounded sand trace of fine subrounded gravel trace of silt	brown	none	none	102-8083	
1035	592	15	sand, fine to med., moist, medium dense Trace of fine subrounded gravel	brown	none	none	102-8084	
1040	549	15	surface: fine subrounded gravel silty sand, fine, trace of fine subrounded gravel, moist, dense.	brown	trace of organics	none	102-8085	
1040	283	15	Sandy silt, fine sand, trace of fine subrounded gravel, moist, medium stiff slightly mottled	brown	trace of organics	none	102-8086	

Samplers: S. Bowser
I. Saul

integral consulting inc.

NAB/BLEE - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/30/11 Camera # 1098 Page: 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1114	NA-257	15	sand, fine to med., trace of coarse sand subangular, trace of fine subrounded gravel, moist, med. dense	brown	none	none	102-8087	
1119	247	15	surface gravel + cobbles subrounded gravelly sand, brown, fine to coarse sand subangular. fine to coarse subrounded gravel. Poorly sorted. Damp. Loose	brown	none	none	102-8088	
1124	290	15	same as 247	"	"	"	102-8089	
1129	809	15	silt, low plasticity, moist, to wet, med stiff, trace of fine sand. Trace coarse subrounded gravel Slightly modeled	brown	organics	none	102-8090	
1135	829	15	sand, fine, some med., moist, med. dense slightly modeled	brown	trace of organics	none	102-8091	
1140	586	15	sand, fine to med., damp, dense, trace of coarse subrounded sand Scattered silt	brown	none	none	102-8092	

Samplers: S. Barker
I. Saul

integral consulting inc.

NAB. RICE - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/30/11 Camera # 1098

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1144	484	15	Sand fine to coarse subangular subrounded, damp, loose, trace of fine subangular gravel	brown	trace of organics	none	102-8093	
1149	419	15	0-5cm silty sand fine to med, some coarse subangular sand, damp, loose. 5-15cm, sand, med, to coarse, subrounded, trace of fine subrounded gravel, damp,	greyish brown brown loose	none	none	102-8094	
1155	427	15	Sand, fine, some med. trace of coarse subrounded sand moist. dense slightly mottled	brown	trace of organics	none	102-8095	
1201	557	15	Sand, fine to coarse, subrounded, poorly sorted Trace of fine subrounded gravel Damp. Med dense	brown	none	none	102-8096	
1206	197	15	silty sand, fine to med. sand, trace of coarse sand subrounded trace of fine subrounded gravel damp. very dense. Slightly mottled	greyish brown	trace of organics	none	102-8097	
1211	319	15	Sand, fine to coarse, subrounded. poorly sorted some silt. Trace of fine subrounded gravel Damp Med. dense	brown	trace of organics	none	102-8098	

Samplers: S. Barber
I. Saul

integral consulting inc.

NABSRLÉÉ - COMPOSITE C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/30/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0948	NA311	15cm (SW)	0-15cm: fine-coarse sand w/ silt, small-large gravel	dark brown	NO	NO	0190	marsh
0955	NA89	15cm	0-15cm: silt, w/ med-coarse sand.	dark brown	NO	NO	0192	moist.
1001	NA130	15cm	0-10cm: silt w/ fine-coarse sand. 10-15cm: fine-coarse sand, poorly sorted w/ some silt	dark brown; dark grey/brown	Roots through-out	NO	0193	moist. shell at surface
1007	NA2	15cm	0-6cm: gravel, w/ med-coarse sand well sorted. 6-15cm: gravel w/ silt, and med-coarse sand.	grey/brown; dark grey	NO	NO	0194	moist. Algal film on sediment surface
1015	NA358	15cm	0-15cm: med-coarse sand w/ silt, well sorted w/ small-large gravel	dark brown	Plant 0-3cm.	NO	0195	moist.
1021	NA384	15cm	0-7cm: silt w/ fine-med. sand. 7-15cm: med-coarse sand w/ cobble	dark grey; tan/grey	NO	NO	0196	moist.

Samplers: J. Wilson
L. Linde

integral consulting inc.

NA3&4CCE - COMPOSITE C

UC12 Beach Sampling

SURFACE SAMPLE LOG

Date: 4/30/11 **Page:** 2 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1029	NA 352	15cm	0-15cm: gravel w/ coarse sand	dark brown	NO	NO	0197	moist. cobble at surface
1038	NA 348 (reserve)	15cm	0-15cm: silt w/ med-coarse sand.	dark brown	NO	NO	0198	moist 0-3cm: plant roots
1051	NA 656	15cm	0-15cm: fine-coarse sand w/ gravel and cobble	tan/ black	NO	NO	0199	moist
1058	NA 659	15cm	0-15cm: gravel w/ coarse sand.	dark brown	NO	NO	0200	moist
1104	NA 777	15cm	0-15cm: silt	dark brown/ grey	@7cm: pine needles	NO	0201	moist
1111	NA 789	15cm	0-15cm: silt, w/ small-med gravel.	dark brown	NO	NO	0202	moist. plant material at surface

Samplers: J. Wilson
L. Linde

NABURCZE - COMPOSITE 3

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UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/30/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1136	NA730	15cm	0-15cm: silt	dark grey/ brown	NO	NO	0203	moist
1143	NA651	15cm	0-15cm: silt w/ coarse sand and small-med gravel	dark brown	NO	NO	0204	moist.
1149	NA463	15cm	0-15cm: silt w/ med - -coarse sand + some gravel	dark grey/ brown	NO	NO	0205	moist Plant material @ surface
1152	NA431	15cm	0-15cm: fine-coarse sand, poorly sorted w/ small - -large gravel	grey/ brown	NO	NO	0206	moist
1155	NA897	15cm	0-7cm: silt w/ some fine - -med sand. 7-15cm: med-coarse sand, poorly sorted, loose w/ small gravel	dark brown dark brown	NO	NO	0207	moist
1159	NA355	15cm	0-15cm: coarse sand w/ silt + small - large gravel	dark brown	NO	NO	0208	moist

Samplers: J. Wilson
L Lindp

integral consulting inc.

NABORLÉE - COMPOSITE D

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/30/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1203	NA186	15cm	0-15cm: silt w/ some fine sand	dark brown	NO	NO	0209	moist
1207	NA152	15cm	0-15cm: same as above	dark brown	NO	NO	0210	moist
1211	NA86	15cm	0-15cm: silt w/ some fine sand.	dark brown	NO	NO	0211	moist
1215	NA92	15cm	0-15cm: med-coarse sand w/ silt + small gravel.	dark brown	NO	NO	0212	moist
1219	NA66	15cm	0-15cm: coarse sand, well sorted w/ small-med gravel	dark brown	NO	NO	0213	moist
1222	NA31	15cm	0-15cm: fine-coarse sand w/ silt and small-large gravel.	dark brown	NO	NO	0214	moist.

Samplers: J. Wilson
L. Lindp

integral consulting inc.

UCR BEACH Sampling

SURFACE SAMPLE LOG

Date: 4/30/11 NABORTEE BEACH Composite of Surface Page: 1 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0943	NA-291	0-15 cm	SAND Fine to coarse grain sub angular, TRACE silt, loose, slightly moist, Isolated gravel med-grain subrounded surrounding cobble up to 8"	LT Brown to LT gray	None	None	File 102-4316	
0949	NA-409	0-15cm	SAME AS NA-291	Brown to LT. Gray	None	None	4317	
0952	NA-521	0-15cm	SAND, Fine-med Grain Few gravel Fine-med Grain, sub rounded trace silt, Few Plant Parts And roots slightly moist	Orange Brown to LT Gray	None	None	4318	
0957	NA-764	0-15cm	Silt, Fine grain SAND no plasticity, slightly moist, few Rootlets And plants	Brown to LT. Gray TRACE Orange mottling			4319	
1000	NA-767	0-15 cm	SAND, Fine grain, trace silt, slightly moist trace roots + plants	LT Orange Brown to LT. Gray			4320	
1005	NA-309	0-15cm	SAND, med-coarse grain sub round-sub angular TRACE silt, few gravel med grain, sub round Dry to slightly moist trace Rootlets	LT Brown to LT Gray			4321	

Samplers: Joss Moore
Bob Sullivan
Observer Michele Stegner

integral consulting inc.

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/30/11 — Marbrisa Beach Comp E surface —

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1010	NA-393	0-15cm	SAND med-coarse grain, same as NA-309 with isolated cobble 4-6"	LT Brown to Lt. Gray	NONE	NONE	4322	
1013	NA-427	0-15cm	SAME AS STA NA-393 but sand is coarse to med grain	" with trace orange mottling	NONE	NONE	4323	Inadvertantly sampled due to similar location to STA - NA 393
1019	NA-59	0-15cm	Silt, few fine grain sand, low plasticity slightly moist	Lt Gray to Brown trace orange mottling	NONE	NONE	4324	
1024	NA-166	0-15cm	Sand - fine to coarse grain sub round, few gravel med-coarse grain, sub round trace silt, trace plant fragments, few rootlets surrounding isolated cobble to 12"	Lt Gray to Brown	NONE	NONE	4325	
1027	NA-100	0-15cm	SAME AS NA-166	"	NONE	NONE	4326	
1030	NA-98	0-15cm	Sand, fine-coarse grain, sub round - sub angular trace silt, few gravel fine grain, sub round isolated cobble - to 4" slightly moist	Brown to Lt Gray	NONE	NONE	4327	

Samplers: Joss Moore
Bob Sullivan
Observer Michele Stegner

integral consulting inc.

UCR BEACH Sampling

SURFACE SAMPLE LOG

Date: 4/30/11 Naborlee BEACH composite E SURFACE **Page:** 3 OF 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1036	NA-128	0-15cm	SAND FINE GRAIN, FEW SILT TRACE PLANTS & PEBBLES DRY TO SLIGHTLY MOIST	ORANGE BROWN TO LT. BROWN	NONE	NONE	4328	

Samplers:

NEZ PERCE SURFACE SEDIMENT LOGS

integral consulting inc.

NEZ PERCE - COMPOSITE A

SURFACE SAMPLE LOG

Date: 4/26/11 camera # 1098 Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1103	NZ 401	15	0-.5cm: sandy silt, fine grained sand, moist, soft, .5-1cm: sand, medium grained, subrounded, trace of fine grained sand, moist, loose, micaceous 1-9cm: silty sand, fine grained, moist, loose, slightly mottled	brown / tan / brown	none	none	106-8001	9-12cm: like .5-1cm description + fine to coarse subrounded gravel 12-15cm: like 1-9cm description no plasticity
1117	98	15	0-10cm: silt, high plasticity, some fine grained sand, wet, soft 10-15cm: sand, fine grained, trace of silt, moist, medium dense, micaceous	grey / tan	none / none	none / fishy	106-8002	
1124	84	15	sand, fine to medium grained, subrounded, moist, medium dense, micaceous at 4cm: thin layer of silt, fine grained, saturated, soft Surface: medium to coarse grained sand, subrounded	tan / grey	none	fishy	106-8003	
1130	18	15	0-5cm: silty sand, fine grained, moist, loose, trace of medium grained subrounded sand 5-15cm: sand, medium to coarse grained, subangular to subrounded, trace of fine grained sand, moist, dense	tan / brown	none / trace of fine subrounded gravel	fishy	106-8004	
1136	29	15	0-1cm: silty sand, fine grained, moist, loose, 1-15cm: sand, damp, dense, fine to medium grained, subangular, trace of coarse grained sand, subrounded	grey-ish tan / tan	none	fishy	106-8005	
1142	40	15	~~c~~ sandy silt, wet, medium stiff, low plasticity, at 2cm: 1cm zone of oxidation of organics	tan / grey/black	trace of organics	organic	106-8006	

Samplers: S. Berger, I. Sauk

integral consulting inc.

NEZ PERCE - COMPOSITE A

SURFACE SAMPLE LOG

Date: 4/26/11 Galleria # 1098 Page: 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1150	75	15	silt, saturated, medium stiff, ~~wet~~ moderate modeling, high plasticity 10-15cm: ~~trace of~~ some fine grained sand.	brown	none	none	106 8007	
1156	154	15	0-10cm: sandy silt, fine grained sand, wet, stiff, 10-15cm: sand, fine grained moist, medium dense, trace of medium grained sand	brown	none	fishy none	106 8008	
1204	214	15	sand, damp, loose, fine to medium grained, subangular to rounded, some coarse grained sand rounded, trace of sandy silt notvies.	greyish tan	none	fishy	106- 8009	
1214	581	15	0-0.5cm and 8-8.5cm: silty sand, fine grained sand, moist, loose, .5-8cm and 8.5-15cm: sand, fine grained, trace of medium grained, damp, loose, well sorted	tannish grey	none	none	106- 8010	
1223	716	15	sand, fine grained, trace of silt, moist, loose, layering.	tannish grey	none	none	106- 8011	
1228	735	15	0-4cm: silt saturated, stiff, high plasticity, moderate modeling 4-6cm: sand, medium to coarse grained, rounded, poorly sorted, moist, loose 6-15cm: silty sand, fine grained, moist, very stiff, moderately modeled trace of fine to coarse rounded gravel	tan brown tan	none	none	106- 8012	

Samplers: S. Barker
I. Saue

integral consulting inc.

NEZ PERCE – COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/26/11 cameron 1093 Page: 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1300	NZ-443	15	0-2cm: silt, some fine grained sand, moist, soft 2-15cm: sand, fine to medium grained, subrounded damp, medium dense well sorted, micaceous	greyish tan	none	none	106-8013	
1306	598	15	sand, fine grained, moist, medium dense, trace of medium grained sand	greyish tan	none	none	106-8014	
1310	563	15	sand fine to medium grained, subrounded, damp, medium dense, well sorted	grey	none	none	106-8015	
1315	627	15	sand fine to medium grained, subrounded, damp, medium dense nodules of silty sand	grey	trace of organics	none	106-8016	
1320	699	15	Sand, fine to medium grained subrounded, wet, loose, well sorted, trace of fine subrounded gravel silt nodules	dark grey	none	none	106-8017	
1327	337	15	0-.5cm: sandy silt, fine grained moist, soft, .5-15cm: sand, fine to medium grained, subrounded, moist, loose well sorted, trace of fine subrounded gravel	brown greyish brown	none	none	106-8018	

Samplers: S. Barber
I. Saul

integral consulting inc.

NEZ PERCE - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/26/11 Corriera # 1098 Page: 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1330	NZ-521	15	sand fine to medium grained subrounded, moist, medium dense, trace of coarse grained sand subrounded, underbed modeling, trace of fine subrounded gravel	brown	trace of organics	none	106 8019	
1341	59	15	silty sand fine grained wet/moist medium dense layering	grey	none	none	106 8020	
1349	127	15	0-1cm + 3-4cm + 6-15cm: sand fine to medium grained subrounded, trace of coarse grained sand subrounded, moist, loose to medium dense 1-3cm + 4-6cm: silty sand, fine grained, wet, loose	grey grey	none	none	106 8021	
1358	271	15	sand fine to medium grained subrounded moist loose trace of coarse grained sand subrounded trace of fine subrounded gravel	grey	none	none	106 8022	
1403	216	15	sand medium to coarse grained subrounded trace of fine grained sand, moist, loose, poorly sorted	grey	none	none	106-8023	
1408	285	15	sand fine to medium grained subrounded trace of coarse grained sand subrounded, moist, dense poorly sorted	tannish grey	none	none	106-8024	

Samplers: S. Barber
I. Saul

integral consulting inc.

NEZ PERCE - COMPOSITE C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/26/11 **Page:** 1 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1107	NZ 747	15cm	6-15cm: silt w/ some fine sand	dark brown	NO	NO	0118	moist
1113	NZ749	15 cm	0-15cm: fine-coarse sand, poorly sorted w/ some silt.	dark brown	NO	NO	0119	moist cobble at surface
1120	NZ622	15cm	0-15cm: fine sand, well sorted, w/ silt lenses.	grey/ brown	NO	NO	0120	moist
1126	NZ631	15cm	0-2cm: silt 2-4cm: fine sand w/some silt 4-6cm: silt, w/some fine sand 6-10cm: fine sand w/some silt 10-15cm: silt, w/some fine sand	brown/ grey light brown light brown/ grey light brown/ black grey	NO	NO	0121	moist bark found in hole
1135	NZ498	15cm	0-6cm: fine sand w/some silt, well sorted. 6-15cm: silt	tan/ black brown	NO	NO	0122	moist
1141	NZ540	15cm	0-15cm: fine sand w/some silt, well sorted.	tan/ black	NO	NO	0123	moist lense of small-med grave at 7cm.

Samplers:
J. Wilson
L. Linde

integral consulting inc.

NEZ PSFCE - COMPOSITE C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/20/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1147	NZ444	15cm	0-15cm: fine sand with some silt. well sorted.	tan/ black	NO	NO	0124	dry - moist
1156	NZ273	15cm	0-13cm: fine-med sand, well sorted w/ some silt. 13-15cm: med-coarse sand, poorly sorted w/ pebbles.	tan/ black orange/ brown	NO	NO	0125	moist
1205	NZ212	15cm	0-15cm: fine-coarse sand, poorly sorted w/ some silt.	tan/ black	NO	NO	0126	moist
1215	NZ 10	15cm	0-15cm: silt w/ some fine sand, well sorted.	Grades from brown to orange brown	NO	NO	0127	moist.
1222	NZ 176	15cm	0-10 cm: fine sand, well sorted w/ some silt. 10-15cm: med-coarse sand, well sorted.	tan brown tan brown	NO	NO	0128	moist.
1230	NZ 268	15cm	0-10cm: fine-coarse sand, poorly sorted w/ some silt 10-15cm: fine-coarse sand, poorly sorted.	tan black orange/ black	NO	NO	0129	moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

NEZ PERCE - COMPOSITE 0

UCR Sampling

SURFACE SAMPLE LOG

Date: 4/26/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1250	NZ 512	15cm	0-11cm: clay 11-13cm: fine sand, well sorted. 13-15cm: clay	light brown tan/black light brown	NO	NO	0130	moist. @ 14cm: orange horizon
1257	NZ 515	15cm	0-4cm: clay 4-15cm: silt w/ some fine sand	light brown light brown	NO	NO	0131	moist @ 4, 7, 8, 9cm: orange horizon. very compact
1309	NZ 753	15cm	0-15cm: fine sand, well sorted w/ some silt	tan/black	NO	NO	0132	moist. very compact
1317	NZ 738	15cm	0-15cm: fine-coarse sand, poorly sorted w/ some silt.	dark gray/black	NO	NO	0133	moist
1322	NZ 695	15cm	0-1cm: silt, 1-15cm: fine sand, well sorted w/ some silt	grey/brown tan/black	NO	NO	0134	moist @ 3cm: orange horizon
1328	NZ 646	15cm	0-15cm: fine-med sand, well sorted w/ som silt. Occasional med-large gravel	tan/black	NO	NO	0135	moist silt lense from 2-3cm

Samplers: J. Wilson
L. Linder

integral consulting inc.

NEZ PERCE - COMPOSITE D

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/20/11 **Page:** 4 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1343	NZ97	15cm	0-11cm: clay, w/ some silt. 11-15cm: fine sand, w/ some silt, well sorting	dark brown / dark brown/grey	NO	NO	0136	moist
1349	NZ56	15cm	0-15cm: silt, w/ lenses of fine sand - well sorted.	dark brown	Plant debris	NO	0137	moist
1354	NZ93	15cm	0-15cm: clay, w/ lenses of fine sand and silt.	dark brown	NO	NO	0138	moist
1400	NZ247	15cm	0-15cm: med-coarse sand, well sorted.	tan/black	NO	NO	0139	moist
1405	NZ242	15cm	0-15cm: med-coarse sand, well sorted w/ some silt	tan/black	NO	NO	0140	moist
1409	NZ272	15cm	0-15cm: med-coarse sand, well sorted	tan/black	NO	NO	0141	moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

UCR BEACH Sampling

SURFACE SAMPLE LOG - Composite E

Date: 4/26/11 NEZ PERCE CREEK BEACH Page: 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1100	NZ-317	0-15cm	SAND Fine-med grain sub round, moist 6-C cm color change see color	0-6cm LT Brown to LT GRAY 6-15cm LT BROWN TO ORANGE/LT GRAY	NONE	NONE	File #108 photo # 4207	
1106	NZ-579	0-15cm	SAND Fine Grain, TRACE SILT, moist, Firm	LT Yellow BROWN/ GRAY	NONE	NONE	4208	
1112	NZ-565	0-15cm	0-5cm SAND fine-med grain, sub rounded, moderate sorting, moist 5-15cm Fine grain sand isolated coarse fine grain sub Rounded	LT BROWN TO LT GRAY LT BROWN to LT GRAY	NONE	NONE	4209	
1117	NZ-606	0-15cm	0-15 SAND, Fine Grain, moist, Firm surface isolated GRAVEL Fine-mod grain sub Rounded	LT BROWN to LT. GRAY slight BANDING	NONE	NONE	4210	
1126	NZ-182	0-15cm	SILT with SAND, fine grain SAND, Low plasticity, moist TRACE plant FRAGMENTS	LT olive gray to BROWN	NONE	NONE	4211	
1132	NZ-162	0-15cm	0-6cm SILT, low-med. plasticity, moist 6-15cm AS ABOVE WITH few fine grain SAND no plasticity, moist	LT BROWN to GRAY LT olive BROWN	NONE	NONE	4212	

Samplers: Joss Moore
Bob Sullivan
Observer Michele Stegner

integral consulting inc.

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/26/11 NE2 Pierce Creek Beach Composite E

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1137	NE-61	0-15cm	surface SAND fine-med grain, sub round 0-15 SAND, fine grain loose,	LT Yellow Brown	NONE	NONE	4213	
1141	NE-63	0-15cm	0-1cm SAND Fine grain few silt, trace plant frag. 1-8cm Silt, moist low plasticity, trace fine grain sand 8-15cm sand fine grain with silt	1-8cm LT Brown to olive gray 8-15 LT Brown to light yellow Brown slight Banding	NONE	NONE	4214	
1148	NE-53	0-15cm	0-14 cm SILT, TRACE Fine grain Sand low-med plasticity Few snail shell on surface 10-15 cm Fine grain Sand Trace silt, moist	LT olive Brown moist LT Orange Brown	NONE	NONE	4215	
1152	NE-89	0-15cm	0-2 cm Fine grain Sand TRACE SILT, moist 2-13 cm SILT low-med plasticity, moist 13-15 cm SAND - same as surface	LT. Yellow Brown LT olive Brown to gray	NONE	NONE	4216	Some fine tracic in area, with few surface cracks
1157	NE-171	0-15cm	SAND, fine-med grain sub Round, trace silt slightly moist, slightly sorted	LT Yellow Brown/ Gray	NONE	NONE	4217	
1201	NE-257	0-15cm	SAND, fine-med grain sub Round, trace silt, moist slightly sorted	0-5cm LT Brown to LT. Gray 5-15 LT Orange Brown	NONE	NONE	4218	

Samplers: Joss Moore
Bob Sullivan
Observer Michele Stegmar

SEVEN BAYS SURFACE SEDIMENT LOGS

integral consulting inc.

SEVEN BAYS - COMPOSITE 4

SURFACE SAMPLE LOG

Date: 5/5/11 camera # 1098

Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0926	SB-433	15	sand, fine to med., subo. to subr., dry to damp, loose 0-7cm: fine to coarse subr. gravel and cobbles	grey	no	no	107-8197	surface: gravel, cobbles
0932	428	15	gravelly sand, fine to coarse sand subr. to suba. fine to coarse suba. subr. gravel, cobbles, dry to damp, loose	sand	no	no	107-8198	
0936	408	15	0-7cm: gravelly sand, med. to coarse sand suba. subr., trace of fine sand. Fine to coarse suba. subr. gravel. cobbles dry, loose	grey dark grey	no	no	107-8199	7-15cm: sand fine to med, trace of coarse sand subr. suba. trace of fine to coarse gravel suba subr
0944	319	15	gravelly sand, fine to coarse sand subr. suba. Fine subr. gravel, poorly sorted damp loose	greish brown	no	no	107-8200	
0951	275	15	Sand: fine to med ~~coarse~~ trace of coarse sand Trace of fine gravel dry to damp loose	greish brown	no	no	107-8201	surface: gravel, cobbles
0955	257	15	same as 275 + some gravel	"	no	no	107-8202	surface: " "

Samplers: S. Barber
I. Saeed

integral consulting inc.

SEVEN BAYS - COMPOSITE 4

SURFACE SAMPLE LOG

Date: 5/5/11 camera # 1098

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1000	SB-241	15	gravelly sand, fine to coarse sand subs. subs. fine to coarse subs subs. gravel dry to damp loose	grey	no	no	107 8203	poorly sorted
1004	255	15	fine to coarse sand subs. subs, some fine subs. subs. gravel dry to damp loose poorly sorted	grey	no	no	107 8204	
1009	192	15	gravelly sand fine to coarse subs. subs fine to coarse subs subs gravel dry to damp, loose	grey	no	no	107- 8205	
1012	191	15	same as 192	"	"	"	107- 8206	
1015	159	15	~~sand fine~~ fine to coarse sand subs. subs 7-15 same fine subs. subs. gravel. Dry to damp	grey loose	no	no	107- 8207	
1018	145	15	same as 159	"	"	"	107- 8208	

Samplers: S. Barber
I. Saul

SEVEN BAYS - COMPOSITE B

integral consulting inc.

SURFACE SAMPLE LOG

Date: 5/5/11 Cruise # 1098 Page: 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
~~1031~~ 1031	SB 38 ~~394~~	15	0-8cm: gravelly sand, fine to med. sand trace of coarse sand fine to coarse gravel, cobbles subr. subr. dry loose	grey	no	no	107-8208 9	surface: gravel cobbles 7-15cm: sand, greish brown fine to med, trace of fine gravel subr-subr moist loose
1045	93 ~~72~~	15	0-13cm: fine to med. sand trace of coarse sand. trace of fine gravel subr. dry to damp. loose	grey	no	no	107-8209 10	13-15cm: clay silt, brown, moist, stiff, high plasticity
1049	114	15	same as 93 top layer	"	"	"	107-8210 11	
1054	190	15	sand, med to coarse trace of fine some fine to coarse gravel subr. subr. damp loose	grey	no	no	107-8211 12	
1058	21	15	gravelly sand, fine to coarse sand, fine to coarse gravel subr. subr, Dry to damp loose	grey	no	no	107-8212 13	SB-205
1103	261	15	same as 205	"	"	"	107-8213 14	

Samplers: S. Barbo
I. Saul

integral consulting inc.

SEVEN BAYS - COMPOSITE B.

SURFACE SAMPLE LOG

Date: 5/5/11 Cruise #1098 Page: 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1107	SB 334	15	0-7cm: sand, fine to med. trace of coarse silt. subr. suba. dry to damp loose 7-15cm: gravelly sand fine to med sand, coarse gravel	grey	no	no	107-8214 8215	
1113	282	15	gravelly sand, fine to coarse sand and gravel cobbles subr-suba. dry to moist. loose	grey	no	no	107-8216	surface: gravel, cobbles
1117	281	15	same as 282	"	"	"	107-8217	surface. gravel, cobbles
1122	181	15	same as 281, 282	"	"	"	107-8218	surface: gravel cobbles
1125	175	15	Same as 281, 282, 181	"	"	"	107-8119	" "
1131	44	15	sand, fine to med., trace of coarse sand trace of fine gravel subr. suba. dry, loose	grey	no	no	107-8120	10-15cm: same coarse sand damp; med dense

Samplers: S. Barber
I. Seal

integral consulting inc.

SEVEN BARS - COMPOSITE C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 5/5/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0930	SB 368	15cm	0-15cm: fine-coarse sand w/ small-large gravel + cobble, poorly sorted	grey/ brown	NO	NO	0312	dry-moist
0939	SB 238	15cm	0-15cm: same as above	grey/ brown	NO	NO	0313	dry-moist
0943	SB 229	15cm	0-15cm: same as above	grey/ brown	NO	NO	0314	dry-moist.
0948	SB 208	15cm	0-15cm: med-coarse sand w/ small-large gravel + cobble, poorly sorted	grey/ brown	NO	NO	0315	dry-moist
0953	SB 177	15cm	0-15cm: same as above	grey/ brown	NO	NO	0316	dry-moist
0959	SB 153	15cm	0-15cm: fine-coarse sand poorly sorted, w/ small-large gravel + cobble	grey/ brown	NO	NO	0317	dry-moist

Samplers: J. W. Ison
L. Linde

integral consulting inc.

