Final

2013 Salt Chuck Mine Superfund Site Field Data Report Prince of Wales Island, Alaska

Prepared for

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EPA Region 10

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CH2MHILL®

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Acronyms and Abbreviations

µg/L	micrograms per liter
AVS	acid volatile sulfide
CLP	Contract Laboratory Program
cm	centimeter
DO	dissolved oxygen
DQO	data quality objective
DRO	diesel-range organic
EPA	U.S. Environmental Protection Agency
ERL	effects range low
ERM	effects range median
FD	field duplicate
Forest Service	U.S. Forest Service
FS	feasibility study
GPS	global positioning system
L/min	liters per minute
MDL	method detection limit
MEL	Manchester Environmental Laboratory
MHHW	Mean higher high water
mg/kg	milligrams per kilogram
mL	milliliter
MS/MSD	matrix spike/matrix spike duplicate
NAD83	North American Datum 1983
NAVD88	North American Vertical Datum 1988
NTCRA	non-time-critical removal action
PAH	polycyclic aromatic hydrocarbon
PPE	personal protective equipment
PVC	polyvinyl chloride
QAPP	Quality Assurance Project Plan
QC	Quality Control
RI	remedial investigation
RRO	residual-range organic
RSCC	Regional Sample Control Coordinator
RSL	regional screening level
Site	Salt Chuck Mine Superfund Site
SEM	simultaneously extracted metals
SPLP	Synthetic Precipitation Leaching Procedure
TAL	target analyte list
TCL	target compound list
TNF	Tongass National Forest
UTM	Universal Transverse Mercator

SECTION 1

Introduction

This report provides a summary of the sampling and analytical programs conducted in May and August 2013 at the Salt Chuck Mine Superfund Site (Salt Chuck Mine Site or Site) on Prince of Wales Island in the Tongass National Forest, Alaska. The intent of this report is to provide an overview of results in relation to the data quality objectives (DQOs) for the 2013 investigations. The 2013 data will be combined with data from previous investigations to complete evaluations associated with the remedial investigation (RI) and feasibility study (FS) being conducted for the site by the U.S. Environmental Protection Agency (EPA). Therefore, only limited interpretation of results is provided in this report. A more complete assessment of the RI results will be provided in the RI Report in 2014.

Work presented in this report was conducted in accordance with the *2013 Remedial Investigation Quality Assurance Project Plan* (QAPP) dated May 14, 2013 (CH2M HILL, 2013a), and with the *Modification to Tailings Delineation Activities – Salt Chuck Mine* technical memorandum (Modification Memo) dated August 1, 2013 (CH2M HILL, 2013b).

1.1 Background Information

The Salt Chuck Mine Site is located approximately 4½ miles south-southwest of Thorne Bay, Alaska, at the northern end of Kasaan Bay, on Prince of Wales Island. The mine is located in the Tongass National Forest, Outer Ketchikan County, within Township 72 South, Range 84 East, Sections 16 and 17, Copper River Meridian, Alaska. Salt Chuck, from which the mine takes its name, is a shallow, restricted waterbody bordering the mine site to the south and forms the northernmost arm of Kasaan Bay (Figure 1-1). The Salt Chuck Mine Site is accessible by water or by road, the last ½ mile of which is newly constructed. A locked gate restricts road access to the lower part of the Site. Thorne Bay (population 471) is the closest year-round population, and is accessible from the Site by road. The Organized Village of Kasaan (Kasaan, population 49) is the nearest community by water and is located 9 miles southeast of the Site on the eastern side of Kasaan Bay.

The Site consists of an upland area comprising the mine, waste rock piles, and remnants of the former mill and support facilities (Upland Area), and the intertidal area adjacent to the former mill and other portions of Salt Chuck affected by releases from the former mill (Marine Area), as described below.

1.1.1 Upland Area

The Upland Area is managed by the U.S. Forest Service (Forest Service) and covers approximately 45 acres. The mine is uphill and approximately ½ mile north of the former mill. The mine area includes the glory hole and adits where ore was removed, a former railway for transporting ore to the former mill, a variety of dilapidated structures, and numerous waste rock piles. The mine area is relatively steep and heavily vegetated. The former mill was the subject of a non-time-critical removal action (NTCRA) conducted by the Forest Service in 2011. Prior to the NTCRA, the mill site contained a large roller mill, workshops, bunkhouses, aboveground storage tanks reportedly used to store fuel and possibly coal tar for use as a floatation agent in ore processing, fuel drum caches, and other support facilities for the mining camp. The former mill was constructed over and surrounded by tailings and waste rock piles. The structures, tanks, and fuel drum cache were removed and exposed contaminated soil, tailings, and waste rocks were excavated to bedrock during the NTCRA. The excavated areas were then backfilled, graded, covered and revegetated (North Wind Group [North Wind], 2012).

The Upland Area is drained by a small unnamed stream (hereafter “Unnamed Stream”) that originates northeast of the site at Power Lake, cuts across the mine site, and exits the forest near the former mill site into Salt Chuck. The Upland Area also includes a large tailings pond that formerly occupied the area where

Unnamed Stream currently exits the forest and enters Salt Chuck. At high tide, seawater from Salt Chuck inundates Unnamed Stream.

1.1.2 Marine Area

The Marine Area includes both the intertidal and subtidal zones of Salt Chuck. The intertidal zone is generally defined by the area below mean higher high water (MHHW) at an elevation of 11.91 feet North American Vertical Datum 1988 (NAVD88), and above mean lower low tide (minus [-] 3.84 feet NAVD88), but also includes the elevated tailings pile adjacent to the former mill. Overall, the intertidal zone encompasses approximately 97 acres south and east of the former mill, where tailings and/or other facility-related releases may have occurred. The intertidal zone adjacent to the former mill includes the elevated spit and beach composed of tailings from the mill. Accumulations of tailings are also evident where the tailings pond was formerly located, along the shoreline of Unnamed Stream upstream of the tailings spit, and in the cove on the east side of the former barge slip. The intertidal tailings are not contained in a manner that prevents contaminants within the tailings from migrating into the waters of Salt Chuck. The tailings, outlying sediment, and intertidal portion of Unnamed Stream and Lake Ellen Creek are exposed at low tide. Flow in the intertidal zone is dominated by Lake Ellen Creek, which flows west to east past the former mill, then turns sharply south and west to follow the western side of an unnamed island (hereafter "Unnamed Island") in the middle of Salt Chuck. The intertidal zone is covered by seaweed, gravel, mollusk shell fragments, and beach grasses, but areas south and east of the former mill site consist of mud flats mixed with tailings, with little vegetation.

The subtidal zone occupies the remainder of Salt Chuck. While areas of the zone near the shore may be exposed during low tide, the majority of the subtidal zone is permanently submerged.

1.1.3 Reference Area

Browns Bay is located approximately 2 miles from the Salt Chuck Mine Site, and is considered an area unimpacted by mining activities. For the purposes of this investigation, Browns Bay is a used as a reference area and is considered representative of marine background conditions in the area.

1.2 Purpose of Investigation

The purpose of the 2013 investigation was to collect additional sampling data for tailings in the Upland and Marine Areas, sediment, surface water, porewater, groundwater, and marine biota at the Salt Chuck Mine Site to support the RI/FS. The data collected in 2013 will be used in conjunction with data collected during previous investigations to characterize the nature and extent of contamination associated with releases from the Site, assess potential risks to human health and the environment, and develop remedial alternatives.

1.3 Data Quality Objectives and Sampling Design

The systematic planning process and data quality objectives (DQOs) for the 2013 investigation were documented in Appendix A of the QAPP. The overall objectives and associated problem statements are listed below:

- **Objective 1 –** Refine Evaluation of Nature and Extent of Contamination Within, or Releases to, the Intertidal Area and Assess Risk:
  - Problem Statement 1-1: The extent of contamination along the distal (southern) segment of the thalweg of Lake Ellen Creek on the west side of Unnamed Island is not adequately defined to characterize potential risks to human health or the environment and/or to support a remedial decision.
  - Problem Statement 1-2: Existing RI data suggest that seeps are releasing soluble copper and other metal discharges into surface water within Lake Ellen Creek during low tide, potentially impacting

aquatic life. The extent to which these releases originate from tailings present within the intertidal areas near the former mill area and/or from upland groundwater sources is not adequately defined to characterize potential risks to human health or the environment and/or to support a remedial decision.

- Problem Statement 1-3: Existing RI data suggest that tailings in the cove east of the barge slip may exhibit anomalous toxicity, bioaccumulation, and/or leaching characteristics. The importance or impact of these differences is not fully understood to characterize potential risks to human health or the environment and/or to support a remedial decision.
- Problem Statement 1-4: Total chromium has been detected in tailings/sediment and may be mine-related. However, it is unknown what portion of the total chromium occurs in the more toxic hexavalent form. This is needed to adequately characterize potential risks to human health or the environment and/or to support a remedial decision.
- Problem Statement 1-5: The Organized Village of Kasaan has expressed concern about contamination within the intertidal lands, particularly with subsistence concerns. Potential impacts on the beneficial use of crab and shrimp harvesting are of particular concern, both from past releases and from potential releases from any proposed remedial actions. This is needed to adequately characterize potential risks to human health or the environment and/or to support a remedial decision.
- Problem Statement 1-6: Existing RI data indicate that groundwater in the former mill area is affected by releases of petroleum and by metals in tailings. The extent of groundwater contamination is unknown and contaminant concentrations appear to have changed over time. More information is needed to assess trends and understand potential discharges to nearby surface water in the intertidal areas. This is needed to adequately characterize potential risks to the environment and/or to support a remedial decision.

- **Objective 2 –** Sample Collection for Evaluation of Remedial Alternatives:
  - Problem Statement 2-1: The thickness and vertical profile of tailings within the intertidal areas are uncertain. This information is needed to adequately support evaluation of remedial alternatives by providing volume estimates, and information regarding waste classification and disposal methods.
  - Problem Statement 2-2: Existing RI data indicate that surface sediment from the peninsula that is circumvented by Lake Ellen Creek (at low tide) within Salt Chuck contains relatively lower concentrations of mine-related metals. However, it is unknown whether this is due to historic deposition of cleaner sediment from Lake Ellen Creek onto deeper contamination, or whether the peninsula itself represents an erosional feature. If deeper contaminated sediment exists at this location, the potential for future mobilization into the bay should be evaluated.
  - Problem Statement 2-3: The thickness and vertical and lateral profile of tailings within the tailing piles along Unnamed Stream are uncertain. This information is needed to adequately support evaluation of remedial alternatives by providing volume estimates, and information regarding waste classification and disposal methods.
  - Problem Statement 2-4: The agronomic characteristics of intertidal sediment are unknown. This information is needed to support evaluation of remedial alternatives.

The 2013 field effort was designed to fill data gaps associated with the problem statements listed above and the elements of the sampling design are described generally in Section 2.2.4 and specifically in Section A.7 of the QAPP. However, work activities performed in May and August 2013 included some modifications to the sampling designs described in the QAPP. The planned field investigation elements, including sample counts and target analytical suites, are summarized and compared to actual sample counts in Table 1-1.

In general, the field work consisted of the following activities:

- Collected surface sediment (0 to 0.5 foot) samples in the intertidal and subtidal zones of Salt Chuck west of Unnamed Island (Lake Ellen Creek thalweg-associated samples) and from background locations in Browns Bay. Collected porewater samples from intertidal sediment and tailings in Salt Chuck and from background locations in Browns Bay by burying an aquarium airstone under the sediment and applying suction with a hand-operated syringe. Collected porewater samples from drive-points installed in intertidal sediments and tailings in Salt Chuck at locations downgradient of the former mill and collapsed buildings.
- Collected grab surface water samples from intertidal tailings areas within Unnamed Creek, Lake Ellen Creek, seepage inputs to Lake Ellen Creek, intertidal areas of Salt Chuck, and background locations in Browns Bay. Collected time-series grab samples of surface water hourly during the period bounded by two high tide cycles at a single location close to the confluence of the barge area seep and Lake Ellen Creek downstream from tailings areas.
- Collected crab at sample locations in Salt Chuck and from background locations in Browns Bay. As described in Section 2.6, no shrimp were collected for analysis because only a few specimens were caught despite extensive deployment of traps in Salt Chuck and Browns Bay. Collected continuous sediment cores from numerous borings in the Marine Area for visual documentation of tailings thickness. Sediment samples were collected for chemical analysis at regular intervals (0 to 0.5 foot, 0.5 to 1.0 foot, 1.0 to 2.0 feet, and so on) in a subset of the locations. The majority of the borings in the intertidal area were advanced using a hand-held portable short-coring device. Shallow test pits were also used to characterize sediment and tailings in portions of the area where short cores could not be advanced. A direct-push drilling rig was to be used in the upland tailings piles and in the tailings spit area where tailings were expected to be thicker (up to 15 feet). The short hand-held core sampling program occurred in May 2013 and the sampling design for the direct-push core program, implemented in August 2013, was modified based on conditions encountered during the May event. As described in Section 2.2, the modified direct-push sampling program included new and relocated direct-push tailings borings, additional borings to delineate the extent of petroleum and coal tar in sediment near the barge slip, and sampling of native sediment beneath the tailings.
- Documented the lateral extent of visible upland tailings deposits in the large tailings pond where Unnamed Stream exits the forest by hand-digging holes with a shovel (test pits) and by coring with a hand-held portable short coring device. Upland tailings and soil samples were collected for chemical analysis at a subset of the locations.
- Collected groundwater samples from four existing monitoring wells (sampled in May 2013) and the replacement monitoring well that was installed by the Forest Service in June 2013 (sampled in August 2013). As described in Section 2.6, the proposed two new monitoring wells were not installed.

The timeline for sample collection during the May and August events is detailed in Table 1-2.

1.4 Report Organization

The remaining sections of this document describe the field collection effort, sampling procedures used during the May and August 2013 sampling events, and associated analytical results. Section 2 describes field sampling activities by medium, including field observations and deviations or modifications from the QAPP. Section 3 describes sample analyses, data validation, and data quality assessment results, and presents the 2013 analytical data by medium. Section 4 summarizes the completion of the 2013 investigations by documenting attainment of the DQOs outlined in the QAPP and Modification Memo. Cited references are listed in Section 5.

Supporting information is provided in eight appendices:

- Appendix A. Field Forms and Boring Logs
- Appendix B. Field Sampling Photographs
- Appendix C. Deviation from the Field Sampling Plan
- Appendix D. Chains-of-Custody Forms
- Appendix E. Data Validation Reports
- Appendix F. Data Quality Assessment Report
- Appendix G. Technical Review of 2013 Bioassay Testing Conducted for Salt Chuck Mine Project
- Appendix H. Arsenic Speciation Results for 2012 Bivalve Samples

SECTION 2

Field Activities

The 2013 field investigation was conducted in two parts. The initial sampling effort occurred between May 22 and May 30, 2013, and consisted of all of the activities listed in Section 1, except for the direct-push sediment core sampling in the Marine Area and groundwater monitoring of the replacement monitoring well in the Upland Area, which occurred between August 26 and August 30, 2013. Because the focus of the 2013 sampling effort was to characterize conditions in the intertidal area, both sampling events were scheduled to coincide with periods of prolonged low tides during daylight hours. The timeline for sample collection during both events is detailed in Table 1-2.

2.1 Surface Sediment Investigations

This section summarizes the field methods and procedures that were used to collect surface sediment samples for characterization of sediment conditions in Salt Chuck and Browns Bay, and for characterization of agronomic properties in sediments in the vicinity of the tailings spit and near Lake Ellen Creek. The agronomic properties were needed to support remedial alternative development for the feasibility study. For sediment characterization, samples were analyzed for chemistry and sediment toxicity using two bioassays (survival and growth using polychaetes *Neanthes arenaceodentata*, and survival and development using the blue mussel *Mytilus galloprovincialis*).[1] Surface sediment sample information is listed in Table 2-1 and sample locations are depicted on Figure 2-1 (Salt Chuck and Browns Bay sediment and bioassay samples) and Figure 2-2 (Salt Chuck agronomic samples).

All surface sediment samples were collected from the sediment surface (0 to 0.5 foot). Samples were obtained from locations exposed during low tide or were accessed by wading at low tide or by boat, depending onsite access and the depth of water at the sample location. Samples obtained from locations exposed during low tide were collected using a stainless-steel sampling spoon. Underwater samples were collected using a Petite Ponar grab sampler.

2.1.1 Summary of Sampling Activities

Sample collection was conducted in accordance with sampling procedures detailed in the QAPP. The procedures for sampling exposed surface sediment using a stainless-steel spoon consisted of the following:

1. Locate the geographic position using global positioning system (GPS) and record this and other parameters identified in the Surface Sediment Sample Collection Sheet. Photograph and describe each location.
2. Line a stainless-steel bowl with aluminum foil and arrange sample containers and sampling equipment and exercise caution not to step on, or otherwise contaminate, the sample surface.
3. Label each sample container properly and fill out appropriate chain-of-custody information.
4. Using a new stainless-steel spoon, remove the organic layer on the surface of the selected sampling point, if present. Insert the spoon into the sediment at the selected sampling point and slowly remove the sample.
5. Slowly decant excess water, if appropriate and necessary.
6. For locations requiring acid volatile sulfide and simultaneously extracted metals (AVS/SEM) analysis, transfer the unmixed sample into the appropriate container using a stainless-steel spoon. The AVS/SEM

[1] The results of exploratory testing in 2011 confirmed that polychaetes and bivalves are suitable bioassay test organisms for detecting toxicity in sediments at the Site. Amphipods did not appear to be adequately sensitive enough for the types of contaminants found at the Site.

container should be filled with sediment leaving no air space. Wipe outside of containers with paper towel and place in iced cooler.

7. Deposit the sample remaining after collection of undisturbed AVS/SEM aliquot into a stainless-steel bowl lined with clean foil. Collect additional volume as needed for bioassay sample locations, field duplicate (FD), and matrix spike/matrix spike duplicate (MS/MSD). Remove large organisms and pieces of debris and record sample description on the Surface Sediment Sample Collection Sheet.
8. Homogenize the sample in the foil-lined bowl using a stainless-steel spoon (or equivalent device) prior to placement into sample containers. Transfer the sample into the appropriate containers using a stainless-steel spoon (or equivalent device). Wipe outside of containers with paper towel and place in iced cooler.
9. Carefully remove used foil from the stainless-steel bowl and dispose of the used stainless-steel spoon and foil in a garbage bag prior to moving to the next location to avoid need for decontamination.

The procedures for collecting underwater surface sediment samples were similar to those above, except that a stainless-steel Petite Ponar grab sampler was used to bring the sediment to the surface. A Ponar grab sampler has a jaw-type mechanism that is tripped from above in order to close the jaws and collect the sample. The sampler is lowered slowly through the water to the sediment with the jaws in the open position. As the sampler is retrieved, the jaws close and the isolated sediment is brought to the surface, where overlying water is decanted before collecting the sediment sample.

Surface sediment samples were stored on ice under custody control before they were packaged and shipped to the laboratories for analysis.

2.1.2 Field Observations and Measurements

Field observations recorded at the time of collection at each sample location are presented in Table 2-1. Table 2-2 lists the target analytes and laboratories conducting the analyses for each sample. Copies of the sampling records are provided in Appendix A-1. Photographs of the sampling effort are included in Appendix B.

2.1.3 Deviations from QAPP

Deviations to the planned surface sediment sampling program included the following:

- Sample volumes for bioassay, AVS/SEM, and grain size were mistakenly collected at locations 2013SC-SS-139 and SS-141 and submitted for analysis. Samples were discarded by the laboratories without analysis.
- The FD for target analyte list (TAL) metals and mercury planned for 2013SC-SS-140 was moved to 2013SC-SS-141 because insufficient volume was recovered at 2013SC-SS-140.
- The MS/MSD scheduled for 2013SC-SS-141 was not collected due to sufficient number of MS/MSD volumes already submitted for sediment.
- The Location ID for one background location was misidentified as 2013SC-**SB**-510 rather than 2013SC-**SS-**510.
- Nine primary samples and one FD were collected for agronomic analysis, rather than the 10 primary samples that were planned. In addition, all agronomic samples were analyzed for TAL metals and mercury.

Copies of the alteration forms are provided in Appendix C.

2.2 Marine Tailings Investigation

This section summarizes the field methods and procedures that were used to investigate the thickness of tailings and evaluate the vertical distribution of contaminants in sediment in the intertidal portion of the Site. Sediment short-core and test pit sample information for May 2013 are listed on Table 2-3 and sediment deep-core sample information for August 2013 are listed on Table 2-4. Sediment core and test pit locations are depicted on Figure 2-3. Two types of borings and hand-dug test pits were used to assess tailings thickness and collect tailings and sediment samples. A generator-powered reciprocating hammer was used to collect short (2 to 3 feet) sediment cores. An AMS Power Probe 9500, operated by North Wind Group, was used to collect deeper (up to 20 feet) sediment cores. All sample locations were accessed by foot during low tide.

2.2.1 Summary of Sampling Activities

Sample collection was conducted in accordance with sampling procedures detailed in the QAPP and in the Technical Memorandum on Modifications to Tailings Delineation Activities (CH2M HILL, 2013c). The procedures for sampling using the short-core, test-pit, and deep-core methods are described below. A video showing the short-core sampling method is provided in Appendix B, Attachment B1-13.

2.2.1.1 Short-Core Samples

The following procedure was used to advance borings and obtain each short-core sample:

1. The geographic position for the core was located using GPS and recorded along with other parameters identified in the Intertidal Tailing Core Log – Short Core. Photograph and describe each location.
2. Set up the generator and reciprocating hammer.
3. Attach the vibration head to a clean Lexan tube and insert a core catcher in tube.
4. Raise the tube into a vertical position. Connect the reciprocating hammer to vibration head. Check plumbness of the tube and turn on the hammer motor. Maintain light tension on the assembly to keep the tube in place and allow it to slowly penetrate the sediments. Advance the tube until a depth of 3.5 feet or refusal is reached. Record the depth of penetration on the core log.
5. Turn off the motor when the target penetration depth is reached or refusal occurs. Slowly withdraw the core from the tailings.
6. Mark the outside of the tube with the Location ID and indicate the top and bottom of the core. Tape caps on the ends of the core.
7. Use the same procedures to advance two to three additional cores in close proximity (within 5 feet) to the original boring location to collect additional volume for an FD or MS/MSD sample.
8. Transport the labeled core to a clean foil-covered table in the field laboratory. Extract the core from the tube by tapping the core with a rubber mallet or by inserting a rod to push the core out. Examine the core for lithology, presence of tailings, and other parameters identified in the core log. Describe tailings according to color, grain size, and other distinguishing characteristics.
9. Depending on location, collect samples of the core following lithologic description. Sample collection procedures are listed below:
   - Arrange sample containers and sampling equipment.
   - Label each sample container properly and fill out Tailings Core Sample Information Sheet and appropriate chain-of-custody information for each sample.

- Using a new stainless-steel spoon (or equivalent device), partition the core into separate intervals – up to four intervals were sampled in each core: 0 to 0.5 foot, 0.5 to 1 foot, 1 to 2 feet, 2 to 3 feet. Record Sample IDs for each interval and intervals with FDs and MS/MSDs on the core log.
- Place the full length of each interval into separate foil-lined aluminum bowls or foil covered areas. If an FD or MS/MSD was collected, add that same interval from the additional cores obtained at the same location to the foil-lined bowl/area. Homogenize each sample interval (and additional volumes for FDs and MS/MSDs, as appropriate) using a stainless-steel spoon or gloved hand (change gloves between sample intervals) prior to placement into sample containers. Transfer the sample into the appropriate containers using a stainless-steel spoon or gloved hand. Wipe the outside of the containers with a paper towel and place in an iced cooler.
- Dispose of the used foil and used stainless-steel spoons in a garbage bag to avoid need for decontamination.

10. Decontaminate all reusable sampling equipment that contacts potentially contaminated sediment or tailings between sample locations.[2]

Short-core sediment samples were stored on ice under custody control before they were packaged and shipped to the laboratories for analysis.

2.2.1.2 Test Pit Samples

The following procedure was used to dig shallow test pits and obtain sediment samples in areas where short cores could not be obtained due to the presence of dense or compacted material:

1. Locate the geographic position for the test pit using GPS and record this and other parameters identified in the Intertidal Tailing Core Log – Short Core. Photograph and describe the location.
2. Use a decontaminated shovel to dig a test pit to expose subsurface sediment and tailings for examination by the Field Geologist. Test pits were dug to depths of 2 to 3 feet; test pit size varied based on the types of materials encountered. Larger pits were needed for wet or loose material; smaller pits were used for dry and dense material.
3. Examine the wall of the test pit for lithology, presence of tailings, and other parameters identified in the core log. Describe the tailings according to color, grain size, and other distinguishing characteristics.
4. Depending on location, collect samples of subsurface sediment or tailings following lithologic description. Sample collection procedures are listed below:
   - Arrange sample containers and sampling equipment.
   - Label each sample container properly and fill out Tailings Core Sample Information Sheet and appropriate chain-of-custody information for each sample.
   - Using a new stainless-steel spoon (or equivalent device), collect samples from separate intervals in the test pit – up to four intervals were sampled in each pit: 0 to 0.5 foot, 0.5 to 1 foot, 1 to 2 feet, 2 to 3 feet. Record Sample IDs for each interval and intervals with FDs and MS/MSDs on the core log.
   - Place each sample interval (and additional volumes for FDs and MS/MSDs, as appropriate) in a gallon-size resealable plastic bag for transport to the field laboratory. Homogenize the sample interval on foil using a stainless-steel spoon or gloved hand (change gloves between sample intervals) prior to placement into sample containers. Transfer the sample into the appropriate containers using a stainless-steel spoon or gloved hand. Wipe the outside of the containers with a paper towel and place in an iced cooler.

[2] Reusable sampling equipment was limited to a few Lexan tubes, which were reused between tailings thickness only core locations.

- Dispose of used foil and used stainless-steel spoons in a garbage bag to avoid need for decontamination.

5. Allow the test pit to collapse or backfill to the surface.
6. Decontaminate all reusable sampling equipment that contacts potentially contaminated sediment or tailings between sample locations.[3]

Test pit sediment samples were stored on ice under custody control before they were packaged and shipped to the laboratories for analysis.

2.2.1.3 Deep Cores

The following procedure was used to advance and obtain sediment samples from deep cores using a direct-push rig:

1. Locate the geographic position for the core using GPS and record this and other parameters identified in the Direct Push Soil Boring Log. Photograph and describe each location.
2. Stage the direct-push rig over the desired drilling location. Lower a sampling tool with polyvinyl chloride (PVC) liner down the inside probe drive string to the end of the cutting shoe. Hydraulically push the probe drive string and sampler down through the sample interval to obtain an undisturbed sample of tailings/sediment. Once the probe drive string and sampler are fully advanced, withdraw the sampler and center rods from the probe drive string and remove the recovered core in the PVC liner from the sampler. After the tailings/sediment core is removed, lower another sampler with a PVC liner down the inside of the probe drive string to the end of the cutting shoe to conduct continuous-core sampling to the maximum depth of the tailings deposit.
3. After core recovery, extract the PVC liner encasing the tailings/sediment core from the sample sheath and cut open the PVC liner to expose the core. Examine the core for lithology, presence of tailings, and other parameters identified in the log.
4. Use the same procedures to advance two to three additional cores in close proximity (within 5 feet) to the original boring location to collect additional volume for an FD or MS/MSD sample.
5. Depending on location, collect samples of the core following lithologic description. Sample collection procedures are listed below:

   - Arrange sample containers and sampling equipment.
   - Label each sample container properly and fill out Tailings Core Sample Information Sheet and appropriate chain-of-custody information for each sample.
   - Using a new stainless-steel spoon (or equivalent device), partition the core into separate intervals – up to 16 intervals were sampled in each core: 0 to 0.5 foot, 0.5 to 1 foot, 1 to 2 feet, 2 to 3 feet, and so forth. Record Sample IDs for each interval and intervals with FDs and MS/MSDs on the log.
   - Place the full length of each interval into separate foil-lined aluminum bowls or foil covered areas. If an FD or MS/MSD was collected, add that same interval from the additional cores obtained at the same location to the foil-lined bowl/area. Homogenize each sample interval (and additional volumes for FDs and MS/MSDs, as appropriate) using a stainless-steel spoon or gloved hand (change gloves between sample intervals) prior to placement into sample containers. Transfer the sample into the appropriate containers using a stainless-steel spoon or gloved hand. Wipe the outside of the containers with a paper towel and place the container in an iced cooler.

[3] Reusable sampling equipment was limited to a few Lexan tubes, which were reused between tailings thickness only core locations.

- Dispose of the used foil and used stainless-steel spoons in a garbage bag to avoid need for decontamination.

Deep-core sediment samples were stored on ice under custody control before they were packaged and shipped to the laboratories for analysis.

2.2.2 Field Observations and Measurements

The lithology, tailings thickness, and other field observations for each core and test pit are presented in Tables 2-3 and 2-4. Table 2-5 lists the target analytes and laboratories conducting the analyses for each sample. Deep-core tailings delineation samples were analyzed for metals. Deep-core PAH delineation boring samples were analyzed for PAHs. The August 2013 samples were not analyzed for the other target analytical suites from May because adequate data for these analytes were obtained from the short-core samples collected in May 2013. Copies of the logs for cores and test pits are provided in Appendix A-2. Photographs of the core and test pit sampling effort are provided in Appendix B.