SEVEN BAYS - COMPOSITE C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 5/5/11 **Page:** 2 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1004	SB 97	15cm	0-15cm: fine-coarse sand w/ small-large gravel + cobble. Poorly sorted	grey/ brown	NO	NO	0318 ~~07~~ (19)	dry-moist
1009	SB91	15cm	0-15cm: med-coarse sand w/ small-large gravel, poorly sorted	grey/ brown	NO	NO	0319	dry - moist
1013	SB56	15cm	0-15cm: fine-med sand, well sorted w/ occ. small--med gravel	dark brown	NO	NO	0320	moist
1016	SB 45	15cm	0-7cm: fine-coarse sand w/ small-med gravel, poorly sorted. 7-15cm: fine-med sand, well sorted	grey / dark brown	NO	NO	0321	moist
1021	SB 19	15cm	0-15cm: fine-coarse sand, poorly sorted w/ small-med gravel	grey/ brown	NO	NO	0322	dry-moist
1026	SB 7	15cm	0-15cm: fine-med sand, well sorted, w/ occ. small--med gravel	grey/ brown	NO	NO	0323	dry - moist

Samplers: J. Wilson
L. Linde.

integral consulting inc.

SEVEN BAYS - COMPOSITE D

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 5/5/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1054	SB481	15cm	0-15cm: fine-med sand w/ small-large gravel + cobble	grey/ brown	NO	NO	0324	dry-moist
1101	SB372	15cm	0-10cm: gravel w/ fine-coarse sand, some cobble, poorly sorted, 10-15cm: fine-med, well sorted	light brown / dark brown	NO	NO	0325	dry-moist
1107	SB371	15cm	0-15cm: gravel, poorly sorted w/ med-coarse sand.	grey/ brown	NO	NO	0326	dry-moist.
1112	SB370	15cm	0-15cm: same as above w/ cobble	grey/ brown	NO	NO	0327	dry-moist
1116	SB309	15cm	0-15cm: same as above	grey/ brown	NO	NO	0328	dry-moist.
1128	SB226	15cm	0-15cm. med-coarse sand, well sorted w/ small-large gravel + cobble	grey/ brown	NO	NO	0329	dry-moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

SEVEN BAYS - COMPOSITE D

UC12 Beach Sampling

SURFACE SAMPLE LOG

Date: 5/5/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1133	SB197	15cm	0-15cm: fine-coarse sand, poorly sorted w/ small-large gravel and cobble	grey/ brown	NO	NO	0330	dry-moist
1140	SB123	15cm.	0-15cm: fine-med sand, well sorted w/ small-med gravel + cobble	brown	NO	NO	0331	dry
1144	SB90	15cm	0-15cm: fine-med sand, well sorted w/small-large gravel	brown	NO	NO	0332	dry-moist
1153	SB62 (reserve)	15cm	0-15cm: fine-med sand, well sorted w/ small-med gravel.	brown	NO	NO	0333	dry-moist
1158	SB31	15cm	0-15cm: fine-coarse sand w/small-large gravel + cobble, Poorly sorted	grey/ brown	NO	NO	0334	dry
1202	SB10	15cm	0-15cm: fine-med sand, well sorted w/ occ. small-large gravel.	brown	NO	NO	0335	dry-moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

SÉSÉ~ BAY - COMPOSITE E

SURFACE SAMPLE LOG

Date: 5/5/11 CAMERA 1099 Page: 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0917	SB-42	0-15	SAND, FINE TO MED GRAIN SUB ROUND, LOOSE, SLIGHTLY MOIST, AT 13-15 cm FEW GRAVEL FROM GRAB	LT GRAY, TO LT BRN	-	-	(107) 4492	
0925	SB-57	0-15	SAND, FINE TO COARSE GRAIN, SUB ROUND, LOOSE SLIGHTLY MOIST, FEW GRAVEL FINE TO MED GRAIN, SURROUNDING COBBLE - <10"	"	-	-	4493	
0933	SB-158	0-15	AS AT SB-57	"	-	-	4494	
0938	SB-134	0-15	AS AT SB 57	"	-	-	4495	
0942	SB-168	0-15	AS AT SB-57	"	-	-	4496	
0948	SB-244	0-15	AS AT SB-57	"	-	-	4497	

Samplers: TM

integral

SEVEN DAYS COMPOSITE E

SURFACE SAMPLE LOG

Date: 5/5/11 CAMERA 1099 Page: 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0952	SB-299	0-15	SAND, F-C GRAIN, SUB-ROUND, LOOSE, FEW GRAVEL F-M GRAIN, S-ROUND. ABUNDANT COBBLE <6" IN AREA. JM. DRY MOIST	LT GRAY TO LT BRN	–	–	4498	
0958	SB-353	0-15	SAND AS AT SB-299	"	"	"	4499	
1002	SB-369	0-15	SAND, AS AT SB-299	"	–	–	4500	
1008	SB-401	0-15	SAND AS AT SB-299	"	–	–	4502	
1010	SB-399	0-15	SAND, AS AT SB-299	"	–	–	4501	
1014	SB-339	0-15	SAND, AS AT SB-299	"	–	–	4503	

Samplers: JM

SPRING CANYON SURFACE SEDIMENT LOGS

integral consulting inc.

Spring Canyon Beach

Composite A

Camera - FinePix E550

SURFACE SAMPLE LOG

Date: 5-2-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0925	SC-256	0-15	fine to medium sand	light grey	None	None	100-7223	Single strata - uniform
0930	SC-213	0-15	fine to medium sand	light grey	None	None	100-7224	Single strata - uniform
0933	SC-173	0-15	Same as above	" "	" "	" "	100-7225	" "
0937	SC-223	0-15	Same as above	" "	" "	" "	100-7226	" "
0943	SC-183	0-15	Same as above	" "	" "	" "	100-7227	" "
0946	SC-60	0-15	Medium Sand w/ fines	light grey	None	None	100-7228	Single Strata - uniform

Samplers: Jim Kolesar
Cyrus Bullock

integral consulting inc.

Spring Canyon Beach
Composite A

Camera - Fuji E550

SURFACE SAMPLE LOG

Date: 5-2-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0950	SC-63	0-15	Fine to medium sand trace of ~~pebbles~~ 5 cms pebbles	light grey	None	None	100-7229	Single strata - uniform
1000	SC-158	0-10 10-15	fine to medium sand silty sand	light grey dark brown	None	None	100-7230	2 layers - bottom layer mixed w/silt - top layer same as above
1005	SC-361	0-15	fine to medium sand	light grey	None	None	100-7231	Single strata - uniform
1010	SC-363	0-15	fine to medium sand w/trace pebbles	light grey	None	None	100-7232	Single strata - uniform
1015	SC-283	0-15	fine to medium sand	light grey	organic debris	None	100-7233	Single strata - uniform
1022	SC-429	0-15	fine to medium sand w/trace pebbles & gravels	light grey	organic debris - twigs	None	100-7234	Single strata - uniform

Samplers: Jim Nelson
Cyrus Bullock

integral consulting inc.

Spring Canyon Beach

Composite B

Camera - FinePix E550

SURFACE SAMPLE LOG

Date: 5-2-11 **Page:** 1 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1117	SC-206	0-15	fine to medium sand	lt grey	organic debris	none	100-7235	single strata - uniform
1122	SC-338	0-15	fine to medium sand	lt grey	minor organic debris	none	100-7236	single strata - uniform
1129	SC-133	0-15	fine to medium sand	lt grey	none	none	100-7237	single strata - uniform
1136	SC-131	0-15	fine to medium sand w/ some silt	lt grey	none	none	100-7238	single strata - uniform some silt mixed in.
1141	SC-86	0-15	fine to medium sand	lt grey	none	none	100-7239	single strata - uniform
1150	SC-407	Reversal					~~100-7240~~ (cm3)	Core refused - too much cobble, adjacent to landscaped lawn and RR bench

Samplers: Jim Kelsser
Cyrus Bullock

Camera - FinePix E550

integral consulting inc.

Spring Canyon Beach
Composite B

SURFACE SAMPLE LOG

Date: 5-2-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1157	SC-375	0-15	fine to medium sand	light grey	none	none	100-7240	Reserve Single Strata - uniform
1203	SC-360	0-15	fine to medium sand mixed w/ pebbles & silt	light grey & light brown	None	None	100-7241	Single Strata - uniform
1209	SC-376	0-15	fine to medium sand - trace pebbes	light grey	None	None	100-7242	Single Strata - uniform
1214	SC-38	0-15	fine to medium sand	light grey	None	None	100-7243	Single Strata - uniform
1219	SC-193	0-15	fine to medium sand	light grey	None	None	100-7244	Single strata - uniform
1224	SC-146	0-15	fine to medium sand mixed w/ silt	light brown	None	None	100-7245	Single Strata - uniform

Samplers: Jim Kulosar
Cyrus Bullock

integral consulting inc.

Spring Canyon Beach
Composite B

camera - F. zepix ESSO

SURFACE SAMPLE LOG

Date: 5-2-11 **Page:** 3 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1335	SC-148	0-15	Fine to medium sand w/ trace pebbles	light grey	rusted bolt	none	100-7246	Single sample - uniform

Samplers: Jim Kolosow
Cyrus Buttock

integral consulting inc.

SPRING CANYON BEACH
COMPOSITE C

SURFACE SAMPLE LOG

Date: 5/2/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0950	SC-251	0-4cm 4-13 13-15	medium to fine sand coarse to medium sand medium sand	light tan light brown tan	none	none	001	
0957	SC-261	0-4 4-13 13-15	same as above " medium to fine silty sand	light tan light brown brown	none	none	002, 003	
1004	SC-171	0-1 1-3 3-15	medium to fine silty sand medium to fine sand medium to fine silty sand	light tan " brown	none	none	004,	
1012	SC-55	0-2 2-15	angular gravel to 1.5cm, coarse to fine sand medium to fine sand	light tan light brown	none	none	005	
1019	SC-184	0-0.5 0.5-3cm 3-15	coarse to fine silty sand w/ angular and subrounded gravel to 1cm medium to fine sand medium to fine sand	light tan light tan brown	none	none	006	
1026	SC-88	0-1cm 1-2.5 2.5-15	coarse to fine sand w/ fine angular to subround gravel to 1cm in size. fine sand. medium to fine sand	light tan and grey light tan brown	none	none	007	

Samplers: Ian Stuparoff
Michael Baxter

SPRING CANYON BEACH

COMPOSITE C

integral consulting inc.

SURFACE SAMPLE LOG

Date: 5/2/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1034	SC-36	same as SC 88	same as SC-88	same as SC88	none	none	008	photo mislabeled as SC-37
1039	SC-37	0-0.5 0.5-4 4-15	coarse to fine sand medium to fine sand medium to fine sand	light tan light tan light brown	broken glass, trace (15)	none	009	
1050	SC-426							reject grassy area
1055	SC-331 reserve	0-1.5 1.5 to 3.0 3.0-15.0 (13)	angular to subangular gravel to 1.5cm w/ coarse to fine sand w/ silt medium to fine sand medium to fine sand	light tan light tan light brown	sand > 15cm	none	010	
1103	SC-25	0-2 2-15	coarse to fine sand coarse to medium sand w/ lenses of silt	light tan light brown	none	none	011	
1108	SC-148	0-1 1-4 4-13 13-15	coarse to fine silty sand w/angular to subround gravel 1.5cm in size. medium to fine sand coarse to medium sand fine silty sand	light tan and greyish light tan light brown olive brown	none	none	012	

Samplers: IAN STRAKHOFF
MICHAEL BARTOR

integral consulting inc.

SPRING CANYON BEACH
COMPOSITE C

SURFACE SAMPLE LOG

Date: 5/2/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1114	SC287	0-1 1-3 3-15	coarse to fine sand w/silt medium to fine sand medium to fine sand	light tan " Light brown.	twigs, pine needles	none	013	

Samplers: Ian Sinsheimer
Michael Baskin

integral consulting inc.

Spring Canyon Beach

Composite D

SURFACE SAMPLE LOG

Date: 5-2-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1356	SC-87	0-6	M to C Sand	Brown to Light Brown	No	No	#~~174~~ 175 JL	
1401	SC-235	0-6	F to M Sand	"	No	No	#~~175~~ 176 JL	
1406	SC-68	0-4	Coarse Sand	Light Brown	No	No	#~~176~~ 177 JL	
		4-6	Medium Sand	Brown				
1421	SC-289	0-4	Medium Sand	Brown	NO	No	# 178	
		4-6	Coarse Sand	Light Brown				
1427	SC-327	0-6	Medium Sand interbedded Coarse Sand	Light Brown to Brown	No	No	# 179	
1432	SC-418	0-5	M Sand	Light Brown	No	No	# 180	
		5-6	M Sand w/Fines	Brown				

Samplers: Mike Duffield
Jeff Hinnemann

integral consulting inc.

Spring Canyon Beach
Composite D

SURFACE SAMPLE LOG

Date: 5-2-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1325	SC-154	0-6	M to C Sand	Lt Brown	No	No	# 169	
1330	SC-156	0-6	M to C Sand	Brown	No	No	# 170	
1336	SC-258	0-6	Same	"	No	No	#171	
1341	SC-263	0-6	Medium Sand	"	No	No	#172	
1345	SC-266	0-6	"	"	No	No	#~~172~~ 173	
1351	SC 383	0-6	"	"	No	No	#~~173~~ 174	

Samplers: Mike Duffield
Jeff Ninneman

integral consulting inc.

Spring Canyon Beach
Composite E

Camera = Cannon

SURFACE SAMPLE LOG

Date: 5-2-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1118	SC-295	0-5 5-6	F to M Sand C Sand	Light Brown	No	No	#157	Picture says "Cores"
1125	SC-212	0-6	M to C Sand	Light Brown	No	No	#158	Picture says "Cores"
1133	SC-78	0-6	F to M Sand	Brown	No	No	#159	
1142	SC-379	0-6	Same as above	Brown	No	No	#160	
1157	SC-357	0-6	Same as above	Brown	No	No	#161	
1201	SC-231	0-4 4-6	M to C Sand F to M Sand	Light Brown Brown	No	No	#162	

Samplers: Mike Duffield
Jeff Zimmermann

integral consulting inc.

Spring Canyon Beach
Composite E

SURFACE SAMPLE LOG

Date: 5-2-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1210	SC-66	0-6	F to M Sand	Brown	No	No	#163	
1216	SC-20	0-4	M to C Sand	Light Brown	No	No	#164	
		4-6	M to C Sand w/fines	Brown				
1222	SC-12	0-4	Same as above	Light Brown	No	No	#165	
		4-6		Brown				
1228	SC-102	0-6	F to M Sand	Brown	No	No	#166	
1233	SC-149	0-6	F to C Sand	Brown	No	No	#167	
1240	SC-422	0-6	Same as above	Brown	No	No	#168	

Samplers: Mike Duffely
Jeff Ninemann

SWAWILLA BASIN SURFACE SEDIMENT LOGS

integral consulting inc.

Swamilla Basin - Composite A

Camera = Fuji E550

SURFACE SAMPLE LOG

Date: 5-1-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1055	SW-13	0-15	Medium Sand	Lt. grey	none	none	100-7200	single strata
1102	SW-129	0-15	medium to coarse sand some fine gravel	Lt. grey	none	none	100-7201	single strata
1106	SW-132	0-15	mixed sand	Lt. grey	none	none	100-7202	single strata
1110	SW-173	0-15	same as last	same as last	same as last	same as last	100-7203	single ~~strata~~ strata ??
1114	SW-135	0-15	Mixed Sand	Lt. grey	none	none	100-7204	single strata
1120	SW-4	0-15	Fine to medium sand	Lt. grey	none	none	100-7205	single strata

Samplers:

J. Kolaszny

C. Bullock

integral consulting inc.

Sunwillia Basin - Composite A

Camera = FinePix E550

SURFACE SAMPLE LOG

Date: 5-1-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1132	SW 161	0-15	Fine to medium sand w/ gravel and cobble	Lt. grey	none	none	100-7205	Single Strata
1139	SW 421	0-15	Fine to medium sand w/ gravel & fine gravel	Lt. grey	none	none	100-7206	Single Strata
1146	SW 399	0-15	Fine Sand Few fine gravels	Lt. grey	none	none	100-7207	Single Strata
1150	SW 395	0-15	0-3cm: Fine to medium Sand 4-15cm: Sandy Silt	0-3cm: Lt. grey 4-15cm: Lt. Brown	none	none	100-7208	no mottling
1159	SW 282	0-15	mixed sand	Lt. grey	none	none	100-7209	Single Strata
1202	SW 230	0-15	mixed Sand	Lt. grey	none	none	100-7210	Single Strata

Samplers:
J. Kolosz Hay
C. Bullock

integral consulting inc.

Swan Island Basin – Composite B

Camera: Fine Pix E550

SURFACE SAMPLE LOG

Date: 5-1-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1305	SW-429	0-15	Fine to medium sand	Lt. grey	none	none	100-7211 ~~7210~~ JKo	single strata
1311	SW-412	0-15	Fine SAND ? SILT w/ fine gravels	Lt. Brown	none	none	100-7212	single strata reddish mottling (slight)
1318	SW-384	0-15	Fine to medium SAND ~~strata~~ JKo w/ fine gravels	Lt. grey	none	none	100-7213	Single Strata
1324	SW-382	0-15	Fine to medium sand w/ fine gravels	Lt. grey	none	none	100-7214	Single Strata
1330	SW-376	0-15	Fine to medium SAND	Lt. grey	none	none	100-7215	Single Strata
1337	SW-193 ~~190~~ JKo	0-15	Fine to medium sand	Lt. grey	none	none	~~100~~ JKo 100-7222 ~~7216~~ JKo	Single Strata photo taken out of sequence

Samplers: J. Kolosznir
C. Bullock

integral consulting inc.

Swanwilla Basin – Composite B

Camera = Fuji F.x E550

SURFACE SAMPLE LOG

Date: 5-1-11 **Page:** 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1342	SW-190 ~~+193~~	0-15	Fine to medium sand	Lt. grey	none	none	100-6 7117 ~~7116 7115~~	Single Strata
1351	SW-190	0-15	same as last	Lt. grey	none	none	100-7118 ~~7117~~	Single Strata
1356	SW-90	0-15	same as last	Lt. grey	none	none	100-7118	Single strata
1401	SW-59	0-15	same as above	Lt. grey	none	none	100-7119	single strata
1405	SW-29	0-15	same as above	Lt. grey	none	none	100-7120	single strata
1416	SW-220	0-15	Fine to medium sand w/ fine gravels	Lt. grey	none	none	100-7121	single strata

Samplers: J. Kolosnay
C. Bullock

integral consulting inc.

SIWANILLA BASIN BEACH

COMPOSITE C

SURFACE SAMPLE LOG

Date: 5/1/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1053	SW1	0-15	surface coarse to medium sand to 15cm	light tan 0-3 light brown 3-15	none	none	001	
1059	SW149	0-15	surface coarse to medium sand w/ fine gravel angular to subround 1-2 cm length to 4cm depth 4-15cm coarse to medium sand	light tan — light brown	none	none	002	
1103	SW149	0-15	Surface medium to fine subangular grave to 2cm w/ coarse to medium sand. Subsurface 0-15cm medium to fine sand.	olive brown — olive brown	none	none	003	
1117	SW-257	0-15	surface coarse to fine sand to 4cm depth. 4-5cm fine silty sand 5-15cm medium to fine sand and subround gravel 3.5cm (15)	light tan — brown to olive brown light brown	none	none	004	
1126	SW-262	surface to 3cm — 3-15	coarse to fine sand w/ silt lenses and fine subround gravel to 1cm — coarse to medium sand w/ angular to subround gravel to 2.5cm	light tan — light brown.	none	none	005	
1139	SW427	surface to 2cm 2-15cm	medium to fine silty sand w/ ripples w/ large cobbles >15cm coarse to medium sand w/ cobble >15cm	light tan — light brown	tree branches	none	006	

Samplers: IAN STRAKOFF
MICHAEL BARTER

integral consulting inc.

SWANILLA BASIN BEACH

COMPOSITE C

SURFACE SAMPLE LOG

Date: 5/1/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1148	SW419	surface to 5cm 5-15cm	coarse to medium silty sand with angular to round cobble >4.5cm coarse to medium sand with subround to round cobble to 9 cm	light tan light brown	none	none	007, 008	
1155	SW388	surface to 5.0cm 5-15cm	coarse to fine sand with subangular to round gravel to 10cm medium to fine sand w/ sub-angular to round gravel to 6.5cm.	light tan light Brown	none	none	009	
1205	SW333	surface to 5cm 5-15cm	coarse to fine sand medium to fine silty sand w/ subangular and angular 5cm	light tan light brown	none	none	010	
1213	SW323	Surface to 4cm 4-9cm 9-15cm	coarse to fine sand w/ medium to fine angular to round gravel to 4cm. fine silty sand coarse to medium sandy w/	light tan to gray light brown light brown	none	none	011	
1220	SW305	Surface to 3cm 3-4cm 4-15cm	coarse to fine sand w/ med to fine angular to round gravel to 2cm fine silty sand lens medium to fine sand	light tan olive brown light brown	none	none	012	
1226	SW318	surface to 2cm 2-15cm	coarse to fine sand, subangular gravel to 3.5cm medium to fine sand	light tan light brown	none	none	013	

Samplers: IAN STRAKOF
MICHAEL BAKER

integral consulting inc.

SWANILLA BEACH

COMPOSITED

SURFACE SAMPLE LOG

Date: 5/1/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1314	SW34	Surface to 4cm 4-15cm	medium to fine sand coarse to fine silty sand	light tan brown	none	none	014	
1325	SW15	surface to 1cm 1-5cm 5-15 cm	coarse to fine sand fine sand medium to fine silty sand	light tan " light brown	sprout	none	015	
1330	SW75	Surface to 5cm 5-15cm	coarse to fine silty sand, w/ round to sub round cobble to 5cm Medium to fine silty sand	light tan olive brown	none	none	016	
1341	SW283	surface to 1cm 1-15cm	coarse to fine sand w/ angular to rnd gravel to 3cm. medium to fine silty sand	light tan light brown	none	none	017	
1348	SW293	0-5 5-15	same as above same as above	light tan light brown	none	none	018	
1358	SW437	0-5 5-11 11-12 12-15	coarse to fine sand, subangular to round gravel to 4cm medium to fine silty sand fine silty sand medium to fine silty sand and subangular rock 6.5cm	light tan light brown brown	none	none	019	

Samplers: IAN STUPAKOFF
MICHAEL BAXTER

integral consulting inc.

SWANILLA BEACH

COMPOSITE D

SURFACE SAMPLE LOG

Date: 5/1/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1404	SW466	0-						refused - cobble.
1412	SW386 reserve	0-2cm 2-15cm	coarse to fine sand w/fine gravel medium to fine sand, subangular to round to 1cm	light tan light brown	none	none	020	
1420	SW415	0-2cm 2-15cm	fine sand fine silty sand	light tan light brown	none	none	021	
1427	SW401	0-5cm 5-9cm 9-10cm 10-15cm	coarse to fine sand, subangular to round cobble to 5.5cm fine silty sand sandy silt coarse to medium sand	light tan light brown olive brown light brown	none	none	022	
1436	SW334	0-5cm 5-15cm	fine gravel to silty sand medium to fine silty sand with subangular cobble >15cm	light tan, light brown	none	none	023	
1442	SW322	0-5 5-15	fine gravel to fine sand with subround to rough gravel 5cm coarse to medium sand w/angular to round gravel to 4cm	light tan, light brown	none	none	024	

Samplers: IAN STUPAKOFF
MICHAEL BAKER

integral consulting inc.

SWAWILLA BEACH
COMPOSITE D

SURFACE SAMPLE LOG

Date: 5/1/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1447	SW297	0-5 5-15	same as above w/ gravel to 3cm (SW322)	same as SW322	none	none	025	

Samplers: IAN SVOBODA
MICHAEL BAXTER

Swamilla Basin

Composite E

Camera = Canon

integral consulting inc.

SURFACE SAMPLE LOG

Date: 5-1-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1333	SW -137 -209	0-4	Coarse Sand/gravel F to M gravel Angular	Light Brown grey	No	No	#140	Sand layers
		4-6	Coarse Sand	"				
1344	SW -21	0-6	Coarse Sand	Light Brown	No	No	#141	
1350	SW -79	0-6	Coarse Sand	Light Brown	No	No	#142	
1357	SW -193	0-3	Silt w/ Fine Sand	grey green	No	No	#143	
		3-6	F to M Sand	Brown reddish				
1403	SW -235	0-6	F to C Sand interbedded w/ Fine Silts	Light Brown to grey	No	No	#144	
1411	SW -120	0-6	same as above		No	No	#145	

Samplers: Jeff Wannemacher
Mike Duffield

integral consulting inc.

Swawilla Basin

Composite E

Camera = Canon

SURFACE SAMPLE LOG

Date: 5-1-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1418	SW -58	0-6	F to M Sand	Light Brown to Brown	No	No	# 146	
1428	SW -279	0-6	Coarse Sand w/ Fine gravel (3/4") angular	grey to Light Brown	No	No	#147	
1432	SW -278	0-6	Fine Sand w/silt interbedded w/ Coarse Sand	greenish Brown to Light Brown	No	No	#148	
1443	SW - 463	0-6	Coarse Sand w/ M to C gravel and Cobbles (5")	Light Brown grey	No	No	#149	Subrounded to rounded
1452	SW -387	0-6	Coarse Sand w Fine gravel (3/4")	"	No	No	#150	
1500	SW -311	0-6	Coarse to Medium sand	Light Brown grey	No	No	#151	

Samplers: Jeff Nunnemann
Mike Duffield

SWIMMING HOLE SURFACE SEDIMENT LOGS

integral consulting inc.

Swimming Hole - Composite A

SURFACE SAMPLE LOG

Date: 4/22/11 camera #1098

Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0950	DM-57	15	Sand medium-coarse grained subangular. Trace silt. Loose. Wet to saturated. Some organics (wood). Mica. 7 to 15 cm no silt.	brown/ black	wood	fishy	102-7913.	
1003	DM-19	15	Sand medium-coarse grained subangular to subrounded. Micaceous- ~~wet~~ sb. Dry	brown/ grey	none	none	102-7914	
1015	DM-269	15	0 to 2.5 cm: silty sand fine grained sand, medium dense, moist to wet, micaceous some organics. 2.5 to 15 cm: same as above but not silty	grey/ brown brown/ black	none	fishy	102-7915	
1025	DM-296	15	well sorted fine to medium grained sand. Subrounded to subangular, damp, loose, micaceous. Trace f organics Layers of finer grained mixed with medium grained	grey/ brown	none	none	102-7916	
1033	DM-432	15	Sand medium to coarse grained subangular to subrounded. Moist. Loose. 0-2.5 cm dry. Micaceous	grey/ brown	none	none	102-7917	
1039	DM-459	15	Same as DM-432 (adjacent) medium to coarse grained sand subangular to subrounded. Moist. Loose. 0-2.5 cm dry. Micaceous	grey/ brown	none	none	102-7918	

Samplers:

integral consulting inc.

Swimming Hole - Composite A/B

SURFACE SAMPLE LOG

Date: 4/22/11 Camera # 1098 Page: 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1050	DM-305	15	0-2.5cm silty sand, fine grained, wet. loose 2.5 to 15cm sand, wet, medium to fine grained. subangular to subrounded, medium dense, micaceous	grey/ brown + brown/ black	none	none	102-7919	
1130	DM-301	15	Sand fine to medium grained subrounded subangular. Moist. Trace of organics. Intermittent lenses of silty sand, moist. Micaceous	grey/ brown + dark grey	organics, traces	organic slight	102-7920	
1148	DM-602	15	medium to coarse grained sand subangular to subrounded, well sorted. Medium dense. saturated	grey/ brown	trace of organics	none	102 7921	
1158	DM 585	15	Fine to medium grained sand subangular to subrounded. Saturated Loose Micaceous. Well sorted	grey/ brown	trace of organics	fishy	102-7922	
1208	DM 404	15	Sand fine to medium grained subrounded to subangular well sorted. loose 0-7 cm dry. 7-15 cm moist. micaceous.	grey/ brown	none	none	102-7923	
1218	DM 157	15	Sand medium to fine grained subrounded to subangular. 0-3cm dry, loose. 3-15 cm moist, dense Silty sand lenses at 1 cm and 14 cm, grey, fine grained, loose moist.	brown/ grey grey	none	none	102-7924	

Samplers:

integral consulting inc.

Sediment Hole - Composite B

SURFACE SAMPLE LOG

Date: 4/22/11 Cameron # DAB 1098 Page: 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
~~1255~~ sh 1225	DM-233	15	Sand fine to medium grained well sorted. subangular to subrounded. Micas. 0-1 cm dry. Silty sand lenses at 1cm, at 3cm, fine grained	grey/brown brown	none trace of organics	none none	102-7925	
1233	DM 165	15	Sand medium to coarse grained subrounded to subangular moist. Trace of fine subangular gravel. Silty sand lense at 14cm, fine grained	grey/brown	~~none~~ sh trace of organics	none		

Samplers:

integral consulting inc.

Swimming Hole - Composite C

SURFACE SAMPLE LOG

Date: 4/22/4 Camera #1321 **Page:** 1 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0952	DM221	15	0-7cm: Fine-medium sand sub-angular to sub rounded 7-15cm: med-coarse grained sand sub-angular to sub-rounded	brown/black black	NO NO	NO NO	0032	moist
1023	DM413	15	0-5(3)cm: fine-med sand, sub-ang to sub rounded 5-15cm: fine-med sand, sub ang to sub rounded	brown dark grey	NO NO	NO NO	0033	small snail shells found on site surface small root fragments in lower horizon; saturated
1036	DM235	15	0-15cm: med-coarse grain sand, sub-ang to sub rounded	brown/black	NO	NO	0034	dry
1042	DM282	15	0-3cm: med-coarse grained sand. sub-ang to sub rounded 3-15cm: same as above	brown/black black	NO	NO	0035	moist to saturated
1049	DM457	15	0-6cm: fine-medium sand. sub-ang to sub-rounded 6-15cm: same as above	brown/black right brown/black	NO NO	NO NO	0036	dry
1055	DM409	15	0-15cm: med-coarse grained sand. Sub ang to sub rounded	light brown/black	NO	NO	0037	dry, small shell found in sediment

Samplers: JF, CC

integral consulting inc.

Swimming Hole - Composite C/D

SURFACE SAMPLE LOG

Date: 4/22/11 **Page:** 2 of 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1101	DM27	15cm	0-15cm: med - coarse grained sand. Sub ang. to sub-rounded.	light brown/ black	NO	NO	0038	dry
1130	DM11	15cm	0-15cm: med - coarse grain sand. Some silt. Sub-ang to sub-rounded	brown/ black	NO	NO	0039	dry to moist.
1135	DM30	15cm	0-15cm: med - coarse grain sand. Some silt. Sub ang. to sub rounded	brown/ black	NO	NO	0040	dry to moist.
1140	DM76	15cm	0-15cm: med - coarse grain sand. Sub ang to sub rounded	dark brown/ black	NO	NO	0041	Moist
1141	DM88	15cm	0-15cm: med - coarse grain sand. Sub ang to sub rounded	dark brown/ black	NO	NO	0042	Moist
1150	DM122	15cm	0-15cm: med - coarse grain sand. Sub ang to sub rounded	orange brown/ black	burned woody fragments	NO	0043	Moist

Samplers: JF/LL

integral consulting inc.

Summer Hill - Composite D

SURFACE SAMPLE LOG

Date: 4/22/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1154	DM137	15cm	0-15cm: med-coarse grain sand. Sub ang to sub round.	brown/ black	NO	NO	0044	moist
1201	DM419	15cm	0-1cm: fine sand, silt. 1-2cm: fine sand, silt 2-15cm: med-coarse sand. Subang to sub rounded	brown black brown/ black	5% plant fiber throughout	NO	0045	Saturated

Samplers: JU-LL

integral consulting inc.

Swimming Hole - Composite E

SURFACE SAMPLE LOG

Date: 4/22/1 CAMERA 1099 Swimming Hole Beach Composite E **Page:** 1 OF 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0938 0939 SAMPLE TIME	DM-113	15 cm	SURFACE MED-COARSE SAND MOSTLY ANGULAR SLIGHT SILT, TRACE FINE GRAIN SUB ANGULAR GRAVEL 7 cm LOOSE LITTLE SILT	BROWN/ BLACK	NONE	NONE	4066	WET
1102	DM-429	15 cm	SAND FINE-MED GRAIN SUB ROUND - SUB ANGULAR TRACE COARSE SAND ANGULAR TRACE SILT CONSISTENT THROUGHOUT	LT BROWN/ BLACK	NONE	NONE	4073	DRY
1108	DM264	15 cm	SAND FINE-MED GRAIN TRACE SILT AT SURFACE 0-1 OXIDATION 1-15 SAME AS SURFACE	LIGHT BROWN 0-1 ORANGE/ BLACK BAND DIS	NONE	NONE	4074	MOIST TRACE PLANT FRAGMENT
				BROWN LIGHT GRAY				
1113	DM-271	15 cm	0-15 SAND FINE-MED GRAIN SUB ROUND-SUB ANGULAR FEW SILT TRACE PLANT FRAGMENT	1 cm BAND DARK GRAY- LIGHT BROWN	NONE	NONE	4075	WET - AT WATER EDGE
1118	DM-230	15 cm	0-15 FINE-MED SAND SUB ANGULAR - SUB ROUND TRACE COARSE ANGULAR SAND, TRACE SILT	LIGHT BROWN/ BLACK	NONE	NONE	4076	SLIGHTLY MOIST

Samplers: JA

Samplers: Joss Moore (INT)
Bob Sullivan (PMX)
Oversight: Michele Stigma (URS)
Marc Steinman (EPA

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4/22/11 CAMERA 1099 Swimming Hole Beach Composite E **Page:** 2 OF 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1123	DM-116	15cm	0-15 FINE-MED SAND SUB ROUND-SUB ANGULAR FEW COARSE SAND ANGULAR TRACE SILT 5-7 cm LENS OF MOSTLY SILT	SILT GRAY-ORANGE BROWN BLACK/ LIGHT BROWN	WOOD FRAG. IN SILT LENS	NONE	4077	WOOD FRAGMENTS IN SILT LENS DRY - SLIGHTLY MOIST
1132	~~DM-503~~ DM-145	15cm	0-15 FINE-MED SAND SUB ROUND - SUB ANGULAR TRACE SILT, TRACE PLANT FRAGMENTS	LIGHT BROWN FEW BLACK	NONE	NONE	4078	RESERVE SIGHT COMP. E SLIGHTLY MOIST

Samplers: JM

WELTY BAY SURFACE SEDIMENT LOGS

integral consulting inc.

Nelty Bay Beach - Composite A

Camera = FinePix E550

SURFACE SAMPLE LOG

Date: 4-23-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0919	WB 641	0-15	Sandy Silt some mottling uniform strata	Dark grey	none	none	100-7057	
0921	WB 629	0-15	Sandy Silt w/ some mottling. uniform strata	Dark grey	none	none	100-7058	
0930	WB 621	0-15	Sandy Loam Fine Sand Uniform single strata no mottling	medium grey	none	none	100-7059	
0939	WB 394	0-15	Sandy Silty loam some shells uniform single strata some mottling	medium grey	none	none	100-7060	
0945	WB 285	0-15	Sandy Silt, fine sands, uniform single strata, some mottling	medium grey	none	none	100-7061	
0948	WB 256	0-15	Sandy Silt, Fine sands small gravels, uniform single strata, no mottling some vegetation roots	grey	none	none	100-7062	

Samplers:

Cyrus Bullock

Jim Kolosnar

integral consulting inc.

Welty Bray Composite A

Camera = Fuji Pix E552

SURFACE SAMPLE LOG

Date: 4-23-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0955	WB 202	0-15	Silty clay, no mottling or gleying, uniform single strata	Dark Brown	none	none	100-7063	
1002	WB 74	0-15	Sand (fine) in Strata 1 ~2" Clay in second strata small pebbles	sand light grey clay dark grey	none	none	100-7064	
1010	WB 180	0-15	Silty clay, uniform single strata, mottling gleying	Dark grey	none	none	100-7065	
1016	WB 99	0-15	Silty clay uniform single strata, some shells	Dark grey	none	none	100-7066	
1023	WB 20	0-15	2 strata Sand over silty clay Some pebbles, fine sand	Dark grey	none	none	100-7067	
1026	WB 11	0-15	Fine sand and some pebbles	rusty red	none	none	100-7068	

Samplers: Cyrus Bullock
Jim Kolaszar

integral consulting inc.

Welty Bay Beach - Composite B

Camera = FinePix E550

SURFACE SAMPLE LOG

Date: 4-23-11 **Page:** 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1124	WB-592	0-15	Fine Sands, uniform single strata, some pebbles	grey w red	none	none	100-7069	
1129	WB-614	0-15	Silty clay, some mottling, uniform single strata	Dark grey	none	none	100-7070	
1135	WB-551	0-15	Fine Sands, uniform single strata	dark grey	none	none	100-7071	
1139	WB-533	0-15	Silty clay, some mottling, uniform single strata	Dark grey	none	none	100-7072	
1142	WB-497	0-15	Sandy Silty clay, uniform single strata	Dark grey	none	none	100-7073	
1149	WB-431	0-15	2 strata Fine sand - stratal - Lt. gray Silty clay - strata 2 - Lt brown	Lt. grey Lt. Brn.	none	none	100-7074	

Samplers:

Jim Kaloszny

Cyrus Bullock

integral consulting inc.

Welty Bay Beach - Composite B

Fine Pix
camera = E550

SURFACE SAMPLE LOG

Date: 4-23-11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1154	WB-343	0-15	2 strata - Fine sand - strata 1 silty clay - strata 2 - heavy mottling	grey w/ red mottling	none	none	100 - 7075	
1202	WB-458	0-15	Silty clay - uniform single strata w/ some mottling	Dark grey w/ rust mottles	none	none	100 - 7076	
1207	WB-440	0-15	Silt clay - uniform single strata, some mottling	Dark grey	none	none	100 - 7077	
1212	WB 55	0-15	Fine sand w/ small pebbles - strata 1 silty clay - strata 2	Light Grey	none	none	100 - 7078	
1229	WB 53	0-15	2 strata Fine sand - strata 1 silty clay - strata 2	Light grey	none	none	100 - 7079	
1240	WB 65	0-15	Fine sand silty clay uniform single strata some mottling	Light grey	none	none	100 - 7080	

Samplers:

Jim Kolaszar
Cyrus Bullock

integral consulting inc.

WELTY BAY BEACH
COMPOSITE C

camera: Droid phone

SURFACE SAMPLE LOG

Date: 4/23/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0920	WB-651	0-15	Clayish silt to 15 cm surface argyllo turbation	dark olive brown	sprats	none	001	
0930	WB620	0-15	surface argyllo turbation fine silty sand	~~frostbacter~~ seg (?) red brown	1" bark freshwater vegetation	none	002	
0938	WB454	0-15	0-2cm dry fine sand, medium to fine sand 1/4" - 1/2" pebbles to 15cm	light tan to moist brown sand	none	none	003	
0945	WB399	0-15	0-1cm dry sand 1-15cm medium to fine sand with some silt	lighter to reddish brown w/olive brown mottling	fresh water vegetation pine needles, grass, snail shells	none	004	
095[illegible]	WB428	0-15	surface argyllo turbation silty sand uniform to 15cm 0-4cm dry sand	light gray brown to brown at depth	snail shells	none	005	
1000	WB374	0-15	surface argyllo turbation medium to fine sand to 15cm	surface light reddish tan, reddish brown to dark olive or grey brown to 15cm	freshwater vegetation	none	006	

Samplers: Ian Stvarkoff
Michael Baxter

253691 2216
202 541 0831

integral consulting inc.

WELTY BAY BEACH
COMPOSITE C

SURFACE SAMPLE LOG

Date: 4/23/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1011	WB291	0-15	surface dry sand with 3/8"-1/2" gravel, uniform medium to fine sand no plasticity	light tan at surface, banded tan, dark olive, brown to 15cm	bark 1/2" pine needles	none	007	
1017	WB253	0-15	surface fine sand with angular to subangular up to 4cm gravel at depth medium to fine sand to 4cm, 4-12 cm silty clay w/ fine sand, 12-15 medium to fine sand	surface light tan 4-12 olive brown, 12-15 brown	none	none	008	
1029	WB144	0-15	silty sand to 15cm with little clay, some 1/4"-1/2" pebble subrounded.	surface tan, darker olive to 2cm, some brown mottles to depth	fresh water vegetation, snail shells	none	009	
1037	WB69	0-15	surface medium to fine sand with 1cm-5cm angular and subangular gravel. Medium to fine sand to 15cm with silty clay at 15cm	light tan at surface, brown to olive, olive brown at bottom	sprouts	none	010	
1045	WB27	0-15	surface medium to fine dry sand to 0-2cm. Silt with clay sand to 15cm	tan at surface, olive to 15cm	vegetation grass, wood chips	none	011	
1055	WB61	0-15	silty sand at surface with 0.5cm gravel angular. Mixed silty sand and sand not uniform to 15cm some sand w/ clay	light tan to olive at surface olive to brown to 15cm	sprouts, straw	none	012	

Samplers: IAN STYRAKOFF
MICHAEL BAXTER

integral consulting inc.

WELTY BAY BEACH

COMPOSITE D

SURFACE SAMPLE LOG

Date: 4/23/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1123	WB482	0-15	surface medium to fine sand Medium to fine silty sand uniform to 15cm	tan at surface to brown to 15cm	freshwater vegetation small shells	none	013	
1130	WB494	0-15	surface argillibturbation sand with silt and small amount of clay to 15cm. small piece of charcoal	surface light tan olive grey to reddish brown at depth	fresh water vegetation small shells	none	014	
1138	WB477	0-15	surface argillibturbation silty sand with rounded 0.5cm gravel to 15cm	surface mottled light tan and olive mottled light tan to mustard brown mottling	fresh water vegetation	none	015	
1144	WB526	0-15	surface argillibturbation silty sand with clay to 15cm is uniform	surface dark olive to dark brown.	some sprouts small shells	none	016	
1151	WB356	0-15	surface medium to fine ~~sand~~ silty sand. Medium to fine sand to 15cm is uniform	surface of light tan mottling dark olive to tan to 15cm	fine course vegetation debris and sprouts	none	017	
1156	WB339	0-15	surface medium to fine silty sand medium to fine silty sand uniform to 15cm	surface light tan mottled light tan to olive brown	fresh water vegetation debris, small shells	none	018	

to 15cm

Samplers: Ian Stupakoff

Michael Barker

WELTY BAY BEACH

COMPOSITE D

integral consulting inc.

SURFACE SAMPLE LOG

Date: 4/23/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1201	WB308	0-15	Surface medium to fine Sand with 0.25 to 2cm angular, subround gravel dominant (1cm - 4cm). Medium to fine sand uniform to 15cm	tan at surface. Light tan to olive to brown mottling	2cm bark pieces, twigs	none	019	
1209	WB276	0-15	surface medium to fine sand Medium to fine sand uniform to 15cm with subround and round 1cm - 4.5cm.	Surface light tan. Brown to olive to 15cm	1" charcoal piece, Tree leaves	none	020	
1216	WB213	0-15	Surface medium to fine sand and rounded angular rocks to 10 cm. Medium to fine sand uniform to 15cm with angular and rounded 5cm rocks	light tan at surface Brown uniform to 15cm	grass,	none	021	
1222	WB191	0-15	Surface medium to fine sand 0-4cm medium to fine sand with angular to subround to round up to 1.5cm rocks 4-15cm Sand with silt	Light tan at surface 0-4cm tan to brown 4-15cm dark olive	rootlets	none	022	
1232	WB157	0-15	surface organic saturation silty clay uniform to 15cm	freshwater vegetation sandy, twigs, small shells	dark olive surface at surface. subsurface grey brown olive	none	023	
1239	WB59	0-15	medium to coarse sand at surface with angular and subround up to 25cm pebbles. Subsurface coarse to fine sand with subround rocks up to 3cm. Coarse to medium sand uniform to 15cm.	tan at surface. Brown to dark olive mottling	wood	none	024	

Samplers: LEW SCHAFFER

MICHAEL BAXTER

integral consulting inc.

~~Evans Campground~~ pm
Welly Bay Beach
Composite E

Camera = Cannon

SURFACE SAMPLE LOG

Date: 4/23/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1143	WB-613	0-4 ~~0-6~~ pm 4-6	~~Olive Green~~, Silts and Fine Sand Fine to M. Sand lens in matrix of Silts & Fine Sand	olive grey Olive grey Light Brown	wood chips wood chips	No	# 7	
1156	WB-517	0-6	F. to M. sand, Silt	light Brown, reddish Brown	No	No	# 8	lenses of sand and silt mixed in layers
1205	WB-500	0-6	F to M Sand	Brown	~~No~~ wood chips	No	# 9	
pm 1215 ~~1245~~	WB-473	0-6	Silt w/lenses of Fine Sand	olive ~~grey~~	No	No	# 11	Redox concentration
1225	WB-361	0-6	F to M Sand w/silts	olive grey, orange, light Brown	No	No	# 12	layering of sands
1237	WB-306	0-6	Medium Sand	Light Brown	No	No	# 13	

Samplers: Mike Duffield
Jeff Ninnemann

integral consulting inc.

~~Estuary Campground~~ Welty Bay Beach Composite E

gm

Camera = Common

SURFACE SAMPLE LOG

Date: 7/23/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1247	WB-244	0-6	F to M Sand	Light Brown	No	No	#14	
1255	WB 336	0-6	F to M Sand	Light Brown	No	No	#15	
1305	WB -354	0-6	F to M Sand	Light Brown	No	No	#16	
1310	WB -267	0-4	Silt	Brown	No	No	#17	
		4-6	Medium Sand	Light Brown	No	No	#17	
1320	WB -249	0-3	Medium Sand	Light Brown	No	No	#18	
		3-6	Silt	Brown	No	No		
1330	WB-10	0-1	Gravel F to 2" Coarse round & angular	grey red orange	No	No	#19	
		1-6	M to Fine Sand with gravel M to Coarse	Light Brown	No	No		

Samplers: Mike Duffield

Jeff Klingemann

WHITESTONE CAMPGROUND SURFACE SEDIMENT LOGS

integral consulting inc.

DEEPSTONE CG - COMPOSITE A

SURFACE SAMPLE LOG

Date: 5/3/11 camera #1098 Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0940	WS-102	0-4cm 15	Sand, med to coarse, subrounded, dry, loose 4-15cm: Sand, fine to med. moist, dense, alternating layers of coarse sand	grey tannish brown	no no	musty musty	105-8149	
0946	118	15	0-12cm: Sand, med. to coarse, subrounded, dry, loose 12-15cm: fine sand, moist, dense	grey	no	no	105-8150	
0950	119	15	0-2cm: same as top layer for 118. 2-15cm: Sand, fine to coarse, subrounded, poorly sorted, damp, medium dense	grey brown	no no	musty no	105-8151	
0956	149	15	Sand, med. to coarse, subrounded, trace of fine sand, damp, loose	brown	no	no	105-8152	
1001	185	15	Surface: fine to coarse subrounded gravel. 0-2cm: same as top layer for 118, 119 2-15cm: sand, fine to med. trace of coarse subrounded sand,	grey brown	no poorly sorted,	no moist,	105-8153 med dense.	Trace of fine subrounded gravel
1007	135	15	Sand, fine to coarse, subrounded, poorly sorted, moist, dense	brown	no	no	105-8154	

Samplers: S. Barber
I. Saul

integral consulting inc.

WHITESTONE CG - COMPOSITE A

SURFACE SAMPLE LOG

Date: 5/3/11 camera # 1098 Page: 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1010	WS-144	15	same as 135.	brown	no	slight musty	105_8155	
1014	162	15	sand, fine to coarse, subrounded, poorly sorted, moist, dense at 3cm: layer of fine grained sand	brown	no	no	105_8156	
1018	125	15	0-7cm: sand, med. to coarse subrounded, trace of fine sand, poorly sorted, dry to damp 7-15cm: sand, fine, some	brown brown	no	no	105_8157	coarse sand subrounded damp, very dense
1022	115	15	sand, fine, some coarse subrounded sand moist, med. dense	tannish brown	no	no	105_8158	
1027	51	15 0-3cm: 3-15cm:	sand, fine and coarse, subrounded, dry to damp, loose sand, fine, moist, dense	grey to brown tannish brown	no no	soil odor no	105_8159	
1033	13	15	sand, fine to coarse, subrounded, moist, dense	brown	no	no	105_8160	

Samplers: S. Barber
I. Saul

integral consulting inc.

WHITESTONE CG - COMPOSITE B

SURFACE SAMPLE LOG

Date: 5/3/11 Camera # 1098 Page: 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1049	121	15	Sand, fine and coarse, subrounded, poorly sorted, damp, medium dense	brown	no	no	105-8161	
1053	139	15	same as 121 Plus: trace of fine subrounded gravel	"	"	"	105-8162	
1055	156	15	0-7 cm: Sand, coarse, subrounded, trace of fine to med-sand, dry, loose 7-15 cm: sand, fine to coarse, subrounded, trace of silt, damp, dense	grey brown	no	no	105-8163	
1100	167	15	0-7cm: same as 156 7-15cm: Sand, fine, trace of coarse sand subrounded. Damp, dense	grey brown	no	no	105-8164	
1103	180	15	0-9cm: Same as top layer 156, 167 9-15cm: Same as bottom layer 167	grey brown	no	no	105-8165	
1107	195	15	0-8cm: same as 180 1st layer 8-15 cm: same as 180 2nd layer	"	"	"	105-8166	

Samplers: S. Barber
J. Seal

integral consulting inc.

WHETSTONE CG – COMPOSITE B

Date: 5/3/11 Coherra # 1098

SURFACE SAMPLE LOG

Page: 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1111	WS-226	15	Silty ~~sand~~, coarse sand, subrounded, damp, very dense	brown	no	musty	105-8167	
1115	229	15	0-6cm: sand, fine to coarse, subrounded, poorly sorted, dry to damp, loose 6-15cm: silty sand, fine and coarse sand subrounded moist, very dense	grey brown	no	no	105-8168	
1120	187	15	sand, fine to coarse, subrounded, trace of silt, moist, very dense	brown	no	~~no~~ musty	105-8169	
1128	8	15	sand, fine to coarse, subrounded, wet, loose to med. dense, poorly sorted	greyish brown	no	no	105-8170	
1134	34	15	sand, fine, trace of coarse subrounded sand trace of silt. moist, very dense	brown	no	no	105-8171	
1138	50	15	same as 34	"	"	"	105-8172	

Samplers: S. Barber
I. Sorel

integral consulting inc.

UNTESTED CG - COMPOSITE C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 5/3/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0943	WS12	15cm	0-15cm: coarse sand,	dark brown	NO	NO	0264	moist.
0947	WS56	15cm	0-15cm: coarse sand w/ silt + small gravel	dark brown	NO	NO	0265	moist
0951	WS87	15cm	0-4cm: coarse sand 4-15cm coarse sand w/ silt.	dark brown dark brown	NO	NO	0266	moist
0955	WS111	15cm	0-15cm: coarse sand w/ some silt	dark brown	NO	NO	0267	moist.
0958	WS136	15cm	0-7cm: coarse sand w/ small gravel 7-15cm: coarse sand w/ silt.	dark brown dark brown	NO	NO	0268	moist
1002	WS137	15cm	0-4cm: coarse sand 4-15cm: coarse sand w/ silt + small-large gravel	dark brown dark brown	NO	NO	0269	dry-moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

WHITESTONE CG - COMPOSITE C

UCIZ Beach Sampling

SURFACE SAMPLE LOG

Date: 5/3/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1005	WS146	15cm	0-4cm: coarse 4-15cm coarse sand w/ silt.	dark brown dark brown	NO	NO	0270	moist
1009	WS192	15cm	0-15cm: coarse sand w/ silt	dark brown	NO	NO	0271	moist
1012	WS 215	15cm	0-15cm: coarse sand w/ silt + trace fine sand	dark brown	NO	NO	0272	moist
1017	WS186	15 cm	0-10cm: coarse sand 10-15cm: coarse sand w/ silt	dark brown dark brown	NO	NO	0273	dry-moist
1023	WS83	15cm	0-15cm: coarse sand w/ lenses of fine sand + silt	dark brown	NO	NO	0274	moist
1028	WS59	15cm	0-15cm: coarse sand w/ small pebbles + silt	dark brown	NO	NO	0275	moist.

Samplers: J. Wilson
L. Linde

integral consulting inc.

UHTESTORE CG - COMPOSITE D

UC12 Beach Sampling

SURFACE SAMPLE LOG

Date: 5/3/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1040	WS6	15cm	0-15cm: med-coarse sand,	dark brown	NO	NO	0276	moist,
1045	WS31	15cm	0-15cm: coarse sand w/ silt + fine sand	dark brown	NO	NO	0277	moist
1049	WS95	15cm	0-15cm: coarse sand w/ silt + small gravel	dark brown	NO	NO	0278	dry-moist
1053	WS148	15cm	0-15cm: coarse sand w/ silt and fine sand	dark brown	NO	NO	0279	moist
1056	WS154	15cm	0-8cm: coarse sand. 8-15cm: coarse sand w/ silt + small-med gravel	dark brown dark brown	NO	NO	0280	dry-moist
1102	WS172	15cm	0-3cm: coarse sand 3-8cm: coarse sand w/ silt + small-large gravel 8-15cm: silt	dark brown dark brown dark brown	NO	NO	0281	dry-moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

LITTLESTONE CG - COMPOSITE D

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 5/3/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1107	WS 149	15cm	0-15cm: coarse sand w/ silt	dark brown	NO	NO	0282	moist
1111	WS 145	15cm	0-15cm: same as above	dark brown	NO	NO	0283	moist
1115	WS 124	15cm	0-4cm: coarse sand 4-15cm: silt w/ some coarse sand.	dark brown dark brown	NO	NO	0284	dry-moist
1118	WS 116	15cm	same as above	dark brown dark brown	NO	NO	0285	dry-moist
1122	WS 82	15cm	0-15cm: coarse sand w/ lenses of silt	dark brown	NO	NO	0286	moist
1125	WS 19	15cm	0-15cm: coarse sand w/ lenses of silt	dark Brown (JW)	NO	NO	0287	dry-moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

WHITESTONE CG - COMPOSITE E

SURFACE SAMPLE LOG

Date: 5/3/11 **Page:** 1 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
0939	WS-2	0-15	SAND - MED - CRS GRAIN SUB ROUND, POORLY SORTED TRACE SILT, SLIGHTLY MOIST.	LT BRN TO LT GRY	-	-	(105) 4420	
0943	WS-22	0-15	SAND, AS AT WS-2, BUT WITH TRACE GRAVEL, FINE GRAIN, SUB ROUND	LT BRN TO LT GRAY	-	-	4421	
0948	WS-36	0-15	SAND - AS AT WS-22	"	-	-	4422	
0952	WS-104	0-15	SAND - AS AT WS-22	"	-	-	4423	
0955	WS-131	0-15	SAND - AS AT WS-22	BRN TO LT. GRAY	-	-	4424	
0958	WS-207	0-15	SAND - AS AT WS-22 BUT WITH FEW GRAVEL FINE - MED GRAIN.	BRN TO LT GRAY	-	-	4425	

Samplers: JM.

integral consulting inc.

LIMESTONE CG - COMPOSITE E

SURFACE SAMPLE LOG

Date: 5/3/11 **Page:** 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1002	WS-217	0-15	SAND, MED - CRS GRAIN, SUBROUND, FEW SCLT, TRACE GRAVEL, SUBROUND FINE TO MED GRAIN - SLTY MOIST	BRN TO LT GRAY	-	-	4426	
1007	WS-175	0-15	SAND, AS AT WS-217	"	-	-	4427	
1013	WS-126	0-15	SAND. AS AT WS-217	"	-	-	4428	
1018	WS-26	0-15	SAND - AS AT WS-217	"	-	-	4429	
1020	WS-18	0-15	SAND, AS AT WS-217	"	-	-	4430 (SM)	
* 1010	WS-163	0-15	SAND AS AT WS-217	"	-	-	4430	(OUT OF ORDER.)

Samplers: SM

WILMONT CREEK SURFACE SEDIMENT LOGS

integral consulting inc.

WILLAMETTE CREEK - COMPOSITE A

SURFACE SAMPLE LOG

Date: 4/28/11 Camera # 1098 Page: 1

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1020	WC 223	15	surface: fine dark saturated gravel, cobbles boulders- Sand, fine to coarse, some silt, subrounded to subangular, wet, loose, poorly sorted	brown	none	none	100 - 8025	
1029	WC 262	15	Silty sand, moist, very stiff fine, heavily modified	dark brown	none	none	100 - 8026	
1035	295	15	same as 262 trace of fine subrounded gravel	dark brown	trace of organics	none	100 - 8027	
1040	175	15	silty sand, fine, top 1cm dry, rest is moist. surface is loose, rest is dense moderately modeled	brown	none	none	100 - 8028	
1047	212	15	Sand, fine, some silt, moist medium stiff moderately modeled	tannish brown	trace of organics	none	100 - 8029	
1051	182	15	Sand, fine, trace of silt, moist, medium dense, heavily modified	brown	trace of organics	none	100 - 8030	

Samplers: I. Saul
S. Barber

integral consulting inc.

WILMOT CREEK - COMPOSITE A

SURFACE SAMPLE LOG

Date: 4/28/11 Collins # 1098 Page:

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1057	WC 284	15	silty sand, fine moist, medium dense.	brown	trace of organics	none	100-8031	
1101	307	15	Sandy silt, poor plasticity, fine, moist, soft, slightly modelled	brown	trace of organics	none	100-8032	
1106	424	15	silt, moderate plasticity, wet ~~soft~~, some fine sand, moderate modelling -to medium stiff	brown	none	none	100-8033 8034	
1111	513	15	silt, wet, soft, some fine sand, heavily modelled	brown	trace of organics	none	100-8035	
1116	507	15	0-2.5cm, silt, damp, very stiff, no plasticity, slightly modelled 2.5-10cm: sand, fine, damp very dense 10-15 cm: same as 0-2.5cm	brown brown	none	none	100-8036	
1121	520	15	surface: gravel, cobbles. Sand, fine, some silt, moist, dense, slightly modelled	grey	none	none	100-8037	

Samplers:

integral consulting inc.