2.2.3 Deviations from QAPP

Deviations to the May sediment coring and subsurface sediment sampling program include:

- Hand-held coring equipment was not capable of penetrating very fine-grained, dense, clayey tailings, which tended to occur at depths of 1.5 to 2 feet. Therefore, the majority of sample cores were restricted to the upper 2 feet of tailings (only 6 cores reached depths greater than 2 feet). This resulted in the collection of fewer samples than planned for laboratory analysis and reductions in the number of FD and MS/MSD sample volumes.
- Hand-dug test pits, rather than cores, were used to characterize subsurface conditions in key locations where coring was unsuccessful.
- Thirteen short cores/test pits and 10 tailings thickness short cores/test pits were added around the margins of tailings deposits.
- Some tailings thickness cores were converted to sample cores based on conditions encountered in the field (presence or absence of tailings, creosote-like odor, grain size differences) or if shallow refusal was encountered at a nearby sample core location.
- Some scheduled FD locations and depths were moved to other locations/depths where greater sample volume was available. Certain scheduled FDs were not collected because of the reduced number of samples.
- The number of short-core tailings thickness only locations (no samples) was reduced from 64 to 24 because of the depth limitation of short-core equipment and the proximity of other sampled core locations.
- The number of locations where Synthetic Precipitation Leaching Procedure (SPLP) metals analysis was conducted increased from 7 to 12 locations because the appearance and texture of tailings in several locations were different than those observed in borings where SPLP analysis was conducted.
- One of the deep-core locations designated for chromium VI analysis (SB-019) in the QAPP was eliminated from the modified deep-core program so the number of chromium VI samples was reduced from 8 to 7.

Deviations to the August sediment deep coring and subsurface sampling program include:

- One planned direct-push sediment core south of the tailings spit near Unnamed Stream (SB-302) was not performed due to time constraints.
- The full extent of petroleum- and coal-tar-impacted sediment in the vicinity of the barge slip could not be determined due to time constraints.

- Duplicate Contract Laboratory Program (CLP) sample identification numbers were mistakenly assigned to two groups of samples submitted for polycyclic aromatic hydrocarbon (PAH) analysis at an EPA CLP laboratory (Sample SB-322-02 was assigned the same CLP number as SB-313-04 and Sample SB-322-03 was assigned the same CLP number as SB-316-06). Although each sample bottle had a different Scribe sample identification number, as well as different sampling dates and times, the CLP did not recognize that the bottles were for separate samples and reported the results for only one sample in the group of duplicated CLP sample IDs. The samples were discarded before the error was recognized. Consequently, there is some uncertainty about which of the duplicate samples were analyzed for PAHs and which samples have missing PAH results.

Copies of the alteration forms are provided in Appendix C.

2.3 Upland Tailings Investigation

This section summarizes the field methods and procedures that were used to investigate the extent and thickness of tailings in upland portions of the Site that were formerly occupied by the tailings pond. Visual observations of shallow test pits and short cores at 40 locations were used to delineate the extent of the tailings. Samples were collected for laboratory analysis from 8 locations to confirm observed conditions (up to 3 depth intervals were collected at each location). Visual observations are listed with sample information in Table 2-6 and investigation locations are depicted on Figure 2-4. The upland tailings investigation was conducted in May 2013.

2.3.1 Summary of Tailings Delineation and Sampling Activities

Tailings delineation was accomplished by walking through the upland portion of the Site near the former tailings pond and digging test pits with a shovel or by driving Lexan tubes by hand into the upper foot of soil. The soil was then examined for the presence of tailings (greenish gray sand, silt, or clay). The GPS coordinates and observations at each location were recorded in field notes and observation logs. Soil samples were collected using the same sampling procedures described in Section 2.2 for the intertidal sediment. The soil samples were stored on ice under custody control before they were packaged and shipped to the laboratories for analysis.

2.3.2 Field Observations and Measurements

The field observations for each upland core and test pit are presented in Table 2-6. Copies of the field forms and core logs are provided in Appendix A-3.[4] Photographs of the core and test pit sampling effort are provided in Appendix B.

Table 2-7 lists the target analytes and laboratories conducting the analyses for each sample.

2.3.3 Deviations from QAPP

Deviations to the upland tailings investigation described in the QAPP included the use of a hand-driven Lexan tube in addition to hand-dug test pits to conduct the visual observation of tailings investigation and to collect samples for laboratory analysis.

2.4 Porewater

This section summarizes the field methods and procedures that were used to collect porewater samples in the intertidal portion of Salt Chuck near the former mill and in the reference area at Browns Bay. Porewater sample information is presented in Table 2-8 and sample locations are depicted on Figure 2-5. Two types of devices were used to collect porewater samples, ceramic airstones and drive-point wells. The sampling devices were installed during low tide and before sediment sampling or other intrusive activities occurred in the vicinity of the former mill. Samples from buried airstones were collected during low tide 3 days (4 tide

[4] Note that intertidal and deep-core field sampling forms and logs were used to record upland tailings observations.

cycles) after airstone installation, when porewater was expected to be less than 2 feet below the surface. Drive-point samples were collected 3 to 4 days after installation.

2.4.1 Summary of Sampling Activities

Sample collection was conducted in accordance with sampling procedures detailed in the QAPP. The procedures for sampling using airstones and drive-point wells are described below.

2.4.1.1 Airstone Sample Collection

Airstone porewater samples were collected by suction through a cylindrically shaped, aquarium airstone (e.g., 10 to 15 centimeters [cm] long and 1.5 cm wide) placed vertically in the sediment.

The procedure for airstone installation and sample collection is described below:

1. Locate the geographic position for the sample location using GPS and enter coordinates on the Porewater Collection Field Form.
2. Use a pre-marked wood or plastic dowel of about 1 to 1½ inch diameter to make a hole by pushing or tapping into the sediment to a depth of 2 feet below the sediment surface (adjust hole depths as necessary based on field conditions). Place the airstone and connected tubing (pre-marked to 2 feet) in the hole.[5] After installation, compress the sediment surrounding the tube and hole by foot. Determine airstone depth by measuring the remaining tubing above the sediment surface. Record depth on the sample collection sheet. Clamp the end of the tube to prevent entry of sea water. Decontaminate the hole-making device between holes.
3. Allow installed airstones to equilibrate for 3 days (about 4 tide cycles) prior to sampling.
4. Collect samples as follows:[6]
   - Arrange sample containers and sampling equipment and exercise caution not to step on or otherwise disturb the sample tubing. Remove clamp on tubing.
   - Label each sample container (with preservative) properly, and fill out appropriate chain-of-custody information.
   - Using a disposable hand-held 50 milliliter (mL) Luer-lock syringe, extract water by slow suction from the buried airstone. Discard the first draw of 50 mL, then fill syringe again. Connect 0.45 micron filter to syringe and transfer filtered water to pre-preserved sample containers (place acid in sample container before transferring water to bottle). Continue collection until sufficient sample volume (including volumes for FD and MS/MSD, if applicable) is collected. Discard filter(s).
   - Measure salinity of porewater using refractometer.[7]
   - Record sample description and salinity measurements on Porewater Collection Field Form.
   - Remove and discard airstone and tubing.

Airstone porewater samples were stored on ice under custody control before they were packaged and shipped to the laboratories for analysis.

[5] Installation of sampling probes occurred when the tide level was about 2 feet lower than the sediment surface to allow the subsurface water level to be well below the positioning elevation of the sampling device (preventing the installation hole from prematurely collapsing due to overly wet subsurface conditions).

[6] Porewater sampling proceeded from the higher to lower elevation direction as the tide fell.

[7] It was not feasible to measure other water quality parameters using a Horiba water quality meter due to the limited volume of recovered water.

2.4.1.2 Drive-point Well Sample Collection

Temporary drive point wells were used to collect porewater samples near the shoreline at the former mill. The drive points consisted of a 2-inch diameter PVC slotted well screen (with PVC well point) that was manually driven approximately 3 to 4 feet into the sediment/tailings using a slide hammer. A 0.75-inch-diameter PVC well screen with pre-pack filter (and end cap) was then installed inside the outer screen.

1. Locate the geographic position for the sample location using GPS and enter coordinates on the Porewater Collection Field Form.
2. Measure the water level within the drive-point well using a water level indicator. Record the measurement on the Porewater Collection Field Form.
3. Install an appropriate length of sample intake tubing in the drive-point well and connect tubing to the battery-operated peristaltic pump. Set the tubing to discharge to a purge bucket.
4. Use low-flow (less than 0.5 liters per minute [L/min]) methods to purge one full volume from the drive-point well. Retain purge water and treat with activated charcoal prior to discharge onsite.
5. Measure water quality parameters (conductivity, temperature, dissolved oxygen (DO), pH, salinity, and turbidity) using a water quality meter and the procedures in the manufacturer's manual after one well volume had been purged. Measure salinity using a refractometer to be consistent with measurement equipment used at the airstone locations. Record these measurements and other observations on the Porewater Collection Field Form.
6. Drive-point well porewater samples were collected as follows:
   - Arrange sample containers.
   - Label each sample container (with preservative) properly, and fill out appropriate chain-of-custody information.
   - Fill the sample containers. Continue collection until sufficient sample volume (including volumes for FD and MS/MSD, if applicable) is collected. Collect sample aliquots for dissolved metals analysis into unpreserved containers prior to filtering. Filter these aliquots using 0.45 micron filters attached to syringes prior to transfer into pre-preserved sample containers.
   - Remove and discard sample tubing.
   - Decontaminate water level and water quality meter probes.
7. Remove and discard the drive-point well.

Drive-point well porewater samples were stored on ice under custody control before they were packaged and shipped to the laboratories for analysis.

2.4.2 Field Observations and Parameter Measurements

Information about each porewater sample is presented in Table 2-8. Table 2-9 lists the target analytes and laboratories conducting the analyses for each sample. Copies of the sampling records are provided in Appendix A-4. Photographs of the porewater sampling effort are provided in Appendix B.

2.4.3 Deviations from QAPP

Deviations to the planned porewater sampling program included the following:

- 2013SC-PW-001 (planned drive-point) was not installed due to proximity of other drive-points in the vicinity of the barge and tailings spit.
- Seven porewater sample locations were moved due to the presence of rocks and pilings, or to optimize the sample location in an area of potential interest.

- 2013SC-PW-016 was changed from a drive-point to an airstone location due to presence of rocks in the area, and the target analytes for the location were reduced to dissolved TAL metals and dissolved mercury only due to the limited volume of recoverable porewater.
- The FD planned for 2013SC-PW092 was moved to 2013SC-PW-091 because of volume recovery issues.
- Extra volumes for MS/MSD were not collected at 2013SC-PW-088 and 2013SC-PW-100 because sufficient MS/MSD volumes for metals analysis had already been collected at other locations.
- Three porewater samples were added at Browns Bay to characterize reference area porewater conditions.
- All installed porewater airstones were allowed to equilibrate for 3 days prior to sampling, rather than the 2 days specified in the QAPP.
- A field meter was not used to measure field parameters at airstone locations. Salinity was measured using a hand-held refractometer.
- Sample volumes submitted for laboratory analysis were 100 mL rather than 1,000 mL.
- Dissolved mercury was analyzed for at all porewater sample locations.

Copies of the alteration forms are provided in Appendix C.

2.5 Surface Water

This section summarizes the field methods and procedures that were used to collect surface water samples in the intertidal portion of Salt Chuck near the former mill and in the reference area at Browns Bay. Surface water sample information is presented in Table 2-10 and sample locations are depicted on Figure 2-6.

The majority of samples were single grab samples collected during low tide at locations accessed by foot. However, hourly grab samples were collected at one location (SW-108) to characterize temporal changes during both low and higher tide levels. The higher tide samples (when foot access was precluded) were obtained using a peristaltic pump connected to tubing secured at the sampling point during low tide.

2.5.1 Summary of Sampling Activities

The procedure for sample collection is described below:

1. Locate the geographic position for the sample location using GPS and enter coordinates on the Surface Water Collection Field Form.
2. When possible, measure the water depth at the time of sampling using a tape measure and record the measurement on the Surface Water Collection Field Form.
3. Exercise caution not to disturb the sediment at or upcurrent of the sample location.
4. Samples were collected as follows:[8]
   - Arrange sample containers and sampling equipment.
   - Label each sample container (with preservative) properly, and fill out appropriate chain-of-custody information.
   - For one-time grab samples, with minimum surface disturbance, submerge an unpreserved sample bottle (at least 500 mL) with the mouth of the container facing upstream and allow sample stream to flow gently into the bottle. Obtain FDs and MS/MSDs from the same sampling equipment as the parent samples.

[8] Surface water sampling proceeded from downstream to upstream.

- For hourly grab samples, stake the end of a sampling tubing several inches above the bottom of Lake Ellen Creek at Location SW-108 and run the other end to the bank and clamp off. At the appropriate time, sample with a peristaltic pump and draw the initial flush of water and discard, then collect the hourly grab sample. Begin hourly sampling at least 4 hours before low tide and continue with an equal number of grabs after low tide, according to the tide table for that day (May 26, 2013).
- For sample aliquots analyzed for dissolved metals concentrations, transfer the sample to the pre-preserved sample container using a hand-held syringe and a 0.45 micron filter. Use a new filter for each water sample location. Transfer aliquots analyzed for total metals and PAHs directly to sample bottles (no filtration).
- After sample aliquots are collected, measure field parameters (conductivity, pH, temperature, salinity, and DO) using the water quality meter and the procedures in the manufacturer's manual. Record sample description and water quality readings on the Surface Water Collection Field Form. Decontaminate the water quality meter.

Surface water samples were stored on ice under custody control before they were packaged and shipped to the laboratories for analysis.

2.5.2 Field Observations and Measurements

Information about each surface water sample is presented in Table 2-10. Table 2-11 lists the target analytes and laboratories conducting the analyses for each sample. Copies of the sampling records are provided in Appendix A-5. Photographs of the surface water sampling effort are provided in Appendix B.

2.5.3 Deviations from QAPP

Deviations to the planned surface water sampling program included the following:

- All samples for laboratory analysis were collected as planned. However, locations scheduled for PAH analysis were sampled on two dates (May 25 and May 26, 2013) due to concerns about holding times caused by EPA furlough dates.
- The time-series grab samples scheduled for location SW-105 were moved to SW-108 based on conditions observed in the field (closer to the confluence of the barge area seep and Lake Ellen Creek).
- The sample identification numbers for several time-series samples contain a typographical error (2013**CS** instead of 2013**SC**).
- The FD scheduled at background location 2013SC-SW-501 was moved to background location 2013SC-SW-509.
- The second sample location (2013SC-SW-601) for water to be used in the SPLP analyses of sediments from cores was not obtained due to sample volume/shipment concerns.
- Initial results for all surface water surface water samples from the Site and background locations had method detection limits (MDLs) well above targeted levels, resulting in non-detects for most metals of interest (for example, copper). The elevated MDLs were the result of the laboratory's standard practice of diluting marine water samples by 20 to 40 times to protect their instrumentation. A sample plan alteration form for reanalysis of the surface water samples was prepared and approved by EPA (see Appendix C). Then the remaining volume from each sample was transferred to another laboratory with the capability of analyzing marine water samples without dilution (ALS Environmental) and the analyses were re-run successfully.

Copies of the alteration forms are provided in Appendix C.

2.6 Marine Biota

This section summarizes the field methods and procedures that were used to collect marine biota samples in the intertidal and subtidal portions of Salt Chuck and in the reference area at Browns Bay. Both crab and shrimp samples were scheduled for collection. However, no shrimp were collected for analysis because only a few specimens were caught despite extensive deployment of traps in Salt Chuck and Browns Bay. Only Dungeness crab samples were collected (no other crab species were kept). Biota sample information (number of individuals, weight, size, etc.) is presented in Table 2-12 and sample locations are depicted on Figure 2-7.

2.6.1 Summary of Sampling Activities

The procedure for crab sample collection is described below:

1. Set shellfish traps in accordance with standard sport fishery practice and baiting. The standard soak time, defined as the time the pots are set until the time the pots are retrieved, was approximately 24 hours. Record GPS coordinates for trap on Shellfish Collection Field Form.
2. After an appropriate time, retrieve traps and sort catches. Retain shellfish for tissue analyses equivalent to the legal size and condition taken in the sport fishery. Male Dungeness crab less than the minimum legal size (6½ inches in shoulder width) and all female Dungeness crab were immediately returned to the water unharmed, with some exceptions.[9] Three crabs were retained for tissue compositing at each successful sample location.
3. Photograph catch and record species on Shellfish Collection Field Form.
4. Place all crabs from a given location in a single plastic bucket with overlying water. Label the outside of buckets and fill out appropriate chain-of-custody information.
5. Once in port, freeze samples until tissue resection and processing can be done within one week.
6. Remove sample buckets of whole crabs from the freezer at the start of each resection day, and thaw just enough to allow processing.
7. Dry and line the tissue processing area with clean paper cloth. Carefully rinse excess sediment off outside of shellfish by running under tap water, and let drain for one minute. Record the sex of the crab by inspection of the telson width, and the carapace width of each crab to the nearest millimeter. Record carapace length of each shrimp to the nearest millimeter (1 mm) using a ruler. Carapace length is defined as behind the eye stalk to the beginning of the abdomen. Measure total weight of the whole crab to the nearest gram (1 g) using a bench scale. Record on the Shellfish Collection Field Form.
8. For each sample location, pre-tare or weigh the empty tissue sample container on the scale.
9. Using clean latex or nitrile gloves, remove muscle tissue from the claws and largest sections of legs. Break individual crab leg sections from the body or cut from the body using pre-cleaned stainless-steel scissors. Slit each section of the leg down the flat edge using scissors. Once muscle tissue is exposed, use stainless-steel forceps or spatula to remove the muscle tissue from all the claw and leg cavities.
10. For each species and location, collect the appropriate amount of tissue and place samples inside the pre-labeled, pre-tared jar and weigh the sample container with the composite tissue sample on the scale to ensure the minimum sample volume is met. Based on the total amount of tissue required for analysis, and the number of individual animals per composite, keep approximately the same mass of tissue from each animal until the total requirement is attained.

[9] In some cases, crabs below the legal size limit were kept, in accordance with a Fish Resource Permit CF-13-097 obtained from Alaska Department of Fish and Game.

11. Place the sample (inside the container) in a plastic bag, label, and place in the freezer.

Crab samples were stored frozen under custody control before they were packaged and shipped to the laboratory for analysis.

2.6.2 Field Observations and Measurements

Information about each crab sample is presented in Table 2-12. Table 2-13 lists the target analytes and laboratories conducting the analyses for each sample. Copies of the sampling records are provided in Appendix A-6. Photographs of the crab sampling effort are provided in Appendix B.

2.6.3 Deviations from QAPP

Deviations to the planned marine biota sampling program included the following:

- No shrimp were collected for analysis because only a few specimens were caught despite extensive deployment of traps in Salt Chuck and Browns Bay.
- The FD scheduled at Biota-138 (crab) was moved to Biota-148 (crab) due to larger volume of available tissue.
- No crabs were present at the planned location for Biota-130, so the sample location was moved about 100 feet to the west where the intertidal portion of Lake Ellen Creek channel was more pronounced.
- No crabs were present at the planned location for Biota-107, so the sample location was moved to the southwestern side of Unnamed Island.
- The planned FD scheduled at Biota-150 (crab) was not collected because sufficient duplicates had already been collected for biota.
- Methylmercury was mistakenly included as a target analyte in several QAPP tables. This analyte should not have been included because the risk assessment will assume that all mercury detected in tissue is methylmercury.

Copies of the alteration forms are provided in Appendix C.

2.7 Groundwater

This section summarizes the field methods and procedures applicable to collection of groundwater samples from monitoring wells at the Site. Monitoring wells GW-01 through GW-06 were installed by the Forest Service as part of the NTCRA for the former mill. Monitoring well GW-05 was found to be damaged in 2012 and was abandoned by the Forest Service in early 2013. The well was replaced by the Forest Service in June 2013 and is renamed GW-05r. Groundwater sample information is presented in Table 2-14 and sample locations are depicted on Figure 2-8.

2.7.1 Summary of Sampling Activities

The following procedures were used to collect groundwater samples:

1. Locate the geographic position for the well using GPS and enter the coordinates on the Groundwater Collection Field Form.
2. Measure the water level within the well using a water level indicator. Record the measurement on the Groundwater Collection Field Form.
3. Install an appropriate length of sample intake tubing in the well and connect the tubing to the battery-operated peristaltic pump. Set up the tubing to discharge to a purge bucket.
4. Use low-flow (less than 0.5 L/min) methods to purge the well until field parameters (DO, oxygen reduction potential, conductivity, pH, turbidity, and temperature) stabilize, until three well casing volumes are purged, or until the well purges dry. Measure field parameters using a water quality meter

and the procedures in the manufacturer's manual. Retain purge water and treat with activated charcoal prior to discharge onsite.

5. Groundwater samples were collected as follows:
   - Arrange sample containers.
   - Label each sample container (with preservative) properly, and fill out appropriate chain-of-custody information.
   - Fill the sample containers. Continue collection until sufficient sample volume (including volumes for FD and MS/MSD, if applicable) is collected. Collect sample aliquots for dissolved metals analysis into unpreserved containers prior to filtering. Filter these aliquots using 0.45 micron filters attached to syringes prior to transfer into pre-preserved sample containers.
   - Remove and discard sample tubing.
   - Record any odor, color, sheen, or other parameters identified in the Groundwater Sampling Sheet.
   - Decontaminate water level and water quality meter probes.

Groundwater samples were stored on ice under custody control before they were packaged and shipped to the laboratories for analysis..

2.7.2 Field Observations and Parameter Measurements

Information about each groundwater sample is presented in Table 2-14. Table 2-15 lists the target analytes and laboratories conducting the analyses for each sample. Copies of the sampling records are provided in Appendix A-7. Photographs of the sampling effort are provided in Appendix B.

2.7.3 Deviations from QAPP

Deviations to the planned groundwater sampling program for May 2013, as previously described in CH2M HILL (2013c), included the following:

- Wells GW-05r, GW-07, and GW-08 were not sampled in May 2013 because the proposed wells were not installed.
- EPA decided not to install proposed wells GW-07 and GW-08 due to the proximity of existing monitoring wells and intertidal area drive-point samples. The replacement well for GW-05 (GW-05r) was installed in June 2013 and sampled in August 2013.
- Well GW-02 was not sampled for diesel-range organics/residual-range organics (DRO/RRO) and PAH analyses because of inadequate recovery (less than 1 liter per 2 hours).
- Well GW-06 was sampled but the samples were discarded due to the presence of thick colloidal material in the samples (including the filtered sample). The presence of this material suggests that the bentonite seal has failed and the well is not suitable for sample collection.

Copies of the alteration forms are provided in Appendix C.

2.8 Quality Assurance Activities

This section describes the quality assurance activities conducted in support of the May and August 2013 field activities.

2.8.1 Equipment Calibration

Equipment calibration was conducted in accordance with the QAPP. Instruments used in the field included the GPS and the multi-parameter water quality meter. The GPS was calibrated and/or checked by the manufacturer and did not require any adjustment or calibration in the field. The multi-parameter water

quality meter was calibrated each day prior to use and was verified at the end of each day's use. Any instrument deviations from the calibration solution were recorded in the field notebook.

2.8.2 Field Documentation

All sampling and associated activities were documented on activity-specific field logs. Copies of the completed logs are included in Appendix A. Daily field activities were documented through journal entries in bound field logbooks, which were dedicated to each field team. All pertinent information about sampling activities, site conditions, field methods used, general observations, and other pertinent technical information were recorded in the field logbook.

2.8.3 Quality Control Samples

Quality Control (QC) samples were collected or prepared to assess the overall quality of the May and August 2013 project data. Field QC samples include FDs, equipment rinsate blanks, filter blanks, and temperature blanks. Laboratory QC samples included method blanks and MS/MSDs.

2.8.3.1 Blind Field Duplicate Samples

Blind FD samples were collected to assess the homogeneity of samples collected in the field and the precision of the sampling process. The FDs were prepared by collecting two aliquots of sample from the sampling equipment and submitting them for analysis as separate samples. Note that aliquots of sediment/tailings samples were homogenized prior to splitting into separate samples. FDs were collected from at least 10 percent of the sampling locations, as listed in the media-specific tables described above.

2.8.3.2 Equipment Rinsate Blank

Equipment rinsate blanks are used to evaluate sampling device cleanliness and potential carryover of target contaminants from equipment. Equipment rinsate blanks were collected from unused disposable sampling equipment or, in the case of reusable sampling equipment, after decontamination of the equipment. The rinsate blanks were created by pouring American Society of Testing and Materials Type II water (purchased and certified from a commercial vendor) over or through the sampling device and collecting the rinsate in a sample container for analysis. One equipment rinsate blank was collected for each type of disposable or reusable sampling equipment used during the sampling event. Table 2-16 lists the associated equipment and target analytes for each equipment rinsate blank.

2.8.3.3 Temperature Blanks

All coolers submitted to the laboratories contained a temperature blank.

2.8.3.4 Matrix Spike/Matrix Spike Duplicates Samples

MS/MSD analyses was performed in the laboratory to assess the accuracy of the analyses. These analyses were performed according to the laboratory protocols at a frequency of once every 20 samples using extra volumes of sample matrices collected in the field. The MS/MSD samples were designated as such on the chain-of-custody form. Analyses were the same as those required by the parent sample. Individual sample locations where MS/MSD volumes were collected and the total number of MS/MSD samples for each sample group are listed in Table 2-17.

2.9 Equipment Decontamination

Sampling equipment decontamination was performed in accordance with the QAPP. Factory-wrapped disposable equipment intended for one-time use was not decontaminated and was discarded after use. Reusable equipment that came into contact with potentially contaminated samples was decontaminated using the following procedure:

- Prewash with site water.
- Wash with solution of tap water and Alconox® soap and brush.
- Rinse with site water.

- Rinse the brush with site water to remove any visible dirt.
- Rewash with solution of tap water and Alconox® soap and brush.
- Rinse with site water.
- Double rinse with distilled water.
- Repeat as necessary.
- Cover (no contact) all decontaminated items with clean aluminum foil.

2.10 Containment and Disposal of Investigation-Derived Wastes

Waste generated during fieldwork included personal protective equipment (PPE), disposable items (such as stainless-steel spoons), excess sediment samples, and decontamination wash water. Disposal of these wastes is described below:

- All general refuse (such as PPE, gloves, paper towels, and plastic sheeting) that would not likely contain hazardous material was disposed of as municipal waste.
- Excess surface sediment or tailings, porewater, and surface water were left at the sampling locations where they were collected.
- Excess tailings or sediment from test pits and sediment cores were placed in and near the core or pit location and tamped by foot to compact the sediment. Excess groundwater purge water was treated using activated carbon prior to discharge onsite.
- Equipment decontamination occurred in the exclusion zone within the intertidal area and all liquids and solids were left onsite near the sampling locations where they were generated.

2.11 Sample Tracking and Shipping

This section describes the methods that were used to document data and sample collection during the 2013 investigation effort at the Salt Chuck Mine Site.

2.11.1 Sample Designation

A sample numbering scheme was developed that allows each sample to be uniquely identified and provides a means of tracking the sample from collection through analysis. The numbering scheme indicates the location and sample type and depth or species, if appropriate. The unique sample numbers were entered in the field notebook, field tracking sheets, chain-of-custody forms, and other records documenting sampling activities. The following sample number convention was used for normal and field duplicate samples:

Location Prefix – Medium - Location ID - Depth or Species

Explanation:

Location Prefix:	2013SC
Medium:	SW = surface water
	PW = porewater
	SS = surface sediment *(for Lake Ellen Creek thalweg, Browns Bay, and agronomic samples only)*
	BIOTA = crab
	SB = boring *(for short cores, test pits, and direct-push borings)*
	GW = groundwater
Location:	001 through 400 (Salt Chuck locations, three digits)

	500 through 550 (Browns Bay [reference] locations)
Depth:	Depth below top of sediment (top of interval, two digits)
Biota:	Crab

Location numbers were assigned by location. FDs were assigned numbers that match the parent sample, except a “9” was inserted at the beginning of the location number. MS/MSDs were labeled with the same Sample ID as the parent sample, with MS or MSD added at the end of the number.

Sample identification for the equipment blanks was as follows:

Location Prefix:	2013SC
Medium:	EB = equipment blank
Date:	Date of collection (month, date, year [8 digits])

2.11.2 Sample Management and Tracking

Chain-of-custody procedures were used to maintain and document sample collection and possession after sample packaging. Scribe software was used for project data management and completing chain-of-custody documentation. All Scribe project information, sample information, and documentation (labels/traffic report-chain of custody) were completed according to the Region 10 Regional Sample Control Coordinator (RSCC) sampling guidelines. A separate unique traffic report/chain of custody was created for each cooler shipped, documenting the specific contents and location of the associated cooler. Copies of the traffic report/chain of custody, Scribe XML (*.xml), and Excel (*.xls) were submitted to CLP and the RSCC in accordance with the instructions for sample shipping and documentation per CLP/RSCC requirements. The laboratory copy was sent to the CLP and subcontracted labs, while the regional copy was be sent to Manchester Environmental Laboratory (MEL). Copies of the chains of custody are included in Appendix D.