WILMOT CREEK - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/28/11 Camera # 1098 Page: 3

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1150	156	15	0-2.5cm: silt, some fine sand, moist, medium stiff, slightly modeled 2.5-15cm: sand, fine to coarse, subrounded, some silt, moist, medium dense, some fine subrounded gravel	brown brown	trace of organics none	none none	100-8038	
1201	224	15	surface: fine to coarse subrounded gravel, cobbles, boulders. gravelly sand, fine to medium, trace of coarse subrounded sand, some fine to coarse subrounded gravel. moist, medium dense,	brown slightly	none modeled	none	100-8039 8040	
1208	106	15	0-13cm: sand, fine, trace of silt, moist, soft, moderately modeled 13-15cm: gravel, fine to coarse subrounded, cobbles, very dense. Trace of fine sand	brown dark brown	some organics none	none none	100-8041	
1216	166	15	~~sand~~ silt, wet, soft, some fine sand, moderate plasticity, moderately modeled	brown	some organics	none	100-8042	
1220	203	15	silty sand, fine, moist, dense slightly modelled	brown	none	none	100-8043	
1224	413	15	Sandy silt, fine sand, low plasticity, moist, stiff, moderate modeling	brown	none	none	100-8044	

Samplers: S. Barber
I. Sauk

integral consulting inc.

WILMONT CREEK - COMPOSITE B

SURFACE SAMPLE LOG

Date: 4/28/11 Survey # 1098 Page: 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1228	365	15	silt, wet, medium stiff, low plasticity, some fine sand, moderate modelling	brown	trace of organics	none	100-8045	
1233	480	15	surface: gravel, cobbles silty sand, fine to medium, trace of coarse sand, some fine to coarse subrounded gravel, wet. Silt.	black	none	none	100-8046	
1239	485	15	silt, wet, medium stiff, some fine sand, low plasticity, slightly modeled	dark grey	none	none	100-8047	
1243	486	15	same as 485	"	"	"	100-8048	
1246	500	15	silt, wet, soft, some fine sand, slightly modeled	brown	trace of organics	slight organic	100-8049	
1250	512	15	same as 500	"	"	"	100-8050	

Samplers: S. Barber
I. Soul

integral consulting inc.

DILLMONT CREEK - COMPOSITE C

UCR BEACH SAMPLING

SURFACE SAMPLE LOG

Date: 4/28/11 **Page:** 1 of 4

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1024	WC39	15cm	0-15cm: Fine sand, well sorted w/ some silt.	Dark grey/ brown	NO	NO	0142	moist
1031	WC267	15cm	0-15cm: silt	grey/ dark brown	burned wood debris from 12-14cm.	NO	0143	moist
1037	WC459	15cm	0-15cm: silt w/ some clay	grey/ dark brown	NO	NO	0144	moist
1043	WC461	15cm	0-15cm: same as above	same as above	NO	NO	0145	moist.
1047	WC494	15cm	0-15cm same as above	same as above	NO	NO	0146	moist.
1053	WC496	15cm	0-15cm: silt	grey/ dark brown	NO	NO	0147	moist small to med gravel @ 8cm

Samplers: J. Wilson
L. Linde

integral consulting inc.

Duwamish Creek - Composite C

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/28/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1100	WC 483	15cm	0-15cm: silt w/ some clay and coarse sand	grey/ dark brown	wood debris throughout	NO	0148	moist
1107	WC465	15cm	0-15cm: silt w/some clay, small - large gravel	0-6cm: grey 6-15cm: dark brown	NO	NO	0149	moist Some small shells
1115	WC 419	15cm	0-15cm: same as above	same as above	NO	NO	0150	moist
1124	WC 117	15cm	0-15cm: fine sand, well sorted w/ some silt.	dark brown	NO	NO	0151	moist
1132	WC251	15cm	0-15cm: fine sand w/ some silt.	dark brown	@ 9cm burned wood debris	NO	0152	moist
1139	WC 315	15cm	0-12cm: fine-med sand, well sorted w/ some silt 12-15cm: fine sand	grey/ brown brown	NO	NO	0153	moist

Samplers: J Wilson
L. Linde

integral consulting inc.

WILMOT CREEK - COMPOSITE D

UCIB Beach Sampling

SURFACE SAMPLE LOG

Date: 4/28/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1205	WC31	~~0~~ 15cm (JW)	0-15cm: fine sand, well sorted w/ silt lenses throughout	grey/ orange brown	burned wood debris @ 12cm	NO	0154	moist
1215	WC250	15cm	0-15cm: fine-med sand, well sorted w/ occasional coarse sand + silt	grey to brown	NO	NO	0155	moist
1221	WC456	15cm	0-15cm: silt w/ some fine-med sand.	dark brown	NO	NO	0156	moist
1225	WC471	15cm	0-15cm: fine sand, well sorted w/ some silt. w/ lenses of med-coarse sand	dark brown	NO	NO	0157	moist
1230	WC468	15cm.	0-15cm: clay w/ some silt.	modeled dark brown + grey	NO	NO	0158	moist shells at surface
1235	WC398	15cm	0-5cm: silt w/ some fine sand 5-15cm. fine-med sand, well sorted w/ some silt	grey grey/ brown	NO	NO	0159	moist

Samplers: J. Wilson
L. Linde

integral consulting inc.

Uichuat Creek - Composite 3

UC12 Beach Sampling

SURFACE SAMPLE LOG

Date: 4/28/11

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1210	WC 396	15cm	0-15cm: clay w/ some silt & fine sand	mottled brown + grey	NO	NO	0160	moist shells at surface
1245	WC 358	15cm.	0-15cm: same as above	same as above	NO	NO	0161	moist shells at surface
1250	WC 205	15cm	0-15cm: silt w/ fine sand and some clay	mottled brown + grey	NO	NO	0162	moist
1256	WC 230	15cm	0-15cm: silt w/ some fine sand	mottled brown + grey	NO	NO	0163	moist shells at surface
1307	WC 103	15cm	0-5cm: silt, w/ some small-med gravel 5-15cm: small-large grave w/ some silt	dark grey light-dark brown	NO	NO	0164	moist
1314	WC 26	15cm	0-15cm: fine sand w/ some silt.	grey to orange/ brown	NO	NO	0165	moist Iron staining throughout

Samplers: J. Wilson
L. Linde

integral consulting inc.

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/24/11 Wilmont Creek Beach Composite E

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1013	WC-528	0-15 cm	silt, few fine grain sand slightly moist, firm low plasticity	LT Brown	NONE	NONE	File 100 photo 4249	
1018	WC-515	0-15cm	sand, fine grain, trace silt slightly moist, slightly firm	LT Brown to LT. orange Brown	NONE	NONE	4250	
1025	WC-448	0-15 cm	Silt TRACE fine grain sand moist, low plasticity	LT orange Brown to GRAY	tree root	NONE	4251	Tree Root in hole mud cracks on surface
1032	WC-257	0-10 cm	silt, few fine grain sand slightly moist, firm, no plasticity	Brown to LT Gray	NONE	NONE	4252	Highly compacted, in middle of Old Bulldozed trail mud cracks on surface
		10-15 cm	gravel fine-med grain sub round, few silt, slightly moist	same as above				
1039	WC-254	0-15 cm	silt few fine grain sand low plasticity, moist trace plant material	LT gray to LT. orange Brown	NONE	NONE	4253	mud cracks on surface
1043	WC-221	0-15 cm	silt, few fine grain sand low plasticity, moist	LT Brown to light gray	NONE	NONE	4254	oxidation Banding minor mud cracking on surface 0-10cm 4mm Burrows w/ orange oxidation

Samplers: Joss Moore
Bob Sullivan
Michele Stegner (observer)
Nicole Bacon

integral consulting inc.

UCR Beach Sampling

SURFACE SAMPLE LOG

Date: 4/28/11 Wilmont Creek Beach Composite E Page: 2 of 2

Time	Station	Depth (cm)	Texture	Color	Debris	Odor	Photo No.	Comments
1049	WC-189	0-15 cm	Silt with few fine grain sand, few gravel med-coarse grain sub Round, slightly moist, no plasticity	Brown to Lt. Gray Brown	None	None	4255	slight cracking on surface, with some gravel
1054	WC-161	0-15 cm 0-13 cm 13-15 cm	Silt, Few Fine grain sand few plant material, few snail shells, no plasticity slightly moist As above with few med grain sand sub round	Lt Brown to Lt gray	None	None	4256	slight cracking on surface Few plants on surface with few snailshells
1100	WC-237	0-15 cm	Silt, few fine grain sand no plasticity, firm slightly moist, trace plant material	Lt gray to orange Brown mottling	None	None	4257	1 Blood worm and associated Bioturbation
1104	WC-273	0-15 cm	Fine grain sand w/ some silt, trace plant material, slightly moist, firm	Lt gray to Lt Red-Brown	None	None	4258	
1113	WC-34	0-15 cm	Fine grain sand, trace med-grain sand, sub round few plant material trace silt, dry-slightly moist	Lt gray to Lt Yellow Brown	None	None	4259	Edge of Riparian zone some roots in hole
1117	WC-123	0-15 cm	Same as WC-34	Same as WC-34	None	None	4260	Edge of Riparian zone

Samplers:

APPENDIX D

BEACH CORE DESCRIPTION FORMS

BLACK SAND BEACH CORE LOGS

integral

319 SW Washington St., Suite 1150
Portland, OR 97204
(503) 284-5545

STATION NUMBER: Black Sand
PROJECT: UCR Beach Core
LOCATION: BS Beach, Core A
PROJECT NUMBER: C57
LOGGED BY: J. Moore

SAMPLE INFORMATION						STRATA	DESCRIPTION
Sample ID	Depth Inch	Time	Tag No.	% Recov.	Depth (Feet)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, weathering, cementation, geologic interpretation, etc.
BSA-1	2	1826		100		SP	0-9.5" - SAND, fine to medium, angular to subangular white to brown w/ <10% black sand; trace silt, no odor/sheen, dry
Photo # 299	4						
	6						
	8				2--		
BSA-2	10	1829					
Photo # 300	12						
	14						9.5-24" - SAND, as above, but moist
	16				4--		
	18						
	20						
BSA-3	22	1830					24-32" - SAND, as above but mainly fine sand, moist <20% black sand (angular)
Photo # 301	24				6--		
	26						
	28						
	30						
					8--		TD = 30"
							Notes: Core length = 30" extruded length = 36"
					10--		
							Use 1.2 multiplier to resolve extruded length.
							6" break @ 7.2" extruded
					12--		18" " @ 21.6" "
							30" " @ 36" "
					14--		

DRILLING CONTRACTOR —
DRILLING METHOD: Impact corer
SAMPLING EQUIPMENT: LEXAN TUBE 4"
DRILLING STARTED: 1815 7/9/09 Ended 1830 7/9/09
COORDINATES: SEE TABLES
SURFACE ELEVATION
DATUM

Location Sketch

integral

319 SW Washington St., Suite 1150
Portland, OR 97204
(503) 284-5545

STATION NUMBER: Black Sand
PROJECT: UCR - Black core, ORE B
LOCATION: BS Beach
PROJECT NUMBER: 1571
LOGGED BY: J. Moore 9/9/09

SAMPLE INFORMATION						STRATA	DESCRIPTION
Sample ID	Depth Inch	Time	Tag No.	% Recov.	Depth (Feet)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, weathering, cementation, geologic interpretation, etc.
BSB-1	2	1850		100		SP	0-9" SAND, fine to med. angular to subangular wht to brown w/ <4% black angular sand. no silt. no odor, no sheen, dry.
Photo # 308	4						
	6						
	8				2'		
BSB-2	10	1857					
	12						9-23 - SAND, as above, but slightly moist
Photo # 309	14						
	16				4'		
	18						
	20						
BSB-3	22	1854					23-30 - SAND, as above, but mainly fine sand. <25% black angular sand. moist
Photo # 310	24				6'		
	26						
	28						
	30						
					8'		TD = 30"
					10'		NOTES: core length = 30" extruded length = 30"
					12'		
					14'		

DRILLING CONTRACTOR: —
DRILLING METHOD: Impact corer
SAMPLING EQUIPMENT: LEXAN TUBE 4"
DRILLING STARTED: 1845 9/9/09 Ended 1900 9/9/09
COORDINATES: SEE TABLE
SURFACE ELEVATION:
DATUM:

Location Sketch

integral

319 SW Washington St., Suite 1150
Portland, OR 97204
(503) 284-5545

STATION NUMBER: Black Sand
PROJECT: VCR Beach Core
LOCATION: BS Beach, Core C
PROJECT NUMBER: C921
LOGGED BY: J. SUND

SAMPLE INFORMATION						STRATA	DESCRIPTION
Sample ID	Depth inch	Time	Tag No.	% Recov.	Depth (Feet)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, weathering, cementation, geologic interpretation, etc.
BSC-1 Photo # 305	2	1690		100		SP	0-30" SAND, Medium, brown w/ <40% black angular sand. Sand is angular to Subrounded. no odor/ sheen. moist.
	4						
	6						
	8				6--		
BSC-2 Photo # 306	10	1691					
	12						AS above
	14						
	16				4--		
	18						
	20						
BSC-3 Photo # 307	22	1692					AS above
	24				2--		
	26						
	28						
	30			V		V	
					0--		ID = 30"
							Notes:
							Core length = 30"
							Extruded " = 43"
					10--		
							apply 1.5 multiplier to la. Interval
							6" break = 9" extruded
					12--		18" " = 2.25' "
							30" " = 3.75' extruded
					14--		

DRILLING CONTRACTOR: —
DRILLING METHOD: IMPACT CORE
SAMPLING EQUIPMENT: LEXAN TUBE 4"
DRILLING STARTED: 1225 9/9/09 Ended 1235 9/9/09
COORDINATES: SEE TABLES
SURFACE ELEVATION:
DATUM:

Location Sketch

integral

319 SW Washington St., Suite 1150
Portland, OR 97204
(503) 284-5545

STATION NUMBER: Black Sand
PROJECT: ilwk beach cove
LOCATION: Oil Beach, Cove D
PROJECT NUMBER: 0521
LOGGED BY: J. SUND

SAMPLE INFORMATION						STRATA	DESCRIPTION
Sample ID	Depth inch	Time	Tag No.	% Recov.	Depth (Feet)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, weathering, cementation, geologic interpretation, etc.
BSD-1	2	1711		100		SP	0-9" SAND, f-med, angular to subangular. light brown w/ < 40% black angular sand. Root fragments @ surface. no odor/sheen dry.
Photo # 308	4						
	6						
	8				2		
BSD-2	10	1712					
Photo # 309	12						9-36" SAND, as above, but moist + trace root fragments
	14						
	16				4		
	18						
	20						
BSD-3	22	1713					As above
Photo # 310	24				6		
	26						
	28						
	30			↓		↓	
					8		TD = 30"
							Notes:
					10		Core length = 30"
							extruded length = 36"
							Use 1.2 multiplier to resolve extruded length
					12		6" break = 7.2" extruded
							18" " = 21.6" "
							30" break = 36" "
					14		

DRILLING CONTRACTOR: —
DRILLING METHOD: IMPACT CORER
SAMPLING EQUIPMENT: 4" CORE
DRILLING STARTED: 9/9/09 Ended 9/9/09
COORDINATES: SEE TABLES
SURFACE ELEVATION:
DATUM:

Location Sketch

integral

319 SW Washington St., Suite 1150
Portland, OR 97204
(503) 284-5545

STATION NUMBER: Black Sand
PROJECT: WCH beach Core
LOCATION: BS Beach, Core F
PROJECT NUMBER: C521
LOGGED BY: J. SLAND

Page 1 of 1

SAMPLE INFORMATION						STRATA	DESCRIPTION
Sample ID	Depth inch	Time	Tag No.	% Recov.	Depth (Feet)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, weathering, cementation, geologic interpretation, etc.
BSF-1	2	1750		100		SP	0-8" - SAND, fine-med light brown w/ <40% black angular sand. no odor/sheen. moist
Photo # 314	4						
	6						
	8				2'		
BSF-2	10	1752					8-20" SAND, med. brown w/ <40% blk sand. moist
Photo # 315	12						
	14						
	16				4'		20-32" : SAND, as above, but color change to dark brown. moist
	18						
	20						
BSF-3	22	1753					
Photo # 316	24				6'		
	26						
	28						
	30						
					8'		TD = 30"
							Notes:
							Core length = 30"
					10'		Extruded length = 32"
							USE 1.2 multiplier
					12'		6" breech = 7.2 extruded
							18" " = 21.6 "
							30" " = 36" "
					14'		

DRILLING CONTRACTOR
DRILLING METHOD: IMPACT COVER
SAMPLING EQUIPMENT: LEXAN CORE TUBE 4"
DRILLING STARTED: 1528 9/9/09 Ended 1545 9/9/09
COORDINATES: SEE TABLES
SURFACE ELEVATION
DATUM

Location Sketch

UPPER COLUMBIA R.V. PARK CORE LOGS

integral

319 SW Washington St., Suite 1150
Portland, OR 97204
(503) 284-5545

STATION NUMBER: RVA
PROJECT: UCR BEACH CORES
LOCATION: RV BEACH, COVE A
PROJECT NUMBER: 0521
LOGGED BY: J. MOORE

SAMPLE INFORMATION						STRATA	DESCRIPTION
Sample ID	Depth INCH	Time	Tag No.	% Recov.	Depth (Feet)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, weathering, cementation, geologic interpretation, etc.
RVA-1	2			100		SP	SAND, LIGHT BROWN TO GRAY,
PHOTO 0314	4	1325					FINE GRAIN, SUBROUNDED, DRY,
	6						TRACE ROOTLETS, NO ODOR, NO SHEEN.
	8				2		
	10						AS ABOVE, BUT NO ROOTLETS, SLIGHTLY
RVA-2	12	1326			1		MOIST
PHOTO 0315					4		
		1327					
RVA-3	24				28		AS ABOVE, MOIST.
PHOTO 0316							
							TD 29.5"
					8		
	36				3		
					10		
					12		
					14		

DRILLING CONTRACTOR
DRILLING METHOD: IMPACT CORE
SAMPLING EQUIPMENT: LEXAN TUBE 4"
DRILLING STARTED: 9/10/09 Ended 1135 9/10/09
COORDINATES: SEE TABLE.
SURFACE ELEVATION
DATUM

Location Sketch

integral

319 SW Washington St., Suite 1150
Portland, OR 97204
(503) 284-5545

STATION NUMBER: RUB
PROJECT: UCL BEACH CORES
LOCATION: RV BEACH / COVE B
PROJECT NUMBER: C521
LOGGED BY: J. MOORE

SAMPLE INFORMATION						STRATA	DESCRIPTION
Sample ID	Depth (INCH)	Time	Tag No.	% Recov.	Depth (Feet)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, weathering, cementation, geologic interpretation, etc.
RUB-1	2			100		SP	SAND, LIGHT BROWN TO GRAY, F-F GRAIN, SUBROUNDED, DRY, FEW ROOTLETS, NO ODOR/SHEEN.
PHOTO 031	4	1344					
	6						
	8				8--		
RUB-2	10						AS ABOVE, SLIGHTLY MOIST.
	12	1345					
PHOTO 038							
					4--		
RUB-2	24	1346					AS ABOVE.
PHOTO 039					6--		
							TD-30"
					8--		
	36						
					10--		
					12--		
					14--		

DRILLING CONTRACTOR: IMPACT CORP
DRILLING METHOD: LEXAN TUBE 4"
SAMPLING EQUIPMENT:
DRILLING STARTED: 1115 9/10/09 Ended 1125 9/10/09
COORDINATES: SEE MAP BOOK
SURFACE ELEVATION:
DATUM:

Location Sketch

integral

319 SW Washington St., Suite 1150
Portland, OR 97204
(503) 284-5545

STATION NUMBER: RVC
PROJECT: UCR BEACH CORE
LOCATION: RH BEACH, CORE C
PROJECT NUMBER: CS21
LOGGED BY: J. MOORE

SAMPLE INFORMATION						STRATA	DESCRIPTION
Sample ID	Depth INCH	Time	Tag No.	% Recov.	Depth (Feet)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, weathering, cementation, geologic interpretation, etc.
RVC-1	0			100		SP	SAND LIGHT BROWN TO GRAY,
PHOTO 320	4	1400					FINE GRAIN, SUBROUND, DRY,
	6						FEW ROOTLETS, NO ODOR/SHEEN.
	8				2--		
	10						AS ABOVE, SLIGHTLY MOIST, NO ROOTLETS
RVC-2	12	1401					
PHOTO 321					4--		
							AS ABOVE.
RVC-3		1402					
	24				6--		
PHOTO 322							
				↓		↓	TD 29"
					8--		
	36						
					10--		
					12--		
					14--		

DRILLING CONTRACTOR: —
DRILLING METHOD: IMPACT CORE
SAMPLING EQUIPMENT: LEXAN TUBE 4"
DRILLING STARTED: 9/10/09 Ended 9/10/09 RLS
COORDINATES: SEE TABLES
SURFACE ELEVATION:
DATUM:

Location Sketch

integral

319 SW Washington St., Suite 1150
Portland, OR 97204
(503) 284-5545

STATION NUMBER: RUD
PROJECT: WEB BEACH CORE
LOCATION: RJ BEACH, CORE D
PROJECT NUMBER: C521
LOGGED BY: J. MOORE

SAMPLE INFORMATION						STRATA	DESCRIPTION
Sample ID	Depth INCH	Time	Tag No.	% Recov.	Depth (Feet)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, weathering, cementation, geologic interpretation, etc.
RUD-1	2						SAND, LIGHT BROWN TO GRAY,
PHOTO 325	4	1707					FINE GRAIN, SUBROUND, DRY,
	6						TRACE ROOTLETS, NO ODOR/SHEEN.
	8				2--		
RUD-2	10	1708					AS ABOVE, SLIGHTLY MOIST, ISOLATED
PHOTO 324	12						ROOT FRAGMENT
					4--		
RUD-3		1709					AS ABOVE, NO ROOTLETS.
PHOTO 325	24				6--		
							TD 30"
					8--		
	36						
					10--		
					12--		
					14--		

DRILLING CONTRACTOR
DRILLING METHOD: IMPACT CORER
SAMPLING EQUIPMENT: LEXAN TUBE 4"
DRILLING STARTED: 1113 9/09/09 Ended 1300 9/09/09
COORDINATES: SEE PHOTO
SURFACE ELEVATION
DATUM

Location Sketch

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Portland, OR 97204
(503) 284-5545

STATION NUMBER: RVE
PROJECT: UCR BEACH CORE
LOCATION: RU BEACH, ONE E
PROJECT NUMBER: 05-2.1
LOGGED BY: J. MOORE

SAMPLE INFORMATION						STRATA	DESCRIPTION
Sample ID	Depth (INCH)	Time	Tag No.	% Recov.	Depth (Feet)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, weathering, cementation, geologic interpretation, etc.
	2			100		SP	SAND, LIGHT BROWN TO GRAY, FINE GRAIN, SUBROUND, DRY
RVE-1	4	1422					TRACE ROOTLETS, NO ODOR/SHEEN.
PHOTO 326	6						
	8				2--		
RVE-2	10	1423					AS ABOVE, NO ROOTLETS, SLIGHTLY MOIST.
PHOTO-327	12						
					4--		
RVE-3		1424					AS ABOVE.
PHOTO-328	24				6--		
				V			TD 30"
					8--		
	36						
					10--		
					12--		
					14--		

DRILLING CONTRACTOR
DRILLING METHOD: IMPACT CORER
SAMPLING EQUIPMENT: LEXAN TUBE 4"
DRILLING STARTED: 12/9/10/09 Ended 12/10/09
COORDINATES: SEE TABLES
SURFACE ELEVATION
DATUM

Location Sketch

NORTHPORT CORE LOGS

integral consulting inc.

CREATED BY B. Lawrence DATE 4/29/10

CHECKED BY _____ DATE _____

PROJECT UCR - Beach C521-0101

SUBJECT _____

Boring NP-109 Core A

UCR Beach Sampling

Northport

B Lawrence

Sample ID	Time	% Rec	Sheen	Depth	State	Description	Camera Canon Photo
		100			SP	olive fine sand subangular damp, soft trace silt	100-~~0044~~ 0045
SN0056	1545					No odor/sheen	
				6			
						Cobble - rounded	
					SW	Light olive fine sand saturated	0046
						No odor/sheen	
SN0057	1550						
				18			
						SAME AS Above	
SN0058	1600						0047
				30		BOH 30"	

integral consulting inc.

CREATED BY J. MOORE DATE 4/29/10

CHECKED BY _____ DATE _____

PROJECT UCR BEACH C521-0101

SUBJECT _____ I.S. 5/4/10

Boring NR91 Core B

UCR Beach Sampling

Northport

~~B. Lawrence~~ JM

Camera Canon

Sample ID	Time	% Reco	Sheen	Depth	Strata	Description	Photo
		100			SM	SILT, DARK BROWN TO GRAY, TRACE ORANGE + BLACK MOTTLING, FEW SAND, FINE GRAIN, TRACE PLANT FRAGMENTS, NO ODOR/SHEEN, MOIST TO SLIGHTLY WET. 1 CRANOMID.	5806
SN0059				6			
SN0060					SM-SP	AS ABOVE, BUT WITH LITTLE TO SOME SAND, BLACK TO ORANGE, FEW GRAVEL - MED GRAIN, ANGULAR 1 PIECE OF GLASS + SNAIL SHELL.	5807
				18	SP	SAND, FINE TO MED GRAIN, LIGHT YELLOW TO GRAY, MOIST, NO ODOR/SHEEN.	
SN0061							5808
						AS ABOVE.	
				30		BOH 30"	

integral consulting inc.

CREATED BY B. Lawrence DATE 4/29/10

CHECKED BY _____ DATE _____

PROJECT UCR Beach C521-0101

SUBJECT _____

Boring NP-119 Core C
UCR Beach Sampling
Northport

Sample ID	Time	% Reco	sheen	Depth	Strata	Description	Camera Canon Photo
		100			SP	Olive fine sand subangular damp soft no odor/sheen	
SN0062	1635						100-0048
				6		w/trace silt trace plant fragments	
					SP	Lt brown fine to med sand subangular damp soft w/trace silt no odor/sheen	
SN0063	1640						100-0049
					SW	Lt olive fine sand subangular saturated firm no odor/sheen	
				18			
SN0064	1645						100-0050
						Same As Above	
				30		Bott 30'	

integral consulting inc.

CREATED BY J. MOORE DATE 4/29/10

CHECKED BY _____ DATE _____

PROJECT UCR BEACH C521-0101

SUBJECT _____ I.S. 5/4/10

Boring NP-128 Core D

UCR Beach Sampling

Northport

Camera

Sample ID	Time	%Rec	Shear	Depth	Strata	Description	Photo
		100	NA		SP	SAND, fine to med grn, sub round, yellow brown, trace silt, isolated gravel sub-round, no odor/sheen	5809
SN0065	1655			6			
SN0066	1700					As above, but yellow to gray, moist.	5810
				18			
SN0067	1705					As above, but wet.	5811
				30		Bott 30"	

integral consulting inc.