SECTION 3

Analytical Data Quality

Samples collected during the 2013 sampling event were packaged and shipped under chain-of-custody protocol to the following laboratories for analysis:

- A4 Scientific (metals and mercury)
- KAP Technologies (PAHs)
- CH2M HILL Applied Sciences Laboratory (AVS/SEM, DRO, RRO, bulk density, grain size)
- MEL (hexavalent chromium, lipids, arsenic speciation, SPLP metals, total organic carbon). MEL also performed an arsenic speciation analysis on archived (frozen) samples of bivalves collected in 2012.
- Northwestern Aquatic Sciences (sediment toxicity bioassays)
- A & L Western Agricultural Laboratories (agronomic sediment analyses)
- ALS Environmental (marine surface water analyses)

For the most part, laboratory analyses and data reporting for each laboratory were consistent with the procedures defined in the QAPP. However, two data quality issues were identified when the initial sediment toxicity bioassay and marine surface water data were reported, as summarized below:

- Bioassay - Initial bioassay results for two surface sediment samples from Salt Chuck (SS-140, and SS-9140 [FD for SS-140]) and from the background location (SS-510) showed unexpected bioassay responses for the bivalve test. Further analysis at the laboratory identified relatively high levels of ammonia in these samples, possibly representing a confounding influence on the test results. This may have occurred due to inadvertent storage at elevated temperatures. Additional volumes of sediment for these samples that were stored in refrigeration at A4 Scientific (metals laboratory) were transferred to Northwestern Aquatic Sciences and the bioassays were re-run.
- Surface water – Initial results for all surface water surface water samples from the Site and background locations had method detection limits (MDLs) well above targeted levels, resulting in non-detects for most metals of interest (for example, copper). The elevated MDLs were the result of the laboratory's standard practice of diluting marine water samples by 20 to 40 times to protect their instrumentation. A sample plan alteration form for reanalysis of the surface water samples was prepared and approved by EPA (see Appendix C). Then the remaining volume from each sample was transferred to another laboratory with the capability of analyzing marine water samples without dilution (ALS Environmental) and the analyses were re-run successfully.

3.1 Data Validation

The analytical chemistry data packages were reviewed and validated according to the protocols identified in the QAPP. Data from the EPA MEL laboratory were validated by the EPA Office of Environmental Assessment. Chemistry data from other laboratories were validated by CH2M HILL. The validation reports for each laboratory are provided in Appendix E. The Data Quality Assessment Report summarizing the findings of the 2013 validation reports is provided in Appendix F. Sediment toxicity bioassay results were also reviewed for technical quality and usability by CH2M HILL, as provided in Appendix G.

3.2 Data Management

Following validation, the data with assigned validation codes were then uploaded to the Site database maintained by CH2M HILL. Sample location data, as determined in the field using GPS equipment and/or relative position to known structures or features, were linked to the analytical data in the Site geographic

information system database. The data were then reviewed for completeness (i.e., were all samples and target analytes accounted for and did all samples have accurate locations?). Any discrepancies were resolved through consultation with the field team, laboratory personnel, and the project chemist.

For the most part, the data received from the validators were uploaded to the CH2M HILL database without modification. However, because analytical results for crab tissue samples were reported by the laboratory as dry weight concentrations and the screening levels used to identify possible contaminants in tissue are based on wet weight concentrations, the dry weight results for each sample were converted to wet weight values using the measured moisture content of each specific sample according to the following formula:

Wet weight concentration = Dry weight concentration x (1 – percent moisture/100)

In addition, concentrations of low molecular weight PAHs and high molecular weight PAHs were calculated for samples using the detected concentrations of individual PAH constituents, and these values were entered as separate results for each sample. No other conversions or adjustments were made in the database.

3.3 Data Usability Assessment

Data collected during the 2013 investigations were reviewed and validated in accordance with the QAPP. Data validation findings are discussed in the Data Quality Assessment Report presented in Appendix F. The results of the data quality review indicate that all data, as qualified, are usable for their intended purpose. Also, all data associated with sediment toxicity bioassay testing were found to be of suitable quality and acceptable for making management decisions (Appendix G).

The 2013 analytical data were evaluated for usability in the context of the DQOs for the overall RI for the Salt Chuck Mine Site. The first step in the evaluation process was a determination of whether data from 2013 were appropriate for use in evaluating the nature and extent of contamination and assessing risk. Although target analyte and sample coverage are important, the key consideration in determining the usability of the dataset was whether the MDLs for the 2013 sample results were adequate to detect the target analytes at concentrations consistent with the screening levels for the Site; that is, whether the MDLs were low enough to conclude that target analytes are not present at levels that might pose potential risk (assuming the conservative exposure scenarios of the screening levels) if an analyte was not detected.

To accomplish the usability evaluations, data for each sample group were consolidated into summary statistics tables that list the following for each analyte:

- Number of samples analyzed
- Number of detects
- Frequency of detection
- Minimum and maximum detected values
- Minimum and maximum MDLs for non-detects
- Screening level[10]
- Number of detect results with concentrations greater than the screening level
- Number of non-detect results with MDLs greater than the screening level (non-detect MDL exceedances)

[10] The screening levels are used only as means of characterizing the nature and extent of contamination; they are not intended to necessarily infer the existence of unacceptable risk.

These summaries are provided in Tables 3-1 through 3-8. Only analytes and media with screening levels are listed in the tables. Full listings of analytical results by sample group are presented in Section 4 of this report.

Only two analytes (cobalt and silver) in the SPLP metals results for sediment boring samples and three analytes (chromium, cobalt, and iron) in the total metals results for upland tailings samples had non-detect MDLs in excess of their screening levels. The MDLs for these analytes were less than 10 times the screening levels and most of these metals are not expected to influence the nature and extent of contamination or risk assessment evaluations (note that the upland screening level used for chromium is based on the more toxic hexavalent chromium form and all results for hexavalent chromium were non-detect). Therefore, these results do not adversely affect the usability of the 2013 data and do not merit further evaluation.

SECTION 4

Analytical Results

This section summarizes the 2013 results in the context of the primary DQOs for the 2013 field investigation. The intent is not to provide detailed analysis and interpretation of data, but to provide a brief overview of results in relation to the DQOs and screening levels identified in the QAPP to assess the completeness of the dataset. Note that the screening levels are used only as means of characterizing the nature and extent of contamination; they are not intended to necessarily infer the existence of unacceptable risk. The risk assessment to be conducted as part of the RI will provide site-specific estimates of cumulative risk intended for management decision making.

The following summaries are supported by tables wherein the analytical results for each sample group are compared to risk-based screening levels and other criteria that were identified in the QAPP. These tables are organized by location, medium, and sample identification number. FD and normal results are presented as separate samples. Sample results with detected exceedances of the listed screening level are indicated by bold font; ND results with MDLs in excess of the screening levels are indicated by italics.

A variety of media and locations were sampled to complete the nature and extent of contamination evaluations and assess potential risks. The sample groups included:

- Surface sediment in or near the distal (southern) segment of the thalweg of Lake Ellen Creek on the west side of Unnamed Island
- Surface and subsurface tailings and sediment in the intertidal area south and east of the former mill
- Porewater in the intertidal area south and east of the former mill
- Marine surface water in Lake Ellen Creek, Unnamed Stream, Salt Chuck, and Browns Bay
- Crab in Salt Chuck and Browns Bay
- Upland tailings in the vicinity of the former tailings pond near the former mill
- Groundwater in the vicinity of the former mill.

4.1 Surface Sediment

The analytical results for the surface sediment samples collected in Salt Chuck are presented in Table 4-1. Concentrations of copper in eight of the nine thalweg-associated samples exceeded both the effects range low (ERL) value (34 milligrams per kilogram [mg/kg]) and effects range median (ERM) value (270 mg/kg) for copper. The ninth sample (SS-143) exceeded only the ERL value. Copper concentrations in most of the surface sediment samples collected for agronomic purposes south of the tailings spit and on the west side of Unnamed Stream (SS-181 through -189) were also above the ERL and ERM values. The Browns Bay sample did not exceed either criterion. In addition, concentrations of cobalt, manganese, selenium, and vanadium in several surface sediment samples exceeded their apparent effects threshold (AET) values, which are used as screening levels for analytes without an ERL or ERM.

The sediment toxicity bioassay results for the surface sediment samples collected in Salt Chuck are presented in Table 4-2. Of the three Salt Chuck sediment samples tested, the sample collected at SS-146 was found to result in reduced polychaete growth (but not reduced survival) when compared to the control sediment results; but this sediment sample was not statistically different when compared to the reference area sediment (SS-510). Moreover, no toxicity to bivalves was seen at location SS-146. Therefore, the toxicity result (reduced polychaete growth) at location SS-146 is considered questionable. The bivalve test results at one station (SS-140) indicated significant toxicity (when compared to both control and reference area sediments) where larval development was significantly reduced (but larval survival was not reduced).

The agronomic results for the surface sediment samples collected south of the tailings spit and on the west side of Unnamed Stream are presented in Table 4-3. The mercury and metals data for the agronomic sample locations are presented in Table 4-1.

4.2 Sediment Cores and Test Pits

The analytical results for tailings and sediment samples collected in the intertidal area south and east of the former mill are provided in Tables 4-4 and 4-5 (May and August, respectively). Concentrations of copper in most of the samples collected from locations and intervals where tailings were identified exceeded both the ERL and ERM values. Copper concentrations in native gravel beneath tailings and in areas without visible tailings were slightly above the ERL value and well below the ERM value. Concentrations of mercury in excess of the ERL value (0.15 mg/kg) occurred in about 13 percent of the samples, but only five results were above the ERM value (0.71 mg/kg). There is no apparent pattern to the mercury exceedances. Elevated concentrations of arsenic, nickel, and zinc also occurred in several samples, but the reported concentrations are only slightly above the ERL values and no pattern for the exceedances was identified. The concentration of silver in one sample (SB-021, 0 to 0.5 feet) exceeded both the ERL and ERM. In addition, concentrations of cobalt, manganese, selenium, and vanadium in several sediment samples exceeded their AET values, which are used as screening levels for analytes without an ERL or ERM.

Modified SPLP metals analysis was conducted on 31 samples of tailings from the intertidal areas south and east of the former mill. Sea water from Browns Bay (sample location SW-600 in Figure 2-6) was used to conduct the leaching portion of the test.[11] The SPLP metals results for the samples are compared to surface water screening levels in Table 4-6. Concentrations of copper in SPLP leachate from 19 of the 31 samples exceeded the screening level of 3.1 micrograms per liter (µg/L). The SPLP leachate with the highest copper concentrations occurred in samples collected west of the former mill (SB-021, 472 µg/L) and barge slip (SB-033, 121 µg/L) (see Figure 2-3). Scattered exceedances of the screening levels for cobalt, iron, manganese, and zinc were also reported in the SPLP leachate samples.

Hexavalent chromium was not detected in any of the sediment samples analyzed for the metal. These results will be used to better characterize the type of chromium present in sediment and soil at the Site and assess its potential impacts on human health. This information will be presented in the upcoming RI Report.

Although staining and petroleum odors were noted in several intertidal borings near the former mill and barge slip, elevated PAH concentrations were only reported in a few samples collected at SB-306 and SB-089, with all reported concentrations below their respective ERMs.

4.3 Upland Tailings

The analytical results for tailings samples collected in the Upland Area are presented in Table 4-7. The only chemicals with concentrations that exceeded the regional screening levels (RSL) for residential soil were chromium, cobalt, and iron. Chromium (reported as total chromium) was detected in 8 soil samples and all reported concentrations exceeded the EPA residential RSL for chromium (0.29 mg/kg), which is based on the more toxic hexavalent form of the metal. However, hexavalent chromium was not detected in any of the three upland tailings samples analyzed for the metal. The cobalt and iron exceedances occur in a single sample (SB-179, 0 to 0.5 feet).

4.4 Porewater

The analytical results for porewater samples collected in the intertidal area south and east of the former mill and Browns Bay are listed in Table 4-8. Concentrations of dissolved copper in 22 of the 50 samples exceeded the screening level of 3.1 µg/L. The highest porewater concentration (664 µg/L) was reported in PW-027 located just south of the former mill, on the east side of the barge slip. Elevated concentrations of dissolved

[11] The metals results for SW-600 are presented in Table 4-9.

barium, iron, manganese, and zinc were also reported in numerous porewater samples from the Site. Dissolved mercury was detected in 6 porewater samples, but all concentrations were below the screening level. No screening level exceedances were identified for the background porewater samples.

Although staining and petroleum odors were noted in several intertidal borings near the former mill and barge slip, only a few PAHs were detected in porewater samples collected from these areas and all detects were below their respective screening levels.

4.5 Surface Water

The analytical results for surface water samples collected in the intertidal area along the shoreline of the former mill, Lake Ellen Creek, Unnamed Stream, and Browns Bay are listed in Table 4-9. Concentrations of dissolved copper in 7 of the 30 samples exceeded the screening level of 3.1 µg/L. The highest surface water concentration (22.5 µg/L) was reported in SW-029 located at the head of the seep that originates at the barge slip. Similarly elevated concentrations were also reported in the normal and FD samples collected at SW-084 located along Unnamed Stream near its confluence with Lake Ellen Creek. Elevated concentrations of iron were also reported in these samples. No screening level exceedances were identified for dissolved or total mercury. No screening level exceedances were identified for the hourly grab samples collected at SW-105 or the background surface water samples collected at Browns Bay. None of the time-series grab samples from SW-108 had concentrations exceeding screening levels.

Although staining and petroleum odors were noted in several intertidal borings near the former mill and barge slip, only a few PAHs were detected in the surface water samples collected from these areas and all detects were below their respective screening levels.

4.6 Crab Tissue

The analytical results for crab tissue samples collected in Salt Chuck and Browns Bay are listed in Table 4-10. Concentrations of total arsenic in all of the crab tissue samples, including those from the background location at Browns Bay, exceeded the screening level for tissue. The arsenic speciation results for crab (also presented in Table 4-10) will be used to better characterize the type of arsenic present in crab and its potential impacts on human health. This information will be presented and interpreted in the upcoming RI Report.

4.7 2012 Bivalve Tissue Arsenic Speciation

The arsenic speciation results for the bivalve tissue samples collected in 2012 and analyzed in 2013 are listed in Appendix H. The arsenic speciation results will be used to better characterize the type of arsenic present in clams and its potential impacts on human health. This information will be presented and interpreted in the upcoming RI Report.

4.8 Groundwater

The analytical results for groundwater samples collected in the vicinity of the former mill are listed in Table 4-11. The results are similar to those reported for 2012, with concentrations of DRO, naphthalene, and several total and dissolved metals, including copper, exceeding their respective screening levels. The sample from GW-03 had the highest concentrations of DRO and dissolved metals, while the samples (primary and field duplicate) from GW-01 had the highest concentrations of naphthalene.

SECTION 5

References

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Tables

TABLE 1-1
Comparison of Planned and Actual Field Activities
2013 Salt Chuck Mine Superfund Site Field Data Report

Medium/Location	Analytes	Planned	Actual	Reason for Changes
Marine Surface Sediment (Lake Ellen Creek Thalweg Area)	AVS/SEM Metals	5	5	2 samples mistakenly submitted for grain size analysis
	Bioassay (polychaetes, bivalves)	5	5	
	Grain Size	5	7	
	Mercury	10	10	
	TAL Metals	10	10	
Marine Surface Sediment (Agronomic)	Mercury	0	10	
	TAL Metals	0	10	
	Agronomic	10	10	
Marine Tailings and Sediment	Total Organic Carbon	42	37	QAPP assumed 4 samples per short core location and 15 samples per deep core location for the May 2013 field event (total of 132 samples for metals analysis). Most May 2013 cores were less than 2 feet deep and the deep borings were not attempted in May. Certain visual short-core locations were omitted due to time constraints. New/modified deep cores and 141 additional samples were added to the sampling program as part of the Tailings Delineation Modification Memo. However, several of the planned deep borings were omitted or were shorter. Consequently, fewer sediment samples were collected for metals analysis during the May and August field events. Also, the number of borings and samples associated with the PAH delineation effort was not specified in the Modification Memo, so these account for the differences in the number of borings and PAH samples.
	Chromium VI	8	7	
	TAL Metals	273	191	
	Mercury	273	191	
	SPLP Metals	36	31	
	PAHs	36	50	
	Grain Size	42	37	
	Bulk Density	42	34	
	Visual Borings and Test Pits	Short-core - 64 Deep-core -5/0*	Short-core - 32 Test Pit - 4 Deep-core - 12 Total - 48	
	Sampled Borings and Test Pits	Short-core - 22 Deep-core -2/8*	Short-core - 34 Test Pit - 1 Deep-core - 11 Total - 46	
Upland Tailings and Soil	TAL Metals	74	16	QAPP assumed 4 samples per short core location and 15 samples per deep core location. Most cores were less than 2 feet deep. Therefore, fewer samples were collected for total metals analysis. The additional hexavalent chromium analysis is a field duplicate added for quality assurance purposes. Also, the number of borings associated with the upland tailings delineation effort was not specified in the QAPP, so these account for the differences in the number of borings.
	Mercury	74	16	
	Chromium VI	2	3	
	Visual Borings and Test Pits	Short-core - 2	Short-core - 1 Test pit - 31 Total - 32	
	Sampled Borings and Test Pits	Short-core - 4	Short-core - 5 Test pit - 3 Total - 8	
Porewater	Dissolved TAL Metals	48	50	3 background porewater samples collected at Browns Bay, 1 drive-point location with metals and PAH analysis not installed due to proximity of other porewater sample locations, obtained sufficient volume for dissolved mercury analysis at airstone locations
	Dissolved Mercury	8	50	
	PAHs	8	7	
Marine Surface Water	Total TAL Metals	6	4	Hourly samples at one location were counted as single sample in QAPP. Surface water samples to be used in SPLP leaching were mistakenly counted as field samples in QAPP.
	Total Mercury	6	4	
	Dissolved TAL Metals	23	30	
	Dissolved Mercury	23	30	
	PAHs	6	6	
Crab Tissue	Lipids	17	16	Methylmercury was mistakenly included in several QAPP tables, this analyte should not have been included because the risk assessment will assume that all mercury detected in tissue is methylmercury. One field duplicate sample was not collected.
	TAL Metals	17	16	
	Mercury	17	16	
	Methylmercury	17	0	
	Arsenic Speciation	17	16	
Shrimp Tissue	Lipids	16	0	Insufficient shrimp present in Salt Chuck
	TAL Metals	16	0	
	Mercury	16	0	
	Methylmercury	16	0	
	Arsenic Speciation	16	0	
Groundwater	Total TAL Metals	9	7	2 new wells not installed (GW-07 and GW-08), limited groundwater recovery, compromised well (GW-06)
	Dissolved TAL Metals	9	7	
	PAHs	9	6	
	DRO/RRO	9	6	

* Number of deep cores listed in Tailings Delineation Modification Memorandum

Notes:
AVS/SEM = acid volatile sulfide/simultaneously extracted metals
DRO = diesel range organics
PAHs = polycyclic aromatic hydrocarbons
RRO = residual range organics
SPLP = synthetic precipitation leaching procedure
TAL = target analyte list

TABLE 1-2
2013 Field Investigation Chronology
2013 Salt Chuck Mine Superfund Site Field Data Report

Task	May 2013 Event									August 2013 Event			
	22-May	23-May	24-May	25-May	26-May	27-May	28-May	29-May	30-May	27-Aug	28-Aug	29-Aug	30-Aug
Surface Sediment Investigations													
Thalweg-associated			■					■					
Reference area						■							
Agronomic								■	■				
Intertidal Tailings Investigation													
Short cores/test pits	■	■	■	■		■	■		■				
Deep cores										■	■	■	■
Upland Tailings Investigation													
Short cores/test pits									■				
Biota													
Site	■	■	■	■									
Reference Area								■					
Porewater Investigation													
Airstones					■								
Drive points						■	■						
Reference airstones								■					
Surface Water Investigation													
Grabs				■									
Hourly grabs					■								
Groundwater Investigation													
GW-01 - GW-04, GW-06				■	■								
GW-05r													■

TABLE 2-1
Surface Marine Sediment Sample Information
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Sample ID	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Water Depth (feet)	Tide	Description	Comments	Deviations
SS-139	2013SC-SS-139	--	55.618125	-132.553951	5/24/2013	6:45 AM	NA*	Low	Not recorded		Mistakenly submitted for bioassay and AVS/SEM analyses - discarded by lab
SS-140	2013SC-SS-140	--	55.618245	-132.552901	5/24/2013	6:20 AM	NA*	Low	Not recorded	Field duplicate 2013SC-SS-9140 (bioassay, AVS/SEM, grain size)	
SS-141	2013SC-SS-141	--	55.617305	-132.552781	5/24/2013	7:26 AM	NA*	Low	Not recorded	Field duplicate 2013SC-SS-9141 (metals) and MS/MSD	Mistakenly submitted for bioassay and AVS/SEM analyses - discarded by lab
SS-143	2013SC-SS-143	--	55.616355	-132.554141	5/29/2013	5:10 PM	15	High	Black; very fine sand and clay; shells; eel grass	Collected with Ponar	
SS-144	2013SC-SS-144	--	55.616385	-132.552401	5/29/2013	5:05 PM	20	High	Black; very fine sand and silt; shells; woody debris	Collected with Ponar	
SS-145	2013SC-SS-145	--	55.616385	-132.551341	5/29/2013	5:00 PM	19	High	Dark grey to black; very fine sand; eel grass	Collected with Ponar	
SS-146	2013SC-SS-146	--	55.615415	-132.553661	5/29/2013	5:20 PM	36	High	Black; very fine sand with clay	Collected with Ponar	
SS-147	2013SC-SS-147	--	55.615785	-132.550831	5/29/2013	5:30 PM	27	High	Black; very fine sand with clay; clam shells	Collected with Ponar	
SS-510	2013SC-SB-510	--	55.587705	-132.546961	5/27/2013	9:00 AM	NA*	Low	Numerous shells on top layer	Reference bioassay	Sample ID mistakenly uses SB instead of SS.
SS-181	2013SC-SS-181	11.9	55.625693	-132.557298	5/29/2013	5:06 PM	NA*	Low	Not recorded - agronomic		Analyzed for total metals and mercury in addition to agronomic properties
SS-182	2013SC-SS-182	11.3	55.625567	-132.557532	5/29/2013	5:11 PM	NA*	Low	Not recorded - agronomic		Analyzed for total metals and mercury in addition to agronomic properties
SS-183	2013SC-SS-183	12.9	55.625602	-132.557708	5/29/2013	5:15 PM	NA*	Low	Not recorded - agronomic	Field duplicate 2013SC-SS-9183	Analyzed for total metals and mercury in addition to agronomic properties
SS-184	2013SC-SS-184	13.1	55.625741	-132.557375	5/29/2013	5:25 PM	NA*	Low	Not recorded - agronomic		Analyzed for total metals and mercury in addition to agronomic properties
SS-185	2013SC-SS-185	11.2	55.625434	-132.557208	5/30/2013	8:30 AM	NA*	Low	Not recorded - agronomic	Adjacent to rock jetty.	Analyzed for total metals and mercury in addition to agronomic properties
SS-186	2013SC-SS-186	10.7	55.625338	-132.557171	5/30/2013	8:55 AM	NA*	Low	Not recorded - agronomic	Adjacent to rock jetty.	Analyzed for total metals and mercury in addition to agronomic properties
SS-187	2013SC-SS-187	12.5	55.624805	-132.558383	5/30/2013	9:18 AM	NA*	Low	Not recorded - agronomic	In grass west of unnamed stream	Analyzed for total metals and mercury in addition to agronomic properties
SS-188	2013SC-SS-188	10.9	55.624896	-132.55835	5/30/2013	9:50 AM	NA*	Low	Not recorded - agronomic	In grass west of unnamed stream	Analyzed for total metals and mercury in addition to agronomic properties
SS-189	2013SC-SS-189	9.6	55.624817	-132.558216	5/30/2013	10:15 AM	NA*	Low	Not recorded - agronomic	In grass west of unnamed stream	Analyzed for total metals and mercury in addition to agronomic properties

-- Sample location outside of area surveyed for elevation
* Location accessed during low tide (no water depth measurement)

Notes:

AVS/SEM = acid volatile sulfides/simultaneously extracted metals

MS/MSD = matrix spike/matrix spike duplicate

TABLE 2-2

Surface Marine Sediment Analyses

2013 Salt Chuck Mine Superfund Site Field Data Report

Location	Activity ID	Sample Type	Depth (feet)	Sample Date	Analytical Suite and Laboratory					
					Grain Size (Applied Sciences Laboratory)	Mercury (A4 Scientific)	TAL Metals [a] (A4 Scientific)	AVS/SEM (Applied Sciences Laboratory)	Bioassay (Northwest Aquatic Sciences)	Agronomic (A&L Western Agricultural Labs)
SS-139	2013SC-SS-139-00-20130529	N	0 - 0.5	5/29/2013	x	x	x			
SS-140	2013SC-SS-140-00-20130529	N	0 - 0.5	5/29/2013	x	x	x	x	x	
SS-140	2013SC-SS-9140-00-20130529FD	FD	0 - 0.5	5/29/2013	x			x	x	
SS-141	2013SC-SS-141-00-20130529	N	0 - 0.5	5/29/2013	x	x	x			
SS-141	2013SC-SS-9141-00-20130529FD	FD	0 - 0.5	5/29/2013		x	x			
SS-143	2013SC-SS-143-00-20130529	N	0 - 0.5	5/29/2013		x	x			
SS-144	2013SC-SS-144-00-20130529	N	0 - 0.5	5/29/2013		x	x			
SS-145	2013SC-SS-145-00-20130529	N	0 - 0.5	5/29/2013	x	x	x	x	x	
SS-146	2013SC-SS-146-00-20130529	N	0 - 0.5	5/29/2013	x	x	x	x	x	
SS-147	2013SC-SS-147-00-20130529	N	0 - 0.5	5/29/2013		x	x			
SS-181	2013SC-SS-181-00-20130529	N	0 - 0.5	5/29/2013		x	x			x
SS-182	2013SC-SS-182-00-20130529	N	0 - 0.5	5/29/2013		x	x			x
SS-183	2013SC-SS-183-00-20130529	N	0 - 0.5	5/29/2013		x	x			x
SS-183	2013SC-SS-9183-00-20130529FD	FD	0 - 0.5	5/29/2013		x	x			x
SS-184	2013SC-SS-184-00-20130529	N	0 - 0.5	5/29/2013		x	x			x
SS-185	2013SC-SS-185-00-20130530	N	0 - 0.5	5/30/2013		x	x			x
SS-186	2013SC-SS-186-00-20130530	N	0 - 0.5	5/30/2013		x	x			x
SS-187	2013SC-SS-187-00-20130530	N	0 - 0.5	5/30/2013		x	x			x
SS-188	2013SC-SS-188-00-20130530	N	0 - 0.5	5/30/2013		x	x			x
SS-189	2013SC-SS-189-00-20130530	N	0 - 0.5	5/30/2013		x	x			x
SS-510	2013SC-SB-510-00-20130527	N	0 - 0.5	5/27/2013	x	x	x	x	x	

Notes:

[1] Activity ID is a combination of the sample ID, date sampled and sample type if field duplicate.