CREATED BY B. Lawrence DATE 4/29/10

CHECKED BY _____ DATE _____

PROJECT UCR Beach C521-0101

SUBJECT _____ I.S. 5/4/10

Boring (new random location) Core E

UCR Beach Sampling

Northport

B. Lawrence

Coordinates:

48.922067509

-117.772216064 (S) 5/4/10

Camera Canon

Sample ID	Time	% Rec	Sheen	Depth	Strata	Description	Photo
		100			SP/ML	Brown fine sand with interlayered ½ sandy silt lenses damp, soft	
SN0068	1710			6		no odor / sheen	100-0051
					SP	Dark olive fine to med sand w/ trace silt	
SN0069	1715					no odor/sheen	100-0052
						w/ trace gravel coarse subround	
				18	SW	Light Olive fine sand saturated, firm	
						no odor / sheen	
SN0070	1720						100-0053
				30		Both 30"	

DALLES ORCHARD CORE LOGS

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER DS-219 Core A
PROJECT UCR Beach Sampling
LOCATION Dalles Orchard
PROJECT NUMBER
LOGGED BY B. Lawrence

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SW	Light to Dark olive fine sand	
						soft damp subround	100-0035
SN0078	1210	100				no odor no sheen	
				6"		black grains throughout	
						occasional micro-layering	
SN0079	1215	100				same	-0036
SN0080						no odor no sheen	
				18"			
					SP	Light olive fine to medium sand	
						damp soft	
SN0081	1220	100				no odor no sheen	-0037
						BOH 30" = 75 cm	Canon SD 780

Drilling Method Vibra-core (hand)
Sampling Equipment
Coordinates
Surface Elevation
Datum

Location Sketch

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CORE NUMBER: DS-122 COLE B
PROJECT: UCR BEACH
LOCATION: DALLES ORCHARD
PROJECT NUMBER: C521-5101
LOGGED BY: J. MOORE

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
		100	NA		SP	SAND, fine to med, sub-rnd to sub-angular, light yellow to brown with few black grns, trace silt, slightly moist, no odor/sheen	CAMERA 1093
SN0082	1225			6"			5785
	1230					AS ABOVE, but trace black sand.	5786
SN0083				18"			
	1235					AS ABOVE	5787
SN0084				30"		TD - 30"	

Drilling Method	HAND IMPACT CORER
Sampling Equipment	
Coordinates	
Surface Elevation	
Datum	

Location Sketch

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CORE NUMBER: DS-102 Core C
PROJECT: VCR Beach Sampling
LOCATION: Dalles Orchard
PROJECT NUMBER:
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP		
						light olive fine to med sand	
						subround to subangular	
SN0085	1240	100				soft damp	100-39
						no odor / sheen	
				6"		signif amt black grains	
						light brown	
						Same As Above	
						light olive	
SN0086	1245	100					100-40
				18"			
						light olive, no black grains	
						no odor / sheen	
SN0087	1250	100					100-41
						Same as above	
				30"			
						BOH = 30 (75cm)	
							Canon 5D 780

Drilling Method: hand impact corer
Sampling Equipment:
Coordinates:
Surface Elevation:
Datum:

Location Sketch

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CORE NUMBER DJ-188 CORE D
PROJECT UCR BEACH
LOCATION DALLES ORCHARD
PROJECT NUMBER C521-0101
LOGGED BY J. MOORE

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
		100	NA		SP	SAND - fine to med grain, sub-rnd to sub angular, yellow-brown, with few black grains, trace silt, no odor / sheen, slightly moist.	CAMERA 1098
SN0088	1255						5788
				6"			
SN0089	1300					AS ABOVE, trace black grains,	5789
				15"			
SN0090	1305					AS ABOVE.	5790
		↓	↓	30"		TOTAL DEPTH - 30"	

Drilling Method	HAND IMPACT CORER
Sampling Equipment	
Coordinates	
Surface Elevation	
Datum	

Location Sketch

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CORE NUMBER: DS-10 Core E
PROJECT: UCR Beach Sampling
LOCATION: Dalles Orchard
PROJECT NUMBER:
LOGGED BY: B. Lawrence

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Olive fine to med sand	
						damp soft subangular	
						no odor / sheen	
SN0091	1310						100-0042
						few black grains	
				6"			
SN0092	1315						100-0043
				18"	SP	Light olive fine to med sand	
						damp soft subangular	
						no odor / sheen	
						no black grains	
SN0093	1320						100-0044
				30"			
						BOH 30" = 75cm	
							Canon SD 780

Drilling Method: hand impact corer
Sampling Equipment:
Coordinates:
Surface Elevation:
Datum:

Location Sketch

SUMMER ISLAND CORE LOGS

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CORE NUMBER: CR-SRA (station SR 649) (B) 5/4/10
PROJECT: UCR Beach
LOCATION: Summer Island
PROJECT NUMBER: C521 0101
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No. (Camera 1098)
		100				Dark olive silt w/ fine sand Firm Damp Trace plants and rootlets top 10 cm	
	1640				SM	mottled texture. No odor No sheen	5720
CR-SRA A SN-0129							
SN-0130					SP	Light olive fine sand Loose No odor, no sheen Damp	
				10"			
CR-SRA B SN-0131							5721
	1640						
				20"		As Above	
CR-SRA C SN-0132							5722
	1640						
				30"		TD = 30" (75 cm)	

Drilling Method: Demo hammer cover 4/27/10
Sampling Equipment: lexan tube, ~~metal~~ bowl, SS spoon
Coordinates:
Surface Elevation:
Datum:

Location Sketch

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CORE NUMBER CR-SRB (STATION SR618) 5/4/10
PROJECT UCK BEACH
LOCATION SUMMER ISLAND
PROJECT NUMBER CSL-0101
LOGGED BY J. MOORE

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	CAMERA 1098
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
		100			SP-SM	SAND, FINE GRAIN, OLIVE BROWN TO GRAY, FEW SILT, FIRM, SLIGHTLY MOIST. TRACE PLANTS + ROOTLETS IN TOP 2cm. NO ODOR NO SHEEN	5714
	1430						
CR-SRBA							
SW-D133							
						SAND, FINE GRAIN, LIGHT OLIVE BROWN, LOOSE, TRACE SILT, NO ODOR NO SHEEN, ~~SLIGHT~~ (5%) VERY SLIGHTLY MOIST	
				10"			
CR-SRB3	1430						5715
SW-D134							
				20"		AS ABOVE	
CR-SRBC	1430						5716
SW-D135							
				30"		TD = 30" (75cm)	

Drilling Method	Demo hammer corer
Sampling Equipment	lexan tube, SS bowl + spoon
Coordinates	
Surface Elevation	
Datum	

Location Sketch

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CORE NUMBER CR-SRC (SR-920)
PROJECT UCR Beach
LOCATION Summer Island
PROJECT NUMBER C521 0101
LOGGED BY B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Light olive fine sand w/ trace silt	
						mottled soft damp	
CR-SRCA SN 0136	1715					rootlets in top 10 cm	
						no odor, no sheen	5723
				10"			
CR-SRCB SN 0137	1720						
							5724
					SM	Dark olive silt w/ trace sand	
						firm, damp	
						trace organic/coal fragments	
						no odor no sheen	
				20"			
CR-SRCC SN-0138	1725						5725
						Grading to Light olive	
						no odor no sheen	
				30"			
						TD = 30" (75 cm)	

Drilling Method: Demo hammer corer w/ extension
Sampling Equipment: SS bowl + spoons
Coordinates:
Surface Elevation:
Datum:

Location Sketch

(SR-841) L.S. 5/4/10

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CORE NUMBER CR-SR D ~~(SR-9?00)~~ L.S. 5/4/10
PROJECT UCR Beach
LOCATION Summer Island
PROJECT NUMBER C521 0101
LOGGED BY B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Light Olive fine sand soft, damp	
CR-SR D A SN-0139						No odor No sheen	5726
				10"		Same as above No odor No sheen	5727
CR-SR D B SN-0140						Same as above	
				20"	SM	trace dark gray silt	
					SP	Same as above	
CR-SR D C SN-0141						No odor No sheen	5728
				30"		TD = 30" (25 cm)	

Drilling Method Demo hammer w/ lexan tube
Sampling Equipment SShowl + Spoon
Coordinates
Surface Elevation
Datum

Location Sketch

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CORE NUMBER: CR-SR E (SR759) is 5730
PROJECT: UCR Beach
LOCATION: Summer Island
PROJECT NUMBER: C52101 01
LOGGED BY:

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Light Olive fine sand soft, dry to damp	
							5729
CR-SR E A	1808						
SN-0142							
				10"		Same as Above	
						No odor No sheen	5730
CR-SR E B	1805						
SN-0143							
				20"		Same as Above	
	1810					No odor No sheen	5731
CR-SR E C							
SN-0144							
		30		30"		TD 30" = 75cm	

Drilling Method: Demo hammer corer w/ lexan liner
Sampling Equipment: 4" bowl + spoon
Coordinates:
Surface Elevation:
Datum:

Location Sketch

BARNABY ISLAND CAMPGROUND CORE LOGS

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CORE NUMBER BC-2797 (Core A) I-3. 5/4/10
PROJECT UCR-Beach Sampling
LOCATION Barnaby Island
PROJECT NUMBER
LOGGED BY B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					SP	Light Olive fine to medium sand w/ trace gravel damp, soft no odor no sheen	
SN-0156	1600	100					100-0059
					SM	Dark olive silty find sand w/trace gravel damp firm no odor no sheen	
				10"	SP	Brown fine to medium sand 10% gravel damp soft no odor no sheen	
SN-0157	1610	100					100-0060
				20"	SP	Light Olive medium sand 20% gravel damp soft no odor no sheen	
SN-0158	1620	100					100-0061
				30"		BOH 30" = 75cm	dumpy stylus

Drilling Method	~~Vibra Core~~ Impact hammer (15) 5/5/10
Sampling Equipment	3" ~~PVC~~ sleeve Lexan (15) 5/5/10
Coordinates	
Surface Elevation	
Datum	

Location Sketch

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CORE NUMBER BC-3648 (core B) I.S. 5/4/10
PROJECT VCR - Beach Sampling
LOCATION Barnaby Island
PROJECT NUMBER
LOGGED BY B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
		100			SP GP	SAND fine to med grain, sub rounded to sub angular, Few gravel - fine grain Sub round, slightly moist No odor no sheen	CAMERA 1098.
							5760
SN-0159	1630						
				6"			
						AS ABOVE BUT LITTLE GRAVEL, Fine to med grain.	
				10"			
							5761
SN-0160	1640						
						AS ABOVE, BUT SAND WITH GRAVEL - fine to med grain little to some gravel.	
				18"			
				20"			
							5762
SN-0161	1650						
				30"		BOTH 30" = 75 cm	

Drilling Method	~~Vibra-core~~ Impact hammer
Sampling Equipment	3" ~~PVC~~ sleeve (15) 5/5/10
Coordinates	Lexan (15) 5/5/10
Surface Elevation	
Datum	

Location Sketch

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CORE NUMBER: BC-3509 (Core C) I.S. 5/4/10
PROJECT: UCR-Beach Sampling
LOCATION: Barnaby Island
PROJECT NUMBER:
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Light Olive medium sand w/ trace gravel damp soft no odor no sheen	
SN-0162	1700	100					-0062
				10"			
					SP	Light Brown fine sand, damp firm w/ rootlets throughout	
SN-0163	1710	100					-0063
				20"			
SN-0164	1720	100					-0064
				30"		BOH 30" = 75 cm	
							Olympus Stylus

Drilling Method	~~Vibra-core~~ Impact hammer
Sampling Equipment	3' ~~PVC~~ sleeve (IS 5/5/10)
Coordinates	Lexan (IS 5/5/10)
Surface Elevation	
Datum	

Location Sketch

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CORE NUMBER ~~BC~~ Core D (new random site) IS 5/5/10
PROJECT UCR- Beach Sampling
LOCATION Barnaby Island
PROJECT NUMBER
LOGGED BY B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	SAND, FINE TO MED grain, Sub-rounded, poorly sorted, dry, no odor no sheen, - light yellow to grey.	~~5763~~
SN-0165	1730						
				6"			
				10"			
							5764
						1" LAYER of SAND AS ABOVE, BUT WITH ABUNDANT WOOD/PLANT FRAGMENTS - CLAY TO OLIVE YELLOW.	
SN-0166	1740						
				18"		SAND AS AT 0-12"	
				20"			
							5765
SN-0167	1750						
						SAND AS ABOVE.	
				30"		BOH 30" = 75 cm	

Drilling Method ~~Vibra core~~ Impact hammer
Sampling Equipment 3" ~~PVC~~ sleeve (IS) 5/5/10
Coordinates Lexan (IS) 5/5/10
Surface Elevation
Datum

Location Sketch

corrected coords. for new random location.
48.45222598
-118.2201165
IS 5/5/10

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CORE NUMBER ~~BC~~ Core E (new random site) LS 5/5/10
PROJECT UCR Beach Sampling
LOCATION Barnaby Island
PROJECT NUMBER
LOGGED BY B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Light Olive medium sand	
						damp, soft	
						no odor no sheen	
SN-0168	1800	100					-0065
				10"			
						trace gravel 10"-16"	
SN-0169	1810	100					-0066
					SP	BRown fine sand	
						damp stiff	
				28"			
SN-0170	1820	100					-0067
						2" cobble at 29"	
				30"		BOH 30" = 75 cm	
							dympex stylus

Drilling Method ~~Vibra-core~~ Impact Hammer
Sampling Equipment 3" PVC sleeve LS 5/5/10
Coordinates Lexan LS 5/5/10
Surface Elevation
Datum

corrected coordinates for new random location
48.44899298
-118.2179422
LS 5/5/10

Location Sketch

AA Campground Beach Core Logs

4/25/11

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CORE NUMBER: CR-AAA
PROJECT: UCR- Beach Sample 2011
LOCATION: AA campground
PROJECT NUMBER: (52)-0101
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-AAA-1	1430	100	NA		0	0-5 SAND - TAN, medium to coarse grained, sub-rounded, Trace of fine grained Sand, Trace of fine sub-rounded gravel, No organics, No odor, Damp, loose micaceous	107-4192
						5-10 silty	
						~~10-15~~ SAND- TAN, fine grained, Damp	
					15	(10-25) medium Dense, Slightly mottled, trace of fine sub-rounded gravel, No organics, No odor., micaceous	4193
CR-AAA-2	~~1425~~ 1431	100	NA				
						10-45 SAND - TAN, medium to coarse	
						(10-75) grained, sub-rounded, Trace of fine sub-rounded gravel, Damp, loose, No organics, No odor, micaceous	
					45	45-75 SAND - Same as above	4194
CR-AAA-3	~~1432~~ 1432	100	NA				
						74-75 SAND - TAN, Fine grained, Moist	
					75	med dense, No organics, No odor,	

Drilling Method: HAND CORE
Sampling Equipment: SS, SPOONS
Coordinates: AA- 2.56
Surface Elevation:
Datum:

Location Sketch

4/25/11

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CORE NUMBER CR-AAB
PROJECT UCR Beach Sample 2011
LOCATION AA campground
PROJECT NUMBER C521-0181
LOGGED BY Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-AAB-1	1450	100	NA		0	0-15 SAND - TAN, Fine to medium grained Sub-rounded, Trace of fine Sub-rounded gravel, No organics, a slight fishy odor,	107-4195
					15	15-45 SAND - TAN, Fine to medium grained Sub-rounded, trace of course grained	4196
CR-AAB-2	1451	100	NA			Sand, Sub-rounded, Trace of Fine Sub-rounded gravel,	
						@ 40 Some coarse grain Sand, Sub-rounded,	
					45		
CR-AAB-3	1452	100	NA				4197
						45-75 SAND - Same as above	
					75		

Drilling Method HAND CORE
Sampling Equipment S.S. Spoon
Coordinates AA-121
Surface Elevation
Datum

Location Sketch

4/25/11

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CORE NUMBER: CR-AAC
PROJECT: Ice Beach Sample 2011
LOCATION: AA campground
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-AAC-1	1510	100	NA		0	0-7 SAND - TAN, fine to coarse grained, Sub-rounded, Trace of fine Sub-rounded gravel, trace of organics, No odor, Micaceous, Damp, loose	107-4198
						7-15 SAND - TAN, fine grained, moist, medium Dense, slightly mottled, trace of organics, No odor, micaceous	
					15		
CR-AAC-2	1511	100	NA			15-45 SAND - Same as above	4199
					45	45-55 SAND - TAN, fine to medium grained, Sub rounded, poorly sorted, Moist, medium Dense, No organics, No odor, micaceous	4200
CR-AAC-3	1512	100	NA			55-75 SAND - TAN, fine to Coarse grained, Sub-rounded, moist, loose, trace of fine sub-round gravel, No organics, No odor, micaceous,	
					75		

Drilling Method: Hand Core
Sampling Equipment: S.S. Spoons
Coordinates: AA-64
Surface Elevation:
Datum:

Location Sketch

4/25/11

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CORE NUMBER: CR - AAD
PROJECT: YCP Basin Sample 2011
LOCATION: AA Campground
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-AAD-1	1525	100	NA		0	0-15 SAND - TAN, fine to medium grained, Sub-rounded, Trace of coarse grained, Sub-rounded, Damp, loose, No organic, No odor, Micaceous	107-4201
					15	15-30 SAND - TAN, fine grained, trace of SILT, MOIST, MEDIUM DENSE, No organics, No odor	4202
CR-AAD-2	1526	100	NA				
						30-45 SAND - TAN, medium to coarse, Grained, Sub-rounded, trace of fine Sub-rounded gravel, No organics, No odor, micaceous	
					45	45-75 SAND - Same as above	4203
CR-AAD-3	1527	100	NA				
					75		

Drilling Method: Hand Core
Sampling Equipment: SS. Spoon
Coordinates: AA-648
Surface Elevation:
Datum:

Location Sketch

4/25/11

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CORE NUMBER: CR-AAE
PROJECT: UCR Beach Sample 2011
LOCATION: AA Campground
PROJECT NUMBER: C521-010j
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-AAE-1	1544	100	NA		0	0-12 SAND - TAN, fine to medium grained, Sub-rounded, Damp, loose, No organics, Nil odor, micaceous,	107-4204
						12-15 SAND - TAN, medium to coarse grained, Sub-rounded, Trace of fine sub-rounded gravel, Damp,	
					15	loose, No organics, No odor, micaceous.	
CR-AAE-2	1545	100	NA			15-45 SAND - Same as above	4205
					45	45-75 SAND - Same as above	4206
CR-AAE-3	1546	100	NA				
					75		

Drilling Method: Hand Core
Sampling Equipment: S.S. Spoons
Coordinates: AA-552
Surface Elevation:
Datum:

Location Sketch

BOSSBURG FLAT CORE LOGS

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CORE NUMBER: Core A BF-275
PROJECT: UCR Beach Sediment
LOCATION: Bossburg Flat
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive fine to med SAND w/ gravel 20% angular to subround to 3 cm, damp, v loose	Olympus Stylus Tough
A1	1115						1
				15			
A2	1120						2
					SW/ML	Olive green fine SAND/SILT, damp, loose	
		100		45			
A3	1125						3
						trace gravel subround to 2 cm	
				75		BOH	

Drilling Method: Bosch Jack Hammer w/drive head
Sampling Equipment: 7cm id lexan tube, ssspoon / bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 0952 4/25/11

Location Sketch

LG Verizon 0954

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core B BF-185
PROJECT: UCR Beach Sediment
LOCATION: Bossburg Flat
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SM	DK olive Sandy SILT w/organics, fine rootlets, damp, v loose, no odor	Olympus Stylus Tough
B1	1145						4
				15			
B2	1155						5
					SP/SM	Olive gray silty fine SAND damp, v loose, no odor	
		100					
				45			
B3	1205						6
						Trace gravel subang to subround, to 3 cm	
				75			

Drilling Method: Bosch Jack Hammer w/drive head
Sampling Equipment: 7cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1003 4/25/11

Location Sketch

LG Verizon 1005

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core C BF-41
PROJECT: UCR Beach Sediment
LOCATION: Bossburg Flat
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth (feet)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	DK olive fine to med SAND w/trace silt & trace gravel, angular to rounded to 4 cm, damp, v loose, no odor	Olympus Stylus Tough
C1	1220						7
				15			
						Grades to Lt olive, no odor	
C2	1225						8
		100					
				45			
					ML	DK brn SILT w/fine sand, damp, v loose, no odor	
C3	1230						9
						grades to brn, no odor	
				75		BOH	

Drilling Method	Bosch Jack Hammer w/drive head
Sampling Equipment	7cm id lexan Tube, SS spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1015 4/25/11

Location Sketch

IG Verizon 1021

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core D BF-28
PROJECT: UCR Beach Sediment
LOCATION: Bossburg Flat
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet (cm)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
						Olive fine SAND w/ trace silt and trace gravel, sub ang to subround, to 4 cm, damp, v loose, no odor, trace v fine rootlets	Olympus Stylus tough
D1	1240						10
				15			
					ML		
D2	1250					DK brn SILT w/ trace fine sand, damp, v loose, no odor	11
						grading to brn, no odor	
		100					
				45			
						grading to olive, no odor	
D3	1300						12
				75			

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1025 4/25/11

Location Sketch

LG Verizon 1033

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core E BF-11
PROJECT: UCR Beach Sediment
LOCATION: Bossburg Flat
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet cm	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	olive fine SAND w/ trace silt, rootlets, damp loose, no odor	Olympus Stylus Tough
E1	1315			15			13
					ML	DK olive SILT w/ trace sand	
E2	1325						14
					SP	olive fine SAND, v loose, damp, no odor	
		100		45			
					ML	grades to olive SILT, damp, loose, no odor	
E3	1335						15
				75		BOH	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1039 4/25/11

Location Sketch

LG Verizon 1045

COLVILLE FLATS CORE LOGS

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core A CF-473
PROJECT: VCR Beach Sediment
LOCATION: Colville Flats
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recovery (Compression)	Sheen	Depth-Feet cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					ML	Olive gray SILT, damp, soft, no odor	Olympus Stylus Tough
						trace micro-rootlets to 15 cm bgs	
A1	1220						1
				15			
A2	1230						2
		5					
					SP	Lt olive to lt brn gravelly (fine), fine to med SAND damp, v loose, gravel ang to subround, v loose	
				45		trace orange (rust) colored grains, no odor	
					SW	Lt brn fine sand, v loose, no odor	
						nail at 59 cm	
A3	1240						3
				75		BOH	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 0957 4/27/11

Location Sketch: SD 980 # 81

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core B CF-615
PROJECT: UCR Beach Sediment
LOCATION: Colville Flats
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet Cm	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive fine to med SAND, v loose, damp, trace micro-rootlets	Olympus Stylus Tough
B1	1250						4
						DK olive SILT w/ trace fine sand, v loose, damp, no odor	
				15			
B2	1300						5
		100					
				45		grades to Lt brn, no odor	
B3	1310						6
						trace wood debris	
				75		BOH	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME / Date: 1012 4/27/11

Location Sketch

SD 780 #82

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core C CF-934
PROJECT: UCR Beach Sediment
LOCATION: Colville Flats
PROJECT NUMBER: C521
LOGGED BY: B. Lawrance

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	%Recov. Compact	Sheen	Depth Feet CM		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					ML	Olive gray SILT, v soft, damp, no odor, micro-rootlets to 15cm bgs	Olympus Stylus Tough
C1	1320						7
				15			
C2	1330						8
		7			SP	Lt brn fine to coarse SAND w fine gravel 15%, max 2cm, v loose, damp, no odor	
				45			
C3	1340				ML	DK olive SILT w trace fine gravel, sub ang to subround, max 2.5cm, v soft, damp, no odor, trace coal flecks ~ 2mm	9
				75		BOH	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan tube, sssspoon / bowl
Coordinates:
Surface Elevation:
Datum:
TIME / DATE: 1020 4/27/11

Location Sketch

SD 783 #83

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core D CF-629
PROJECT: UCR Beach Sediment
LOCATION: Colville Flats
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet CM		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					ML	DK olive SILT w Lt brn mottling, trace micro rootlets, loose, damp, no odor	Olympus Stylus Tough
D1	1355						10
				15			
					SP	Lt brn fine to med SAND, v loose, damp no odor	
D2	1405						11
		100		45			
					ML/CL	DK olive SILT w/trace clay, v soft, wet no odor	
					ML	DK olive SILT, v soft, wet, no odor	
D3	1415						12
				75			
						BOH	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7 cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1042 4/27/11

Location Sketch: SD 780 #84

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core E CF-617
PROJECT: UCR Beach Sediment
LOCATION: Colville Flats
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet (m)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive fine to med SAND, v loose, damp, no odor	Olympus Stylus Tough
E1	1425						13
				15	ML	DK olive SILT, soft, damp, no odor	
E2	1435				SP	Lt olive fine to med SAND, v loose, damp, no odor	14
		100		45			
					ML	DK brn SILT, soft, damp, no odor	
E3	1445					grades to brown, no odor	15
				75		BOH	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan tube, ss-spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1104 / 4/27/11

Location Sketch

SD 780 # 85

COLVILLE RIVER CORE LOGS

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core A CR-273
PROJECT: UCR Beach Sediment
LOCATION: Colville River
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth-Feet cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive fine SAND w/ trace silt and trace fine gravel 1% - max 1 cm, v loose, dry, no odor	Olympus Stylus Tough
A1	1215				ML/CL	Olive brn SILT, soft, damp, no odor trace clay	1
				15	ML	Lt brn SILT w/ trace organics (1%) black plant flecks, max 3 mm, soft, damp, no odor	
A2	1225						2
		100			ML	Olive gray clayey SILT	
				45			
					SM	olive gray silty fine SAND w/ trace organics black twig-like	
A3	1235						3
					SP	Olive brn fine to med SAND, v loose,	
				75		130ft	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 0950 4/28/11

Location Sketch

SD 780 # 98

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core B CR-205
PROJECT: UCR Beach Sediment
LOCATION: Colville River
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					ML	lt olive brn SILT, loose, dry, no odor trace organics, (twigs to 2 mm diameter)	Olympus Stylus Tough
B1	1245					damp at 10 cm	4
				15			
B2	1255						5
					ML/CL	lt olive brn SILT w/ clay, soft, damp, no odor	
		100					
				45			
					ML	lt olive brn SILT w/ trace organics, black twigs to 4 mm diameter	
B3	1305						6
				75		BOH	

Drilling Method	Bosch Jack Hammer w/ drive head
Sampling Equipment	7 cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1023 4/28/11

Location Sketch

SD 780 # 99

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core C CR-168
PROJECT: UCR Beach Sediment
LOCATION: Colville River
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet cm	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive brn fine to coarse SAND, v loose, damp, no odor	Olympus Stylus Tough
C1	1315						7
				15			
					SW	Lt olive brn fine SAND w/ brn mottling, damp, no odor	
C2	1325						8
					ML/CL	Olive brn clayey SILT, v soft, wet, no odor → to dk brn	
		100					
				45			
						no odor	
C3	1335						9
				75			
						BOH	

Drilling Method	Bosch Jack Hammer w/ drive head
Sampling Equipment	7 cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1031 4/28/11

Location Sketch

SD 780 #100

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core D CR-62
PROJECT: UCR Beach Sediment
LOCATION: Colville River
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet (cm)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SW	Lt olive brn fine SAND, v loose, damp, no odor	Olympus Stylus Tough
D1	1345						10
				15			
						no odor	
D2	1355						11
		100					
				45	SM	DK olive brn silty fine SAND, wet, med dense, no odor	
D3	1405				ML	DK olive brn, SILT w/ trace clay, v soft saturated, no odor	12
				75		BOH	

Drilling Method	Bosch Jack Hammer w/ drive head
Sampling Equipment	7 cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1045 4/28/11

Location Sketch

SD 780 #101

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core E CR-10
PROJECT: UCR Beach Sediment
LOCATION: Colville River
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page / of /

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet / Cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive to tan fine SAND, v loose, dry, no odor	Olympus Stylus tough
E1	1415						13
				15		damp at 15 cm, no odor	
E2	1425					grading to DK olive brn, v loose, damp, no odor	14
		100					
				45		no odor	
E3	1435						15
						trace organics 1 cm diameter twig	
					SM	V dk brn silty fine SAND	
				75		BOH	

Drilling Method	Bosch Jack Hammer w/drive head
Sampling Equipment	7 cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1052 4/28/11

Location Sketch

SD 780 #102

CRESCENT BAY CORE LOGS

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core A CS-146
PROJECT: UCR Beach Sediment
LOCATION: Crescent Bay
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet CM		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					SP	Lt olive brn fine to med SAND, v loose, damp, no odor	Olympus Stylus Tough
A1	1100						1
				15			
						same,	
A2	1110						2
						grades to olive brn at approx 40 cm	
		110		45			
A3	1120					1 cm thick core of bark at 60 cm	3
				75		BOH	

Drilling Method: Dewalt Jack Hammer w/ drive head
Sampling Equipment: 7 cm id lexan tube, sssspoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 0939 5/3/11

Location Sketch

SD 780 # 181

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core B CS-196
PROJECT: UCR Beach Sediment
LOCATION: Crescent Bay
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet / cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Olive brn fine to med sand, v loose, damp	Olympus Stylus Tough
						DK brn (DTK) micro-layers throughout core	
B1	1130					approx 1 per 5 cm, v fine	4
				15			
B2	1140						5
						layers less frequent ~ 1 per 10 cm	
		110		45			
B3	1150						6
				75		BOH	

Drilling Method	Dewalt Jack Hammer w/ drive head
Sampling Equipment	7 cm lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME / DATE	0950 5/3/11

Location Sketch

SD 780 #182

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core C CS-102
PROJECT: UCR Beach Sediment
LOCATION: Crescent Bay
PROJECT NUMBER: CS21
LOGGED BY: B. Lawrence

Sample ID	Time	% Recov.	Sheen	Depth Feet (cm)	STRATA	DESCRIPTION (USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.)	Photo No.
					SM	DK olive fine SAND and SILT, v loose,	Olympus Stylus Tough
					ML		
					SM	damp, no odor, with silt lenses 1-2 cm thick approx 10 cm intervals	
C1	1200					trace fine gravel in top 5 cm	7
				15	ML		
					SM	same SAND and SILT	
					ML		
C2	1210				SP	DK olive gray fine to med SAND w/ trace coarse sand, v loose, damp, no odor	8
		110		45			
						same, no odor	
C3	1220						9
				75		BOH	

Drilling Method: Dewalt Jack Hammer w/ drive head
Sampling Equipment: 7 cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 0957 5/3/11

Location Sketch

SD 780 # 183

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core D CS-110
PROJECT: UCR Beach Sediment
LOCATION: Crescent Bay
PROJECT NUMBER: C521
LOGGED BY: B Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet (cm)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					SM	olive gray fine sandy SILT w/ trace med to coarse sand and fine gravel, max 1 cm	Olympus Stylus Tough
D1	1230						10
				15	ML	DK olive gray SILT w/ trace organics (micro-rootlets	
					SP	DK olive to olive gray fine to med SAND w/ trace fine gravel and trace silt	
D2	1240						11
		110		45		Same, no odor	
D3	1250						12
						same, no odor	
				75		BOH	

Drilling Method: Dewalt Jack Hammer w/ drive head
Sampling Equipment: 7 cm id lexan tube, sssspoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1003 5/3/11

Location Sketch

SD 780 # 184

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core E CS-67
PROJECT: UCR Beach Sediment
LOCATION: Crescent Bay
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet (cm)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					SP	Olive gray fine SAND w/ trace med/coarse sand, trace silt, no odor	Olympus Stylus Tough
E1	1300						13
				15			
						same, no odor	
E2	1310						14
						SP Coarse SAND	
					SP		
		110		45		Olive gray fine SAND w/ trace med sand, trace silt, v loose, damp, no odor	
E3	1320						15
						same, no odor	
				75		BOH	

Drilling Method: Dewalt Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan tube, ss spoon / bow /
Coordinates:
Surface Elevation:
Datum:
TIME / DATE: 1022 5/3/11

Location Sketch

SD 180 # 185

Enterprise Beach Core Logs

4/29/11

integral consulting inc
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-ENA
PROJECT: UCR Beach Sampling 2011
LOCATION: Enterprise
PROJECT NUMBER: CS21-0101
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-ENA-1	1428	100	NA		0	0-15 SAND - olive gray, fine to medium grained, Damp, loose, sub rounded, No organics, No odor	101-4279
						C 3-6 · SAND - fine grained, olive gray, moist, loose, trace of organics, No odor	
					15	15-45 SAND · Same as above Medium Dense	4300
CR-ENA-2	1429	100	NA				4300
					45	45-75 SAND · Same as above wet	4301
CR-ENA-3	1430	100	NA				
					75		

Drilling Method	HAND CORE
Sampling Equipment	S.S. SPOONS
Coordinates	EN-533
Surface Elevation	
Datum	

Location Sketch

4/29/11

integral consulting inc
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-ENB
PROJECT: UCR Beach Sampling 2011
LOCATION: Enterprise
PROJECT NUMBER: 0521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-ENB-1	1445	100	NA		0	0-15 SAND - Olive gray, fine to medium grained, Sub-rounded, Damp, Loose. No organics, No odor	101-4302
					15	15-45 SAND - Same as above, Gray, Trace of fine Sub-rounded gravel, Med. Dense,	4303
CR-ENB-2	1446	100	NA				
					45	45-75 SAND - Same as above, Brown, Trace fine Sub-rounded gravel, Med. Dense,	4304
CR-ENB-3	1447	100	NA				
					75		

Drilling Method	HAND CORE
Sampling Equipment	S.S. Spoon
Coordinates	EN-376
Surface Elevation	
Datum	

Location Sketch

4/29/11

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(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-ENC
PROJECT: UCR Beach Sampling 2011
LOCATION: Enterprise
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-ENC-1	1501	100	NA		0	0-15 SAND - Gray, fine to medium grained, sub-rounded, No organics, No odor, loose, Damp	101-4305
						SAND-	
					15	15-45 SAME AS above, olive gray, medium dense	4306
CR-ENC-2	1502	100	NA				
					45	45-75 SAND- Same as above, Brown,	4307
CR-ENC-3	1503	100	NA				
					75		

Drilling Method	Hand Core
Sampling Equipment	S.S. Spoon
Coordinates	EN-142
Surface Elevation	
Datum	

Location Sketch

4/29/11

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CORE NUMBER: CR-END
PROJECT: UCR Beach Sampling 2011
LOCATION: Enterprise
PROJECT NUMBER: 0521-0101
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-END-1	1513	100	NA		0	0-15 SAND - Gray, fine to medium grained, Damp, loose, No organics, No odor.	101-4309
					15	15-45 SAND - Same as above medium Dense,	4310
CR-END-2	1514	100	NA				
					45	45-75 SAND - Same as above, lenses of fine grained sand w/ trace of silt,	4311
CR-END-3	1515	100	NA				
					75		

Drilling Method: Hand core
Sampling Equipment: SS. Spoon
Coordinates: EN-33
Surface Elevation:
Datum:

Location Sketch

4/29/11

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CORE NUMBER ~~EX~~ CR-ENE
PROJECT UCR Beach Sampling 2011
LOCATION Enterprise
PROJECT NUMBER c521-0101
LOGGED BY Inymar Scull

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-ENE-1	1523	100	NA		0	0-15 SAND - olive gray to grey, fine to medium grained, Sub-rounded, No organics, No odor - slight fishy odor., loose, Damp.	10/-4312 4313
					15	15-45 SAND - Same as above medium Dense, No odor	4314
CR-ENE-2	1524	100	NA				
					45	45-75 SAND - Same as above,	4315
CR-ENE-3	1525	100	NA				
					75		

Drilling Method Hand Core
Sampling Equipment S.S. Spoon
Coordinates EN-12
Surface Elevation
Datum

Location Sketch

EVANS CAMPGROUND CORE LOGS

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CORE NUMBER: Core A EV-203
PROJECT: UCR Beach Sediment
LOCATION: Evans Campground
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth-Feet CM		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No. FinePix
					ML	Dk brn silt w trace fine sand damp soft	
A1	1820						7039 ~~68~~
				15			
					SP	Olive gray fine sand damp loose	
							7040
A2	1825						~~69~~
		100					
				45			
A3	1830						7041
							7042
				75			
						BOH	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan Tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1731 4/22/11

Location Sketch

SD 780 photo # 0013

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CORE NUMBER: Core B EV-113
PROJECT: UCR Beach Sediment
LOCATION: Evans Campground
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No. FinePix
						DK brn to Orange brn silt w/ trace sand trace rootlet, trace wood debris	
B1	1840					firm, damp	7043 7044
				15		Trace organics, 1/4" wood bits	~~7044 DL~~
B2	1845						7045
		100					
				45		DK brn fine sand, loose, damp	
B3	1850						7046
						olive gray silty fine sand, loose	7047
				75		BOH	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME / DATE: 1742 / 4/22/11

Location Sketch

SD 780 photo # 0014

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CORE NUMBER: Core C EV-602
PROJECT: VCR Beach Sediment
LOCATION: Evans Campground Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet CM		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	surface 15 & 16 Photo No. SD 780
					ML	DK gray silt fm, wet	Fine pix
C1	1900						7048
				15			
					SP	DK olive to DK brn fine sand, loose damp	
C2	1905						7049
		100		45		DK brn	
C3	1910						7050
				75		BOH	

Drilling Method: Dewalt Jack Hammer w/ drive head
Sampling Equipment: 7 cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1755 4/22/11

Location Sketch

SD 780 photo # 0015 & 0016

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CORE NUMBER: Core D EV-476
PROJECT: VCR Beach Sediment
LOCATION: Evans Campground Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet (m)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive fine to med sand w/ 5% black, 5% orange grains loose, damp	Finepix
D1	1915						7051
				15			
D2	1920						7052
				45			
D3	1925						7053
					ML	DK brn sandy silt, stiff, damp	
				75		BOH	

Drilling Method	Dewalt Jack Hammer w/drive head
Sampling Equipment	7cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1805 4/22/11

Location Sketch

SD 780 photo # 0019

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CORE NUMBER: Core E EV-763
PROJECT: VCR Beach Sediment
LOCATION: Evans Campground
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page / of /

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth-Feet (cm)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					ML	DK olive gray silt, soft, wet	Finepix
						trace clay	
E1	1930						7054
				15			
							7055
E2	1935						
					SP	DK olive gray fine sand, loose, damp	
		100				trace organics wood bits (black) 2 mm	
				45			
					--	grades to DK brn	
E3	1940						7056
					--	grades to Lt brn	
				75		BOH	

Drilling Method: Bosch Jack Hammer w/drive head
Sampling Equipment: 7cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1812 4/22/11

Location Sketch

SD 780 photo # 0018

FLAT CREEK CORE LOGS

4/23/11

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CORE NUMBER ~~CR-FCA~~ CR-FCA
PROJECT UCR Beach ~~Sediment~~ Sampling 2011
LOCATION Flat Creek
PROJECT NUMBER C521-0101
LOGGED BY Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
~~FC~~					0	0-15 SILTY SAND - Gray, fine grained, moist, medium dense, slightly mottled, Traced of organics, micaceous, No odor.	
CR-FCA-1	1415	100	NA				105-4124
					15	15-20 SILTY SAND - Same as above	
CR-FCA-2	1417	100	NA				
						20-45 SAND - Dark Brown, fine to medium grained, moist, loose, No organics, No odor, slightly mottled, well sorted	105-4125
					45		
~~FC~~						45-75 SAND - Same as above	
~~CR-FCA-3~~	1419	100	NA				105-4126
					75		

Drilling Method HAND Core
Sampling Equipment S.S. Spoon
Coordinates FC-356 333
Surface Elevation
Datum

Location Sketch

4/23/11

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CORE NUMBER: CR-FCB
PROJECT: WCR Beach Sampling 2011
LOCATION: Flat Creek
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					0		
CR-FCB-1	1421	100	NA			0-15 SAND - Gray, Fine grained, Moist, loose, Trace of organics, No odor, micaceous.	105-4127
					15		
						15-45 SAND - Same as above, medium Dense,	105-4128
CR-FCB-2	1423	100	NA				
					45		
						45-72 SAND - Same as above, Brown, No organics,	105-4129
CR-FCB-3	1425	100	NA				
						68-72 SILTY SAND - Gray fine grained, Moist, medium Dense, Heavily mottled, micaceous	
						72-75 SAND - Yellowish brown, fin & medium grained, loose, Moist, micaceous,	
					75		

Drilling Method: HAND Core
Sampling Equipment: S.S. Spoon
Coordinates: FC-243
Surface Elevation:
Datum:

Location Sketch

4/23/11

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CORE NUMBER: CR-FLC
PROJECT: WR ~~Sediment~~ Beach Sample 2011
LOCATION: Flat Creek
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Sant

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc	Photo No.
					0		
CR-FLC-1	1427	100	NA			0-15 SILTY SAND - Gray, fine grained, SAND, moist, medium Dense, Some organics, ~~no odor~~, Slight fishy odor	105-4/30
					15		
						15-30 SILTY SAND - Same as above	
CR-FLC-2	1429	100	NA				105-4/31
						30-45 SAND - Brown, fine grained, well sorted, no organics, slight Fishy odor, well Sorted, loose, ~~NA~~ Damp, micaceous	
					45		
CR-FLC-3	1431	100	NA			45-60 SAND Same as above	105-4/32
						60-75 SAND Brown - fine to medium grained, Sub-rounded, well sorted Damp, loose, micaceous	
						@ 65-70 SILTY SAND - Gray, fine grained, moist, medium dense, no organics, No odor.	
					75		

Drilling Method: HAND CORE
Sampling Equipment: S.S. Spoon
Coordinates: FC-230
Surface Elevation:
Datum:

Location Sketch

4/23/11

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CORE NUMBER: CR~FCD
PROJECT: UCR Beach Sampling 2011
LOCATION: Flat Creek
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					0	0-10 SAND - Gray, fine grained, Damp, loose, trace of organics, slight fish odor, micaceous.	105-4133
CR-FCD-1	1433	100	NA			10-15 SAND - Dark gray, moist, medium ~~stiff~~ Dense, no organics, slight fish odor, micaceous.	
					15		105-4134
CR-FCD-2	1435	100	NA			15-40 SAND - Same as above	
						@ 30 moderately mottled, Alternating layers of fine sand & medium grained Sand,	
						30-45 SAND - Brown, fine to medium grained, well sorted, Sub-rounded, Damp, loose, micaceous.	
					45		105-4135
CR-FCD-3	1437	100	NA			45-70 SAND - Same as above	
						70-75 SAND - Gray, fine grained, moist, medium Dense, slight mottling,	
					75		

Drilling Method: HAND CORE
Sampling Equipment: S.S. Spoons
Coordinates: FC-18
Surface Elevation:
Datum:

Location Sketch

4/23/11

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CORE NUMBER: CR-FLE-
PROJECT: YLR Beach Sampling 2011
LOCATION: Flat Creek
PROJECT NUMBER: CS21-0101
LOGGED BY: Inymar Saul

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					0		
CR-FLE-1	1439	100	NA			0-15 SAND - Grey, fine grained, moist, loose, trace of organics, No odor,	105-4136
					15	~~15-45 Same as above~~	105-4137
CR-FLE-2	1441	100	NA			15-45 SAND - Grey, fine grained, trace of SILT, moist, loose, trace of organics, No odor, moderate mottling	
					45		
CR-FLE-3	1443	100	NA			45-75 SAND - Grey, fine to medium grained, Damp, loose, No organics, No odor,	105-4138
						@ 60-64 & 70-73 SILTY SAND - Grey, fine grained Sand, Moist, medium stiff, slightly mottled,	40
					75		

Drilling Method: HAND CORE
Sampling Equipment: S.S. Spoons
Coordinates: FC-144
Surface Elevation:
Datum:

Location Sketch

Hawk Creek Core Logs

5/4/11

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CORE NUMBER: CR-HCA
PROJECT: UCR Beach Sampling 2011
LOCATION: Hawk Creek
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-HCA-1	1310	100	NA		0	0-15 SAND - Gray, fine to Medium Grained, sub-rounded/sub-angular, trace of coarse grained Sand, sub-angular/sub-rounded, Dry, loose, No organics, No odor, micaceous. to Damp	106-4477
					15	15-45 SAND - same as above	
CR-HCA-2	1311	100	NA				4478
						25-32 Some coarse grained Sand, sub-rounded/sub-angular,	
					45	45-75 SAND - same as above	4479
CR-HCA-3	1312	100	NA				
					75		

Drilling Method	Hand Core
Sampling Equipment	S.S. Spoon
Coordinates	HC-223
Surface Elevation	
Datum	

Location Sketch

5/4/11

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CORE NUMBER: CR-HCB
PROJECT: UCR Beach Sampling 2011
LOCATION: Hawk Creek
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-HCB-1	1320	100	NA		0	0-15 SAND - Gray, Fine to medium grained, Trace of coarse grained sand, Sub Angular/ Sub-rounded, Damp, loose, No organics No odor, micaceous	106-4480
						5-15 Scattered lenses of SILT	
					15	15-45 SAND - Same as above, Medium Dense,	
CR-HCB-2	1321	100	NS				4481
						34-~~45~~ 60 Some coarse grained Sand, Sub-rounded / sub-angular,	
					45	45-75 SAND - Same as above	4482
CR-HCB-3	1322	100	NS				
					75		

Drilling Method: HAND Core
Sampling Equipment: SS Spoon
Coordinates: HC-209
Surface Elevation:
Datum:

Location Sketch

5/4/11

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CORE NUMBER: CR-HCC
PROJECT: WR Beach Sampling 2011
LOCATION: Hawk Creek
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-HCC-1	1335	100	NA		0	0-15 SAND -- Gray, Fine to Medium grained, Sub-angular/Sub-rounded, trace of coarse grained sand, Sub-rounded/Sub-angular, trace of fine Sub-rounded Gravel, Dry to Damp, loose, micaceous	106-4483
					15	15-40 SAND - same as above	4484
CR-HCC-2	1336	100	NA				
						40-50 Clayey SILT - Brown, moist to wet, Very Stiff, High Plasticity, slightly ~~trace of~~ mottled, No organics No odor,	4485
					45		
CR-HCC-3	1337	100	NA			45-75 Clayey SILT - Same as above	
					75		

Drilling Method	Hand Core
Sampling Equipment	S.S. Spoon
Coordinates	HC-92
Surface Elevation	
Datum	

Location Sketch

5/4/11

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CORE NUMBER: CR-HCD
PROJECT: HCR Beach Sampling 2011
LOCATION: Hawk Creek
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Sund

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-HCD-1	1358	100	NA		0	0-15 SAND - Gray, Fine to medium grained Sub-rounded / Sub-Angular, trace of coarse grained Sand, Sub-rounded / Sub-angular, Dry to Damp, loose, No organics, No odor, micaceous,	106-4486
					15	15-45 SAND - Same as above, Trace of fine Sub-rounded gravel,	4487
CR-HCD-2	1354	100	NA				
					45	45-75 SAND - Same as above, (No gravels)	4488
CR-HCD-3	1400	100	NA				
					75		

Drilling Method	Hand Auger
Sampling Equipment	S.S. Spoon
Coordinates	HC-69
Surface Elevation	
Datum	

Location Sketch

5/4/11

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CORE NUMBER: CR-HCE
PROJECT: UCR Bowdy Sampling 2011
LOCATION: Hawk Creek
PROJECT NUMBER: 0521-01-01
LOGGED BY: Ingmar Sund

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-HCE-1	1413	100	NA		0	0-15 SAND - Gray, Fine to medium grained, Sub-rounded/Sub-Angular, Dry to Damp, loose, No organics, No odor,	106-4489
					15	15-45, SAND - Same as above, Trace of coarse grained sand, Sub-Angular/Sub-rounded, Scattered lenses of silt,	4490
CR-HCE-2	1414	100	NA				
					45	45-75 SAND - Same as above, ~~Slightly mottled~~	4491
CR-HCE-3	1415	100	NA				
						60-75 Slightly Mottled	
					75		

Drilling Method: Hand Core
Sampling Equipment: S.S. Spoons
Coordinates: HC-16
Surface Elevation:
Datum:

Location Sketch

HUNTERS CORE LOGS

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CORE NUMBER: Core A HT-754
PROJECT: UCR Beach Sediment
LOCATION: Hunters Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet / cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					GM	DK olive gray, gravelly SILT, w/ trace sand, soft, damp, no odor	olympus Stylus Tough
A1	1400						1
				15	ML	DK olive and dk yellowish brn mottled SILT w/ trace organics ~1mm bits, v soft, wet	
A2	1410						2
		100			OL	V.dk olive to black SILT and organics (grass and bark), v soft, wet, trace clay	
				45			
					ML	DK brn to reddish brn sandy SILT, v soft, wet, trace wood (max 2 cm dia twig)	
A3	1420						3
						Coarse GRAVEL to 4 cm subround at 64, refusal 66	
						BOH 66 cm	
				75			

Drilling Method	Dewalt Jack Hammer w/ drive head
Sampling Equipment	7 cm id lexan tube, ssspoon / bowl
Coordinates	
Surface Elevation	
Datum	
TIME / DATE	1056 5/5/11

Location Sketch

SD 780# 217

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CORE NUMBER: Core B HT-398
PROJECT: UCR Beach Sediment
LOCATION: Hunters Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet / cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					ML	DK olive SILT, damp, soft, no odor	Olympus stylus Tough
B1	1430						4
					ML	olive brn SILT, w/trace fine gravel, firm, saturated, trace organics (1%) black	
				15			
B2	1440						5
		100					
				45	ML	Lt olive and yellowish brn mottled SILT w/trace organics (twigs), stiff, wet, no odor	
B3	1450				ML/CL	DK olive gray clayey SILT, stiff to hard, damp	6
				66		coarse subround coarse GRAVEL at 65 cm.	
						BOH 66 cm	
				75			

Drilling Method	Dewalt Jack Hammer w/drive head
Sampling Equipment	7 cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1200 5/5/11

Location Sketch

SD 780 # 218

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core C HT-304
PROJECT: UCR Beach Sediment
LOCATION: Hunters Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet CM		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					ML	Olive gray SILT w/ trace sand, trace organics	Olympus Stylus Tough
						2 cm long earthworm	
					ML	Olive gray sandy SILT, soft, damp, no odor	
C1	1500						7
				15	ML	Olive gray and yellowish brn micro-layers ~3 mm thick	
						damp, v soft, no odor	
C2	1510						8
						wet	
						trace v fine sand at 39 cm	
					ML	V dk olive gray and dk yellowish brn SILT,	
		100		45		v soft, saturated, mottled, trace clay	
C3	1520						9
						same, no odor	
				75		BOH	

Drilling Method	Dewalt Track Hammer w/ drive head
Sampling Equipment	7cm id Lexan tube, ss spoon / bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1236 5/5/11

Location Sketch

SD 780# 219

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core D HT-410
PROJECT: UCR Beach Sediment
LOCATION: Hunters Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recovery / Compaction	Sheen	Depth Feet: Cm	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					ML	Olive gray SILT w/ some yellowish brn mottling, soft, no odor	Olympus Stylus Tough
						large 15 cm by 4 cm decomposed stick	
D1	1530						10
				15	PT	Black organic (decomposing bark frags) w/ silt and several 4 cm by 2 mm earthworms	
						DK yellowish brn SILT w/ trace organics stiff, damp, no odor	
						saturated at 30 cm	
D2	1540						11
		7					
				45			
						grades to olive brn, no organics	
D3	1550						12
				75		BOH	

Drilling Method	Dewalt Jack Hammer w/ drive head
Sampling Equipment	7 cm id lexan tube, ss spoon / bowl
Coordinates	
Surface Elevation	
Datum	
TIME / DATE	1250 5/5/11

Location Sketch

SD 760 # 220

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core E HT-55
PROJECT: HCR Beach Sediment
LOCATION: Hunters Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet CM		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					ML/SM	DK olive gray sandy SILT w/ trace gravel max 2.5 cm, loose, damp, no odor	Olympus Stylus Tough
E1	1600						13
						no gravel	
				15			
E2	1610						14
						same, no odor	
		100					
				45			
						same, no odor	
E3	1620						15
						Olive gray ~~silt~~ clay silty clay, stiff, damp	
				75		BOH	

Drilling Method	Dewalt Jack Hammer w/drive head
Sampling Equipment	7 cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1322 5/5/11

Location Sketch

SD 760 # 221

JONES BAY CORE LOGS

5/2/11

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-JBA
PROJECT: UCR Beach Sampling 2011
LOCATION: Jones Bay
PROJECT NUMBER: CS21-0107
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-JBA-1	1358	100	NA		0	0-15 SAND - Gray, fine to medium grained, trace of coarse grained, Sub-Angular to sub-rounded, Damp, loose, No organics, No odor, Poorly sorted,	104-4404 /4405
					15	15-45 SAND - Same as above, medium Dense.	4406
CR-JBA-2	1359	100	NA				
					45	45-75 SAND - Same as above Trace of fine sub-rounded gravel	104-4407
CR-JBA-3	1400	100	NA				
					75		

Drilling Method	Hand Core
Sampling Equipment	S.S. Spoon
Coordinates	JB-20
Surface Elevation	
Datum	

Location Sketch

5/2/11

integral consulting inc
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-JBB
PROJECT: UCR Beach Sampling 2011
LOCATION: Jones Beach
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-JBB-1	1413	100	NA		0	0-15 SAND- Gray, fine to medium grained, Trace of coarse grained Sand, Sub-rounded, Damp, loose, No organics, No odor.	104-4408
					15	15-45 SAND- Brownish gray, fine to coarse grained, Sub-angular to Sub-rounded, poorly sorted, Damp, medium Dense, No organics, No odor.	4409
CR-JBB-2	1414	100	NA				
					45	45-75 SAND - Same as above	4410
CR-JBB-3	1415	100	NA				
					75		

Drilling Method: Hand Core
Sampling Equipment: S.S Spoons
Coordinates: JB-51
Surface Elevation:
Datum:

Location Sketch

5/2/11

integral consulting inc
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-JBC
PROJECT: UCR Beach Sampling
LOCATION: Jones ~~Bay~~ Bay
PROJECT NUMBER: C521-010
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-JBC-1	1423	100	NA		0	0-15' SAND - Brownish grey, fine to medium grained, Some Coarse grained sand, Sub-angular to Sub-Rounded, Trace of Fine Sub-rounded gravel, Damp, loose, No organics No odor, Poorly Sorted,	104-4411
					15	15-45' SAND - Same as above Medium Dense,	
CR-JBC-2	1424	100	NA				4412
					45	45-75' SAND - Same as above	4413
CR-JBC-3	1425	100	NA				
					75		

Drilling Method: Hand Core
Sampling Equipment: S.S. Spoon
Coordinates: JB-~~105~~ 109
Surface Elevation:
Datum:

Location Sketch

5/2/4

integral consulting inc
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-JBD
PROJECT: UCR Beach Sampling 2011
LOCATION: Jones Bay
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-JBD-1	1433	100	NA		0	0-15 SAND - Grayish Brown, fine to medium grained, ~~Some~~ Trace coarse grained Sand, Sub-rounded to sub-angular, Trace of fine sub-rounded gravel, Damp, loose, Poorly sorted, No organics, No odor,	104-4414
					15		
CR-JBD-2	1434	100	NA			15-45 SAND - Same as above Medium Dense, Stiff lense Pocket of SILT, Very ~~Dense~~ Stiff, No Plasticity,	4415
					45	45-75 SAND - Same as above Same Coarse grained sand, Sub-rounded to Sub-angular	4416
CR-JBD-3	1435	100	NA				
					75		

Drilling Method	HAND CORE
Sampling Equipment	SS. Spoons
Coordinates	JB-181
Surface Elevation	
Datum	

Location Sketch

5/2/11

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-JBE
PROJECT: UCR Beach Sampling 2011
LOCATION: Jones Bay
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-JBE-1	1445	100	NA		0	0-15 SAND - Gray, Fine to grained, Trace of medium to coarse grained, sub-rounded to sub-angular, Trace of fine sub-rounded gravel, Dry to Damp, loose, No organics, No odor,	104.4416
					15	15-34 SAND - Same as above	4417
CR-JBE-2	1446	100	NA				
						34-45 SAND - Brown, fine grained, Some SILT, Moist, Medium Dense, to Dense, Trace of medium grained Sand, No organics, No odor,	
					45	45-75 SAND - Same as above Brown to Tannish Brown,	4418
CR-JBE-3	1447	100	NA				
					75		

Drilling Method	Hand Core
Sampling Equipment	S.S. Spoon
Coordinates	JB-122
Surface Elevation	
Datum	

Location Sketch

KAMLOOPS ISLAND CORE LOGS

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core A KL-140
PROJECT: UCR Beach Sediment
LOCATION: Kamloops Island
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth-Feet (CM)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					SP	Tan fine to coarse SAND w/ trace (5%) gravel to 3cm, sand has 10% black grains, v loose, dry, no odor	Olympus Stylus Tough
A1	1030						1
					ML	DK olive gray silt, v soft, damp, no odor	
				15			
					SP	Lt olive med to coarse SAND w/ 5% fine gravel to 1 cm, v loose, dry, no odor	
A2	1035						2
		90			SP/SM	DK olive silty 5%, gravelly 5% SAND med to coarse, gravel to 1 cm	
				45			
					SP	Lt olive gravelly 20% SAND, med to coarse v loose, damp, no odor	
A3	1040						3
					GM	DK olive gray silt, soft, damp, no odor	
					SP	Lt olive gravelly 30% SAND, med to coarse v loose, damp, no odor	
						6 cm cobble	
				75		BOH	

Drilling Method	Bosch Jack Hammer w/ drive hammer
Sampling Equipment	7 cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	0954 4/24/11

Location Sketch

SD 780 pict # 40

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core B KL-87
PROJECT: UCR Beach Sediment
LOCATION: Kamloops Island
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov. (Core/Corrected)	Sheen	Depth Feet (m)	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					ML/PT	olive gray gravelly SILT w/organics 20% wood debris. gravel to 2 cm, dry, v loose, no odor	Olympus Stylus Tough
B1	1120						4
				15	SP	Lt olive med to coarse SAND w/ trace gravel to 6 cm angular to subround v loose, damp, no odor	
B2	1125						5
		90 10					
				45	PT	DK brn organics (twig + leaf litter) damp no odor	
B3	1130				ML/GM	DK brn sandy SILT w/gravel subround to 4 cm, soft, damp, no odor	6
				75		BOH	

Drilling Method: Bosch Jack Hammer w/drive hammer
Sampling Equipment: 7cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1051 4/24/11

Location Sketch

SD 780 pic # 41

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core C KL-45
PROJECT: UCR Beach Sediment
LOCATION: Kamloops Island
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Sample ID	Time	% Recov.	Sheen	Depth Feet cm	STRATA	DESCRIPTION (USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.)	Photo No.
					SP	Lt olive fine SAND, v loose, dry trace organics - pine needles	Olympus Stylus tough
C1	1140				SP	Lt olive / Lt brn / black med SAND w/trace gravel 5%, trace silt 5%, v loose damp, no odor	7
				15			
C2	1145						8
					PT	leaf and twig litter to 1 cm diameter	
		100			SP	Lt olive gravelly SAND w/trace silt gravel 30% fine to 2 cm, v loose damp, no odor	
				45			
C3	1150						9
				75		BOH	

Drilling Method	Bosch Jack Hammer w/drive hammer
Sampling Equipment	7 cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME / DATE	1108 4/24/11

Location Sketch

SD 780 Pict # 42

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core D KL-47
PROJECT: UCR Beach Sediment
LOCATION: Kamloops Island
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet Cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Tan fine to med SAND w/trace gravel,	Olympus Sylus tough
D1	1240				ML/PT	DK olive SILT and DK brn PEAT 2-3 cm interlayers V soft	13
				15			
					SM	DK olive sandy SILT w/trace organics V soft, damp, no odor, trace gravel to 2 cm	
D2	1245						14
		100			SP	Lt olive med to coarse sand w/gravel 15%, angular to subrownd, to 3 cm. V loose, damp, no odor	
				45		sand 10% lt brn grains 10% blk grains	
						grades to olive	
D3	1250						15
				75		BOH	

Drilling Method	Bosch Jack Hammer w/drive hammer
Sampling Equipment	7 cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1124 4/24/11

Location Sketch

SD 780 Pict # 43

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core E KL-23
PROJECT: UCR Beach Sediment
LOCATION: Kamloops Island
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth-Feet cm	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP/GP	Lt olive gravelly 40% SAND (coarse) V loose, dry, no odor	Olympus Stylus Tough
E1	1300				SP	Lt olive to olive med SAND w/trace gravel V loose, damp, no odor	16
				15			
E2	1305				ML	DK brn silt, w/trace organics, v soft, damp, no odor	17
					SP	Lt olive to olive med SAND w/trace gravel (rounded, to 2 cm) V loose, damp, no odor	
		100					
				45	SP/GP	Lt olive gravelly (30%) med to coarse SAND gravel to 2 cm, subang to subround V loose, damp, no odor 5% sand orange/lt brn grains 5% sand black grains	
E3	1310						18
				75		BOH	

Drilling Method	Bosch Jack Hammer w/drive hammer
Sampling Equipment	7cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1138 4/24/11

Location Sketch

SD 780 Pict # 44

KETTLE FALLS MARINA CORE LOGS

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core A KF-241
PROJECT: UCR Beach Sediment
LOCATION: Kettle Falls Marina
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Olive gravelly SAND, fine to med, gravel subround to round to 3cm, trace rootlets v loose, damp, no odor	Olympus Stylus Tough
A1	1105						1
				15			
					SM	Brown fine SAND with SILT (30%), loose, dense	
A2	1115						2
					SP	Olive gravelly SAND, fine to med, gravel subround to round, to 2cm, v loose, damp, no odor	
		100		45			
A3	1125						3
				75		BOH	

Drilling Method	Bosch Jack Hammer w/ drive head
Sampling Equipment	7cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	0957 4/26/11

Location Sketch

SD 780 #64

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core B KF-151
PROJECT: UCR Beach Sediment
LOCATION: Kettle Falls Marina
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet/cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SW	Med SAND Olive, w Trace gravel, rounded to 1.5 cm, sand grains 10% black	Olympus Stylus Tough
						V loose, damp, no odor	
B1	1135						4
				15			
B2	1145					same, no odor	5
		100		45			
B3	1155						6
					ML	olive SILT, v loose, damp, no odor	
				75		BOH	

Drilling Method	Bosch Jack Hammer w/drive head
Sampling Equipment	7 cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1016 4/26/11

Location Sketch

SD780 #65

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core C KF-97
PROJECT: UCR Beach Sediment
LOCATION: Kettle Falls Marina
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	%Recovery Compaction	Sheen	Depth-Feet cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP/GP	Lt olive to tan gravelly 20% SAND, gravel subround to subang to 3cm, med sand, damp v loose, no odor 10% black grains in sand	Olympus Stylus Tough
C1	1225						7
				15			
C2	1235						8
		10		45	SP	Tan med to coarse SAND w. trace gravel 5% to 1 cm, damp, v loose, no odor	
C3	1245						9
				75		BOH	

Drilling Method	Bosch Jackhammer w/ drive head
Sampling Equipment	7cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1141 4/26/11

Location Sketch

SP 780 # 66

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core D KF-60
PROJECT: UCR Beach Sediment
LOCATION: Kettle Falls Marina
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet / cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive f, med to coarse SAND, V loose, damp, no odor	Olympus Stylus Tough
D1	1315					trace gravel subround to 2 cm, surface to 15 deep	10
				15			
						no gravel	
D2	1325						11
		100		45		no gravel	
D3	1335						12
						Trace gravel from 69 to 75 bgs gravel subround to 2 cm	
				75		BOH	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1202 4/26/11

Location Sketch: SD 780 # 67

integral consulting inc.