[a] TAL metals include aluminum, antimony, arsenic, barium, beryllium, cadmium, cobalt, chromium (total), copper, iron, lead, manganese, magnesium, nickel, selenium, silver, thallium, vanadium, zinc

AVS/SEM = acid volatile sulfides/simultaneously extracted metals

N = normal

FD = field duplicate

TABLE 2-3
Short-core and Test Pit Sample Information - Marine Sediment Core Investigation
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Type	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Core Advanced (inches)	Core Recovered (inches)	Sample ID [a] (0 to 6 inches)	Sample Description (0 to 6 inches)	Sample ID [a] (6 to 12 inches)	Sample Description (6 to 12 inches)	Sample ID [a] (12 to 24 inches)	Sample Description (12 to 24 inches)	Sample ID [a] (24+ inches)	Sample Description (24 + inches)	Comments	Deviations
SB-004	Test pit	10.9	55.626065	-132.557311	5/28/2013	7:00 AM	12	12	2013SC-SB-004-00 + MS/MSD	0" to 6" - very fine SAND, dark greenish gray with red oxidation, dense, moist	2013SC-SB-004-0.5 2013SC-SB-9004-0.5	6' to 12" - wet, dark greenish gray very fine SAND with ~10% Silt, red oxidation layers, dense					Drilled three attempts with hand vibracore. Too rocky to get sample via core; collected with shovel. 0.5' - 1.0' interval had hydrocarbon odor	
SB-013	Short-core	8.0	55.625855	-132.556571	5/28/2013	9:25 AM	25	14.25	2013SC-SB-013-00	0" to 8" - dark gray very fine to fins SAND, micaceous, dense, moist	2013SC-SB-013-0.5	8" to 10" - grayish green very fins SAND, very dense, moist	No sample	10" to 14" - dark gray to black fine SAND, dense, moist. Refusal in loose wet sand			0" to 10" - petroleum odor; tailings. 10" - 14" - strong petroleum odor, orange-colored water in bags and on surface of sample pile. No odor, not petroleum	Moved ~10 ft from planned location
SB-018	Short-core	12.2	55.625745	-132.557261	5/27/2013	10:06 AM	27.5	11.25	2013SC-SB-018-00	0" to 11.25" - very fine grained SAND (SP), trace Silt/Clay, olive gray with some mica flakes, wet	2013SC-SB-018-0.5 +MS/MSD	0" to 11.25" - very fine grained SAND (SP), trace Silt/Clay, olive gray with some mica flakes, wet	No sample	Same as previous, more Silt from 1.2' to 1.4'			Tailings	
SB-020	Short-core	8.2	55.626028	-132.558003	5/23/2013	12:27 PM	42	27	No sample	0" to 1.5" - fine to medium SAND, moist, iron oxide stain, loose 1.5" to 17" - silty CLAY with very fine Sand, grey with light grey laminations, wet, interbedded Sand at 6", 9" 12" and 16", hard	No sample	1.5" to 17" - silty CLAY with very fine Sand, grey with light grey laminations, wet, interbedded Sand at 6", 9" 12" and 16", hard	No sample	1.5" to 17" - silty CLAY with very fine Sand, grey with light grey laminations, wet, interbedded Sand at 6", 9" 12" and 16", hard 17" to 21" - fine and medium SAND, black, loose, wet, micaceous. 21" to 24" - same as above with increased fine content	No sample	24" to 27" - very fine SAND, micaceous, grey, wet	no debris	
SB-021	Test pit	10.2	55.626225	-132.558151	5/28/2013	8:00 AM	18	18	2013SC-SB-021-00	0" to 5" - root mat with vegetation, very little soil, mainly consisting of brown silty Sand with some subangular Gravel	2013SC-SB-021-0.5	5" to 12" - black to brown coarse SAND (tailings) with orange Silt (iron oxide staining)	No sample	12" to 18" - saturated GRAVEL with some coarse Sand, very wet and difficult to dig; gravel diameter 1" to 2"			collected and logged via test pit; hit refusal on 4 attempts drilling	
SB-031	Short-core	7.4	55.625825	-132.558021	5/28/2013	8:30 AM	21	19	2013SC-SB-031-00, 2013SC-SB-9031-00	0 to 5 in. = black to rusty orange very fine SAND, root mass, some mica	2013SC-SB-031-0.5	5 to 8 in. = fine SAND, micaceous, dark gray, loose, moist	2013SC-SB-031-01	8" to 18" - dense gray clay, wet 18" - 21" - dark gray fine grained SAND, loose, moist			0' - 5" - tailings w/roots/vegetation 5" - 8" - tailings, no odor 18" - 21" - tailings, petroleum odor when homogenized	
SB-032	Short-core	5.7	55.625615	-132.556421	5/27/2013	11:19 AM	25.5	13.5	2013SC-SB-032-00	0" to 13.5" - very fine grained SAND, little Silt, trace wood, dark grayish black to olive gray with mica flakes at ~1 ft bgs, wet, light gray clay-like material at ~1 foot	2013SC-SB-032-0.5	0" to 13.5" - very fine grained SAND, little Silt, trace wood, dark grayish black to olive gray with mica flakes at ~1 ft bgs, wet, light gray clay-like material at ~1 foot					0' to 13.5" - likely tailings; sulfur odor	
SB-033	Short-core	7.1	55.625515	-132.556881	5/27/2013	10:48 AM	19	12	2013SC-SB-033-00	0" to 5" - grayish black and black very fine SAND, 5% mica, moist, dense	2013SC-SB-033-0.5	5" to 10" - laminated gray and black v.f. SAND and CLAY layers, very dense, moist 10" - 12" - greenish gray v.f. SAND, moist, dense					0" - 12" - tailings 0" - 10" - possible HC or creosote odor	
SB-036	Short-core	9.8	55.626223	-132.558455	5/28/2013	12:45 PM	36	25.5	No sample	0" to 10" - clayey soil and dense root mat. Oxidized with black organic decay. Wet.	No sample	10" - 14" - fine SAND with 15 - 20% fines. Dark gray to olive. Wet	No sample	14" to 15" - Poorly graded fine SAND, trace fines, brown, wet. 15" - 25.5" - fine SAND with trace fines, grey, poorly graded SAND, wet, with globs of light grey Silty Clay, globs have thin laminations. Globs randomly located in interval.	No sample		0" to 15" - roots and decaying vegetation	
SB-043	Short-core	10.5	55.625395	-132.557361	5/27/2013	9:50 AM	32.5	26.4	2013SC-SB-043-00	0" to 18" - very fine grained SAND with thin Clay/Silt laminations, olive gray, wet, light gray laminations	2013SC-SB-043-0.5	0" to 18" - very fine grained SAND with thin Clay/Silt laminations, olive gray, wet, light gray laminations	2013SC-SB-043-01	18" to 26.4"- fine SAND, dark grayish black with some mica flakes, wet			0" - 26.4" - Tailings	
SB-052	Short-core	10.2	55.625675	-132.555561	5/28/2013	9:45 AM	26.4	22	2013SC-SB-052-00	0" - 22" - fine SAND, trace fines, poorly graded, wet, olive with black bands of very fine sand, degraded vegetation at 6"	2013SC-SB-052-0.5	see 0" to 6" cell	2013SC-SB-052-01	see 0" to 6" cell	No sample			
SB-059	Short-core	9.6	55.625135	-132.557051	5/27/2013	8:30 AM	36	25	2013SC-SB-059-00	0" to 14" - greenish gray v.f. to f. SAND, ~5% mica, moist, dense, 1/4" band of black sand at 11"	2013SC-SB-059-0.5	see 0" to 6" cell	2013SC-SB-059-01	14" to 16" - gray brown SILT and v.f. SAND bands, moist, very dense 16" to 18" - greenish gray v.f. SAND, moist, very dense 18" to 20" - gray brown laminated SILT and v.f. SAND, moist, very dense 21" to 25" - greenish gray, v.f. SAND, 5% mica, loose, wet	No sample	see 12" to 24" cell	0" to 14" tailings, no odor 0.5' to 2' - possible naphthalene odor	
SB-061	Short-core	8.4	55.625125	-132.557801	5/27/2013	8:58 AM	18	12.25	2013SC-SB-061-00	Very fine grained SAND, some Silt/Clay, olive green with mica flakes, wet, Clay/Silt laminations are light gray	2013SC-SB-061-0.5	Very fine grained SAND, some Silt/Clay, olive green with mica flakes, wet, Clay/Silt laminations are light gray					tailings	

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SB-062	Short-core	8.5	55.625365	-132.555501	5/28/2013	11:15 AM	42	27.5	2013SC-SB-062-00	0" to 9" tailings material, grayish brown, fine SAND, dense, moist	2013SC-SB-062-0.5	9" to 27.5" laminated very fine greenish gray and light gray, very dense, SILT	2013SC-SB-062-01	9" to 27.5" laminated very fine greenish gray and light gray, very dense, SILT				
SB-078	Short-core	8.9	55.625235	-132.554881	5/28/2013	10:05 AM	42	29.5	2013SC-SB-078-00	0' to 9" - fine SAND with trace fines, wet, brown to olive, poorly graded	2013SC-SB-078-0.5	9" - 29.5" - fine SAND with SILT, gray Clay lenses throughout with thin laminations, wet, brown	2013SC-SB-078-01	9" - 29.5" - fine SAND with SILT, gray Clay lenses throughout with thin laminations, wet, brown	No sample			
SB-079	Short-core	3.9	55.624915	-132.555311	5/28/2013	11:00 AM	32	22.5	2013SC-SB-079-00	0' to 3' - SILT with trace fine Sand, wet, dark brown, soft. 3" to 12" - very fine SAND with trace Silt, poorly graded, dense, dark brown, wet	2013SC-SB-079-0.5	see 0" to 6" cell	2013SC-SB-079-01	12" to 19" - CLAY, gray with thin laminations, wet, soft 20" to 22.5" - fine SAND with trace fines, olive	No sample			
SB-082	Short-core	7.5	55.625315	-132.554401	5/28/2013	10:15 AM	24	17	2013SC-SB-082-00	0" to 6" - very fine black SAND, micaceous, well rooted	2013SC-SB-082-0.5	6" to 12" - very dense gray and black laminated very fine and fine SAND, decaying organic matter, some Gravel in interval	2013SC-SB-082-01	12" to 17" - 1 to 1.5 feet of very wet, very fine SAND and CLAY, sulfur odor; below 17" - Gravel, moist	No sample		0" to 6" - strong sulfur odor	
SB-089	Short-core	6.1	55.624775	-132.554641	5/28/2013	10:30 AM	42	29.75	2013SC-SB-089-00	0" to 10" - dark gray to black fine SAND with red inclusion, slight petroleum odor	2013SC-SB-089-0.5	10" to 29.75" - dark gray very dense, very fine SAND, petroleum odor, very wet 15" to 16"	2013SC-SB-089-01	see 6" to 12" cell	No sample			
SB-109	Short-core	*	55.623674	-132.553773	5/23/2013	3:45 PM	24	14.4	No sample	0" to 6" - gray, dense, SILT with Gravel and organic debris	No sample	6" to 12" - gray SAND with Gravel and red Silt	No sample	12" - 14.4" - gray GRAVEL with gray Sand and some Silt	No sample		No odor; red silt in 6" to 12" interval is rust color	No sample per change to sampling plan at SB-127
SB-110	Short-core	*	55.623721	-132.553034	5/23/2013	3:30 PM	14	12	No sample	0" to 2" - coarse brown to red SAND with angular GRAVEL, some Silt 2" to 6" - brown, coarse SAND with red SILT and smooth poorly sorted Gravel	No sample	6" to 12" - GRAVEL with fine brown Sand and Silt	No sample		No sample		No odor 2" to 6" - fine Silt is a red, rust color 6" to 12" - very little rust colored Silt in this interval	
SB-111	Short-core	*	55.623815	-132.552621	5/23/2013	7:00 AM	36	18	2013SC-SB-111-00	0"to 18" - Sandy SILT to silty SAND (ML/SM), Sand is fine to coarse, little fine angular to subrounded Gravel, trace shells, trace plant material, wet, grayish black	2013SC-SB-111-0.5	See 0" to 6" cell	2013SC-SB-111-01	See 0" to 6" cell				
SB-112	Short-core	*	55.624022	-132.552132	5/22/2013	3:00 PM	18	9	No sample	0" to 9" - brown to black fine SILT with angular Gravel and woody debris	No sample	see 0" to 6" cell	No sample		No sample		subsurface portion of core had strong marine decay odor	
SB-114	Short-core	*	55.622648	-132.556454	5/24/2013	8:30 AM	6	6	No sample	Brown SILT with Gravel, 50% Silt and 50% Gravel, angular gravel								
SB-115	Short-core	*	55.623485	-132.552761	5/22/2013	6:36 AM	36	21	2013SC-SB-115-00 2013SC-SB-9115-00	0" to 15.6" - silty fine to medium SAND (SM), little fine to coarse Gravel (subrounded) coarsening downward, few laminations (Silt) near surface, grayish black, wet, trace shell fragments	2013SC-SB-115-0.5	See 0" to 6" cell	2013SC-SB-115-01	15.6" to 21" - Silty fine to coarse GRAVEL (GM), abundant shell fragments, little fine Sand, wet, dark grayish brown, Gravel is subangular to angular	2013SC-SB-115-1.5		Ocean-like odor from sample; non-sulfur	
SB-116	Short-core	*	55.624219	-132.551554	5/22/2013	2:34 PM	6	6	No sample	0" to 1" -GRAVEL with well graded Sand, Gravel up to 1", angular to subangular, organics, brown, wet, soft. 1" to 6" - SILT with GRAVEL, brown, Gravel up to 1/2" subrounded to sub angular, wet, soft.							0" to 1" - algae cover and some seaweed 1" to 6" - woody debris	
SB-117	Short-core	*	55.622695	-132.554951	5/24/2013	6:40 AM	36	15.6	2013SC-SB-117-00	0" to 15.6" - fine to coarse angular to subangular Silty GRAVEL (GM), some fine to coarse Sand, little Silt, wet, grayish brown with some red-brown oxidation, olive gray 1.1' to 1.3', trace roots, possible fine grained tailings from 1.1' to 1.3'	2013SC-SB-117-0.5	See 0" to 6" cell	2013SC-SB-117-01	See 0" to 6" cell				
SB-118	Short-core	*	55.623581	-132.552279	5/22/2013	7:04 AM	42	22	No sample	0" to 2" - very fine SAND with SILT, olive to dark brown, wet, loose 2" to 4" - SILT with very fine SAND, laminated gray to light gray, wet, soft 4" to 6" - well graded SAND, fine to coarse, trace Gravel, 10% - 15% fines, wet, dark brown, loose.	No sample	6" to 18" - Same as above. Brown color grades with increased Gravel beginning at 16". Gravel 1/2" rounded, wet.	No sample	18" to 14" - GRAVEL with coarse SAND and trace fines, wet, loose, up to 1/2" subrounded to rounded. 14" - 22" - Same as above with shell hash, dark gray	No sample				

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SB-119	Short-core	*	55.624075	-132.551487	5/22/2013	2:59 PM	27	14	No sample	0" to 4" - SILT with trace very fine Sand, wet, soft, dark brown. 4" to 8" - SILT, increased density, wet, dark brown	No sample	8" to 10" - medium SAND with GRAVEL, trace coarse Sand, trace fines, loose, wet, subrounded Gravel to 1/2".	No sample	10" to 14" - GRAVEL with SAND, well graded, Silt (15%), wet, loose, medium brown.	No sample			
SB-120	Short-core	*	55.622526	-132.555662	5/24/2013	Not recorde	14	14	No sample	Surface covered with small rocks and Gravel. To 6"- Thin clay soil with vegetation	No sample	6" to 14" - small angular Gravel, reddish brown.						
SB-121	Short-core	*	55.624165	-132.551141	5/23/2013	9:15 AM	36	24	2013SC-SB-121-00	0" to 6" - black Clayey Sandy GRAVEL, Gravel is subangular, same color as sand, not plastic, wet, poorly soil	2013SC-SB-121-0.5	6" to 10" - dark black very wet Sandy SILT, some white shell (sand sized), clams. 10" to 12" - two-inch subangular rock, one-inch subangular rock.	2013SC-SB-121-01	12" to 24" - light gray SAND with GRAVEL, light particles are shell hash, likely bivalves, Gravel is subangular 1/2" to 2" size range, wet, soil is cohesive		No recovery	0" to 6" - Gravel ranges to 1" diameter 12" to 24" - over 50% shell pieces	
SB-123	Short-core	*	55.623845	-132.551261	5/23/2013	6:00 AM	36	30	2013SC-SB-123-00 + MS/MSD 2013SC-SB-9123-00	0" to 30" - SILT (ML), trace fine to medium Sand below 2 feet bgs, thinly bedded/laminated Silt, trace organics (wood, plant fibers), grayish black, wet, non-plastic	2013SC-SB-123-0.5	See 0" to 6" cell	2013SC-SB-123-01	See 0" to 6" cell	2013SC-SB-123-02	See 0" to 6" cell (24" to 30")		
SB-124	Short-core	*	55.623144	-132.552059	5/22/2013	7:15 AM	12	12	No sample	Dark gray SILT	No sample	Gray SILT with some fine Sand (<10%), stiff	No sample	GRAVEL with fine SAND, shell fragments	No sample		Info from Attempt 2 at this location No odor	
SB-125	Short-core	*	55.623944	-132.550755	5/22/2013	9:10 AM	24	12	No sample	0" to 2" - SILT with trace very fine Sand, wet, soft, dark brown 2" to 5" - SILT with CLAY, light brown to dark brown with thin laminations, wet, soft.	No sample	5" to 12" - Sandy GRAVEL, well graded Sand, mostly fine Gravel, subangular to subrounded, brown, wet, black band between 5" and 6"						
SB-126	Short-core	*	55.624012	-132.55046	5/23/2013	Not recorde	0	0	No sample	Three sample attempts but hitting rock and were unable to collect.								
SB-127	Short-core	*	55.623295	-132.551531	5/22/2013	6:45 AM	36	18	2013SC-SB-127-00	0" to 12" - SILT (ML), some very fine Sand, trace shells, trace organics, dark gray to black, wet, non-plastic, few thin laminations in Silt zones, trace organics/plant matter	2013SC-SB-127-0.5	See 0" to 6" cell	2013SC-SB-127-01	12" to 18" - Silty fine to medium SAND, some shell fragments, little fine subrounded Gravel, wet, dark gray to black - possibly tailings				
SB-128	Short-core	*	55.62345	-132.551033	5/23/2013	7:05 AM	42	29.5	No sample	0" to 3" - SILT with CLAY, wet, soft, black 3" to 4" SILT, gray, soft, wet 4" to 8" - fine SAND with SILT, gray, wet, loose.	No sample	8" to 21" - same as 4" to 8" with increased Silt content, gray	No sample	8" to 21" - same as 4" to 8" with increased Silt content, gray 21" to 29.5" Sandy SILT, very fine Sand, soft, wet, dark brown	No sample	21" to 29.5" Sandy SILT, very fine Sand, soft, wet, dark brown		
SB-129	Short-core	*	55.623585	-132.550591	5/23/2013	6:08 AM	36	25.2	2013SC-SB-129-00 +MS/MSD 2013SC-SB-9129-00	0" to 25.2" - SILT (ML), little fine Sand throughout from about 1.5' bgs and below, trace shell fragments from 1.2' bgs and below, trace fine subangular Gravel and trace plant fibers/wood below 1.2', wet, grayish black, thinly laminated Silt	2013SC-SB-129-0.5	See 0" to 6" cell	2013SC-SB-129-01	See 0" to 6" cell	See 0" to 6" cell			
SB-131	Short-core	*	55.623704	-132.550152	5/23/2013	8:47 AM	36	15	No sample	0" to 3" - SILT with trace very fine Sand, dark brown, wet 3" to 5" SILT with CLAY, light to dark gray with thin laminations, soft, wet	No sample	5" to 15" - Sandy GRAVEL, well graded Sand, Gravel up to 1/2 inch, subangular to subrounded, wet, loose, black and iron oxide bands between 6" and 8'						
SB-132	Short-core	*	55.622902	-132.551065	5/22/2013	7:41 AM	39	25	No sample	0" to 1.5" - SILT, dark gray, wet, soft 2" to 20" - very fine SAND with trace fines (10% fines), grayish brown, moist, wet at 17"	No sample	2" to 20" - very fine SAND with trace fines (10% fines), grayish brown, moist, wet at 17"	No sample	2" to 20" - very fine SAND with trace fines (10% fines), grayish brown, moist, wet at 17" 20" to 25" - very fine SAND with SILT, iron oxide staining in bands, soft, v.f. Sand is grayish brown	No sample			
SB-133	Short-core	*	55.623065	-132.550461	5/22/2013	6:00 PM	36	30	2013SC-SB-133-00	0" to 30" - SILT (ML), little very fine Sand and possible fine tailings, thin laminations within Silt, trace organics/plant matter, one coarse angular Gravel, wet, dark gray to dark olive gray	2013SC-SB-133-0.5	See 0" to 6" cell	2013SC-SB-133-01 2013SC-SB-9133-01	See 0" to 6" cell	2013SC-SB-133-02	See 0" to 6" cell		
SB-134	Short-core	*	55.623209	-132.550017	5/23/2013	7:29 AM	42	26.5	No sample	0" to 13" - SILT with very fine SAND, soft, wet, dark gray to light gray, thin laminations throughout	No sample	see 0" to 6" cell	No sample	13" to 26.5" - SILT, dark gray to black, organics at 22", soft, wet.	No sample		clam shells in sample intervals	

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SB-135	Short-core	*	55.623313	-132.549725	5/23/2013	7:57 AM	42	16	No sample	0" to 3" - SILT with trace very fine Sand, black, soft, wet 3" to 7.5" - SILT with CLAY, light to dark gray, thin laminations between 5" and 7.5", wet, soft.	No sample	7.5" to 16" - Gravelly SAND, well graded Sand, black to dark brown, medium size Gravel, angular to sub rounded, up to 1/2 inch, wet, loose	No sample	7.5" to 16" - Gravelly SAND, well graded Sand, black to dark brown, medium size Gravel, angular to sub rounded, up to 1/2 inch, wet, loose	No sample		shell hash at 16"	
SB-136	Short-core	*	55.622814	-132.549818	5/22/2013	7:40 AM	42	30	No sample	0" to 12" - light brown SILT with some fines (<5%)	No sample	see 0" to 6" cell	No sample	12" to 24" - dark brown SILT with some fines, very loose, layer felt soft while drilling	No sample	24" to 30" - brown to black very stiff SILT with no fines		
SB-137	Short-core	*	55.623001	-132.549389	5/22/2013	8:41 AM	36	18	No sample	0" to 9" - brown stiff Clayey SILT; slight earthy odor	No sample	0" to 9" - brown stiff Clayey SILT; slight earthy odor 9 to 18"- fine GRAVEL, angular with >15% Silt, no Sand	No sample	0" to 9" - brown stiff Clayey SILT; slight earthy odor 9 to 18"- fine GRAVEL, angular with >15% Silt, no Sand	No sample			
SB-157	Short-core	4.0	55.624185	-132.555191	5/25/2013	11:35 AM	42	27.5	2013SC-SB-157-00	0" to 18" - very fine SAND (SP), with trace Silt, thinly laminated, likely tailings (sand with mica) from 0' to 0.6' bgs, some oxidation from 0' to 0.3', olive green to dark grayish black ~0.1 ft thick laminated layers of smooth clay-like material from 1.4' to 1.5' (light gray), wet	2013SC-SB-157-0.5	0" to 18" - very fine SAND (SP), with trace Silt, thinly laminated, likely tailings (sand with mica) from 0' to 0.6' bgs, some oxidation from 0' to 0.3', olive green to dark grayish black ~0.1 ft thick laminated layers of smooth clay-like material from 1.4' to 1.5' (light gray), wet	2013SC-SB-157-01	18" to 27.5" - dark grayish brown fine to coarse SAND (SW), some Silt, little fine to coarse subangular Gravel, trace shell fragments, wet	2013SC-SB-157-1.8		smooth clay-like layer has no odor, dries quickly when smeared	
SB-158	Short-core	2.6	55.623998	-132.55574	5/25/2013	11:28 AM	12	12	No sample	0" to 6" - dark gray, very fine, micaceous SAND (100%), upper three inches very fine lamination	No sample	6" to 10" - SAND and SILT (80%/20%) 10" to 12" - SAND, GRAVEL, SILT bed					Test pit - shovel dug Shells, woody debris, top 6"	
SB-159	Short-core	3.0	55.623808	-132.55642	5/25/2013	11:06 AM	12	12	No sample	0" to 3" - black, very fine SAND (90%), Silt (10%), micaceous, moist 3" to 7" - gray-brown fine SAND (100%), rusty mottling, mica (5%), moist	No sample	7" to 12" - Black, very fine SAND (80%), Silt (20%)	No sample	12" - Sandy GRAVEL, Gravel (50%), Sand (30%), Silt (20%), subangular Gravel up to 2" dia., Sand is medium to coarse, dark gray, wet	No sample		Test pit - shovel dug woody debris and shells throughout sample intervals	
SB-162	Short-core	6.0	55.624704	-132.556495	5/25/2013	1:15 PM	36	26	No sample	0" to 3" - laminated green gray v.f. SAND with red inclusions, moist, gray and yellow laminations 3" to 12" - gray green v.f. SAND, very dense, moist	No sample	3" to 12" - gray green v.f. SAND, very dense, moist	No sample	12" to 19" - gray green v.f. SAND with black mottles, micaceous, light gray clay, rip up clasts at base 19" to 26" - light green gray SILT or CLAY, gel-like consistency, wet	No sample	26" to 27" - black micaceous v.f. SAND	Tailings; all intervals 19" to 26" - paste-like odor, very different than tailings (retained for possible analysis)	
SB-163	Short-core	4.2	55.624357	-132.556158	5/26/2013	12:40 PM	36	18	No sample	0" to 9" - very fine SAND and SILT, with mica flakes, thin laminations of clay-like material, olive gray to grayish black, wet, clay-like laminations are light gray	No sample	9" to 12" - fine to medium SAND and SILT, some fine subangular Gravel, dark grayish black, trace shell fragments, possible tailings mixed with sand and gravel, wet	No sample	12" to 18" - fine to coarse GRAVEL and fine to coarse SAND, some Silt, olive gray, wet	No sample		Soil core contains suspected tailings from 0' to ~1'	
SB-164	Short-core	8.8	55.625069	-132.556841	5/25/2013	12:55 PM	36	23	No sample	0" to 23" - dark gray green micaceous v.f. SAND, moist, v. dense, bioturbated (worm castings, vent holes), few shells, laminated section and rip up clasts of gray clay at 21"	No sample	see 0" to 6" cell	No sample	see 0" to 6" cell	No sample		tailings, biological activity	
SB-165	Short-core	8.5	55.624885	-132.557469	5/25/2013	1:00 PM	36	27	No sample	0" to 7" - light brown gray v.f. SAND with bioturbation, some mica	No sample	7" to 25" - dark gray v.f. SAND, micaceous, dense, moist	No sample	7" to 25" - dark gray v.f. SAND, micaceous, dense, moist	No sample	25' to 27" - same as 7" to 15" but very wet	Bioturbation may be worm-related 7" to 27" - tailings	
SB-176	Test pit	7.6	55.625737	-132.558198	5/30/2013	8:00 AM	6	6	2013SC-SB-176-00	0" to 6" - brown, fine SAND							New sample location, 6" depth, spoon dug	New sampling location in removal area by unnamed creek, south of tailings
SB-177	Test pit	12.0	55.626011	-132.558546	5/30/2013	8:34 AM	6	6	2013SC-SB-177-00	0" to 6" - brown, fine SAND (tailings)							New sample location, 6" depth, spoon dug	New sampling location in removal area, south of SB-176
SB-191	Short-core	*	55.623275	-132.552541	5/23/2013	7:45 AM	36	24	2013SC-SB-191-00	0" to 2" - dark gray brown Clayey SILT with black mottling, 50% Silt somewhat plastic and cohesive 2" to 4" - dark gray Gravelly SAND, moist, not particularly cohesive 4" to 8" - dark brown Silty SAND, some mica present, moist, not cohesive	2013SC-SB-191-0.5	4" to 8" - dark brown Silty SAND, some mica present, moist, not cohesive 8" to 20" - Dark gray to black Silty SAND, abundant mica (20%), suspected possible tailings	2013SC-SB-191-01	8" to 20" - Dark gray to black Silty SAND, abundant mica (20%), suspected possible tailings 20" to 24" - Sandy GRAVEL, dark gray to black with subangular Gravel (1/2" - 1" diameter)			4" to 8" - wood debris and less than 5% shell 8" to 20" - woody debris and 5% shell hash 20" - 24" - wood debris	New location in potential depositional area