319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core E KF-28
PROJECT: UCR Beach Sediment
LOCATION: Kettle Falls Marina
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet CM	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive med SAND, trace gravel 3%, subround to 2cm, V loose, damp, no odor	Olympus Stylus Tough
						30% sand grains are black	
E1	1345						13
				15			
E2	1355					Grades to tan	14
						10% black grains	
						no odor	
		100		45			
						no odor	
E3	1405						15
						5cm cobble @ 59cm	
				75		BOH	

Drilling Method	Bosch Jack Hammer w/drive head
Sampling Equipment	7cm id lexan tube, ss spoon / bowl
Coordinates	
Surface Elevation	
Datum	
TIME / DATE	1220 4/26/11

Location Sketch

SD 780 #68

LYONS ISLAND CORE LOGS

4/24/11

integral consulting inc
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER CR-LYA
PROJECT UCR Beach Sample 2011
LOCATION LYONS ISLAND
PROJECT NUMBER C521-0101
LOGGED BY Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
		102			0	0-15 SAND - Brown, fine to course grained,	
CR-LYA-1	1425		NA			(0-20) Sub-rounded, well sorted, Dry, loose, No organics, No odor, micaceous	4158
					15	15-20 SAND same as above	1159
CR-LYA-2	1426	100	NA			20-45 SAND - Fine grained, Brown,	
						(20-56) moist, medium stiff, well sorted, trace of organics, & slight fish odor,	
					45	45-56 SAND - Same as above	4160
CR-LYA-3	1427	90	NA				
						56-71 SILTY SAND - Fine grained Sand, wet, Dense, trace of organics, no odor,	
					75		

Drilling Method
Sampling Equipment
Coordinates LY-625 (28" / ~~45~~ 71cm)
Surface Elevation
Datum

Location Sketch

4/24/11

integral consulting inc
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-LYB
PROJECT: UCR- Beach Sample 2011
LOCATION: Lyons Island
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					0	0-15 SAND - Yellowish brown, fine grained,	4161
CR-LYB-1	1420	100	NA			(0-32) trace of medium grained, sub-rounded,	
						Damp, loose, trace of organics,	
						Slightly mottled,	
					15	15-32 SAND - Same as above.	
							4162
CR-LYB-2	1441	100	NA				
						32-45 SILTY SAND - Grayish brown,	
						(32-74) fine grained, moist to wet,	
						medium Dense to Dense, trace of	
						organics, slightly mottled,	
					45	45-74 SILTY SAND - Same as above	4163
CR-LYB-3	1442	98	NA			wet, Dense;	
						@ 70 thin lense of medium grained Sand	
						sub rounded, ~~Face~~	
					75	@ 74 trace of fine - sub-rounded	
						gravel	

Drilling Method:
Sampling Equipment:
Coordinates: LY- ~~625~~ 754 (29" / 74cm)
Surface Elevation:
Datum:

Location Sketch

4/24/11

integral consulting inc
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-LYC
PROJECT: UCR Beach Sample 2011
LOCATION: Lyons
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					0	0-15 SAND- Grayish brown, fine to medium	
CR-LYC-1	1500	100	NA			(0-20) grained, sub-rounded, trace of fine sub-rounded gravel, trace of organics, micaceous,	4164
					15	15-20 SAND- Same as above	
						silty	4165
CR-LYC-2	1501	100	NA			20-25 SAND- Gray, fine grained, moist, medium Dense, slightly mottled,	
						25-45 SILTY SAND - Dark gray, fine	
						(25-75) grained, Some medium grained Sand, sub-rounded, moist, medium Dense, Trace of fine sub-rounded gravel, No organics No odor	
					45	45-75 SILTY SAND - Same as above	
							4166
~~CR-LYC~~							
CR-LYC-3	1502	100	NA				
					75		

Drilling Method
Sampling Equipment
Coordinates: LY-514 (30"/75cm)
Surface Elevation
Datum

Location Sketch

4/24/11

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319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-LYD
PROJECT: UCR Beach sample 2014
LOCATION: Lyons Island
PROJECT NUMBER: C521 - 0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
				0	0	0-15 SILTY SAND- Brown, fine grained, Trace of medium grained Sand, Damp, loose, trace of organics, fishy odor,	
CR-LYD-1	1525	100	NA				4167
					15	15-20 SAND - Brown, fine to medium grained, sub-rounded, well sorted, trace of fine sub-rounded gravel, Trace of organics, fishy odor,	4168
CR-LYD-2	1526	100	NA				
						20-45 SILTY SAND - gray to black, fine grained, trace of fine sub-rounded gravel, slightly mottled, Trace of organics, No odor.	
					45	45-53 SILTY SAND Brown, fine grained Sand, Some medium grained sand, sub-rounded, moderately mottled, No organics slight fish odor, moist, medium Dense,	
CR-LYD-3	1526	50	NA				4169
						53-61 SILTY SAND - Brown, fine grained, moist, medium Dense, some fine sub-rounded gravel, Slightly mottled, No organics No odor.	
					75		

Drilling Method:
Sampling Equipment:
Coordinates: LY-208 (24"/61 cm)
Surface Elevation:
Datum:

Location Sketch

4/24/11

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319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-LYE
PROJECT: UCR1 sampling 2011
LOCATION: Lyons Island
PROJECT NUMBER: CS21-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					0		
CR-LYE-1	1540	100	NA			0-15 SILTY SAND - Dark brown, fine grained, Damp, medium Dense, trace of organics, slight fish odor, slightly mottled,	4170
					15	15-23 SILTY SAND - Same as above	4171 4172
CR-LYE-2	1541	100	NA			23-46 SILTY SAND - Dark brown, fine grained, trace of medium grained Sand, trace of organics, No odor, Moist, medium Dense, Some fine to coarse Sub-rounded gravel,	
					45		4173
						46-75 NA	
CR-LYE-3	—	Ø	NA				
					75		

Drilling Method:
Sampling Equipment:
Coordinates: LY-88 - (18"/ 46 cm)
Surface Elevation:
Datum:

Location Sketch

McGuires Core Logs

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core A MG-583
PROJECT: UCR Beach Sediment
LOCATION: McGuire's Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth-Feet cm	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	lt olive brn fine SAND w/ fine gravel (15%), subang to subround, max 2 cm, v loose, dry, no odor	Olympus Stylus Tough
A1	1245					damp at 9 cm	1
				15	SW	Olive brn fine SAND, v loose, damp, no odor	
A2	1255						2
		110				same, no odor	
				45			
A3	1305					same, no odor	3
				75		BOH	

Drilling Method	Dewalt Jack Hammer w/ drive head
Sampling Equipment	7 cm id lexan tube, sss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1008 5/4/11

Location Sketch

SD 780# 194

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core B MG-566
PROJECT: UCR Beach Sediment
LOCATION: McGuire's Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet CM		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt to olive brn fine SAND w/ trace fine to coarse gravel (5%) subround, max 4 cm, v loose, dry, no odor	Olympus Stylus Tough
B1	1315					damp at 5 cm	4
				15	SP	DK olive brn fine to med SAND, v loose, damp, no odor	
B2	1325				SM	DK olive brn silty fine SAND, v loose, damp, no odor	5
		120		45			
B3	1335						6
					SP	DK olive brn fine to med SAND, v loose, damp, no odor	
					SM	DK olive silty fine SAND, v loose, damp, no odor	
				75		BOH	

Drilling Method: Dewalt Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan tube, sssspoon / bowl
Coordinates:
Surface Elevation:
Datum:
TIME / DATE: 1023 5/4/11

Location Sketch

SD 780 # 195

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core C MG-137
PROJECT: UCR Beach Sediment
LOCATION: McGuire's Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet / CM		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
						Lt drive brn fine SAND w/ trace fine gravel, v loose dry, no odor	Olympus Stylus Tough
						damp at 8 cm	
C1	1345						7
						grades to DK drive brn	
				15			
C2	1355					same, no odor	8
		120		45			
C3	1405					same, no odor	9
						trace organics black bark + coal bits, max 2 mm, at 68 to 75 cm	
				75		BOH	

Drilling Method	Dewalt Jack Hammer w/ drive head
Sampling Equipment	7 cm id lexan tube, sssspoon / bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1039 5/4/11

Location Sketch

SD 780 # 196

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CORE NUMBER: Core D MG-217
PROJECT: UCR Beach Sediment
LOCATION: McGuire's Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet CM	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SM	DK olive fine sandy SILT, v loose, damp, no odor	Olympus Stylus Tough
D1	1415				CL	olive gray CLAY w/trace silt, firm, damp, no odor	10
				15			
D2	1425				CL	Lt olive to olive CLAY, stiff, damp to dry crumbly, no odor, trace organics (twigs 1/8 - to 5mm dia)	11
		100		45			
					CL	grades to olive only, no odor getting damp	
D3	1435						12
					CL	Lt reddish brn CLAY, Hard, dry, no odor	
				75		BOH	

Drilling Method: Dewalt Jack Hammer w/drive head
Sampling Equipment: 7cm id lexan tube, ssspoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1116 5/4/11

3 cores

Location Sketch
0 - 40 cm
40 - 60 cm
60 - 75 cm

SD 780# 197

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(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core E MG-106
PROJECT: UCR Beach Sediment
LOCATION: McGuire's Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet / CM	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive fine SAND w/trace silt, trace fine gravel v loose, dry, no odor	Olympus Stylus Tough
E1	1445						13
					CL/ML	DK olive silty CLAY w/trace fine gravel to 1cm v soft, damp to wet, no odor	
				15			
					SP	Lt olive fine SAND w/trace gravel (fine) to 2 cm, trace silt, damp, v loose, no odor	
E2	1455						14
						grades to Lt brn, damp, no odor	
		100		45			
						damp, no odor	
E3	1505						15
					ML/CL	DK olive clayey SILT, firm, damp, no odor	
				75		BOH	

Drilling Method	Dewalt Jack Hammer w/drive head
Sampling Equipment	7cm lexan tube, sssspoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1153 5/4/11

Location Sketch

SD 780 # 198

MITCHELL POINT CORE LOGS

5/1/11

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Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-MPA
PROJECT: UCR Beach Sampling 2011
LOCATION: Mitchell Point
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-MPA-1	1325	100	NA		0	0-15 SAND - Gray, Fine to medium grained, Trace of Coarse grained Sand, Sub-rounded, ~~Trace of fine Sub-rounded Gravel~~, Damp loose, No organics, No odor,	103-4368 1/4369
					15	15-35 SAND - Same as above Trace of fine Sub-rounded gravel,	
CR-MP-2	1326	100	NA				
						35-50 SAND - Brown, fine grained, Trace of medium grained Sand, Sub-rounded,	4370
						50-75 fine to medium grained,	
					45	~~45-75~~ SAND - ~~Same as above~~ Trace of SILT, Trace of Organics, slightly mottled, medium Dense, Moist, No odor, trace of fine Sub-rounded gravel,	
CR-MP-3	1327	100	NA				4371
					75		

Drilling Method	Hand Core
Sampling Equipment	S.S. Spoons
Coordinates	MP-300
Surface Elevation	
Datum	

Location Sketch

5/1/11

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Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-MPB
PROJECT: UCR Beach Sampling 2011
LOCATION: Mitchell Point
PROJECT NUMBER: C521.0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc	Photo No.
CR-MPB-1	1343	100	NA		0	0-15 SAND - Tannish grey, fine to coarse grained sand, Sub-rounded, Trace of fine sub-rounded gravel, Poorly Sorted, Damp, loose, No organics, No odor,	103-4372
					15	15-30 SAND - Same as above	4373
CR-MPB-2	1344	100	NA				
						30-45 SAND - Tannish brown, fine grained, trace of medium grained, Sub-rounded, Trace of fine to Coarse sub-rounded gravel, Moist, Medium Dense, No organics, No odor	
						40-43 SAND (layer) - Tannish Brown, fine to medium grained, sub-rounded, Moist, loose, No odor, no organics	
					45		
CR-MPB-3	1345	100	NA			45-75 ~~SAND~~ (Same as 30-45cm) SILT - Brown, Moist, Stiff, No organics, No odor, Trace of fine, sub-rounded gravel, to Coarse	4374
					75		

Drilling Method	Hand Core
Sampling Equipment	SS Spoon
Coordinates	MP-252
Surface Elevation	
Datum	

Location Sketch

5/1/11

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Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-MPC
PROJECT: UCR Beach Sampling 2011
LOCATION: Mitchell Point
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-MPC-1	1357	100	NA		0	0-15 SAND - Grayish brown, fine to coarse grained, Trace Some fine sub-rounded gravel, Poorly sorted, Damp loose, No organics, No odor,	103-4375
CR-MPC-2	1358	100	NA		15	15-20 SAND - Same as above. 0 20 organics, some,	4376
						20-25 SAND - Brown, fine grained, Trace of SILT, moist, medium Dense, No organics, No odor.	
						25-45 SAND - grayish brown, fine to medium grained, some fine grained sub-rounded, Damp, medium Dense, No organics. No odor	
CR-MPC-3	1359	100	NA		45	45-75 SAND - Same as above, Trace of fine sub-rounded gravel,	4377
					75		

Drilling Method	Hand & Core
Sampling Equipment	SS Spoon
Coordinates	MP-163
Surface Elevation	
Datum	

Location Sketch

5/1/11

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Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER CR-MPD
PROJECT UCR Beach Sampling 2011
LOCATION Mitchell ~~Beach~~ Point
PROJECT NUMBER C521-0107
LOGGED BY Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-MPD-1	1413	100	NA		0	0-15- Sand w/ Gravel - Grayish brown, fine to coarse grained Sand, Sub-rounded, fine Sub-rounded gravel, Damp, loose, No organics, No odor.	103-4378
					15	15-25 Sand w/ GRAVEL - Same as above	
CR-MPD-2	1414	100	NA			25-45 SAND - Grayish brown, fine to medium grained, Sub-rounded, Some Coarse grained Sand, Sub-rounded, Trace of fine Sub-rounded gravel, Damp, medium Dense, No organics No odor,	4379
					45	45-75. SAND - Same as above trace of organics	4380
CR-MPD-3	1415	100	NA				
					75		

Drilling Method: Hand Core
Sampling Equipment: SS Spoons
Coordinates: MP-10
Surface Elevation:
Datum:

Location Sketch

5/1/11

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CORE NUMBER: CR-MPE
PROJECT: UCR Beach Sampling 2011
LOCATION: Mitchell Point
PROJECT NUMBER: (521-070)
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-MPD-1	1428	100	NA		0	0-15 SAND - Grey, fine to medium grained, Sub-rounded, Damp, loose, No organics No odor,	103-4381
CR-MPD-2	1429	100	NA		15	15-45 SAND - Fine grained, Tannis brown, moist, medium dense, Some organics @ 37 cm; organic odor, moderately mottled,	4382
CR-MPD-3	1430	100	NA		45	45-75 - SAND - Tannis brown, fine to medium grained, Trace of coarse grained, Sub-rounded, Pockets of SILT w/some Sand, moist, medium Dense, No organics, No odor,	4383
					75		

Drilling Method: Hand Core
Sampling Equipment: S.S. Spoons
Coordinates: MP-47
Surface Elevation:
Datum:

Location Sketch

NABORLEE CORE LOGS

4/30/11

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(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-NAA
PROJECT: UCR Beach Sampling 2011
LOCATION: Naborlee
PROJECT NUMBER: CS21-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-NAA-1	1328	100	NA		C	0-15 SILTY SAND - Brown, moist, medium Dense, Fine grained sand, Trace of organics, Slight fishy odor, slightly mottled,	102-4335
					15	15-30 SAND - Brown, fine to medium grained, sub ~~round~~ angular, Trace of coarse grained sand, Sub-angular, Trace of fine sub-rounded gravel, No organics, No odor.	4336
CR-NAA-2	1324	100	NA			30-45 SANDY SILT - Brown, fine grained, Trace of fine sub-rounded gravel, No to low Plasticity, trace of organics, No odor,	
					45	45-75 SANDY SILT - Same as above	4337
CR-NAA-3	1330	100	NA				
					75		

Drilling Method	HAND CORE
Sampling Equipment	S.S. Spoons
Coordinates	NA - 765
Surface Elevation	
Datum	

Location Sketch

4/30/11

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Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-NAB
PROJECT: UCR Beach Sampling 2011
LOCATION: Nahorlee
PROJECT NUMBER: CS21-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-NAB1	1343	100	NA		0	0-15 SAND - Brown, fine to medium grained, sub-rounded, trace of fine sub-rounded gravel, Damp., loose, No organics, No odor,	102-4338
					15	15-45 SAND - Same as above	4339
CR-NAB-2	1344	100	NA				
					45	45-75 SAND - Brown, fine to medium grained, sub-rounded, Trace of Coarse grained sand, Slightly mottled, No organics, No odor, Trace of fine sub-rounded gravel, poorly sorted,	4340
CR-NAB-3	1345	100	NA				
					75		

Drilling Method: Hand Core
Sampling Equipment: S.S. Spoons
Coordinates: NA-541
Surface Elevation:
Datum:

Location Sketch

4/30/11

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CORE NUMBER: CR-NAC
PROJECT: ULR Beach Sampling 2011
LOCATION: Nabarlee
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-NAC-1	1355	100	NA		0	0-15 SAND - Brown, fine grained, Damp medium stiff, # trace of organics, No odor, Slightly mottled, Trace of SILT,	102-4341
					15	15-35 SAND Same as above	4342
CR-NAC-2	1356	100	NA				
						35-45 SAND - Brown, fine to medium grained, Trace of coarse grained Sand, sub-Angular, Trace of fine sub-rounded gravel, No organics, Slight Organic odor, Damp, loose	
					45		
CR-NAC-3	1357	100	NA			45-75 SANDY SILT - Brown, fine grained Sand, Moist, medium ~~dense~~ stiff, low Plasticity, trace of fine sub-rounded gravel, moderately mottled,	4344 4343
					75		

Drilling Method	Hand Core
Sampling Equipment	S.S. Spoons
Coordinates	NA · 737
Surface Elevation	
Datum	

Location Sketch

4/30/11

integral consulting inc
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-NAD
PROJECT: UCR Beach Sampling
LOCATION: Nubrlee
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc	Photo No.
CR-NAD-1	1413	100	NA		0	0-15 SILT - Dark Brown, Some fine grained Sand, Damp, medium stiff, heavily organic, organic odor, Trace of medium grained Sand, low Plasticity,	102-~~4345~~ 4344
					15	15-40 SILT - same as above, Some organics, Slightly mottled	4345
CR-NAD-2	1414	100	NA				
						40-50 SAND - Brown, fine to coarse grained, Sub-rounded, Some fine Sub-rounded gravel, No organics, No odor, Damp, loose	
CR-NAD-3	1415	100	~~NA~~ NO		45		
						50-75 SILT - Brown, Some fine grained Sand, wet, medium stiff, low plasticity, Trace of fine Sub-rounded gravel,	4346 / 4347
					75		

Drilling Method	HAND Core
Sampling Equipment	S.S. Spoons
Coordinates	NA-528
Surface Elevation	
Datum	

Location Sketch

4/30/11

integral consulting inc.
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Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-NAE
PROJECT: ULR Beach Sampling 2011
LOCATION: Naborhood
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-NAE-1	1427	100	NA		0	0-15 SAND - Brown, fine to medium grained, trace of fine sub-rounded gravel, Damp, loose, No organics, Slight fishy odor,	102-4348
					15	15-27 SAND - same as above	
CR-NAE-2	1428	100	NA				
						27-45 SANDY SILT - Brown, fine grained Sand, MOIST, medium stiff, Trace of organics, No odor, low Plasticity, Trace of fine sub-rounded gravel,	4349
					45	45-75 SANDY SILT - same as above wet, No Sheen,	4350
CR-NAE-3	1429	100	NO				
					75		

Drilling Method	HAND CORE
Sampling Equipment	SS Spoons
Coordinates	NA-768
Surface Elevation	
Datum	

Location Sketch

NEZ PERCE CORE LOGS

4/26/4

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-NZA
PROJECT: UCR - Beach Sampling 2011
LOCATION: NEZ PERCE creek
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Sanii

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		(USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc	Photo No.
CR-NZA-1	1515	100	NA		0	0-15 SAND - Brown, fine grained, moist, medium Dense, No organics, slight fishy odor, micaceous.	108-4228
					15	15-45 SAND - Same as above Dense,	4229
CR-NZA-2	1516	102					
			No			C 37cm saturated No sheen.	
					45	45-75 SAND - Same as above No sheen	4230
CR-NZA-3	1517	100	NO				
					75		

Drilling Method: Hand Core
Sampling Equipment: S.S. Spoons
Coordinates: NZ-741
Surface Elevation:
Datum:

Location Sketch

4/26/11

integral consulting inc
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-NZB
PROJECT: UCR Beach Sampling 2011
LOCATION: NEZ PERCE CREEK
PROJECT NUMBER: CS21-0101
LOGGED BY: Ingmar Seul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-NZB-1	1533	100	NA		0	0-15 SAND - Brown, fine to medium grained, Damp, loose, well sorted, micaceous,	108-4231, 4232
					15	15-30 SAND - Brown, Same as above	4233
CR-NZB-2	1534	100	NA				
						30-45 SILT SAND - Brown, fine grained sand, moist, medium dense,	
					45	45-75 SILTY SAND - same as above	4234
CR-NZB-3	1535	100	NA				
						@ 57 to 62 & 67 to 75 SAND - same as above sand.	
					75		

Drilling Method: Hand Core
Sampling Equipment: SS, spoons
Coordinates: NZ-S21
Surface Elevation:
Datum:

Location Sketch

4/26/11

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CORE NUMBER: CR-NZC
PROJECT: JCR Beach Sampling 2011
LOCATION: NEZ PERCE CREEK
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saull

Page of

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-NZC-1	1545	100	NA		0	0-15 SAND - Brown, fine grained, some SILT, moist, loose to ~~very Dense~~, micaceous, No organics, No odor, Slightly mottled.	108-4235/ 4236
					15	15-45 SAND - Same as above, No mottling, medium Dense to Dense	
CR-NZC-2	1546	100	NA			@ 32 trace of fine sub-rounded gravel	4237
					45	45-75 SAND - Same as above Very dense	4238
CR-NZC-3	1547	100	NA				
					75		

Drilling Method: Hand Core
Sampling Equipment: S.S. Spoons
Coordinates: NZ-368
Surface Elevation:
Datum:

Location Sketch

4/26/11

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319 SW Washington St, Suite 1150
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CORE NUMBER: CR-NZD
PROJECT: UCR Beach Sampling 2011
LOCATION: Nez Perce Creek
PROJECT NUMBER: CS21-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc	
CR-NZD-1	1600	100	NA		0	0-7 SAND - Brown, medium grained, Trace of fine grained, sub-rounded, well sorted, Damp, loose, micaceous,	08-4239
						7-13 SAND - Brown, Fine grained, Some SILT, ~~wet~~, Moist, medium Dense, No organics, No odor, micaceous,	
					15	15-45 SAND - Brown, grading from medium grained to fine grained (@45), sub-round, Moist, medium dense, No organics, No odor, Trace of fine sub-rounded gravel	4240
CR-NZD-2	1601	100	NA			37-45 moderately mottled, Trace of SILT,	
					45	45-75 SILTY SAND - Dark Brown, fine grained sand, wet, medium Dense, trace of organics, No odor slightly mottled, micaceous,	4241
CR-NZD-3	1602	100	NO				
					75		

Drilling Method	Hand Core
Sampling Equipment	S.S. Spoons
Coordinates	NZ-229
Surface Elevation	
Datum	

Location Sketch

4/26/11

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CORE NUMBER: CR-NZE
PROJECT: Yaquina Beach Sampling 2011
LOCATION: Nez Perce
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-NZE-1	1620	100	NA		0	0-2cm SILTY SAND - Brown, fine grained, moist, loose, No organics, No odor,	148-4242
						2-15 SAND - Brown, medium to coarse grained, sub-rounded, to sub-angular, Trace of fine grained sand, poorly sorted, No organics, slight fishy odor, Damp, loose	
					15		
CR-NZE-2	1621	100	NA			15-45 SAND - Same as above medium Dense,	4243
					45	45-75 SAND - Same as above Some fine grained sand, Trace of fine grained Sand, well Sorted,	4244
CR-NZE-3	1622	100	NA				
					75		

Drilling Method: Hand Core
Sampling Equipment: SS. Spoons
Coordinates: NZ-292
Surface Elevation:
Datum:

Location Sketch

SEVEN BAYS CORE LOGS

5/5/11

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319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-SBA
PROJECT: UCR Beach Sampling 2011
LOCATION: Seven Bays
PROJECT NUMBER: C521-010
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-SBA-1	1300	100	NA		0	0-15 SAND - Gray, Fine to Coarse Grained, sub-rounded / sub-Angular, Trace of Fine sub-rounded gravel, Dry to Damp, loose, No organics No odor, Poorly sorted, micaceous	107-4510
					15	15-45 SAND - Same as above, Medium Dense,	4511
CR-SBA-2	1301	100	NA				
					45	45-75 SAND - SAME AS above	4512
CR-SBA-3	1302	100	NA				
					75		