TABLE 2-3
Short-core and Test Pit Sample Information - Marine Sediment Core Investigation
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Type	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Core Advanced (inches)	Core Recovered (inches)	Sample ID [a] (0 to 6 inches)	Sample Description (0 to 6 inches)	Sample ID [a] (6 to 12 inches)	Sample Description (6 to 12 inches)	Sample ID [a] (12 to 24 inches)	Sample Description (12 to 24 inches)	Sample ID [a] (24+ inches)	Sample Description (24 + inches)	Comments	Deviations
SB-192	Short-core	*	55.623075	-132.552291	5/23/2013	8:00 AM	36	28	2013SC-SB-192-00	0" to 4" - dark gray to black very fine SAND, possibly tailings, mica content high 4" to 12' - dark gray Clayey SAND and GRAVEL, sand is fine grained, gravel is subangular 1/2" to 1" dia., moist to wet	2013SC-SB-192-0.5	4" to 12' - dark gray Clayey SAND and GRAVEL, sand is fine grained, gravel is subangular 1/2" to 1" dia., moist to wet	2013SC-SB-192-1	12" to 22" - coarse SAND and GRAVEL, gravel 1/2" - 1", subangular 22" to 28" - light gray Silty SAND and GRAVEL, light colored material is shell hash	2013SC-SB-192-02	22" to 28" - light gray Silty SAND and GRAVEL, light colored material is shell hash 28" - dark gray Silty SAND and GRAVEL	0" to 4" - no wood debris, shell hash <5% in last inch, distinct decaying marine odor	New location in potential depositional area
SB-193	Short-core	*	55.623182	-132.552225	5/23/2013	9:34 AM	36	22.5	No sample	0" to 2" - 0% Gravel, 10% Sand, 90% fines, brown SILT with brown fine Sand 2" to 18" - very fine black SAND, 100% sand, very loose	No sample	2" to 18" - very fine black SAND, 100% sand, very loose	No sample	18" - 30" - 50% GRAVEL, 50% SAND, well sorted angular Gravel with brown coarse Sand	No sample		no odor, marine deposits (0" to 2") no odor, interval very loose, drilling easy, suspected tailings-like material (2" to 18") -sloughing was observed around tube; sloughed 3" at this interval only similar to nearby creek bed (18" to 30")	New location in potential depositional area
SB-194	Short-core	*	55.623329	-132.552274	5/23/2013	8:40 AM	12	12	No sample	2" to 12" - 100% SAND, black fine sand, loosely deposited							suspected tailings	
SB-195	Short-core	*	55.622852	-132.552425	5/24/2013	6:50 AM	7	7	No sample	0" to 2" - Silty SAND with Gravel, 5% Gravel, 60% Clay, 35% fine Sand, dark grayish brown, light colored shells 2" to 6" - fine SAND with Gravel, 10% Gravel, fines, dark gray, mica, possible tailings							Refusal at 7"	
SB-196b	Short-core	*	55.622385	-132.552091	5/24/2013	7:15 AM	36	12	2013SC-SB-196-00	0" to 12" - fine to coarse Silty SAND (SM), some fine subangular Gravel, trace shell fragments, grayish black, wet, trace roots	2013SC-SB-196-0.5	0" to 12" - fine to coarse Silty SAND, some fine subangular Gravel, trace shell fragments, grayish black, wet, trace roots					Log for 196a was a trial boring, log for 196b is log of record and sampled borehole	
SB-197	Short-core	*	55.622125	-132.551621	5/24/2013	7:20 AM	36	25.2	2013SC-SB-197-00	0" to 25.2" - predominantly fine SAND (SP), some Silt, trace fine angular Gravel, wet, grayish black, little oxidation (red-orange) from 0' to 1', trace shells at 2.1'	2013SC-SB-197-0.5	0" to 25.2" - predominantly fine SAND, some Silt, trace fine angular Gravel, wet, grayish black, little oxidation (red-orange) from 0' to 1', trace shells at 2.1'	2013SC-SB-197-01	0" to 25.2" - predominantly fine SAND, some Silt, trace fine angular Gravel, wet, grayish black, little oxidation (red-orange) from 0' to 1', trace shells at 2.1'					
SB-198	Short-core	*	55.622486	-132.551099	5/24/2013	7:45 AM	16	16	No sample	0" to 2" - fine SAND and SILT, dark brown, wet, shell debris 2" to 10" - black, fine SAND, wet, possibly tailings, <5% Gravel	No sample	2" to 10" - black, fine SAND, wet, possibly tailings, <5% Gravel	No sample	10" to 16" - SAND and SHELLS (bivalves) with Gravel, 50% Sand, 40% shell debris, 10% angular Gravel	No sample			
SB-199	Short-core	*	55.623635	-132.554591	5/24/2013	8:15 AM	36	19.2	2013SC-SB-199-00	0" to 19.2" - Silty fine to coarse SAND (SM), little fine to coarse subangular Gravel, trace shell fragments, possible fine grained tailings from 0.4' to 0.8', brownish gray with some oxidation, olive green from 0.4' to 0.8'	2013SC-SB-199-0.5	0" to 19.2" - Silty fine to coarse SAND (SM), little fine to coarse subangular Gravel, trace shell fragments, possible fine grained tailings from 0.4' to 0.8', brownish gray with some oxidation, olive green from 0.4' to 0.8'	2013SC-SB-199-01	0" to 19.2" - Silty fine to coarse SAND (SM), little fine to coarse subangular Gravel, trace shell fragments, possible fine grained tailings from 0.4' to 0.8', brownish gray with some oxidation, olive green from 0.4' to 0.8'				
SB-200	Short-core	*	55.623136	-132.556189	5/24/2013	8:45 AM	13	13	No sample	0" to 2" - SILT 2" to 5" - Silty SAND and Gravel, 65% fine Sand, 35% Gravel	No sample	5" to 8" - 60% Gravel, 30% Sand, 10% Silt, red brown, Sandy GRAVEL 8" to 12" - gray brown coarse SAND and GRAVEL					5" to 8" - very easily penetrated No odor from soil core	
SB-201	Short-core	*	55.623372	-132.555851	5/24/2013	9:00 AM	36	7	No sample	0" to 2 - brown Silty SAND with Gravel 2 - 4" - brown to red Silty SAND with some Gravel 4" - 6" - saturated 1 to 1.5-inch Gravel	No sample	6 - 7" - saturated Gravel with Sand; remainder of core lost					Based on nearby test pit, suspect that lost core (7 to 36 ") consists of coarse brown Sand with Gravel and some fines (<10%)	
SB-202	Test pit	*	55.623595	-132.555531	5/24/2013	9:15 AM	12	12	2013SC-SB-202-00 2013SC-SB-9202-00	0" to 6" - fine to coarse SAND, some fine to coarse subangular Gravel, little Silt, dark brownish gray with some oxidation, wet	2013SC-SB-202-0.5	6" to 12" - fine to coarse SAND, same as above, no oxidation, trace angular Cobbles, wet					hand dug with shovel	
SB-205	Short-core	*	55.623171	-132.552046	5/23/2013	9:34 AM	30	18.5	No sample	0" to 6" - fine SAND, dark gray with thin laminations, moist	No sample	6" to 10" - fine SAND with trace fines, micaceous, dark gray, wet 10" to 14" - same as above with increased SILT/CLAY content	No sample	14" to 18.5" - Silty CLAY, dark gray, wet, moderate stiff.	No sample		No debris	

TABLE 2-3
Short-core and Test Pit Sample Information - Marine Sediment Core Investigation
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Type	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Core Advanced (inches)	Core Recovered (inches)	Sample ID [a] (0 to 6 inches)	Sample Description (0 to 6 inches)	Sample ID [a] (6 to 12 inches)	Sample Description (6 to 12 inches)	Sample ID [a] (12 to 24 inches)	Sample Description (12 to 24 inches)	Sample ID [a] (24+ inches)	Sample Description (24 + inches)	Comments	Deviations
SB-207	Test pit	1.7	55.62394	-132.554563	5/25/2013	11:45 AM	10.8	10.8	No sample	0" to 2.4" - black fine SAND, tailings 2.4" to 10.8" - black fine SAND (tailings) with blobs of light gray viscous Clay (gel-like)	No sample	10.8" - coarse SAND and GRAVEL, wet					hand dug with shovel Top 2 " - decayed marine odor Gel-like material has no odor, dries quickly when smeared	
SB-208	Test pit	5.9	55.62514	-132.558005	5/27/2013	9:18 AM	24	24	No sample	0" to 10" - Tailings	No sample	10" to 14" - Light Clay	No sample	14" to 24" - Tailings	No sample	24" (bottom) - Light Grey Clayey layer	Hand dug with shovel	
SB-209	Test pit	6.7	55.625275	-132.558091	5/27/2013	9:20 AM	24	24	2013SC-SB-209-00	Dark gray silt, tailings with plastic and debris	No sample	Dark gray silt, tailings with plastic and debris	2013SC-SB-209-01	Same as above, 1-inch gray clay layer at 13"	2013SC-SB-209-02	24 to 30" laminated gray clay 30" sand (tailings) and gravel	Test pit on bank of unnamed stream	Added based on appearance of stream bank
SB-220b	Short-core	9.5	55.625908	-132.557563	5/27/2013	2:10 PM	20.5	13.5	No sample	0" to 7.5" - fine SAND, trace Silt, 0" - 2" - brown, 2" - 7.5" - dark grey. Poorly graded, wet, Clay lens at 3", light grey.	No sample	7.5" to 9.5" - CLAY, light grey, wet, thin laminations 9.5" to 11" - fine SAND, trace fines, dark grey	No sample	11" to 13.5" - fine to medium SAND, increased fine Sand content at 13", dark grey, thin, light grey Clay layer at 12.5"	No sample		Tailings; no debris	Duplicate location ID - this is unsampled core
SB-222	Test pit	6.5	55.625161	-132.558251	5/30/2013	9:45 AM	6	6	2013SC-SB-222-00	black to dark brown SAND							Spoon sampled	added based on upland tailings delineation
SB-223	Test pit	6.8	55.624708	-132.557969	5/30/2013	9:50 AM	6	6	2013SC-SB-223-00	brown to dark brown SAND							Spoon sampled	added based on upland tailings delineation

Notes:

[a] Number at the end of each Sample ID indicates the top of the sample interval. The first two intervals are 0.5 ft thick (0 to 0.5 ft and 0.5 to 1 ft), remaining intervals are 1 ft thick

MS/MSD = matrix spike/matrix spike duplicate

TABLE 2-4
Deep Core Sample Information - Marine Sediment Core Investigation
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Type	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Core Intervals (feet)	Core Recovered (feet)	Sample ID [a] (0 to 4 feet)	Sample Description (0 to 4 feet)	Sample ID [a] (4 to 8 feet)	Sample Description (4 to 8 feet)	Sample ID [a] (8 to 12 feet)	Sample Description (8 to 12 feet)	Sample ID [a] (12 to 16 feet)	Sample Description (12 to 16 feet)	Sample ID [a] (16 to 20 feet)	Sample Description (16 to 20 feet)	Comments	Deviations
SB-301	Direct Push	8.414288	55.625936	-132.557955	8/30/2013	09:15 AM Field duplicates at 09:30 AM	0' to 2' 2' to 4' 4' to 7'	1.8'/2.0' 1.2'/2.0' 1.8'/3.0'	2013SC-SB-301-00 2013SC-SB-301-0.5 2013SC-SB-9301-.05 2013SC-SB-301-01 2013SC-SB-301-02 2013SC-SB-301-03	0" to 4": black CLAY 6" : banded orange and brown fine SAND 1' to 1.5': gray, laminated SILT and CLAY with bands of Sand 1.5' to 4': dark gray, micaceous, SAND, dense, moist -per driller, loss is from bottom of core, very wet tailings	2013SC-SB-301-04	GRAVEL with SAND, gray brown, 1-1/5" rounded rocks and angular Gravel, wet 4 - 7 feet. Possible petroleum stain and odor at top of gravel layer.							No odor Refusal at 7 feet bgs Native gravel at 4 feet bgs	
SB-303	Direct Push	14.179021	55.625703	-132.557553	8/28/2013	10:45 AM Field duplicates at 11:00 AM	0' to 4' 4' to 8' 8' to 12' 12' to 16' 16' to 20'	3.2'/4.0' 3.0'/4.0' 4.0'/4.0' 2.0'/4.0' 2.4'/4.0'	2013SC-SB-303-00 2013SC-SB-303-0.5 2013SC-SB-303-01 2013SC-SB-303-02 2013SC-SB-303-03 2013-SC-SB-9303-03	0' to 3.2': very fine to fine SAND (SP), olive green with some oxidation banding, moist, trace mica flakes throughout, trace wood in top 2 feet - tailings- trace Silt	2013SC-SB-303-04 2013SC-SB-303-05 2013SC-SB-303-06 2013SC-SB-303-07	4' to 4.8': grayish brown very fine SAND (SP), trace Silt, trace Silt/Clay laminations, wet, some oxidation 4.8' to 5.5': Silty very fine SAND to SILT (SM/ML), wet, gray, some light gray Silt laminations throughout 5.5' to 6.0': dark green, very fine to fine SAND (SP), trace Silt, wet, trace mica (dark green to black in places) 6' to 7': same as 5.5' to 6' with few light gray Clay/Silt laminations	2013-SC-SB-303-08 2013-SC-SB-303-09 2013SC-SB-9309-09 2013SC-SB-303-10 2013SC-SB-303-11	8' to 9.6': very fine to fine SAND (SP), some Silt, wet, greenish gray to dark gray, mica flakes throughout 9.6' to 10.6': SILT/CLAY (ML), wet, medium gray, trace fine dark gray Sand 10.6' to 12': dark gray to black very fine to fine SAND (SP), trace light gray Clay/Silt laminations, wet	2013SC-SB-303-12 2013SC-SB-303-13 2013SC-SB-303-14 2013SC-SB-303-15	silty fine to coarse SAND (SM), some fine to medium subangular Gravel, wet, brown and grayish brown, trace shells, trace metallic mica-like flakes from 13.9' to 14' (gold colored) -begin native formation-	None	Silty fine to coarse SAND (SM) and fine to coarse subangular Gravel, wet, grayish brown	Bottom of borehole at 20 feet bgs No odor	
SB-304	Direct Push	10.539925	55.625432	-132.557437	8/28/2013	08:57 AM Field duplicates at 09:05 AM	0' to 4' 4' to 8' 8' to 12' 12' to 16' 16' to 20'	2.2'/4.0' 2.8'/4.0' 1.2'/4.0 1.3'/4.0' 0.5'/4.0'	2013SC-SB-304-00 2013SC-SB-9304-00 2013SC-SB-304-0.5 2013SC-SB-304-01 2013SC-SB-304-02 2013-SC-SB-304-03	0' to 0.8': very fine SAND with some Silt (SP), wet, greenish gray - tailings, trace mica 0.8' to 1.4': SILT (ML), laminated gray to light grayish white, wet, trace Clay 1.4' to 2.2': very fine to fine SAND (SP), trace Silt, wet, greenish gray with trace mica - tailings, increased Silt from 2.0' to 2.2' (same as 0.8' to 1.4' interval): no petroleum or naphthalene odor	2013SC-SB-304-04 + MS/MSD 2013SC-SB-304-05 2013SC-SB-304-06 2013SC-SB-304-07	4' to 6.8': very fine to fine SAND (SP), some Silt, Silt/Clay interbeds throughout ~1" thick beds, sand is greenish gray with trace mica, Silt/Clay layers are light gray to gray, wet: no petroleum or naphthalene odor	2013SC-SB-304-08 2013SC-SB-304-09 2013SC-SB-304-10 2013SC-SB-304-11 2013SC-SB-9304-11	8' to 8.4': very fine SAND (SP), trace Silt, wet, dark greenish gray - tailings 8.4' to 8.8': dark brown Silty fine to coarse SAND and fine subangular GRAVEL, wet, trace shells (SM) 8.8' to 9.2': light gray Shell Hash with fine SAND with Silt, trace coarse subangular Gravel	2013SC-SB-304-12 2013SC-SB-304-13	fine to coarse SAND (SW), some fine subangular Gravel, wet, dark gray, little Silt - native material	None	Same as 12' to 16' interval	Bottom of borehole at 20 feet bgs No odor Native material ~ 9 feet bgs	
SB-305	Direct Push	9.36182	55.625098	-132.557307	8/27/2013	2:00 PM Field duplicates at 2:30 PM	0' to 2' 2' to 6' 6' to 10' 10' to 12'	1.5'/2.0' 3.5'/4.0' 3.9'/4.0' 0.5'/2.0'	2013SC-SB-305-00 2013SC-SB-305-0.5 + MS/MSD 2013SC-SB-305-01 2013SC-SB-305-02 2013SC-SB-305-03 2013SC-SB-9305-03	0' to 2': very fine SAND (SP) with trace Silt, greenish gray with trace mica flecks, trace medium gray Silt, wet, tailings 2' to 4': very fine SAND with trace Silt as above (SP), wet, tailings, increasing Silt from 3.4' to 4', trace light gray Silt	2013SC-SB-305-04 2013SC-SB-305-05 2013SC-SB-305-06 2013SC-SB-305-07	4' to 4.6': coarser (medium) SAND, with trace Silt, and trace mica, wet greenish gray (olivine colored) 4.6' to 5.5': SILT with trace Clay (ML), gray with a slight greenish hue, wet, trace light gray Clay 5.5' to 6': no recovery 6' to 7.4': greenish gray very fine to fine SAND (SP) with trace Silt, wet, trace mica flakes, tailings 7.4' to 8.4': light to medium gray SILT (ML), trace Clay, trace black organics, trace tailings - green fine sand-, low plasticity, wet	2013SC-SB-305-08 2013SC-SB-305-09 2013SC-SB-9305-09 2013SC-SB-305-10	8.4' to 9.9': fine to coarse SAND (SW), trace fine subangular Gravel, medium brown, trace Silt, wet, shell hash from 9.5' to 9.9' - native material 10' to 10.5': light gray shell hash, shell particles and trace Silt, wet, trace very fine Sand					Bottom of tailings at ~8.4 feet No odor Bottom of hole at 12 feet bgs	

TABLE 2-4
Deep Core Sample Information - Marine Sediment Core Investigation
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Type	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Core Intervals (feet)	Core Recovered (feet)	Sample ID [a] (0 to 4 feet)	Sample Description (0 to 4 feet)	Sample ID [a] (4 to 8 feet)	Sample Description (4 to 8 feet)	Sample ID [a] (8 to 12 feet)	Sample Description (8 to 12 feet)	Sample ID [a] (12 to 16 feet)	Sample Description (12 to 16 feet)	Sample ID [a] (16 to 20 feet)	Sample Description (16 to 20 feet)	Comments	Deviations
SB-306	Direct Push (PAH delineation)	8.205701	55.625863	-132.556602	8/29/2013	09:15 AM Field duplicates at 09:40 AM	0' to 4' 4' to 6' 6' to 8' 8' to 12'	2.1'/4.0' 1.3'/2.0' 0.9'/2.0' 2.5'/4.0'	2013SC-SB-306-00 2013SC-SB-306-0.5 2013SC-SB-9306-0.5 2013SC-SB-306-01 2013SC-SB-306-02 2013SC-SB-306-03	0' to 1.7': dark olive green to black, very fine SAND (SP), little Silt, wet, trace organics, soft 1.7' to 2.1': Silty fine to coarse SAND and fine subangular Gravel (SM), medium gray, wet, loose; petroleum odor from 0 to 4 ft.	2013SC-SB-306-04 2013SC-SB-306-05 2013SC-SB-306-06 2013SC-SB-306-07 + MS/MSD for PAH only	4' to 5.3': brownish gray fine to coarse SAND and SILT (SM), slightly dense, wet; petroleum odor. 6' to 6.9': Same as above - native material	None	8' to 10.5': brownish gray to olive gray Silty fine to coarse SAND with some Gravel (fine to coarse subangular) grading to mostly Gravel at ~9.8' bgs, wet, loose (SM/GM)						Petroleum like odor from 0' to 4' interval No noticeable odor through rest of core PAH sample from native material at 7' to 8' Bottom of borehole at 12 feet bgs	
SB-307	Direct Push	9.258244	55.62543	-132.555388	8/29/2013	10:30 AM Field duplicates at 11:00 AM	0' to 4' 4' to 8' 8' to 10'	2.0'/4.0' 4.0'/4.0' 1.6'/2.0'	2013SC-SB-307-00 2013SC-SB-307-0.5 2013SC-SB-307-01 2013SC-SB-9307-01 2013SC-SB-307-02 2013SC-SB-307-03	0' to 2': olive gray very fine to fine SAND, trace Silt, wet, loose, trace mica flakes (SP)	2013SC-SB-307-04 2013SC-SB-307-05 2013SC-SB-307-06 2013SC-SB-307-07	4' to 6.5': olive gray very fine SAND, some Silt (SP/SM), wet, trace mica, becoming siltier toward 6.5 feet 6.5' to 7.4': gray to light gray thinly laminated SILT/CLAY (ML/CL), soft to medium stiff, wet 7.4' to 8.0': dark gray to black very fine to fine SAND (SP), trace Silt < 5%, trace mica flakes; black staining with "piney" odor 7 to 9 ft.	2013SC-SB-307-08 2013SC-SB-307-8.5 2013SC-SB-307-09	8' to 9.6': fine to coarse SAND and SILT (SM), some fine to coarse subangular Gravel, gravel increases from 8.7' to 9.6', color changes from black/dark gray at 8' to 8.4' to dark grayish brown from 8.4' to 9' then light gray from 9' to 9.6', trace organics from 8' to 9', shell fragments throughout, abundant shells from 9' to 9.6', wet, medium dense; black staining with "piney" odor to 8 ft -native material at ~9' bgs						No noticeable odor Bottom of borehole at 12 feet bgs; sampled and logged to 10 feet bgs	
SB-308	Direct Push	11.879741	55.625642	-132.55527	8/29/2013	1:15 PM Field duplicates at 1:30 PM	0' to 4' 4' to 8' 8' to 9.5'	2.6'/4.0' 2.0'/4.0' 1.5'/1.5'	2013SC-SB-308-00 2013SC-SB-308-0.5 2013SC-SB-9308-0.5 2013SC-SB-308-01 2013SC-SB-308-02 2013SC-SB-308-03	very fine to fine SAND (SP), moist to wet, loose to medium dense, greenish/olive gray, trace mica, trace Silt	2013SC-SB-308-04 2013SC-SB-308-05 2013SC-SB-308-06 2013SC-SB-308-07	fine to medium fine SAND (SP), trace mica, trace Silt, wet, medium dense, olive gray to dark olive gray, light to medium gray at 6 feet bgs	2013SC-SB-308-08 +MS/MSD 2013SC-SB-308-09	8' to 9.5': brownish gray Silty fine to coarse SAND (SM), some fine to coarse subangular to subrounded Gravel, wet, loose -native formation-						No noticeable odor Bottom of borehole at 9.5 feet bgs on rock	
SB-309	Direct Push (PAH delineation)	7.868355	55.625674	-132.557014	8/28/2013		0' to 4' 4' to 8'		None	0 to 2 ft: black stained, moderate chemical odor, not distinctly petroleum or naphthalene, 2 - 4 ft tailings, no odor	None	tailings, gravel at 8 feet									
SB-310	Direct Push (PAH delineation)	7.158964	55.625543	-132.556935	8/28/2013		0' to 4'		None	0 to 2 ft: black stained, moderate chemical odor, not distinctly petroleum or naphthalene, 2 - 4 ft tailings, no odor										
SB-311	Direct Push (PAH delineation)	7.258086	55.625382	-132.55669	8/28/2013		0' to 4'		None	0 to 2.5 ft degraded organic (fishy) odor; 2.5 ft degraded petroleum odor										
SB-312	Direct Push (PAH delineation)	6.472287	55.62526	-132.55644	8/28/2013		0' to 4'		None	0 to 3.5 feet tailings, no petroleum or naphthalene odor. 3.5 to 4 feet dark staining and petroleum odor.										
SB-313	Direct Push (PAH delineation)	6.334189	55.625113	-132.556338	8/28/2013	2:40 PM	0' to 4' 4' to 8'	2.0'/4.0' 1.2'/4.0'	2013SC-SB-313-02 2013SC-SB-313-03	0' to 1.5': very fine SAND (SP), some Silt, wet, olive green with light gray Silt laminations - few laminations; 1.5' to 2.0': dark green to black very fine to fine SAND (SP), trace Silt, trace mica, wet (coarser than 0' to 1.5'); no petroleum or naphthalene odor	2013SC-SB-313-04 (no results, CLP lab ID issue)	4' to 4.2': SILT and decayed organics (ML), light gray to black, soft, wet; no petroleum or naphthalene odor 4.2' to 5.2': dark brown silty fine to coarse SAND (SM), wet, some fine subangular Gravel, trace shell fragments and organics. Likely native material. Possible petroleum odor at 4 to 5 ft								Bottom of PAH delineation boring at 8 feet bgs. No odor	Duplicated CLP sample ID issue. See text.

TABLE 2-4
Deep Core Sample Information - Marine Sediment Core Investigation
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Type	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Core Intervals (feet)	Core Recovered (feet)	Sample ID [a] (0 to 4 feet)	Sample Description (0 to 4 feet)	Sample ID [a] (4 to 8 feet)	Sample Description (4 to 8 feet)	Sample ID [a] (8 to 12 feet)	Sample Description (8 to 12 feet)	Sample ID [a] (12 to 16 feet)	Sample Description (12 to 16 feet)	Sample ID [a] (16 to 20 feet)	Sample Description (16 to 20 feet)	Comments	Deviations
SB-314	Direct Push (PAH delineation)	9.043253	55.625417	-132.556991	8/28/2013		0' to 4' 4' to 8'		None	Tailings, no petroleum or naphthalene odor	None	Tailings; strong petroleum odor at 5 to 6 ft.								
SB-315	Direct Push (PAH delineation)	11.066621	55.62549	-132.557208	8/28/2013		0' to 4' 4' to 8'		None	Tailings, no petroleum or naphthalene odor	None	Tailings; strong petroleum odor at 6 to 8 ft.								
SB-316	Direct Push (PAH delineation)	10.970952	55.625453	-132.557323	8/28/2013	4:30 PM	0' to 4' 4' to 8'	2.0'/4.0' 3.6'/4.0'	None	0' to 1.3': medium to light gray SILT/CLAY, some oxidized laminations, trace very fine Sand, wet, soft (ML/CL) 1.3' to 2.0': very fine to fine SAND (SP), trace Silt, wet, dark olive green, trace mica; no petroleum or naphthalene odor	2013SC-SB-316-06 + MS/MSD 2013SC-SB-316-07	4' to 7': light gray , wet, soft SILT (ML), little possible Clay, trace fine Sand 6.4' to 6.6' 7' to 7.6': very fine to fine dark olive green to black SAND (SP), trace Silt, wet, trace light gray Silt laminations at 7.5' to 7.6'; possible petroleum odor at 7 - 8 ft.							Bottom of PAH delineation borehole at 8 feet bgs. No noticeable odor	Duplicated CLP sample ID issue. See text.
SB-317	Direct Push (PAH delineation)	5.570826	55.625397	-132.556198	8/29/2013		0' to 4' 4' to 8'		None	Black stained tailings with clayey beds, slight petroleum odor	None	Gravel; strong petroleum odor and dark staining								
SB-318	Direct Push (PAH delineation)	5.672883	55.625284	-132.555767	8/29/2013		0' to 4' 4' to 8'		None	Black stained tailings at 3 to 4 ft; petroleum odor.	None	Soft clay to 5 ft; petroleum odor. Gravel 5 to 8 ft petroleum odor.								
SB-319	Direct Push (PAH delineation)	4.973153	55.625063	-132.55545	8/29/2013	4:00 PM	0' to 4' 4' to 8'	1.8'/4.0' 2.1'/4.0'	None	very fine to fine SAND (SP), little Silt in think laminations, olive green to dark gray, wet, soft/medium dense, silt laminations are light gray; no petroleum or naphthalene odor	2013SC-SB-319-04	4' to 5': Silty fine to coarse SAND and fine subangular GRAVEL (SM), trace organics and shells, wet, medium dense, black stained with petroleum odor. 5' to 6.1': organic soil/decomposed wood, brown, soft, wet, some shells and wood debris. Likely native material 5' to 6.1'							Petroleum like odor from 4' to 8' sample interval Bottom of borehole at 8 feet bgs	
SB-320	Direct Push (PAH delineation)	4.74279	55.624838	-132.555072	8/29/2013		0' to 4' 4' to 8'		None	Tailings and woody debris; no petroleum or naphthalene odor	None	Clay with silt, gray, petroleum odor								
SB-321	Direct Push (PAH delineation)	8.63726	55.625733	-132.556123	8/29/2013		0' to 4' 4' to 8'		None	Tailings, no petroleum or naphthalene odor	None	Tailings to 4.5 feet; no petroleum or naphthalene odor; Gravel 4.5 to 8 feet, black stained with petroleum odor 4.5 to 5 feet; no stain or odor 5 to 7 feet.								
SB-322	Direct Push (PAH delineation)	11.637403	55.626135	-132.55744	8/30/2013	11:00 AM	0' to 4' 4' to 6'	not recorded	2013SC-SB-322-02 (no results, CLP lab ID issue) 2013SC-SB-322-03	0' to 3': fine SAND, dark gray, micaceous, moist -tailings; no petroleum or naphthalene odor. 3 to 4 feet GRAVEL, black stained with petroleum odor.	2013SC-SB-322-04	4 to 6 ft GRAVEL, mottled orange and gray with black staining and petroleum odor, rounded pebbles and angular gravel, moist							Chemical and petroleum odor from 3' to 6.5' Refusal at 6.5 feet bgs	Duplicated CLP sample ID issue. See text.
SB-323	Direct Push (PAH delineation)	9.949631	55.626023	-132.557466	8/30/2013		0' to 4' 4' to 6.5'		None	Tailings to 4 ft; slight petroleum odor at 3.75 feet.	None	4 - 6.5 feet GRAVEL, dark stained with sweet chemical odor. Refusal at 6.5 feet.								
SB-324	Direct Push (PAH delineation)	8.762872	55.626073	-132.557674	8/30/2013		0' to 4' 4' to 5'		None	Tailings to 2.5 ft; Black stained gravel 3- 4 feet with degraded petroleum odor	None	Gravel and sand; mottled orange and gray, slight petroleum odor.								

Notes:
[a] Number at the end of each Sample ID indicates the top of the sample interval. The first two intervals are 0.5 ft thick (0 to 0.5 ft and 0.5 to 1 ft), remaining intervals are 1 ft thick
PAHs = polycyclic aromatic hydrocarbons
MS/MSD = matrix spike/matrix spike duplicate

TABLE 2-5

Marine Sediment Core and Test Pit Analyses

2013 Salt Chuck Mine Superfund Site Field Data Report

Location	Activity ID	Sample Type	Depth (feet)	Sample Date	Analytical Suite and Laboratory							
					Cr-VI (Manchester Environmental Laboratory)	Mercury (A4 Scientific)	TAL Metals [a] (A4 Scientific)	Modified SPLP[b] (Manchester Environmental Laboratory)	PAHs (KAP Technologies)	Total Organic Carbon (Manchester Environmental Laboratory)	Bulk Density (Applied Sciences Laboratory)	Grain Size (Applied Sciences Laboratory)
SB-004	2013SC-SB-004-00-20130528	N	0 - 0.5	5/28/2013		x	x	x	x	x	x	x
SB-004	2013SC-SB-004-0.5-20130528	N	0.5 - 1	5/28/2013		x	x	x	x	x	x	x
SB-004	2013SC-SB-9004-0.5-20130528FD	FD	0.5 - 1	5/28/2013		x	x	x	x	x	x	x
SB-013	2013SC-SB-013-00-20130528	N	0 - 0.5	5/28/2013		x	x	x	x	x	x	x
SB-013	2013SC-SB-013-0.5-20130528	N	0.5 - 1	5/28/2013		x	x	x	x	x	x	x
SB-018	2013SC-SB-018-00-20130527	N	0 - 0.5	5/27/2013		x	x					
SB-018	2013SC-SB-018-0.5-20130527	N	0.5 - 1	5/27/2013		x	x					
SB-021	2013SC-SB-021-00-20130528	N	0 - 0.5	5/28/2013		x	x		x	x		
SB-021	2013SC-SB-021-0.5-20130528	N	0.5 - 1	5/28/2013		x	x	x	x	x	x	x
SB-031	2013SC-SB-031-00-20130528	N	0 - 0.5	5/28/2013		x	x					
SB-031	2013SC-SB-9031-00-20130528FD	FD	0 - 0.5	5/28/2013		x	x					
SB-031	2013SC-SB-031-0.5-20130528	N	0.5 - 1	5/28/2013		x	x					
SB-031	2013SC-SB-031-01-20130528	N	1 - 2	5/28/2013		x	x					
SB-032	2013SC-SB-032-00-20130527	N	0 - 0.5	5/27/2013		x	x	x	x	x	x	x
SB-032	2013SC-SB-032-0.5-20130527	N	0.5 - 1	5/27/2013		x	x	x	x	x	x	x
SB-033	2013SC-SB-033-00-20130527	N	0 - 0.5	5/27/2013		x	x	x	x	x	x	x
SB-033	2013SC-SB-033-0.5-20130527	N	0.5 - 1	5/27/2013		x	x	x	x	x	x	x
SB-043	2013SC-SB-043-00-20130527	N	0 - 0.5	5/27/2013		x	x					
SB-043	2013SC-SB-043-0.5-20130527	N	0.5 - 1	5/27/2013		x	x					
SB-043	2013SC-SB-043-01-20130527	N	1 - 2	5/27/2013		x	x					
SB-052	2013SC-SB-052-00-20130528	N	0 - 0.5	5/28/2013		x	x	x	x	x	x	x
SB-052	2013SC-SB-052-0.5-20130528	N	0.5 - 1	5/28/2013		x	x	x	x	x	x	x
SB-052	2013SC-SB-052-01-20130528	N	1 - 2	5/28/2013		x	x	x	x			
SB-059	2013SC-SB-059-00-20130527	N	0 - 0.5	5/27/2013	x	x	x	x	x	x	x	x
SB-059	2013SC-SB-059-0.5-20130527	N	0.5 - 1	5/27/2013		x	x	x	x	x		x
SB-059	2013SC-SB-059-01-20130527	N	1 - 2	5/27/2013		x	x	x	x	x		x
SB-061	2013SC-SB-061-00-20130527	N	0 - 0.5	5/27/2013	x	x	x			x	x	x
SB-061	2013SC-SB-061-0.5-20130527	N	0.5 - 1	5/27/2013		x	x					
SB-062	2013SC-SB-062-00-20130528	N	0 - 0.5	5/28/2013	x	x	x	x	x	x	x	x
SB-062	2013SC-SB-062-0.5-20130528	N	0.5 - 1	5/28/2013		x	x	x	x	x	x	x
SB-062	2013SC-SB-062-01-20130528	N	1 - 2	5/28/2013		x	x	x	x	x	x	x
SB-078	2013SC-SB-078-00-20130528	N	0 - 0.5	5/28/2013		x	x	x	x	x	x	x
SB-078	2013SC-SB-078-0.5-20130528	N	0.5 - 1	5/28/2013		x	x	x	x	x	x	x
SB-078	2013SC-SB-078-01-20130528	N	1 - 2	5/28/2013		x	x	x	x	x	x	x
SB-079	2013SC-SB-079-00-20130528	N	0 - 0.5	5/28/2013	x	x	x	x	x	x	x	x
SB-079	2013SC-SB-079-0.5-20130528	N	0.5 - 1	5/28/2013		x	x	x	x	x	x	x
SB-079	2013SC-SB-079-01-20130528	N	1 - 2	5/28/2013		x	x	x	x	x	x	x
SB-082	2013SC-SB-082-00-20130528	N	0 - 0.5	5/28/2013		x	x	x	x	x	x	x
SB-082	2013SC-SB-082-0.5-20130528	N	0.5 - 1	5/28/2013		x	x	x	x	x	x	x
SB-082	2013SC-SB-082-01-20130528	N	1 - 2	5/28/2013		x	x	x	x	x	x	x
SB-089	2013SC-SB-089-00-20130528	N	0 - 0.5	5/28/2013		x	x	x	x	x	x	x
SB-089	2013SC-SB-089-0.5-20130528	N	0.5 - 1	5/28/2013		x	x	x	x	x	x	x
SB-089	2013SC-SB-089-01-20130528	N	1 - 2	5/28/2013		x	x	x	x	x	x	x
SB-111	2013SC-SB-111-00-20130523	N	0 - 0.5	5/23/2013		x	x					
SB-111	2013SC-SB-111-0.5-20130523	N	0.5 - 1	5/23/2013		x	x					
SB-111	2013SC-SB-111-01-20130523	N	1 - 2	5/23/2013		x	x					
SB-115	2013SC-SB-115-00-20130522	N	0 - 0.5	5/22/2013	x	x	x			x	x	x

TABLE 2-5

Marine Sediment Core and Test Pit Analyses

2013 Salt Chuck Mine Superfund Site Field Data Report

Location	Activity ID	Sample Type	Depth (feet)	Sample Date	Analytical Suite and Laboratory							
					Cr-VI (Manchester Environmental Laboratory)	Mercury (A4 Scientific)	TAL Metals [a] (A4 Scientific)	Modified SPLP[b] (Manchester Environmental Laboratory)	PAHs (KAP Technologies)	Total Organic Carbon (Manchester Environmental Laboratory)	Bulk Density (Applied Sciences Laboratory)	Grain Size (Applied Sciences Laboratory)
SB-115	2013SC-SB-9115-00-20130522FD	FD	0 - 0.5	5/22/2013	x	x	x					
SB-115	2013SC-SB-115-0.5-20130522	N	0.5 - 1	5/22/2013		x	x					
SB-115	2013SC-SB-115-01-20130522	N	1 - 2	5/22/2013		x	x					
SB-115	2013SC-SB-115-02-20130522	N	2 - 3	5/22/2013		x	x					
SB-117	2013SC-SB-117-00-20130524	N	0 - 0.5	5/24/2013		x	x					
SB-117	2013SC-SB-117-0.5-20130524	N	0.5 - 1	5/24/2013		x	x					
SB-117	2013SC-SB-117-01-20130524	N	1 - 2	5/24/2013		x	x					
SB-121	2013SC-SB-121-00-20130523	N	0 - 0.5	5/23/2013		x	x					
SB-121	2013SC-SB-121-0.5-20130523	N	0.5 - 1	5/23/2013		x	x					
SB-121	2013SC-SB-121-01-20130523	N	1 - 2	5/23/2013		x	x					
SB-123	2013SC-SB-123-00-20130523	N	0 - 0.5	5/23/2013		x	x					
SB-123	2013SC-SB-9123-00-20130523FD	FD	0 - 0.5	5/23/2013		x	x					
SB-123	2013SC-SB-123-0.5-20130523	N	0.5 - 1	5/23/2013		x	x					
SB-123	2013SC-SB-123-01-20130523	N	1 - 2	5/23/2013		x	x					
SB-123	2013SC-SB-123-02-20130523	N	2 - 2.5	5/23/2013		x	x					
SB-127	2013SC-SB-127-00-20130522	N	0 - 0.5	5/22/2013		x	x					
SB-127	2013SC-SB-127-0.5-20130522	N	0.5 - 1	5/22/2013		x	x					
SB-127	2013SC-SB-127-01-20130522	N	1 - 1.5	5/22/2013		x	x					
SB-129	2013SC-SB-129-00-20130523	N	0 - 0.5	5/23/2013	x	x	x			x	x	x
SB-129	2013SC-SB-9129-00-20130523FD	FD	0 - 0.5	5/23/2013		x	x			x	x	x
SB-129	2013SC-SB-129-0.5-20130523	N	0.5 - 1	5/23/2013		x	x					
SB-129	2013SC-SB-129-01-20130523	N	1 - 2	5/23/2013		x	x					
SB-133	2013SC-SB-133-00-20130522	N	0 - 0.5	5/22/2013		x	x					
SB-133	2013SC-SB-133-0.5-20130522	N	0.5 - 1	5/22/2013		x	x					
SB-133	2013SC-SB-133-01-20130522	N	1 - 2	5/22/2013		x	x					
SB-133	2013SC-SB-9133-01-20130522FD	FD	1 - 2	5/22/2013		x	x					
SB-133	2013SC-SB-133-02-20130522	N	2 - 3	5/22/2013		x	x					
SB-157	2013SC-SB-157-00-20130525	N	0 - 0.5	5/25/2013		x	x					
SB-157	2013SC-SB-157-0.5-20130525	N	0.5 - 1	5/25/2013		x	x					
SB-157	2013SC-SB-157-01-20130525	N	1 - 2	5/25/2013		x	x					
SB-157	2013SC-SB-157-02-20130525	N	2 - 2.3	5/25/2013		x	x					
SB-176	2013SC-SB-176-00-20130530	N	0 - 0.5	5/30/2013		x	x					
SB-177	2013SC-SB-177-0.5-20130530	N	0.5 - 1	5/30/2013		x	x					
SB-191	2013SC-SB-191-00-20130523	N	0 - 0.5	5/23/2013		x	x					
SB-191	2013SC-SB-191-0.5-20130523	N	0.5 - 1	5/23/2013		x	x					
SB-191	2013SC-SB-191-01-20130523	N	1 - 2	5/23/2013		x	x					
SB-192	2013SC-SB-192-00-20130523	N	0 - 0.5	5/23/2013		x	x			x	x	x
SB-192	2013SC-SB-192-0.5-20130523	N	0.5 - 1	5/23/2013		x	x					
SB-192	2013SC-SB-192-01-20130523	N	1 - 2	5/23/2013		x	x					
SB-192	2013SC-SB-192-02-20130523	N	2 - 2.4	5/23/2013		x	x					
SB-196	2013SC-SB-196-00-20130524	N	0 - 0.5	5/24/2013		x	x					
SB-196	2013SC-SB-196-0.5-20130524	N	0.5 - 1	5/24/2013		x	x					
SB-197	2013SC-SB-197-00-20130524	N	0 - 0.5	5/24/2013		x	x					
SB-197	2013SC-SB-197-0.5-20130524	N	0.5 - 1	5/24/2013		x	x					
SB-197	2013SC-SB-197-01-20130524	N	1 - 2	5/24/2013		x	x					
SB-199	2013SC-SB-199-00-20130524	N	0 - 0.5	5/24/2013		x	x					
SB-199	2013SC-SB-199-0.5-20130524	N	0.5 - 1	5/24/2013		x	x					

TABLE 2-5

Marine Sediment Core and Test Pit Analyses

2013 Salt Chuck Mine Superfund Site Field Data Report

Location	Activity ID	Sample Type	Depth (feet)	Sample Date	Analytical Suite and Laboratory							
					Cr-VI (Manchester Environmental Laboratory)	Mercury (A4 Scientific)	TAL Metals [a] (A4 Scientific)	Modified SPLP[b] (Manchester Environmental Laboratory)	PAHs (KAP Technologies)	Total Organic Carbon (Manchester Environmental Laboratory)	Bulk Density (Applied Sciences Laboratory)	Grain Size (Applied Sciences Laboratory)
SB-199	2013SC-SB-199-01-20130524	N	1 - 2	5/24/2013		x	x					
SB-202	2013SC-SB-202-00-20130524	N	0 - 0.5	5/24/2013		x	x			x	x	x
SB-202	2013SC-SB-9202-00-20130524FD	FD	0 - 0.5	5/24/2013		x	x					
SB-202	2013SC-SB-202-0.5-20130524	N	0.5 - 1	5/24/2013		x	x					
SB-209	2013SC-SB-209-00-20130527	N	0 - 0.5	5/27/2013		x	x		x			
SB-209	2013SC-SB-209-01-20130527	N	1 - 1.5	5/27/2013		x	x		x			
SB-209	2013SC-SB-209-02-20130527	N	2 - 2.5	5/27/2013		x	x		x			x
SB-222	2013SC-SB-222-00-20130530	N	0 - 0.5	5/30/2013		x	x					
SB-223	2013SC-SB-223-0.5-20130530	N	0.5 - 1	5/30/2013		x	x					
SB-301	2013SC-SB-301-00-20130830	N	0 - 0.5	8/30/2013		x	x					
SB-301	2013SC-SB-301-0.5-20130830	N	0.5 - 1	8/30/2013		x	x					
SB-301	2013SC-SB-9301-0.5-20130830FD	FD	0.5 - 1	8/30/2013		x	x					
SB-301	2013SC-SB-301-01-20130830	N	1 - 2	8/30/2013		x	x					
SB-301	2013SC-SB-301-02-20130830	N	2 - 3	8/30/2013		x	x					
SB-301	2013SC-SB-301-03-20130830	N	3 - 4	8/30/2013		x	x					
SB-301	2013SC-SB-301-04-20130830	N	4 - 5	8/30/2013		x	x					
SB-303	2013SC-SB-303-00-20130828	N	0 - 0.5	8/28/2013		x	x					
SB-303	2013SC-SB-303-0.5-20130828	N	0.5 - 1	8/28/2013		x	x					
SB-303	2013SC-SB-303-01-20130828	N	1 - 2	8/28/2013		x	x					
SB-303	2013SC-SB-303-02-20130828	N	2 - 3	8/28/2013		x	x					
SB-303	2013SC-SB-303-03-20130828	N	3 - 4	8/28/2013		x	x					
SB-303	2013SC-SB-9303-03-20130828FD	FD	3 - 4	8/28/2013		x	x					
SB-303	2013SC-SB-303-04-20130828	N	4 - 5	8/28/2013		x	x					
SB-303	2013SC-SB-303-05-20130828	N	5 - 6	8/28/2013		x	x					
SB-303	2013SC-SB-303-06-20130828	N	6 - 7	8/28/2013		x	x					
SB-303	2013SC-SB-303-07-20130828	N	7 - 8	8/28/2013		x	x					
SB-303	2013SC-SB-303-08-20130828	N	8 - 9	8/28/2013		x	x					
SB-303	2013SC-SB-303-09-20130828	N	9 - 10	8/28/2013		x	x					
SB-303	2013SC-SB-9303-09-20130828	FD	9 - 10	8/28/2013		x	x					
SB-303	2013SC-SB-303-10-20130828	N	10 - 11	8/28/2013		x	x					
SB-303	2013SC-SB-303-11-20130828	N	11 - 12	8/28/2013		x	x					
SB-303	2013SC-SB-303-12-20130828	N	12 - 13	8/28/2013		x	x					
SB-303	2013SC-SB-303-13-20130828	N	13 - 14	8/28/2013		x	x					
SB-303	2013SC-SB-303-14-20130828	N	14 - 15	8/28/2013		x	x					
SB-303	2013SC-SB-303-15-20130828	N	15 - 16	8/28/2013		x	x					
SB-304	2013SC-SB-304-00-20130828	N	0 - 0.5	8/28/2013		x	x					
SB-304	2013SC-SB-9304-00-20130828FD	FD	0 - 0.5	8/28/2013		x	x					
SB-304	2013SC-SB-304-0.5-20130828	N	0.5 - 1	8/28/2013		x	x					
SB-304	2013SC-SB-304-01-20130828	N	1 - 2	8/28/2013		x	x					
SB-304	2013SC-SB-304-02-20130828	N	2 - 3	8/28/2013		x	x					
SB-304	2013SC-SB-304-03-20130828	N	3 - 4	8/28/2013		x	x					
SB-304	2013SC-SB-304-04-20130828	N	4 - 5	8/28/2013		x	x					
SB-304	2013SC-SB-304-05-20130828	N	5 - 6	8/28/2013		x	x					
SB-304	2013SC-SB-304-06-20130828	N	6 - 7	8/28/2013		x	x					
SB-304	2013SC-SB-304-07-20130828	N	7 - 8	8/28/2013		x	x					
SB-304	2013SC-SB-304-08-20130828	N	8 - 9	8/28/2013		x	x					
SB-304	2013SC-SB-304-09-20130828	N	9 - 10	8/28/2013		x	x					

TABLE 2-5

Marine Sediment Core and Test Pit Analyses

2013 Salt Chuck Mine Superfund Site Field Data Report

Location	Activity ID	Sample Type	Depth (feet)	Sample Date	Analytical Suite and Laboratory							
					Cr-VI (Manchester Environmental Laboratory)	Mercury (A4 Scientific)	TAL Metals [a] (A4 Scientific)	Modified SPLP[b] (Manchester Environmental Laboratory)	PAHs (KAP Technologies)	Total Organic Carbon (Manchester Environmental Laboratory)	Bulk Density (Applied Sciences Laboratory)	Grain Size (Applied Sciences Laboratory)
SB-304	2013SC-SB-304-10-20130828	N	10 - 11	8/28/2013		x	x					
SB-304	2013SC-SB-304-11-20130828	N	11 - 12	8/28/2013		x	x					
SB-304	2013SC-SB-9304-11-20130828FD	FD	11 - 12	8/28/2013		x	x					
SB-304	2013SC-SB-304-12-20130828	N	12 - 13	8/28/2013		x	x					
SB-304	2013SC-SB-304-13-20130828	N	13 - 14	8/28/2013		x	x					
SB-305	2013SC-SB-305-00-20130827	N	0 - 0.5	8/27/2013		x	x					
SB-305	2013SC-SB-305-0.5-20130827	N	0.5 - 1	8/27/2013		x	x					
SB-305	2013SC-SB-305-01-20130827	N	1 - 2	8/27/2013		x	x					
SB-305	2013SC-SB-305-02-20130827	N	2 - 3	8/27/2013		x	x					
SB-305	2013SC-SB-305-03-20130827	N	3 - 4	8/27/2013		x	x					
SB-305	2013SC-SB-9305-03-20130827FD	FD	3 - 4	8/27/2013		x	x					
SB-305	2013SC-SB-305-04-20130827	N	4 - 5	8/27/2013		x	x					
SB-305	2013SC-SB-305-05-20130827	N	5 - 6	8/27/2013		x	x					
SB-305	2013SC-SB-305-06-20130827	N	6 - 7	8/27/2013		x	x					
SB-305	2013SC-SB-305-07-20130827	N	7 - 8	8/27/2013		x	x					
SB-305	2013SC-SB-305-08-20130827	N	8 - 9	8/27/2013		x	x					
SB-305	2013SC-SB-305-09-20130827	N	9 - 10	8/27/2013		x	x					
SB-305	2013SC-SB-9305-09-20130827FD	FD	9 - 10	8/27/2013		x	x					
SB-305	2013SC-SB-305-10-20130827	N	10 - 10.5	8/27/2013		x	x					
SB-306	2013SC-SB-306-00-20130829	N	0 - 0.5	8/29/2013		x	x		x			
SB-306	2013SC-SB-306-0.5-20130829	N	0.5 - 1	8/29/2013		x	x		x			
SB-306	2013SC-SB-306-20130829FD	FD	0.5 - 1	8/29/2013					x			
SB-306	2013SC-SB-306-01-20130829	N	1 - 2	8/29/2013		x	x		x			
SB-306	2013SC-SB-306-02-20130829	N	2 - 3	8/29/2013					x			
SB-306	2013SC-SB-306-03-20130829	N	3 - 4	8/29/2013					x			
SB-306	2013SC-SB-306-04-20130829	N	4 - 5	8/29/2013		x	x					
SB-306	2013SC-SB-306-05-20130829	N	5 - 6	8/29/2013		x	x					
SB-306	2013SC-SB-306-06-20130829	N	6 - 7	8/29/2013		x	x					
SB-306	2013SC-SB-306-07-20130829	N	7 - 8	8/29/2013		x	x		x			
SB-307	2013SC-SB-307-00-20130829	N	0 - 0.5	8/29/2013		x	x					
SB-307	2013SC-SB-307-0.5-20130829	N	0.5 - 1	8/29/2013		x	x					
SB-307	2013SC-SB-307-01-20130829	N	1 - 2	8/29/2013		x	x					
SB-307	2013SC-SB-9307-01-20130829FD	FD	1 - 2	8/29/2013		x	x					
SB-307	2013SC-SB-307-02-20130829	N	2 - 3	8/29/2013		x	x					
SB-307	2013SC-SB-307-03-20130829	N	3 - 4	8/29/2013		x	x					
SB-307	2013SC-SB-307-04-20130829	N	4 - 5	8/29/2013		x	x					
SB-307	2013SC-SB-307-05-20130829	N	5 - 6	8/29/2013		x	x					
SB-307	2013SC-SB-307-06-20130829	N	6 - 7	8/29/2013		x	x					
SB-307	2013SC-SB-307-07-20130829	N	7 - 8	8/29/2013		x	x					
SB-307	2013SC-SB-307-08-20130829	N	8 - 9	8/29/2013		x	x					
SB-307	2013SC-SB-307-8.5-20130829	N	8.5 - 9	8/29/2013					x			
SB-307	2013SC-SB-307-09-20130829	N	9 - 10	8/29/2013		x	x					
SB-308	2013SC-SB-308-00-20130829	N	0 - 0.5	8/29/2013		x	x					
SB-308	2013SC-SB-308-0.5-20130829	N	0.5 - 1	8/29/2013		x	x					
SB-308	2013SC-SB-9308-0.5-20130829FD	FD	0.5 - 1	8/29/2013		x	x					
SB-308	2013SC-SB-308-01-20130829	N	1 - 2	8/29/2013		x	x					
SB-308	2013SC-SB-308-02-20130829	N	2 - 3	8/29/2013		x	x					

TABLE 2-5

Marine Sediment Core and Test Pit Analyses

2013 Salt Chuck Mine Superfund Site Field Data Report

Location	Activity ID	Sample Type	Depth (feet)	Sample Date	Analytical Suite and Laboratory							
					Cr-VI (Manchester Environmental Laboratory)	Mercury (A4 Scientific)	TAL Metals [a] (A4 Scientific)	Modified SPLP[b] (Manchester Environmental Laboratory)	PAHs (KAP Technologies)	Total Organic Carbon (Manchester Environmental Laboratory)	Bulk Density (Applied Sciences Laboratory)	Grain Size (Applied Sciences Laboratory)
SB-308	2013SC-SB-308-03-20130829	N	3 - 4	8/29/2013		x	x					
SB-308	2013SC-SB-308-04-20130829	N	4 - 5	8/29/2013		x	x					
SB-308	2013SC-SB-308-05-20130829	N	5 - 6	8/29/2013		x	x					
SB-308	2013SC-SB-308-06-20130829	N	6 - 7	8/29/2013		x	x					
SB-308	2013SC-SB-308-07-20130829	N	7 - 8	8/29/2013		x	x					
SB-308	2013SC-SB-308-08-20130829	N	8 - 9	8/29/2013		x	x					
SB-308	2013SC-SB-308-09-20130829	N	9 - 9.5	8/29/2013		x	x					
SB-313	2013SC-SB-313-02-20130828	N	2 - 3	8/28/2013					x			
SB-313	2013SC-SB-313-03-20130828	N	3 - 4	8/28/2013					x			
SB-316	2013SC-SB-316-07-20130828	N	7 - 7	8/28/2013					x			
SB-316	2013SC-SB-316-07-20130828	N	7 - 8	8/28/2013					x			
SB-319	2013SC-SB-319-04-20130829	N	4 - 5	8/29/2013					x			
SB-322	2013SC-SB-322-02-20130830	N	2 - 2.5	8/30/2013					x			
SB-316	2013SC-SB-316-06-20130828	N	6 - 7	8/30/2013					x			
SB-322	2013SC-SB-322-04-20130830	N	4 - 5	8/30/2013					x			

Notes:

[1] Activity ID is a combination of the sample ID, date sampled and sample type if field duplicate.

[a] TAL metals include aluminum, antimony, arsenic, barium, beryllium, cadmium, cobalt, chromium (total), copper, iron, lead, manganese, magnesium, nickel, selenium, silver, thallium, vanadium, zinc

[b] Seawater collected at SW-600 in Browns Bay was used for sediment leaching

Cr VI = hexavalent chromium

PAHs = polycyclic aromatic hydrocarbons

SPLP = synthetic precipitation leaching procedure

N = normal

FD = field duplicate

TABLE 2-6
Short-core and Test Pit Sample Information - Upland Tailings Investigation
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Type	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Depth	Core Recovered (inches)	Sample ID [a] (0 to 6 inches)	Sample Description (0 to 6 inches)	Sample ID [a] (6 to 12 inches)	Sample Description (6 to 12 inches)	Sample ID [a] (12 to 24 inches)	Sample Description (12 to 24 inches)	Sample ID [a] (24+ inches)	Sample Description (24 + inches)	Comments	Deviations
SB-041	Short-core	13.5	55.626415	-132.558551	5/25/2013	11:15 AM	17	12	2013SC-SB-041-00 +MS/MSD 2013SC-SB-9041-00	0" to 12" - very fine SAND with mica, trace Silt, trace organics/plant fibers, wet, most likely tailings, olive green	2013SC-SB-041-0.5	0" to 12" - very fine SAND with mica, trace Silt, trace organics/plant fibers, wet, most likely tailings, olive green						
SB-047	Short-core	14.1	55.626467	-132.558739	5/25/2013	11:30 AM	12	12	No sample	0" to 12" - coarse brown SAND w/high levels of mica, some wood and organic debris throughout the interval, saturated at bottom (8" to 12"); no clear interface between tailings or sediment	No sample	see 0" to 6" cell	No sample		No sample		1st attempt, refusal at 6"; 2nd attempt, refusal at 12". After completing drilling, 4" of standing water in drill hole.	
SB-053	Test pit	12.7	55.626365	-132.558821	5/25/2013	12:45 PM	24	24	2013SC-SB-053-00 +MS/MSD 2013SC-SB-9053-00	0" to 6" - very fine SAND (very likely tailings) fine mica flakes throughout, trace Silt, some wood pieces throughout, wet, dark gray to olive gray	2013SC-SB-053-0.5	6" to 12" - same as 0" to 6" with abundant wood debris, wet	2013SC-SB-053-01	12" to 24" - very fine SAND with mica flakes (tailings), wood pieces, and roots throughout, wet, olive green, increased Silt			vibracore refusal at 9"; hand dug to 2 feet	
SB-173	Short-core	14.3	55.626445	-132.558631	5/25/2013	12:00 PM	19.2	19.2	2013SC-SB-173-00	0" to 19.2" - very fine SAND with mica, olive green, wet, trace Silt, most likely tailings, trace oxidized Silt/Clay at 1.5' bgs and decomposed plant matter from 1.5' to 1.6' (tailings on top of forest floor material)	2013SC-SB-173-0.5	0" to 19.2" - very fine SAND with mica, olive green, wet, trace Silt, most likely tailings, trace oxidized Silt/Clay at 1.5' bgs and decomposed plant matter from 1.5' to 1.6' (tailings on top of forest floor material)	2013SC-SB-173-01	0" to 19.2" - very fine SAND with mica, olive green, wet, trace Silt, most likely tailings, trace oxidized Silt/Clay at 1.5' bgs and decomposed plant matter from 1.5' to 1.6' (tailings on top of forest floor material)			Drill 19" before hitting refusal	Moved sample location 10 feet south of planned due to dense vegetation
SB-178	Short-core	*			5/30/2013	8:50 AM	18	12	No sample	0" to 2" - vegetation, bark, pine needles in top 2"	2013SC-SB-178-0.5	6" to 12" - gray to greenish gray SAND with some fines.					Drove core from 0.5 feet to 1.0 feet using a tube.	Location added as part of upland tailings investigation.
SB-179	Short-core		55.626971	-132.559483	5/30/2013	9:05 AM	12	12	No sample	No description	2013SC-SB-179-0.5	6" to 12" - gray to yellowish, stiff CLAY with no Sand. Same material was observed 50 ft upstream of unnamed creek					Sample collected inside unnamed creek	Sample added as part of upland tailings delineation
SB-180	Short-core	28.7	55.626878	-132.558766	5/30/2013	9:17 AM	12	12	No sample	No description	2013SC-SB-180-0.5	6" to 12" - gray to greenish gray fine SAND (tailings)						Sample added as part of upland tailings investigation
SB-220 a	Test pit	*	55.625673	-132.559407	5/30/2013	9:25 AM	6	6	2013SC-SB-220-00	50% Fines, 50% Silt, brown to dark gray							Spoon sampled	Sample added as part of upland tailings delineation (unrecognized duplicate location ID)
SB-221	Test pit	*	55.625999	-132.558951	5/30/2013	9:40 AM	6	6	2013SC-SB-221-00	75% Sand, 25% fines							Spoon sampled	Sample added as part of upland tailings delineation
UT-01	Test pit	20.7	55.626318	-132.557665	5/30/2013		12	12	No sample	1" duff, 5" tailings (green sand)	No sample	Tailings (green sand)						
UT-02	Test pit	21.6	55.626332	-132.557733	5/30/2013		12	12	No sample	3" duff, 3" tailings (green sand)	No sample	Tailings (green sand)						
UT-03	Test pit	18.1	55.626393	-132.558111	5/30/2013		10	10	No sample	2" duff, 4" tailings (green sand)	No sample	Tailings (green sand)						
UT-04	Test pit	17.3	55.626375	-132.558119	5/30/2013		12	12	No sample	3" duff, 3" tailings (green sand)	No sample	Tailings (green sand)						
UT-05	Test pit	27.9	55.626499	-132.558027	5/30/2013		6	6	No sample	6" duff and roots, no tailings								
UT-06	Test pit	19.3	55.626511	-132.558412	5/30/2013		8	8	No sample	1" duff, 5" tailings (green sand)	No sample	Tailings (green sand)						
UT-07	Test pit	19.8	55.626517	-132.55838	5/30/2013		15	15	No sample	4" duff, 2" tailings (green sand)	No sample	Tailings (green sand)	No sample	Tailings (green sand)				
UT-08	Test pit	22.2	55.626538	-132.558349	5/30/2013		10	10	No sample	5" duff, 1" tailings (green sand)	No sample	Tailings (green sand)						
UT-09	Test pit	23.0	55.626631	-132.558506	5/30/2013		4	4	No sample	4" tailings (green sand)								
UT-10	Test pit	18.5	55.626588	-132.558639	5/30/2013		6	6	No sample	1" duff, 5" tailings (green sand)								
UT-11	Test pit	20.3	55.626679	-132.558697	5/30/2013		6	6	No sample	1" duff, 5" tailings (green sand)								
UT-12	Test pit	18.9	55.626656	-132.558732	5/30/2013		11	11	No sample	3" duff, 3" tailings (green sand)	No sample	Tailings (green sand)						
UT-13	Test pit	19.6	55.626726	-132.558848	5/30/2013		17	17	No sample	5" duff, 1" tailings (green silty clay and sand)	No sample	Tailings (green silty clay and san	No sample	Tailings (green silty clay and sand)				
UT-14	Test pit	19.4	55.626766	-132.558974	5/30/2013		13	13	No sample	Brown sandy silt - high organic content	No sample	6 - 10" brown sandy silt, 10 - 13" tailings (green silty and clayey sand)	No sample					
UT-15	Test pit	14.2	55.62657	-132.558888	5/30/2013		36	36	No sample	Cut bank, tailings (green silty san	No sample	Cut bank, tailings (green silty sa	No sample	Cut bank, tailings (green silty sa	No sample	Cut bank, tailings (green silty sand)		
UT-16	Test pit	*	55.626918	-132.559033	5/30/2013		14	14	No sample	Black silty sand, no tailings	No sample	Black silty sand, no tailings	No sample	Black silty sand, no tailings				
UT-18	Test pit	*	55.626746	-132.559198	5/30/2013		36	36	No sample	Cut bank, tailings (green silty sand)	No sample	Cut bank, tailings (green silty sand)	No sample	Cut bank, tailings (green silty sand)	No sample	Cut bank, tailings (green silty sand)	Extends 30 feet upstream	
UT-19	Test pit	*	55.626531	-132.559187	5/30/2013		36	36	No sample	Cut bank, tailings (green silty sand)	No sample	Cut bank, tailings (green silty sand)	No sample	Cut bank, tailings (green silty sand)	No sample	Cut bank, tailings (green silty sand)	Extends 30 feet upstream	
UT-20	Test pit	*	55.626589	-132.559306	5/30/2013		21	21	No sample	Black silty sand, organic, no tailings	No sample	Black silty sand, organic, no tailings	No sample	Black silty sand, organic, no tailings to 20"; tailings (green silty sand) at 20 to 21"				
UT-21	Test pit	*	55.626528	-132.559261	5/30/2013		11	11	No sample	1" duff, 5" tailings (green silty sa	No sample	Tailings (green silty sand)						
UT-22	Test pit	*	55.626455	-132.55931	5/30/2013		7	7	No sample	1" duff, 5" tailings (green silty sa	No sample	Tailings (green silty sand)						
UT-23	Test pit	*	55.626345	-132.559502	5/30/2013		7	7	No sample	Brown organic silty sand	No sample	Brown organic silty sand						
UT-24	Test pit	*	55.626402	-132.559189	5/30/2013		6	6	No sample	1" duff, 5" tailings (green silty sand)								