Drilling Method: Hand Core
Sampling Equipment: S.S. Spoon
Coordinates: SB-5
Surface Elevation:
Datum:

Location Sketch

5/5/11

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319 SW Washington St, Suite 1150
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CORE NUMBER: CR-SBB
PROJECT: UCR Beach Sample 2011
LOCATION: Seven Bays
PROJECT NUMBER: C521-001
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-SBB-1	1313	100	NA		0	0-15 SAND - Grey, ~~fine to med~~ Fine to Coarse grained, Sub-rounded/Sub-angular, Trace of Fine Sub-rounded/Sub-angular gravel, Dry to Damp, loose, Poorly sorted, No organics, No odor (Trace of coarse sand)	107-4513
					15	15-45 SAND - Same as above, medium Dense, (Some coarse sand)	
CR-SBB-2	1314	100	NA				4514
					45	45-75 SAND - Same as above	4515
CR-SBB-3	1315	100	NA				
					75		

Drilling Method	Hand Core
Sampling Equipment	S.S. Spoon
Coordinates	SB-49
Surface Elevation	
Datum	

Location Sketch

5/5/11

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CORE NUMBER: CR-SBC
PROJECT: UCR Beach Sampling 2011
LOCATION: Seven Bays
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Sayl

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-SBC-1	1322	100	NA		@	0-15 SAND - Olive Gray, fine to medium grained, trace of coarse grained Sand Sub-rounded/Sub-Angular, Trace of fine Sub-rounded gravel, Dry to Damp, loose, No organics, No odor.	107-4516
CR-SBC-2	1323	100	NA		15	15-45 - SAND - SAME as above, some Coarse grained sand, Sub-rounded/ Sub-angular	4517
						38-75 some fine sub-rounded gravel.	
CR-SBC-3	1324	100	NA		45	45-75 SAND - SAME as above	4518
					75		

Drilling Method: Hand Core
Sampling Equipment: S.S. Spoon
Coordinates: SB-41
Surface Elevation:
Datum:

Location Sketch

5/5/11

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CORE NUMBER CR-SBD
PROJECT UCR - Beach Sampling 2011
LOCATION Seven Bays
PROJECT NUMBER CS21-0101
LOGGED BY Ingmar Saul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc	Photo No.
CR-SBD-1	1333	100	NA		0	0-15 SAND - Gray, fine to medium grained, Sub-rounded/Sub-angular, Trace of coarse grained Sand, Sub-rounded/Sub-angular, trace of fine Sub-rounded gravel, Dry to Damp, loose, No organics, No odor	1027-4519
CR-SBD-2	1334	100	NA		15	15-45 SAND - same as above, some Coarse grained sand, medium Dense,	4520
					45	45-75 SAND - Same as above	4521
CR-SBD-3	1335	100	NA				
					75		

Drilling Method Hand core
Sampling Equipment 6" SS sleeves
Coordinates SB-30
Surface Elevation
Datum

Location Sketch

5/5/4

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CORE NUMBER CR-SBE
PROJECT NER Beach Sampling 2011
LOCATION Seven Bays
PROJECT NUMBER CS21-0101
LOGGED BY Ingmar Sand

Page of

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-SBE-1	1350	100	NA		0	0-15 SAND - Gray, fine to medium grained, Trace of coarse grained sand, Sub-rounded/Sub-angular, Dry to Damp, Loose, No organics, no odor,	167-4522
						@ 10 Some coarse grained sand, Trace of fine sub-rounded gravel.	
					15	15-45 SAND - Same as above	4523
CR-SBE-2	1351	100	NA				
						@ 40 Trace of fine grained sand,	
					45	45-75 SAND - Same as above	4524
CR-SBE-3	1353	100	NA				
					75		

Drilling Method Hand Core
Sampling Equipment SS Spoon
Coordinates SB-24
Surface Elevation
Datum

Location Sketch

SPRING CANYON CORE LOGS

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(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core A SC-209
PROJECT: UCR Beach Sediment
LOCATION: Spring Canyon
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet (BD)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
						Lt olive gray fine to med SAND w/ trace coarse sand, dry, v loose, no odor	Olympus Stylus Tough
A1	1100					same, grades to dk olive, damp	1
				15			
A2	1110					same, no odor	2
		100		45			
A3	1120					same, no odor	3
				75		BOH	

Drilling Method	Dewalt Jackhammer w/ drive head
Sampling Equipment	7cm id lexan tube, sssspoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	0928 5/2/11

Location Sketch

SD 780 # 152

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core B SC-165
PROJECT: VCR Beach Sediment
LOCATION: Spring Canyon
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth (cm BSB)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive fine to med SAND w/trace coarse sand, dry, v loose, no odor	Olympus Stylus Tough
B1	1130						4
						damp at 10 cm	
				15	SP	DK olive fine to med SAND, v loose, damp no odor	
B2	1140						5
		105		45		same, no odor	
B3	1150						6
						same, no odor	
				75		BOH	

Drilling Method: Dewalt Jack Hammer w/ drive head
Sampling Equipment: 7 cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 0943 5/2/11

Location Sketch

SD 780 # 153

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core C SC-269
PROJECT: UCR Beach Sediment
LOCATION: Spring Canyon
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive gray fine to med SAND, v loose, dry, no odor	Olympus Stylus Tough
C1	1205						7
				15			
						damp at 18 cm	
C2	1215						8
					SP	DK olive brn fine to med SAND w/ trace coarse sand, v loose, damp, no odor	
		105		45			
						same, no odor	
C3	1220						9
				75		EOH	

Drilling Method	Dewalt Jack Hammer w/drive head
Sampling Equipment	7 cm id lexan tube, ss spcon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	0957 5/2/11

Location Sketch

SD 780 # 154

integral consulting inc.
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(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core D SC-242
PROJECT: UCR Beach Sediment
LOCATION: Spring Canyon
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth-Feet (cm)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	lt olive fine to med SAND, v loose, dry, no odor	Olympos Stylus Tough
						damp at 6 cm	
D1	1230						10
				15			
					SP	DK olive brn fine to med SAND, v loose, damp, no odor	
D2	1240						11
		110		45			
						same, no odor	
D3	1250						12
						same, no odor	
				75			

Drilling Method: Dewalt Jack Hammer w/drive head
Sampling Equipment: 7cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1009 5/2/11

Location Sketch

SD 780 #155

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core E SC-71
PROJECT: UCR Beach Sediment
LOCATION: Spring Canyon
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					SP	Olive fine to med SAND, v loose, damp, no odor	Olympus Stylus Tough
E1	1300						13
				15			
					SP	DK olive brn fine SAND w trace medium sand, v loose, damp, no odor	
E2	1310						14
		110		45			
						same, no odor	
E3	1320						15
						same, no oder	
				75		BOH	

Drilling Method	Dewalt Jack Hammer w/ drive head
Sampling Equipment	7cm id lexan tube, ss spoon / bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1020 5/2/11

Location Sketch

SD 780 # 156

SWAWILLA CORE LOGS

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Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core A SW-248
PROJECT: VCR Beach Sediment
LOCATION: Swawilla
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page / of /

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth-Feet Cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP	Lt olive gray fine SAND w/ trace silt	Olympus Stylus Tough
						v loose, dry, no odor	
A1	1315						1
				15			
						same, no odor	
A2	1325						2
					SP	Lt olive gray fine to coarse (trace) SAND,	
		100		45		v loose, dry, no odor	
A3	1335					same, no odor	3
				75		BOH	

Drilling Method	Dewalt Jak Hammer w/ drive head
Sampling Equipment	7 cm id lexan tube, ss spoon / bowl
Coordinates	
Surface Elevation	
Datum	
TIME / DATE	1057 5/1/11

Location Sketch

SD 280 # 134

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER Core B SW-212
PROJECT UCR Beach Sediment
LOCATION Swawilla Beach
PROJECT NUMBER C521
LOGGED BY B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
		1			SM	DK olive gray silty fine SAND, v loose, damp no odor	olympus Stylus Tough
B1	1345						4
					SP	Lt olive brn fine to med SAND w trace 10% coarse SAND, damp, V loose, no odor	
				15			
B2	1355						5
						trace fine gravel, subang, max 2 cm, at 38 cm bgs	
		100					
				45			
					ML	DK olive brn fine sandy SILT, v loose, damp	
					SP	DK olive to Lt olive brn fine to coarse SAND, V loose, damp, no odor	
B3	1405						6
				75		BDH	

Drilling Method: Dewalt Jack Hammer w/ drive head
Sampling Equipment: 7cm id lexan tube, ss spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1118 5/1/11

Location Sketch

SD 780 # 135

integral consulting inc.
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Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core C SW-150
PROJECT: UCR Beach Sediment
LOCATION: Swawilla Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page / of /

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					ML/SP	DK olive gray SILT and SAND (fine to med), interlayered, v loose, damp, no odor	Olympus Stylus Tough
C1	1415						7
					SP	DK olive gray med to coarse SAND, w trace fine gravel, angular, max 1 cm	
				15			
C2	1425						8
		80				coarse gravel (single piece) 5 cm, angular at 40 cm bgs getting wet	
		93					
				45			
					SP	DK olive gray coarse SAND w/ trace fine gravel, v loose, saturated	
C3	1435						9
				75			
						BOH	

Drilling Method	Dewalt Jack Hammer w/drive head
Sampling Equipment	7cm id lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1130 5/1/11 & 1146

Location Sketch

SD 780 # 136 + 137

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core D SW-260
PROJECT: UCR Beach Sediment
LOCATION: Swawilla Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrance

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet (cm)		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					SP	Lt olive gray fine SAND w/ trace fine gravel max 1 cm, v loose, dry., no odor	Olympus Stylus Tough
D1	1445						10
					SP	olive gray fine to med SAND, v loose, dry., no odor	
				15			
D2	1455				SP	grades to dk olive, med to coarse	11
		100		45			
					ML	DK olive gray SILT, v soft, damp, no odor	
					SP	Olive gray fine to med SAND w/ trace coarse sand, and trace fine gravel, max 1 cm	
D3	1505						12
				75		BOH	

Drilling Method	Dewalt Jack Hammer w/ drive head
Sampling Equipment	7 cm id lexan tube, sssspoon / bowl
Coordinates	
Surface Elevation	
Datum	
TIME / DATE	1200 5/1/11

Location Sketch

SD 780 # 138

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: Core E SW-372
PROJECT: HCR Beach Sediment
LOCATION: Swawilla Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth-Feet CM		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					SP	Lt olive fine to coarse SAND, v loose, dry w/trace gravel, no odor	Olympus Stylus Tough
E1	1515						13
					GP	Lt olive sandy GRAVEL, subround, to 4 cm	
				15			
					ML	DK olive SILT, v soft, damp, no odor	
					SP	Lt olive fine to coarse SAND w/ trace fine gravel, max 2 cm	
E2	1525						14
					ML	DK olive gray SILT w/trace organics	
					SP	Olive gray fine to med SAND w. trace gravel, ang to subround, max 2.5 cm, v loose, damp, no odor	
		100		45			
						no odor	
E3	1535						15
				75	ML	DK olive silt, v loose, damp, no odor	
						BOH	

Drilling Method	Dewalt Jack Hammer w/ drivehead
Sampling Equipment	7 cm id lexan tube, sssspoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	1243 5/1/11

Location Sketch

SD 780# 139

SWIMMING HOLE CORE LOGS

4/22/11

integral consulting inc.
319 SW Washington St, Suite 1150
Portland, OR 97217
(503)284-5545 FAX (503) 284-5755

CORE NUMBER: CR-DMA
PROJECT: UCR Beach Sample 2011
LOCATION: Swimming Hole
PROJECT NUMBER: CS21-0101
LOGGED BY: Ingmar Saul / Jess Moore

Page 1 of

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
0-15 15-45 45-75							
CR-DMA-1	~~1450~~ 1500	100	NA			0-15cm SAND - Grayish brown, medium to coarse grained, moist, loose, sub-rounded to sub-angular, micaceous, No odor, No Sheen, well sorted.	4079
CR-DMA-2	~~1430~~ 1455	100	NA			~~15-45 SAND - Same as above~~	~~4080~~
					15	15-45	
CR-DMA-3	~~1430~~ 1500	100	NA			~~SAND~~ SAND - Same as above.	4080
					45		
						SAND - Same as above	4081
					75		

Drilling Method	HAND CORE
Sampling Equipment	S.S. Spoon
Coordinates	DM-322
Surface Elevation	
Datum	

Location Sketch

4/22/11

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CORE NUMBER CR-DMB-B
PROJECT VCR Beach Sample 2011
LOCATION Swimming Hole
PROJECT NUMBER C521-001
LOGGED BY Ingmar Swul

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					0	SAND - Brown/Black, medium to coarse grained, sub-rounded to sub-angular, moist, loose, micaceous, No odor, No sheen, well sorted	4082
CR-DMB-1	1511	100	NA		15	SAND - Same as above	4083
CR-DMB-2	1513	100	NA		45	SAND - Same as above	4084
CR-DMB-3	1515	100	NA		75		

Drilling Method	HAND CORE
Sampling Equipment	S.S CORE
Coordinates	DM-179
Surface Elevation	
Datum	

Location Sketch

4/22/11

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CORE NUMBER: CR-DMC
PROJECT: UCR Beach sample 2011
LOCATION: Swimming Hole
PROJECT NUMBER: CS21-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA (cm)	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					0		
CR-DMC-1	1518	100	NA			0-15 SAND - Brown/Black, medium to coarse grained, sub-rounded to sub-angular, moist, loose, micaceous, No odor, No sheen, Trace of organics, well sorted	4085
					15		
CR-DMC-2	1514	100	NA			15-45 SAND - Same as above	4086
					45		
CR-DMC-3	1520	100	NA			45-75 SAND - Same as above	4087
					75		

Drilling Method: HAND CORE
Sampling Equipment: SS. SPOON
Coordinates: DM-49
Surface Elevation:
Datum:

Location Sketch

4/22/11

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CORE NUMBER: CR-DMD
PROJECT: UCR Beach Sample 2011
LOCATION: Swimming Hole
PROJECT NUMBER: CS21-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
					0		
CR-DMD-1	1527	100	NA			0-15 SAND - Dark grayish brown, medium to coarse grained, sub-rounded to sub-angular, No odor, moist, loose, micaceous, well sorted	4088
					15		
CR-DMD-2	1528	100	NA			15-45 SAND - Same as above @	4089
						@25 Dense, (water level)	
					45		
CR-DMD-3	1529	85	NA			@45-70 SAND - Same as above	4090
						@50 some organics, Organic odor, Black,	
					75		

Drilling Method: HAND CORE
Sampling Equipment: SS, CORE
Coordinates: DM-538
Surface Elevation:
Datum:

Location Sketch

4/22/11

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CORE NUMBER CR-DME
PROJECT UCR Beach Sample 2011
LOCATION Swimming Hole
PROJECT NUMBER C521-010
LOGGED BY Ingmar Saul

Page of

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc	
CR-DME-1	1542	100	NA		0	0-15 SAND - Grayish brown, medium to coarse grained, Sub-Rounded to Sub-angular, No odor, No Sheen, Trace of organics, micaceous, well sorted	4091
CR-DME-2					15		
CR-DME-2	1543	100	NA			15-45 - SAND - Same as above	4092
						@ 30 No organics	
						@ 40 medium Bands, (water line)	
					45		
CR-DME-3	1544	100	NA			45-75 SAND - Same as above	4093
					75		

Drilling Method HAND CORE
Sampling Equipment S.S. Spoon.
Coordinates OM-559
Surface Elevation
Datum

Location Sketch

WELTY BAY CORE LOGS

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CORE NUMBER: Core A - WB-626
PROJECT: UCR Beach Sediment
LOCATION: Welty Bay Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	Compaction % Recov.	Sheen	Depth Feet CM	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					ML	Olive gray silt w/ trace wood debris, soft, damp, no odor, trace clay	Olympus Stylus Tough
A1	1040						1
				15			
					SM	olive gray sandy silt	
					ML	Black silt	
A2	1045						2
		10%		45			
A3	1050						3
				75		BOH	

Drilling Method	Bosch Jack Hammer w/ drive head
Sampling Equipment	7 cm i.d. lexan tube, ss spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME/DATE	0936 4/23/11

Location Sketch

SD 780 pit #2

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CORE NUMBER: Core B WB-618
PROJECT: UCR Beach Sediment
LOCATION: Welty Bay Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	Compaction %Recov	Sheen	Depth-Feet (M)	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					ML	DK olive gray silt w/ trace clay, trace wood bits, no odor, damp	Olympus Stylus Tough
B1	1055						4
				15	SM	DK olive gray silty sand, damp, loose, no odor	
B2	1100						5
		20					
				45	SP	olive gray fine sand, damp, loose no odor	
B3	1105						6
				75		BOH	

Drilling Method	Bosch Jack Hammer w/drive hammer
Sampling Equipment	7cm id. lexan tube, SS spoon/bowl
Coordinates	
Surface Elevation	
Datum	
TIME / DATE	0956 4/23/11

Location Sketch

SD 780 pict #3

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CORE NUMBER: Core C WB-376
PROJECT: UCR Beach Sediment
LOCATION: Welty Bay Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	%Recov. Compaction	Sheen	Depth Feet cm	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
					SP/ML	Lt olive and DK olive silt interbedded fine sand in ~10 cm layers, loose, damp no odor	Olympus Stylus Tough
C1	1115						7
				15			
C2	1120				ML	DK brn silt, damp, soft	8
		20					
				45			
C3	1125						9
				75		BOH	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm i.d. 4" lexan tube, SS spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1015 4/23/11

Location Sketch: SD 780 Pict #4

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CORE NUMBER: Core D WB-210
PROJECT: UCR Beach Sediment 2011
LOCATION: Welty Bay Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recovery / Core Length	Sheen	Depth Feet / cm		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
						3" cobble ; trace debris 3" rusty nail	Olympus Stylus Tough
					ML	DK brn silt	
D1	1200						10
				15			
						fine sand stringer ~ 1 cm	
D2	1205						11
		5					
				45			
D3	1210						12
						fine sand stringer ~ 3 cm	
				75		BOH	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm i.d. 4" lexan tube, SS spoon / bowl
Coordinates:
Surface Elevation:
Datum:
TIME / DATE: 1040 4/23/11

Location Sketch

SD 780 Pict # 5

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CORE NUMBER: Core E - WB- 175
PROJECT: UCR Beach Sediment 2011
LOCATION: Welty Bay Beach
PROJECT NUMBER: C521
LOGGED BY: B. Lawrence

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov. Compaction	Sheen	Depth-Feet-cm	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
		1			ML	Dk olive silt, damp, v. soft no, odor	Olympus Stylus Tough
E1	1215						13
				15			
					SP	olive gravelly sand v. loose fine to med, gravel angular to subround to 4cm, no odor	
E2	1220						14
		5					
					OL	Black silt ~~w/trace~~ organics (rootlets) soft, damp, no odor	
				45			
					ML	V. dk gray to black silt, w trace gravel damp, firm	
E3	1225						15
				75		BOH	

Drilling Method: Bosch Jack Hammer w/ drive head
Sampling Equipment: 7cm id x 1' lexan tube, SS spoon/bowl
Coordinates:
Surface Elevation:
Datum:
TIME/DATE: 1102 4/23/11

Location Sketch: SD 780 Pict #6

WHITESTONE CAMPGROUND CORE LOGS

5/3/11

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CORE NUMBER: CR - WSA
PROJECT: ICR - Beach Sampling 2011
LOCATION: Whitestone campground
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Sami

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-WSA-1	1250	100	NA		0	0-12 SAND - Grayish Brown, fine & coarse grained, Sub-rounded, trace of medium grained, Dry to Damp, loose, No organics, moderate musty odor,	105-4444
						12-15 SAND - Brown, fine grained, Trace of coarse grained sand, Sub-rounded,	
					15	moist, medium Dense, No organics No odor, micaceous,	
CR-WSA-2	1251	100	NA			15-45 SAND - Same as above	4445
					45	45-75 SAND - Same as above	4446
CR-WSA-3	1252	100	NA				
					75		

Drilling Method	Hand core
Sampling Equipment	S.S. Spoons
Coordinates	WS-177
Surface Elevation	
Datum	

Location Sketch

5/3/11

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CORE NUMBER: CR-WSB
PROJECT: UCR Beach Sampling 2011
LOCATION: Whitestone Campground
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc	
CR-WSB-1	1303				0	0-6 SAND - Gray, fine to coarse grained, sub-rounded, trace of medium grained sand, Dry, loose, No organics, slight musty odor	105-4447
						6-15 SAND - Brown, fine grained, trace of coarse grained sand, sub-rounded, Damp, Medium Dense, No organics, No odor,	
CR-WSB-2	1304				15	15-45 SAND - Same as above	4448
					45	45-75 SAND - Same as above	4449
CR-WSB-3	1305				75		

Drilling Method	Hand Core
Sampling Equipment	S.S. Spoons
Coordinates	WS-169
Surface Elevation	
Datum	

Location Sketch

5/3/11

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CORE NUMBER CR-WSC
PROJECT UCR Beach Sampling 2011
LOCATION whitestone campground
PROJECT NUMBER C521-0101
LOGGED BY Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-WSC-1	1314	100	NA		0	0-15 SAND - Brownish gray, fine & ~~medium~~ coarse grained, Sub-rounded, Trace of medium grained, Dry to Damp, loose, No organics, No odor, ~~to 15 Sand~~ -	105-4450
					15	15-45 SAND - Same as above Brown, Medium Dense,	4451
CR-WSC-2	1315	100	NA				
					45	45-75 SAND - Same as above	4452
CR-WSC-3	1316	100	NA				
					75		

Drilling Method: Hand Core
Sampling Equipment: S.S. Spoons
Coordinates: WS-84
Surface Elevation:
Datum:

Location Sketch

5/3/11

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CORE NUMBER: CR-WSD
PROJECT: UCR Beach Sampling 2011
LOCATION: Whitestone campground
PROJECT NUMBER: C521-0107
LOGGED BY: Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-WSD-1	1325	100	NA		0	0-10 SAND - Gray to Brown, Coarse grained, Sub-rounded, trace of fine to medium grained sand, Poorly Sorted, Dry to Damp, loose, No organics ~~No~~ moderate MUSTY odor	105-4453
						10-15 SAND - Brown, Fine to coarse grained, Sub-rounded, trace of medium, Poorly Sorted, Damp, medium Dense, No organics, No odor, Trace of Fine to Coarse Sub-rounded gravel, micaceous.	4454
CR-WSD-2	1326	100	NA		15		
						15-45 SAND - Same as above	
					45	45-75 SAND - Same as above	4455
CR-WSD-3	1327	100	NA				
					75		

Drilling Method	Hand Corer
Sampling Equipment	SS. Spoon
Coordinates	WS-65
Surface Elevation	
Datum	

Location Sketch

5/3/11

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CORE NUMBER: CR-WSE
PROJECT: UCR Beach Sampling 2011
LOCATION: White Stone Campground
PROJECT NUMBER: 0521-0101
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-WSE-1	1342	100	NS		0	0-9 SAND - Grey to Brown, Course grained, Sub-rounded, Trace of fine to medium grained sand, Poorly sorted, Dry to Damp, loose, No organics, No odor,	105-4456
						9-15 SAND - Brown, fine grained, trace of course grained sand, sub-rounded, Damp, Medium Dense, No organics, No odor, micaceous,	
CR-WSE-2	1343	100	NS		15		4457
						15-45 SAND - Same as above	
					45	45-55 SAND - Same as above	4458
CR-WSE-3	1344	100	NS				
						55-75 SAND - Brown, ~~Fine to~~ coarse grained, Sub-rounded, trace of fine to medium grained, Sand, Damp, loose, No organics, No odor	
					75		

Drilling Method: Hand core
Sampling Equipment: S.S. Spoon,
Coordinates: WS-43
Surface Elevation:
Datum:

Location Sketch

WILMONT CREEK CORE LOGS

4/28/11

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CORE NUMBER: CR-WCA4
PROJECT: UCR Beach Sampling 2011
LOCATION: Wilmont Creek
PROJECT NUMBER: 0521-010
LOGGED BY: Ingmar Sicuil

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc	Photo No.
CR-WCA-1	1435	100	NA		0	0-15 SAND - Brown, fine grained, trace of SILT, moist, medium Dense, well sorted, trace of organics, no odor,	100-4266
					15	15-45 SILTY SAND - Brown, fine grained, wet, Dense, moderately mottled, trace organics, No odor	4267
CR-WCA-2	1436	100	NA				
					45	45-70 SAME AS ABOVE -	4268
CR-WCA-3	1437	100	NA				
						70-75 - SILT - Black, Moist, Stiff, some fine grained sand, NO organics NO odor	
					75		

Drilling Method	Hand Core
Sampling Equipment	S.S. Spoons
Coordinates	WC-54
Surface Elevation	
Datum	

Location Sketch

4/28/11

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CORE NUMBER: CR-WCB
PROJECT: WCR Beach Sampling - 2011
LOCATION: Wilmot Creek
PROJECT NUMBER: 0521-0101
LOGGED BY: Ingmar Sail

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc	Photo No.
CR-WCB-1	1455	100	NA		0	0-15 SILTY SAND - Brown, fine grained, Trace of organics, Damp, Medium Dense,	100-4269
					15	15-45 SAME AS ABOVE - trace of tree root/ Organics, WET, Comm 33-40cm	4270
CR-WCB-2	1457	100	NO				
					45	45-75 SAME AS ABOVE slightly mottled	4271
CR-WCB-3	1457	100	NA				
					75		

Drilling Method: Hand Core
Sampling Equipment: SS Spoon
Coordinates: WC-245
Surface Elevation:
Datum:

Location Sketch

4/28/11

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CORE NUMBER: CR-WCC
PROJECT: UCR Beach Sampling 2011
LOCATION: Wilmot Creek
PROJECT NUMBER: C521-0101
LOGGED BY: Ingmar Saul

Page 1 of 1

SAMPLE INFORMATION					STRATA	DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-WCC-1	1513	100	NS		0	0-15 SAND - Brown, fine grained, Damp, loose, No organics, moderate Musty odor,	100-4272
					15	15-20 Same as above -	4273
CR-WCC-2	1514	100	NA			20-45 SILTY SAND - Brown & olive green, fine grained Sandy Trace of organics, moderately mottled, slight odor	
					45	45-75 SILTY SAND - olive green & brown, (moderately mottled, Trace of organics, fine grained) SAME AS ABOVE. Tree roots	4274
CR-WCC-3	1515	NOD	NA				
					75		

Drilling Method	Hand Core
Sampling Equipment	S.S. Spoon.
Coordinates	WC-151
Surface Elevation	
Datum	

Location Sketch

4/25/14

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CORE NUMBER ~~CR-WCD~~ CR-WCD
PROJECT UCR- Beach Sampling 2014
LOCATION Wilmont Creek
PROJECT NUMBER 0521-0101
LOGGED BY Ingmar Saul

SAMPLE INFORMATION					STRATA	DESCRIPTION	Photo No.
Sample ID	Time	% Recov.	Sheen	Depth Feet		USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	
CR-WCD-1	1530	100	NA		0	0-15 SAND - Brown, fine grained, trace alluvium, loose, No organics, No odor,	100-4275
					15	15-45 SAND - Brown, Fine grained, Moist, Medium Dense, No organics, No odor, Slightly mottled,	4276
CR-WCD-2	1531	100	NA				
					45	45-75 - SAND - Same as above	4277
CR-WCD-3	1532	100	NA				
					75		

Drilling Method	HAND COILE
Sampling Equipment	S.S. SPOON
Coordinates	WC - 220
Surface Elevation	
Datum	

Location Sketch

4/28/11

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CORE NUMBER: CR-WCE
PROJECT: UCR Beach Sampling 2011
LOCATION: Willamette CREEK
PROJECT NUMBER: CS21-0101
LOGGED BY: Tingmei Shi

Page 1 of 1

SAMPLE INFORMATION						DESCRIPTION	
Sample ID	Time	% Recov.	Sheen	Depth Feet	STRATA	USCS group name, color, grain size range, minor constituents, plasticity, odor, sheen, moisture content, texture, geologic interpretation, etc.	Photo No.
CR-WCE-1	1548	NO	NA		0	0-15' SAND - Brown, fine to medium grained, loose, Damp, Trace of fine sub-rounded gravel, No organics, ~~no~~ Slight musty odor,	100-4278
					15	15-30 SAND - Same as above	4279
CR-WCE-2	1549	100	NA				
						30-45 SILT - Dark Brown, some fine grained Sand, Moist, medium Stiff, Slightly mottled, No organics, No odor	
					45	45-75 SILT - Same as above Brown, ~~No odor~~.	4280
CR-WCE-3	1550	100	NA				
					25		

Drilling Method	HAND CORES
Sampling Equipment	S.S. SPOONS
Coordinates	WC-373
Surface Elevation	
Datum	

Location Sketch