TABLE 2-6
Short-core and Test Pit Sample Information - Upland Tailings Investigation
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Type	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Depth	Core Recovered (inches)	Sample ID [a] (0 to 6 inches)	Sample Description (0 to 6 inches)	Sample ID [a] (6 to 12 inches)	Sample Description (6 to 12 inches)	Sample ID [a] (12 to 24 inches)	Sample Description (12 to 24 inches)	Sample ID [a] (24+ inches)	Sample Description (24 + inches)	Comments	Deviations
UT-25	Test pit	*	55.626266	-132.559159	5/30/2013		5	5	No sample	1" duff, 4" tailings (green silty sand)								
Ut-26	Test pit	*	55.626181	-132.559273	5/30/2013		12	12	No sample	Brown organic silty sand	No sample	Brown organic silty sand					Boggy low point	
UT-27	Test pit	*	55.626164	-132.55911	5/30/2013		12	12	No sample	Brown organic silty sand	No sample	Brown organic silty sand						
UT-28	Test pit	*	55.626116	-132.559185	5/30/2013		18	18	No sample	Duff	No sample	6 - 7" duff, 7-10" tailings (green silty sand), 10 - 12" brown organic silty sand	No sample	Brown organic silty sand				
UT-29	Test pit	*	55.626153	-132.559055	5/30/2013		8	8	No sample	2" duff, 4" tailings (green silty sa	No sample	Tailings (green silty sand)						
UT-30	Test pit	*	55.625869	-132.559323	5/30/2013		7	7	No sample	2" duff, 4" tailings (green silty sa	No sample	Tailings (green silty sand)						
UT-32	Test pit	13.7	55.625951	-132.558966	5/30/2013		9	9	No sample	1" duff, 5" tailings (green silty sa	No sample	Tailings (green silty sand)						
UT-33	Test pit	14.0	55.625623	-132.558751	5/30/2013		9	9	No sample	Duff	No sample	Duff						

Notes:

[a] Number at the end of each Sample ID indicates the top of the sample interval. The first two intervals are 0.5 ft thick (0 to 0.5 ft and 0.5 to 1 ft), remaining intervals are 1 ft thick

MS/MSD = matrix spike/matrix spike duplicate

TABLE 2-7

Upland Short Core and Test Pit Sample Analyses

2013 Salt Chuck Mine Superfund Site Field Data Report

Location	Activity ID	Sample Type	Depth (feet)	Sample Date	Analytical Suite and Laboratory		
					Cr-VI (Manchester Environmental Laboratory)	Mercury (A4 Scientific)	TAL Metals [a] (A4 Scientific)
SB-041	2013SC-SB-041-00-20130525	N	0 - 0.5	5/25/2013	x	x	x
SB-041	2013SC-SB-9041-00-20130525FD	FD	0 - 0.5	5/25/2013	x	x	x
SB-041	2013SC-SB-041-0.5-20130525	N	0.5 - 1	5/25/2013		x	x
SB-053	2013SC-SB-053-00-20130525	N	0 - 0.5	5/25/2013	x	x	x
SB-053	2013SC-SB-9053-00-20130525FD	FD	0 - 0.5	5/25/2013		x	x
SB-053	2013SC-SB-053-0.5-20130525	N	0.5 - 1	5/25/2013		x	x
SB-053	2013SC-SB-053-01-20130525	N	1 - 2	5/25/2013		x	x
SB-173	2013SC-SB-173-00-20130525	N	0 - 0.5	5/25/2013		x	x
SB-173	2013SC-SB-173-0.5-20130525	N	0.5 - 1	5/25/2013		x	x
SB-173	2013SC-SB-173-01-20130525	N	1 - 1.6	5/25/2013		x	x
SB-173	2013SC-SB-9173-01-20130525FD	FD	1 - 2	5/25/2013		x	x
SB-178	2013SC-SB-178-0.5-20130530	N	0.5 - 1	5/30/2013		x	x
SB-179	2013SC-SB-179-00-20130530	N	0 - 0.5	5/30/2013		x	x
SB-180	2013SC-SB-180-0.5-20130530	N	0.5 - 1	5/30/2013		x	x
SB-220a	2013SC-SB-220-00-20130530	N	0 - 0.5	5/30/2013		x	x
SB-221	2013SC-SB-221-00-20130530	N	0 - 0.5	5/30/2013		x	x

Notes:

[1] Activity ID is a combination of the sample ID, date sampled and sample type if field duplicate.

[a] TAL metals include aluminum, antimony, arsenic, barium, beryllium, cadmium, cobalt, chromium (total), copper, iron, lead, manganese, magnesium, nickel, selenium, silver, thallium, vanadium, zinc.

Cr VI = hexavalent chromium

N = normal

FD = field duplicate

TABLE 2-8
Marine Porewater Sample Information
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Sample ID	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Location Type (airstone or drive point)	Airstone Sample Depth (inches)	Drive-point Sample Depth (feet)	Conductivity (ms/cm)	Temperature (deg. C)	DO (mg/L)	pH	Salinity (units as indicated)[a]	Turbidity (NTU)	Comments	Deviations
PW-001	None															No sample	Not installed - other samples in close proximity
PW-002	2013SC-PW-002	10.0	55.626075	-132.557391	5/28/2013	7:15 AM	Drive-point	NA	3	88.6	13.39	6.42	7.52	> 4.0%	0.00		
PW-003	2013SC-PW-003	11.6	55.626012	-132.557277	5/28/2013	8:05 AM	Drive-point	NA	3.5	> 99.9	13.84	5.22	7.30	> 4.0%	2.50	Collected field duplicate 2013SC-PW-9003; conductivity out of range	
PW-006	2013SC-PW-006	12.0	55.626174	-132.557538	5/28/2013	6:50 AM	Drive-point	NA	3	79.9	13.47	7.05	6.38	> 4.0 %	0.30		
PW-008	2013SC-PW-008	11.3	55.625875	-132.557111	5/27/2013	1:40 PM	Drive-point	NA	3.5	> 99.9	16.78	6.76	7.45	26 ppt	0.00	Turbidity value flashing 0.0; conductivity out of range	
PW-014	2013SC-PW-014	7.6	55.625835	-132.556671	5/27/2013	11:25 AM	Drive-point	NA	3	70.9	15.94	6.65	7.57	16 ppt	0.00	Turbidity value flashing 0.0; MS/MSD collected	
PW-016	2013SC-PW-016	8.7	55.625835	-132.556351	5/26/2013	7:28 AM	Airstone	19.5	NA	--	--	--	--	8 ppt			
PW-017	2013SC-PW-017	8.6	55.625765	-132.557001	5/26/2013	7:55 AM	Airstone	23	NA	--	--	--	--	17 ppt			
PW-022	2013SC-PW-022	11.0	55.625615	-132.557271	5/26/2013	6:44 AM	Airstone	23	NA	--	--	--	--	27 ppt			
PW-027	2013SC-PW-027	8.8	55.625755	-132.556151	5/26/2013	7:35 AM	Airstone	18	NA	--	--	--	--	3 ppt			
PW-030	2013SC-PW-030	6.2	55.625575	-132.556821	5/26/2013	8:23 AM	Airstone	19.5	NA	--	--	--	--	11 ppt			
PW-037	2013SC-PW-037	10.7	55.625485	-132.557641	5/26/2013	6:36 AM	Airstone	21.5	NA	--	--	--	--	29 ppt			
PW-042	2013SC-PW-042	8.1	55.625615	-132.555911	5/26/2013	7:41 AM	Airstone	23.5	NA	--	--	--	--	12 ppt			
PW-045	2013SC-PW-045	10.4	55.625415	-132.558001	5/26/2013	6:27 AM	Airstone	23	NA	--	--	--	--	33 ppt			
PW-055	2013SC-PW-055	7.1	55.625235	-132.556511	5/26/2013	8:31 AM	Airstone	24	NA	--	--	--	--	26 ppt		Collected field duplicate 2013SC-PW-9055	
PW-056	2013SC-PW-056	8.8	55.625465	-132.555661	5/26/2013	7:48 AM	Airstone	24	NA	--	--	--	--	25 ppt			
PW-064	2013SC-PW-064	4.6	55.625135	-132.556031	5/26/2013	6:45 AM	Airstone	22	NA	--	--	--	--	29 ppt			
PW-065	2013SC-PW-065	5.6	55.625235	-132.555691	5/26/2013	6:55 AM	Airstone	24	NA	--	--	--	--	19 ppt			
PW-066	2013SC-PW-066	6.3	55.625045	-132.556331	5/26/2013	8:47 AM	Airstone	21.5	NA	--	--	--	--	18 ppt			
PW-068	2013SC-PW-068	8.5	55.625325	-132.555411	5/26/2013	7:00 AM	Airstone	21	NA	--	--	--	--	19 ppt			
PW-069	2013SC-PW-069	7.5	55.624965	-132.556581	5/26/2013	6:30 AM	Airstone	23	NA	--	--	--	--	27 ppt			
PW-071	2013SC-PW-071	8.0	55.624855	-132.556951	5/26/2013	6:20 AM	Airstone	23	NA	--	--	--	--	26 ppt		Collected field duplicate 2013SC-PW-9071	
PW-073	2013SC-PW-073	5.0	55.624845	-132.556151	5/26/2013	8:56 AM	Airstone	23.5	NA	--	--	--	--	20 ppt			
PW-074	2013SC-PW-074	8.2	55.625175	-132.555161	5/26/2013	7:10 AM	Airstone	24	NA	--	--	--	--	25 ppt			
PW-076	2013SC-PW-076	8.1	55.624745	-132.557301	5/26/2013	6:11 AM	Airstone	24	NA	--	--	--	--	30 ppt		MS/MSD collected	
PW-080	2013SC-PW-080	8.2	55.625025	-132.554911	5/26/2013	7:20 AM	Airstone	23.5	NA	--	--	--	--	28 ppt			
PW-081	2013SC-PW-081	4.3	55.624635	-132.555951	5/26/2013	9:10 AM	Airstone	18.5	NA	--	--	--	--	26 ppt			
PW-086	2013SC-PW-086	4.0	55.624475	-132.555811	5/26/2013	9:20 AM	Airstone	24	NA	--	--	--	--	25 ppt			
PW-088	2013SC-PW-088	7.1	55.624855	-132.554621	5/26/2013	7:30 AM	Airstone	24	NA	--	--	--	--	25 ppt			
PW-090	2013SC-PW-090	3.0	55.624535	-132.555061	5/26/2013	8:05 AM	Airstone	19	NA	--	--	--	--	22 ppt		Placed 100 mL in clear glass jar to settle out fines (airstone may have failed) sample filtering postponed until fines settled out	
PW-091	2013SC-PW-091	4.1	55.624405	-132.555471	5/26/2013	9:20 AM	Airstone	23	NA	--	--	--	--	27 ppt		Collected field duplicate 2013SC-PW-9091	
PW-092	2013SC-PW-092	4.1	55.624635	-132.554731	5/26/2013	8:13 AM	Airstone	17	NA	--	--	--	--	NR		Took ~ 1 hr to pull and filter 100 mL	Field duplicate moved to different location
PW-094	2013SC-PW-094	4.0	55.624265	-132.555931	5/26/2013	9:40 AM	Airstone	20	NA	--	--	--	--	29 ppt			
PW-096	2013SC-PW-096	7.0	55.624745	-132.554491	5/26/2013	7:35 AM	Airstone	23.5	NA	--	--	--	--	22 ppt			
PW-097	2013SC-PW-097	4.0	55.624175	-132.556241	5/26/2013	9:41 AM	Airstone	22	NA	--	--	--	--	29 ppt			
PW-100	2013SC-PW-100	4.3	55.624085	-132.557031	5/26/2013	9:48 AM	Airstone	23	NA	--	--	--	--	25 ppt			
PW-101	2013SC-PW-101	4.9	55.624095	-132.557501	5/26/2013	9:55 AM	Airstone	21.5	NA	--	--	--	--	25 ppt			
PW-102	2013SC-PW-102	4.0	55.624075	-132.556561	5/26/2013	9:50 AM	Airstone	24	NA	--	--	--	--	29 ppt			
PW-103	2013SC-PW-103	3.8	55.624195	-132.555541	5/26/2013	9:31 AM	Airstone	18	NA	--	--	--	--	24 ppt			
PW-169	2013SC-PW-169	8.4	55.625945	-132.557951	5/26/2013	7:08 AM	Airstone	20	NA	--	--	--	--	19 ppt			
PW-170	2013SC-PW-170	7.3	55.625835	-132.557951	5/26/2013	7:16 AM	Airstone	18	NA	--	--	--	--	23 ppt			
PW-171	2013SC-PW-171	7.8	55.626105	-132.558121	5/26/2013	6:55 AM	Airstone	16.5	NA	--	--	--	--	19 ppt			
PW-174	2013SC-PW-174	9.3	55.625734	-132.555858	5/27/2013	10:15 AM	Drive-point	NA	4.25	63.3	15.45	7.93	6.16	11 ppt	0.00	Turbidity readings flashing 0.0	
PW-175	2013SC-PW-175	11.3	55.625637	-132.555355	5/27/2013	9:06 AM	Drive-point	NA	5	99.9	14.9	5.57	7.24	28 ppt	0.00	Turbidity and conductivity values flashing; malfunction and out of range	
PW-511	2013SC-PW-511	*	55.587645	-132.546961	5/29/2013	10:25 AM	Airstone	NR	NA	--	--	--	--	30 ppt			
PW-512	2013SC-PW-512	*	55.587955	-132.547291	5/29/2013	10:40 AM	Airstone	NR	NA	--	--	--	--	28 ppt			
PW-513	2013SC-PW-513	*	55.589225	-132.547611	5/29/2013	10:50 AM	Airstone	NR	NA	--	--	--	--	30 ppt			

Notes:

[a] Salinity measured using Horriba (%) in selected drive-point samples, salinity measured using refractometer (ppt) in selected drive-point samples and in airstone samples.

-- not measured at airstone locations due to limited volume

* Sample location outside of area surveyed for elevation

ppt = parts per thousand

NR = not recorded

NA = not applicable

MS/MSD = matrix spike/matrix spike duplicate

TABLE 2-9
Marine Porewater Analyses
2013 Salt Chuck Mine Superfund Site Field Data Report

Location	Sample Type	Activity ID	Sample Date	Depth (feet)	Analytical Suite and Laboratory		
					Dissolved Mercury (A4 Scientific)	Dissolved TAL Metals [a] (A4 Scientific)	PAHs (KAP Technologies)
PW-002	N	2013SC-PW-002-20130528	5/28/2013	0 - 3	x	x	x
PW-003	N	2013SC-PW-003-20130528	5/28/2013	0 - 3	x	x	x
PW-003	FD	2013SC-PW-9003-20130528FD	5/28/2013	0 - 3	x	x	x
PW-006	N	2013SC-PW-006-20130528	5/28/2013	0 - 3	x	x	
PW-008	N	2013SC-PW-008-20130527	5/27/2013	0 - 3	x	x	x
PW-014	N	2013SC-PW-014-20130527	5/27/2013	0 - 2	x	x	x
PW-016	N	2013SC-PW-016-20130526	5/26/2013	0 - 2	x	x	
PW-017	N	2013SC-PW-017-20130526	5/26/2013	0 - 2	x	x	
PW-022	N	2013SC-PW-022-20130526	5/26/2013	0 - 2	x	x	
PW-027	N	2013SC-PW-027-20130526	5/26/2013	0 - 2	x	x	
PW-030	N	2013SC-PW-030-20130526	5/26/2013	0 - 2	x	x	
PW-037	N	2013SC-PW-037-20130526	5/26/2013	0 - 2	x	x	
PW-042	N	2013SC-PW-042-20130526	5/26/2013	0 - 2	x	x	
PW-045	N	2013SC-PW-045-20130526	5/26/2013	0 - 2	x	x	
PW-055	N	2013SC-PW-055-20130526	5/26/2013	0 - 2	x	x	
PW-055	FD	2013SC-PW-9055-20130526FD	5/26/2013	0 - 2	x	x	
PW-056	N	2013SC-PW-056-20130526	5/26/2013	0 - 2	x	x	
PW-064	N	2013SC-PW-064-20130526	5/26/2013	0 - 2	x	x	
PW-065	N	2013SC-PW-065-20130526	5/26/2013	0 - 2	x	x	
PW-066	N	2013SC-PW-066-20130526	5/26/2013	0 - 2	x	x	
PW-068	N	2013SC-PW-068-20130526	5/26/2013	0 - 2	x	x	
PW-069	N	2013SC-PW-069-20130526	5/26/2013	0 - 2	x	x	
PW-071	N	2013SC-PW-071-20130526	5/26/2013	0 - 2	x	x	
PW-071	FD	2013SC-PW-9071-20130526FD	5/26/2013	0 - 2	x	x	
PW-073	N	2013SC-PW-073-20130526	5/26/2013	0 - 2	x	x	
PW-074	N	2013SC-PW-074-20130526	5/26/2013	0 - 2	x	x	
PW-076	N	2013SC-PW-076-20130526	5/26/2013	0 - 2	x	x	
PW-080	N	2013SC-PW-080-20130526	5/26/2013	0 - 2	x	x	
PW-081	N	2013SC-PW-081-20130526	5/26/2013	0 - 2	x	x	
PW-086	N	2013SC-PW-086-20130526	5/26/2013	0 - 2	x	x	
PW-088	N	2013SC-PW-088-20130526	5/26/2013	0 - 2	x	x	
PW-090	N	2013SC-PW-090-20130526	5/26/2013	0 - 2	x	x	
PW-091	N	2013SC-PW-091-20130526	5/26/2013	0 - 2	x	x	
PW-091	FD	2013SC-PW-9091-20130526FD	5/26/2013	0 - 2	x	x	
PW-092	N	2013SC-PW-092-20130526	5/26/2013	0 - 2	x	x	
PW-094	N	2013SC-PW-094-20130526	5/26/2013	0 - 2	x	x	
PW-096	N	2013SC-PW-096-20130526	5/26/2013	0 - 2	x	x	
PW-097	N	2013SC-PW-097-20130526	5/26/2013	0 - 2	x	x	
PW-100	N	2013SC-PW-100-20130526	5/26/2013	0 - 2	x	x	
PW-101	N	2013SC-PW-101-20130526	5/26/2013	0 - 2	x	x	
PW-102	N	2013SC-PW-102-20130526	5/26/2013	0 - 2	x	x	
PW-103	N	2013SC-PW-103-20130526	5/26/2013	0 - 2	x	x	
PW-169	N	2013SC-PW-169-20130526	5/26/2013	0 - 2	x	x	
PW-170	N	2013SC-PW-170-20130526	5/26/2013	0 - 2	x	x	
PW-171	N	2013SC-PW-171-20130526	5/26/2013	0 - 2	x	x	
PW-174	N	2013SC-PW-174-20130527	5/27/2013	0 - 3	x	x	x
PW-175	N	2013SC-PW-175-20130527	5/27/2013	0 - 3	x	x	x
PW-511	N	2013SC-PW-511-20130529	5/29/2013	0 - 2	x	x	
PW-512	N	2013SC-PW-512-20130529	5/29/2013	0 - 2	x	x	
PW-513	N	2013SC-PW-513-20130529	5/29/2013	0 - 2	x	x	

Notes:

[1] Activity ID is a combination of the sample ID, date sampled and sample type if field duplicate.

[a] TAL metals include aluminum, antimony, arsenic, barium, beryllium, cadmium, cobalt, chromium (total), copper, iron, lead, manganese, magnesium, nickel, selenium, silver, thallium, vanadium, zinc

N = normal

FD = field duplicate

PAHs = polycyclic aromatic hydrocarbons

TABLE 2-10
Surface Water Sample Information
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Sample ID	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Conductivity (ms/cm)	Temperature (deg. C)	DO (mg/L)	pH	Salinity (units as indicated)[a]	Turbidity (NTU)	Comments	Deviations
SW-015	2013SC-SW-015	6.9	55.626025	-132.557781	5/25/2013	9:00 AM	1.33	NR	10.9	6.99	0.10%	48.0	parameters measured one day later on 5/26/13 at 13:00 during sample processing; DO measurement not representative	Diss. Metals collected 5.25.13; PAH sample collected on 5/26/13
SW-029	2013SC-SW-029	5.1	55.625625	-132.556521	5/25/2013	9:00 AM	91.1	16.5	6.48	8.58	> 4.0%	2.2	Fine sand with silt at bottom. Sample collected at outlet of seepage zone. Sculpin.	
SW-075	2013SC-SW-075	3.7	55.624945	-132.555731	5/25/2013	8:45 AM	98.1	17.35	6.52	8.45	> 4.0%	2.7	Silt with fine sand on bottom, seaweed (10% cover), marine life - hermit crab, shrimp/sculpin (difficult to see - moved quickly)	
SW-084	2013SC-SW-084	4.5	55.624435	-132.557641	5/25/2013	8:45 AM	8.75	13.48	10.86	8.51	0.50%	5.0		
SW-085	2013SC-SW-085	6.0	55.625105	-132.554341	5/25/2013	8:35 AM	369.7	12.83	9.07	7.71	2.30%	3.9	Fine sand with silt on bottom. Algae and seaweed (~40% cover)	
SW-098	2013SC-SW-098	7.2	55.624625	-132.554541	5/25/2013	8:25 AM	51.5	12.14	9.87	8.02	3.30%	NR	Turbidity meter not working. Fine sand and silt. Cut bank on right side of stream (looking downstream). Seaweed.	
SW-099	2013SC-SW-099	2.5	55.624385	-132.555091	5/25/2013	8:10 AM	86.3	12.03	7.76	8.06	> 4.0%	116.0	High turb. reading but no visual indication of high turbidity. Fine sand with silt on bottom. Algal mat on upland banks.	
SW-104	2013SC-SW-104	3.0	55.623935	-132.558501	5/25/2013	8:30 AM	41.3	11.71	10.7	8.35	2.70%	2.7		
SW-105	2013SC-SW-105	1.1	55.623815	-132.555701	5/25/2013	8:15 AM	57.1	11.14	9.44	8.16	3.70%	2.6		
SW-106	2013SC-SW-106	*	55.625055	-132.561231	5/25/2013	9:40 AM	21.5	14.7	11.56	8.9	1.30%	0.0	Gravel and coarse sand; riverbed.	
SW-108	2013SC-SW-108	*	55.623455	-132.554301	5/25/2013	8:00 AM	62.4	10.88	8.68	7.98	4%	2.1		
SW-108	2013SC-SW-108-0400	*	55.623455	-132.554301	5/26/2013	4:00 AM	--	--	--	--	--	--	Collected samples at every hour from 04:00 AM to 12:00 PM for full tide cycle	
SW-108	2013SC-SW-108-0500	*	55.623455	-132.554301	5/26/2013	5:00 AM	--	--	--	--	--	--	Collected samples at every hour from 04:00 AM to 12:00 PM for full tide cycle	
SW-108	2013SC-SW-108-0600	*	55.623455	-132.554301	5/26/2013	6:00 AM	--	--	--	--	--	--	Collected samples at every hour from 04:00 AM to 12:00 PM for full tide cycle	
SW-108	2013SC-SW-108-0700	*	55.623455	-132.554301	5/26/2013	7:00 AM	--	--	--	--	--	--	Collected samples at every hour from 04:00 AM to 12:00 PM for full tide cycle	
SW-108	2013SC-SW-108-0800	*	55.623455	-132.554301	5/26/2013	8:00 AM	--	--	--	--	--	--	Collected samples at every hour from 04:00 AM to 12:00 PM for full tide cycle	
SW-108	2013SC-SW-108-0900	*	55.623455	-132.554301	5/26/2013	9:00 AM	--	--	--	--	--	--	Collected samples at every hour from 04:00 AM to 12:00 PM for full tide cycle	
SW-108	2013SC-SW-108-1000	*	55.623455	-132.554301	5/26/2013	10:00 AM	--	--	--	--	--	--	Collected samples at every hour from 04:00 AM to 12:00 PM for full tide cycle	
SW-108	2013SC-SW-108-1100	*	55.623455	-132.554301	5/26/2013	11:00 AM	--	--	--	--	--	--	Collected samples at every hour from 04:00 AM to 12:00 PM for full tide cycle	
SW-108	2013SC-SW-108-1200	*	55.623455	-132.554301	5/26/2013	12:00 PM	--	--	--	--	--	--	Collected samples at every hour from 04:00 AM to 12:00 PM for full tide cycle	
SW-113	2013SC-SW-113	*	55.623205	-132.552921	5/25/2013	7:50 AM	>99.9	10.78	7.12	7.84	>4.0%	3.0	Live crab in water, gravelly bottomed, seaweed (~60 % cover)	Moved location ~25 feet downstream to be in flow
SW-501	2013SC-SW-501	*	55.598455	-132.549681	5/28/2013	1:00 PM	--	--	--	--	30 ppt	--		
SW-503	2013SC-SW-503	*	55.596695	-132.545041	5/28/2013	1:25 PM	--	--	--	--	30 ppt	--		
SW-505	2013SC-SW-505	*	55.594125	-132.549861	5/28/2013	1:20 PM	--	--	--	--	30 ppt	--		
SW-507	2013SC-SW-507	*	55.593735	-132.541491	5/28/2013	1:30 PM					29 ppt			
SW-509	2013SC-SW-509	*	55.590685	-132.548551	5/28/2013	1:10 PM	--	--	--	--	29 ppt	--	Field duplicate 2013SC-SW-9509	
SW-600	2013SC-SW-600	*	55.592795	-132.550791	5/29/2013	11:10 AM	--	--	--	--	30 ppt	--		

Notes:

[a] Salinity measured using Horriba (%) in on-site surface water samples, salinity measured using refractometer (ppt) in background surface water locations

ppt = parts per thousand

-- = not measured

* Sample location outside of area surveyed for elevation

mS/cm = millisiemens per centimeter

NTU = nephelometric turbidity unit

mg/L = milligrams per liter

deg. C = degrees Celcius

mV = millivolt

% = percent

TABLE 2-11
Surface Water Analyses
2013 Salt Chuck Mine Superfund Site Field Data Report

Location	Sample Type	Activity ID	Sample Date	Analytical Suite and Laboratory				
				PAHs (KAP Technologies)	Total TAL Metals [a] (A4 Scientific)	Total Mercury (A4 Scientific)	Dissolved Mercury (A4 Scientific)	Dissolved TAL Metals [a] (A4 Scientific and ALS Environmental[b])
SW-015	N	2013SC-SW-015-20130525	5/25/2013	x			x	x
SW-029	N	2013SC-SW-029-20130525	5/25/2013	x			x	x
SW-075	N	2013SC-SW-075-20130525	5/25/2013	x			x	x
SW-084	N	2013SC-SW-084-20130525	5/25/2013	x			x	x
SW-084	FD	2013SC-SW-9084-20130525FD	5/25/2013	x			x	x
SW-085	N	2013SC-SW-085-20130525	5/25/2013				x	x
SW-098	N	2013SC-SW-098-20130525	5/25/2013				x	x
SW-099	N	2013SC-SW-099-20130525	5/25/2013	x			x	x
SW-104	N	2013SC-SW-104-20130525	5/25/2013		x	x	x	x
SW-105	N	2013SC-SW-105-20130525	5/25/2013		x	x	x	x
SW-106	N	2013SC-SW-106-20130525	5/25/2013		x	x	x	x
SW-106	FD	2013SC-SW-9106-20130525FD	5/25/2013		x	x	x	x
SW-108	N	2013SC-SW-108-0800-20130525	5/25/2013				x	x
SW-108	N	2013CS-SW-108-0400-20130526	5/26/2013				x	x
SW-108	N	2013CS-SW-108-0500-20130526	5/26/2013				x	x
SW-108	N	2013CS-SW-108-0700-20130526	5/26/2013				x	x
SW-108	N	2013CS-SW-108-0800-20130526	5/26/2013				x	x
SW-108	N	2013CS-SW-108-0900-20130526	5/26/2013				x	x
SW-108	N	2013CS-SW-108-1000-20130526	5/26/2013				x	x
SW-108	N	2013CS-SW-108-1100-20130526	5/26/2013				x	x
SW-108	N	2013CS-SW-108-1200-20130526	5/26/2013				x	x
SW-108	N	2013SC-SW-108-0600-20130526	5/26/2013				x	x
SW-108	FD	2013SC-SW-9108-0700-20130526FD	5/26/2013				x	x
SW-113	N	2013SC-SW-113-20130525	5/25/2013				x	x
SW-501	N	2013SC-SW-501-20130528	5/28/2013				x	x
SW-503	N	2013SC-SW-503-20130528	5/28/2013				x	x
SW-505	N	2013SC-SW-505-20130528	5/28/2013				x	x
SW-507	N	2013SC-SW-507-20130528	5/28/2013				x	x
SW-509	N	2013SC-SW-509-20130528	5/28/2013				x	x
SW-509	FD	2013SC-SW-9509-20130528FD	5/28/2013				x	x

Notes:

[1] Activity ID is a combination of the sample ID, date sampled and sample type if field duplicate.

[a] TAL metals include aluminum, antimony, arsenic, barium, beryllium, cadmium, cobalt, chromium (total), copper, iron, lead, manganese, magnesium, nickel, selenium, silver, thallium, vanadium, zinc

[b] Reanalyzed surface water samples for chromium, cobalt, copper, iron, lead, nickel, selenium, silver, thallium, and vanadium

N = normal environmental sample

FD = field duplicate

PAHs = polycyclic aromatic hydrocarbons

TABLE 2-12
Marine Biota Sample Information
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Sample ID	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Species	Specimen 1 Size	Specimen 1 Weight	Specimen 2 Size	Specimen 2 Weight	Specimen 3 Size	Specimen 3 Weight	Total Weight Submitted	Comments	Deviations
2013-SC-Biota-107	2013-SC-Biota-107-Crab	*	55.623635	-132.550651	5/28/2013	3:00 PM	Dungeness Crab	7.0 inches	828 grams	6.75 inches	764 grams	7.0 inches	972 grams	105 grams		Trap left 2 days at original location but no crabs. Moved location to match where crab are in deeper water
2013-SC-Biota -130	2013-SC-Biota-130-Crab	*	55.622735	-132.551921	5/24/2013	7:15 AM	Dungeness Crab	6.625 inches	764 grams	6.5 inches	635 grams	6.625 inches	753 grams	105 grams	Relocated map location to Lake Ellen Cr north of Unnamed Island centered with island just off (N) of largest boulder	
2013-SC-Biota-138	2013-SC-Biota-138-Crab	*	55.618755	-132.552911	5/22/2013	6:30 AM	Dungeness Crab	7.0 inches	854 grams	6.5 inches	666 grams	6.75 inches	814 grams	120 grams		
2013-SC-Biota-142	2013-SC-Biota-142-Crab	*	55.6193	-132.544809	5/23/2013	7:30 AM	Dungeness Crab	6.75 inches	790 grams	6.5 inches	750 grams	6.875 inches	834 grams	102 grams		
2013-SC-Biota-148	2013-SC-Biota-148-Crab	*	55.612985	-132.549471	5/27/2013	3:30 PM	Dungeness Crab	6.5 inches	689 grams	6.25 inches	625 grams	6.25 inches	614 grams	99 grams	Collected a field duplicate; 2013-SC-Biota-9148 at 13:35	Moved location to match crab
2013-SC-Biota-148	2013-SC-Biota-9148-Crab	*	55.612985	-132.549471	5/27/2013	1:35 PM	Dungeness Crab	6.5 inches	796 grams	7.0 inches	1006 grams	6.375 inches	699 grams	108 grams	Duplicate of 148	
2013-SC-Biota-149	2013-SC-Biota-149-Crab	*	55.613085	-132.548051	5/28/2013	2:49 PM	Dungeness Crab	6.75 inches	886 grams	6.625 inches	883 grams	6.625 inches	933 grams	123 grams		
2013-SC-Biota-150	2013-SC-Biota-150-Crab	*	55.610365	-132.551718	5/27/2013	3:55 PM	Dungeness Crab	6.25 inches	608 grams	6.25 inches	596 grams	6.625 inches	759 grams	100 grams		
2013SC-Biota-151	2013SC-Biota-151-Crab	*	55.609915	-132.546621	5/28/2013	3:28 PM	Dungeness Crab	7.0 inches	917 grams	7.0 inches	990 grams	6.625 inches	858 grams	106 grams		
2013SC-Biota-152	2013SC-Biota-152-Crab	*	55.616985	-132.553081	5/28/2013	3:20 PM	Dungeness Crab	6.75 inches	909 grams	6.875 inches	871 grams	6.875 inches	827 grams	118 grams		Location moved to match where crab are
2013SC-Biota-153	2013SC-Biota-153-Crab	*	55.606145	-132.550691	5/27/2013	4:05 PM	Dungeness Crab	6.75 inches	889 grams	6.5 inches	779 grams	6.875 inches	949 grams	100 grams		
2013SC-Biota-500	2013SC-Biota-500-Crab	*	55.591775	-132.553171	5/29/2013	11:20 AM	Dungeness Crab	7.0 inches	968 grams	6.625 inches	883 grams	7.0 inches	982 grams	120 grams		
2013SC-Biota-502	2013SC-Biota-502-Crab	*	55.592745	-132.554331	5/29/2013	11:30 AM	Dungeness Crab	7.25 inches	1090 grams	7.0 inches	966 grams	7.5 inches	1159 grams	123 grams		
2013SC-Biota-504	2013SC-Biota-504-Crab	*	55.596985	-132.554161	5/29/2013	11:40 AM	Dungeness Crab	6.75 inches	789 grams	7.0 inches	953 grams	7.0 inches	902 grams	121 grams		
2013SC-Biota-506	2013SC-Biota-506-Crab	*	55.590285	-132.546901	5/29/2013	11:55 AM	Dungeness Crab	6.5 inches	717 grams	7.0 inches	961 grams	6.75 inches	814 grams	NR*		
2013SC-Biota-508	2013SC-Biota-508-Crab	*	55.589485	-132.545681	5/29/2013	12:00 PM	Dungeness Crab	6.875 inches	785 grams	6.5 inches	830 grams	6.125 inches	681 grams	127 grams		

Notes:
NR = not recorded - assumed to be > 100 grams
* Sample location outside of area surveyed for elevation

TABLE 2-13
Marine Biota Analyses
2013 Salt Chuck Mine Superfund Site Field Data Report

Location	Sample Type	Activity ID	Sample Date	Analytical Suite and Laboratory			
				Mercury (A4 Scientific)	TAL Metals [a] (A4 Scientific)	Arsenic Speciation (Manchester Environmental Lab)	Lipids (Manchester Environmental Lab)
BIOTA-107	N	2013SC-Biota-107-CR-20130525	5/25/2013	x	x	x	x
BIOTA-130	N	2013SC-Biota-130-CR-20130524	5/24/2013	x	x	x	x
BIOTA-138	N	2013SC-Biota-138-CR-20130522	5/22/2013	x	x	x	x
BIOTA-142	N	2013SC-Biota-142-CR-20130523	5/23/2013	x	x	x	x
BIOTA-148	N	2013SC-Biota-148-CR-20130527	5/27/2013	x	x	x	x
BIOTA-148	FD	2013SC-Biota-9148-CR-20130527FD	5/27/2013	x	x	x	x
BIOTA-149	N	2013SC-Biota-149-CR-20130528	5/28/2013	x	x	x	x
BIOTA-150	N	2013SC-Biota-150-CR-20130527	5/27/2013	x	x	x	x
BIOTA-151	N	2013SC-Biota-151-CR-20130528	5/28/2013	x	x	x	x
BIOTA-152	N	2013SC-Biota-152-CR-20130528	5/28/2013	x	x	x	x
BIOTA-153	N	2013SC-Biota-153-CR-20130527	5/27/2013	x	x	x	x
BIOTA-500	N	2013SC-Biota-500-CR-20130529	5/29/2013	x	x	x	x
BIOTA-502	N	2013SC-Biota-502-CR-20130529	5/29/2013	x	x	x	x
BIOTA-504	N	2013SC-Biota-504-CR-20130529	5/29/2013	x	x	x	x
BIOTA-506	N	2013SC-Biota-506-CR-20130529	5/29/2013	x	x	x	x
BIOTA-508	N	2013SC-Biota-508-CR-20130528	5/28/2013	x	x	x	x

Notes:

[1] Activity ID is a combination of the sample ID, date sampled and sample type if field duplicate.

[a] TAL metals include aluminum, antimony, arsenic, barium, beryllium, cadmium, cobalt, chromium (total), copper, iron, lead, manganese, magnesium, nickel, selenium, silver, thallium, vanadium, zinc

N = normal environmental sample

FD = field duplicate

TABLE 2-14
Groundwater Sample Information
2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Sample ID	Elevation (feet NAVD88)	Latitude	Longitude	Date	Time	Depth to GW (feet)	Total well depth (feet)	Volume Purged	pH	Conductivity (ms/cm)	Turbidity (NTU)	DO (mg/L)	Temperature (deg. C)	ORP (mV)	Salinity (%)	Comments	Deviations
GW-01	2013SC-GW-01	24.6	55.626065	-132.555981	5/25/2013	11:55 AM	6.12	12.1	4,100 mL	5.67	0.14	15.7	0	10.28	89	0	Field Duplicate at 12:05; DO sensor may have malfunctioned	
GW-02	2013SC-GW-02	20.0	55.626075	-132.556981	5/26/2013	10:40 AM	5.65	8.33	0.4 gallons	5.18	0.226	62.9	4.79	9.28	213	0	Purged well dry 6 times during sampling attempt. Only filled Metals bottles	Dissolved and total metals analyses only due to volume limitations
GW-03	2013SC-GW-03	20.1	55.626105	-132.556981	5/25/2013	11:20 AM	5.34	9.58	1.10 gallons	6.37	0.528	0	2	9.26	38	0	Turbidity flashing 0.0, slight sheen on purge water	
GW-04	2013SC-GW-04	23.0	55.626235	-132.556981	5/26/2013	10:10 AM	6.01	8.1	1,770 mL	6.64	0.419	519	0	10.14	-70	0	Fuel odor from purge water; DO sensor may have malfunctioned; turbidity readings jumping +/- 12.0	
GW-06	2013SC-GW-06	35.0	55.62642	-132.557266	5/26/2013	2:40 PM	3.8	4.92	1000 mL	5.34	0.91	-5	1.88	12.26	218	0	Turbidity flashing; colloidal material settling in sample bottle	Sample not submitted due to colloidal material
GW-05r	2013SC-GW-05				8/30/2013	11:15 AM	5.1	6.96	1.5 gallons	6.26	no readings	27.4	3.62	13.85	-26	not measured	No conductivity readings, sensor would not calibrate. MS/MSD collected for metals and DRO/RRO only. Field duplicate collected at 11:45 Water clear with slight petroleum odor.	

Notes:

mS/cm = millisiemens per centimeter
NTU = nephelometric turbidity unit
mg/L = milligrams per liter
deg. C = degrees Celsius
mV = millivolt
% = percent

TABLE 2-15
Groundwater Analyses
2013 Salt Chuck Mine Superfund Site Field Data Report

Location	Sample Type	Activity ID	Sample Date	Analytical Suite and Laboratory					
				DRO/RRO (Applied Sciences Laboratory)	Dissolved Mercury (A4 Scientific)	Total Mercury (A4 Scientific)	Dissolved TAL Metals[a] (A4 Scientific)	Total TAL Metals[a] (A4 Scientific)	PAHs (KAP Technologies)
GW-01	N	2013SC-GW-01-20130525	5/25/2013	x	x	x	x	x	x
GW-01	FD	2013SC-GW-901-20130525FD	5/25/2013	x	x	x	x	x	x
GW-02	N	2013SC-GW-02-20130526	5/26/2013		x	x	x	x	
GW-03	N	2013SC-GW-03-20130525	5/25/2013	x	x	x	x	x	x
GW-04	N	2013SC-GW-04-20130526	5/26/2013	x	x	x	x	x	x
GW-05R	N	2013SC-GW-05-20130830	8/30/2013	x	x	x	x	x	x
GW-05R	FD	2013SC-GW-905-20130830FD	8/30/2013	x	x	x	x	x	x

Notes:

[1] Activity ID is a combination of the sample ID, date sampled and sample type if field duplicate.

[a] TAL metals include aluminum, antimony, arsenic, barium, beryllium, cadmium, cobalt, chromium (total), copper, iron, lead, manganese, magnesium, nickel, selenium, silver, thallium, vanadium, zinc

N = normal environmental sample

FD = field duplicate

TABLE 2-16

Equipment Rinsate Blank Samples

2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Sample ID	QA/QC Type	Date	Time	Description
EB-05222013	2013SC-EB-05222013	Field Blank	5/22/2013	7:30 PM	Equipment blank for unused airstone and tubing - applicable to porewater samples collected using airstones
EB-05282013	2013SC-EB-05282013	Field Blank	5/28/2013	4:00 PM	Equipment blank for unused pre-packed well screen - applicable to porewater samples collected using drive-points
EB-05302013A	2013SC-EB-05302013A	Field Blank	5/30/2013	2:00 PM	Equipment blank for decontaminated Ponar used to collect surface sediment samples - applicable to surface sediment samples in thalweg
EB-05302013B	2013SC-EB-05302013B	Field Blank	5/30/2013	2:10 PM	Equipment blank for unused sample core tube and core catcher - applicable to sediment boring samples
EB01_083013	2013SC-EB01-083013	Field Blank	8/30/2013	3:10 PM	Decontaminated direct-push sampling tube - applicable to all sediment core samples

TABLE 2-17
Equipment Rinsate Blank Analyses
2013 Salt Chuck Mine Superfund Site Field Data Report

Activity ID	Sample Date	Analytical Suite and Laboratory		
		Dissolved Metals[a] (A4 Scientific)	Total Metals [a] (A4 Scientific)	PAHs (KAP Technologies)
2013SC-EB-05222013	5/22/2013	x		
2013SC-EB-05282013	5/28/2013	x		x
2013SC-EB-05302013A	5/30/2013		x	
2013SC-EB-05302013B	5/30/2013		x	x
2013SC-EB01-20130830	8/30/2013		x	x

Notes:

[1] Activity ID is a combination of the sample ID, date sampled and sample type if field duplicate.

[a] TAL metals include aluminum, antimony, arsenic, barium, beryllium, cadmium, cobalt, chromium (total), copper, iron, lead, manganese, magnesium, nickel, selenium, silver, thallium, vanadium, zinc

TABLE 2-18

MS/MSD Samples

2013 Salt Chuck Mine Superfund Site Field Data Report

Location ID	Sample ID	QA/QC Type	Date	Time	Medium	Analyses
SB-004	2013SC-SB-004-00	MS/MSD	5/28/2013	7:00	Sediment	TOC, Metals, PAHs
SB-018	2013SC-SB-018-0.5	MS/MSD	5/27/2013	10:06	Sediment	Metals
SB-041	2013SC-SB-041-00	MS/MSD	5/25/2013	11:15	Sediment	Metals
SB-053	2013SC-SB-053-00	MS/MSD	5/25/2013	12:45	Sediment	Metals
SB-059	2013SC-SB-059-00	MS/MSD	5/27/2013	8:30	Sediment	TOC, CrVI, Metals, PAHs
SB-123	2013SC-SB-123-00	MS/MSD	5/23/2013	6:00	Sediment	Metals
SB-129	2013SC-SB-129-00	MS/MSD	5/23/2013	6:08	Sediment	TOC, Metals, PAHs
SB-301	2013SC-SB-301-01	MS/MSD	8/30/2013	9:15	Sediment	Metals
SB-303	2013SC-SB-303-12	MS/MSD	8/28/2013	10:45	Sediment	Metals
SB-304	2013SC-SB-304-04	MS/MSD	8/28/2013	08:57	Sediment	Metals
SB-305	2013SC-SB-305-0.5	MS/MSD	8/27/2013	14:00	Sediment	Metals
SB-306	2013SC-SB-306-07	MS/MSD	8/29/2013	9:15 AM	Sediment	Metals, PAHs
SB-308	2013SC-SB-308-08	MS/MSD	8/29/2013	1:15 PM	Sediment	Metals
SB-316	2013SC-SB-316-06	MS/MSD	8/28/2013	4:30 PM	Sediment	PAHs
BIOTA-149	2013SC-BIOTA-149-CR	MS/MSD	5/28/2013	2:49 PM	Tissue	Metals
BIOTA-152	2013SC-BIOTA-152-CR	MS/MSD	5/28/2013	3:20 PM	Tissue	Metals
BIOTA-506	2013SC-BIOTA-506-CR	MS/MSD	5/29/2013	11:55 AM	Tissue	Metals, Arsenic Speciation
GW-01	2013SC-GW-01	MS/MSD	5/25/2013	11:55 AM	Water	Total Metals
GW-05R	2013SC-GW-05R	MS/MSD	8/30/2013	11:15 AM	Water	Total and Dissolved Metals, DRO/RRO
PW-076	2013SC-PW-076	MS/MSD	5/26/2013	6:11 AM	Water	Dissolved metals
SW-015	2013SC-SW-015	MS/MSD	5/25/2013	9:00 AM	Water	Dissolved metals
SW-099	2013SC-SW-099	MS/MSD	5/25/2013	8:10 AM	Water	Dissolved metals, PAHs
SW-106	2013SC-SW-106	MS/MSD	5/25/2013	9:40 AM	Water	Total and Dissolved metals
SW-501	2013SC-SW-501	MS/MSD	5/28/2013	1:00 PM	Water	Dissolved metals
SW-509	2013SC-SW-509	MS/MSD	5/28/2013	1:10 PM	Water	Dissolved metals
SW-600	2013SC-SW-600	MS/MSD	5/29/2013	11:10 AM	Water	Total metals
EB01_083013	2013SC-EB01-083013	MS/MSD	8/30/2013	3:10 PM	Water	Total Metals, PAHs

Notes:

PAHs = polycyclic aromatic hydrocarbons

DRO = diesel-range organics

RRO = residual-range organics

N = normal

FD = field duplicate

TABLE 3-1
Comparison of Summarized Detect and Non-Detect MDL Results to Screening Levels - Surface Sediment Samples
2013 Salt Chuck Mine Superfund Site Field Data Report

Group	Analyte[a]	Units	Number of Detects	Number of Samples	Frequency of Detection	Nondetect Range (MDL)		Detect Range		Screening Level 1[b]			Screening Level 2[c]		
						Min	Max	Min	Max	Screening Level	# Detects Exceeding Screening Level	# Nondetects Exceeding Screening Level	Screening Level	# Detects Exceeding Screening Level	# Nondetects Exceeding Screening Level
Mercury	Mercury	mg/Kg	19	20	95%	0.0064	0.0064	0.023	0.16	0.15	1	--	0.71	--	--
TAL Metals	Aluminum	mg/Kg	20	20	100%	--	--	6,010	16,500	--	--	--	18,000	--	--
TAL Metals	Antimony	mg/Kg	--	20	0	0.32	0.75	--	--	--	--	--	9.3	--	--
TAL Metals	Arsenic	mg/Kg	2	20	10%	0.22	0.5	6.6	7.2	8.2	--	--	70	--	--
TAL Metals	Barium	mg/Kg	--	20	0	1.9	4.5	--	--	--	--	--	48	--	--
TAL Metals	Cadmium	mg/Kg	--	20	0	0.18	0.43	--	--	1.2	--	--	9.6	--	--
TAL Metals	Chromium	mg/Kg	7	20	35%	0.31	0.73	1.5	10	81	--	--	370	--	--
TAL Metals	Cobalt	mg/Kg	18	20	90%	0.21	0.37	7.5	30.8	--	--	--	10	14	--
TAL Metals	Copper	mg/Kg	20	20	100%	--	--	13.5	4,260	34	19	--	270	16	--
TAL Metals	Iron	mg/Kg	20	20	100%	--	--	13,400	63,100	--	--	--	22,000,000	--	--
TAL Metals	Lead	mg/Kg	2	20	10%	0.21	0.48	9	15	46.7	--	--	218	--	--
TAL Metals	Manganese	mg/Kg	20	20	100%	--	--	170	773	--	--	--	260	7	--
TAL Metals	Nickel	mg/Kg	16	20	80%	0	1	5.2	0,015	20.9	--	--	51.6	--	--
TAL Metals	Selenium	mg/Kg	3	20	15%	1.2	2.8	1.2	1.5	--	--	--	1	3	17
TAL Metals	Silver	mg/Kg	--	20	0	0.15	0.35	--	--	1	--	--	3.7	--	--
TAL Metals	Vanadium	mg/Kg	20	20	100%	--	--	29	135	--	--	--	57	8	--
TAL Metals	Zinc	mg/Kg	20	20	100%	--	--	22.3	60.6	150	--	--	410	--	--

Notes:
[a]Only analytes with screening levels are listed
[b] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)
[c] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

TAL = target analyte list
MDL = method detection limit
mg/kg = milligram per kilogram
= number

TABLE 3-2
Comparison of Summarized Detect and Non-Detect MDL Results to Screening Levels - Marine Sediment Core and Test Pit Samples
2013 Salt Chuck Mine Superfund Site Field Data Report

						Nondetect Range (MDL)		Detect Range		Screening Level 1[b]			Screening Level 2[c]		
Group	Analyte[a]	Units	Number of Detects	Number of Samples	Frequency of Detection	Min	Max	Min	Max	Screening Level	# Detects Exceeding Screening Level	# Nondetects Exceeding Screening Level	Screening Level	# Detects Exceeding Screening Level	# Nondetects Exceeding Screening Level
Mercury	Mercury	mg/kg	171	191	90%	0.0064	0.0077	0.0068	2.2	0.15	29	--	0.71	4	--
TAL Metals	Aluminum	mg/kg	191	191	100%	--	--	3,900	18,000	--	--	--	18,000	--	--
TAL Metals	Antimony	mg/kg	--	191	0%	0.034	0.49	--	--	--	--	--	9.3	--	--
TAL Metals	Arsenic	mg/kg	34	191	18%	0.11	0.33	0.69	9.5	8.2	3	--	70	--	--
TAL Metals	Barium	mg/kg	35	191	18%	0.2	2.9	2.8	36.1	--	--	--	48	--	--
TAL Metals	Cadmium	mg/kg	2	191	1%	0.019	0.28	0.79	1.2	1.2	--	--	9.6	--	--
TAL Metals	Chromium	mg/kg	83	191	43%	0.035	0.44	1	43.5	81	--	--	370	--	--
TAL Metals	Cobalt	mg/kg	185	191	97%	0.2	0.25	3	30.8	--	--	--	10	135	--
TAL Metals	Copper	mg/kg	189	191	99%	0.59	0.68	7.6	5,760	34	170	--	270	143	--
TAL Metals	Iron	mg/kg	191	191	100%	--	--	10,800	118,000	--	--	--	22,000,000	--	--
TAL Metals	Lead	mg/kg	51	191	27%	0.1	0.31	0.62	29.5	46.7	--	--	218	--	--
TAL Metals	Manganese	mg/kg	190	191	99%	0.16	0.16	117	555	--	--	--	260	82	--
TAL Metals	Nickel	mg/kg	180	191	94%	0.22	0.26	4.4	27.4	20.9	2	--	51.6	--	--
TAL Metals	Selenium	mg/kg	38	191	20%	0.12	1.8	0.26	5.8	--	--	--	1	21	96
TAL Metals	Silver	mg/kg	6	191	3%	0.016	0.23	0.64	6.7	1	1	--	3.7	1	--
TAL Metals	Vanadium	mg/kg	187	191	98%	0.44	0.91	17.8	159	--	--	--	57	91	--
TAL Metals	Zinc	mg/kg	191	191	100%	--	--	15.6	249	150	1	--	410	--	--
TCL PAHs	2-Methylnaphthalene	ug/kg	1	50	2%	1.7	1.7	4	4	70	--	--	670	--	--
TCL PAHs	Acenaphthene	ug/kg	4	50	8%	1.7	1.7	5.3	64	16	2	--	500	--	--
TCL PAHs	Acenaphthylene	ug/kg	31	50	62%	1.7	1.7	4.3	52	44	1	--	640	--	--
TCL PAHs	Anthracene	ug/kg	19	50	38%	1.7	1.7	3.9	67	85.3	--	--	1,100	--	--
TCL PAHs	Benz(a)anthracene	ug/kg	42	50	84%	1.7	1.7	5.7	350	261	1	--	1,600	--	--
TCL PAHs	Benzo(a)pyrene	ug/kg	42	50	84%	1.7	1.7	4.9	240	430	--	--	1,600	--	--
TCL PAHs	Chrysene	ug/kg	42	50	84%	1.7	1.7	4.5	220	384	--	--	2,800	--	--
TCL PAHs	Dibenz(a,h)anthracene	ug/kg	16	50	32%	1.7	1.7	3.4	28	63.4	--	--	260	--	--
TCL PAHs	Fluoranthene	ug/kg	46	50	92%	1.7	1.7	3.7	650	600	1	--	5,100	--	--
TCL PAHs	Fluorene	ug/kg	4	50	8%	1.7	1.7	4.7	11	19	--	--	540	--	--
TCL PAHs	HPAH	ug/kg	50	50	100%	--	--	9.7	2,608	1,700	1	--	9,600	--	--
TCL PAHs	LPAH	ug/kg	39	50	78%	1.7	1.7	4.3	184.2	552	--	--	3,160	--	--
TCL PAHs	Naphthalene	ug/kg	5	50	10%	1.7	1.7	4.2	12	160	--	--	2,100	--	--
TCL PAHs	Phenanthrene	ug/kg	27	50	54%	1.7	1.7	3.8	49	240	--	--	1,500	--	--
TCL PAHs	Pyrene	ug/kg	46	50	92%	1.7	1.7	5.1	580	665	--	--	2,600	--	--
TCL PAHs	TPAH	ug/kg	50	50	100%	--	--	9.7	2,706	4,022	--	--	44,792	--	--

Notes:
[a]Only analytes with screening levels are listed
[b]Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)
[c]Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)
MDL = method detection limit
mg/kg = milligram per kilogram
TAL = target analyte list
# = number
ug/Kg = micrograms per kilogram

TABLE 3-3

Comparison of Summarized Detect and Non-Detect MDL Results to Screening Levels - Modified SPLP Sediment Samples

2013 Salt Chuck Mine Superfund Site Field Data Report

						Nondetect Range (MDL)		Detect Range		Screening Level[b]		
Group	Analyte[a]	Units	Number of Detects	Number of Samples	Frequency of Detection	Min	Max	Min	Max	Screening Level	# Detects Exceeding Screening Level	# Nondetects Exceeding Screening Level
Modified SPLP	Antimony	ug/L	--	31	0	8.8	8.8	--	--	500	--	--
Modified SPLP	Arsenic	ug/L	--	31	0	2.5	2.5	--	--	36	--	--
Modified SPLP	Barium	ug/L	31	31	100%	--	--	40	190	200	--	--
Modified SPLP	Beryllium	ug/L	--	31	0	2	2	--	--	100	--	--
Modified SPLP	Cadmium	ug/L	--	31	0	1.4	1.5	--	--	8.8	--	--
Modified SPLP	Chromium	ug/L	--	31	0	6.8	6.8	--	--	27.4	--	--
Modified SPLP	Cobalt	ug/L	3	31	10%	8.6	8.6	2.7	54	1	3	28
Modified SPLP	Copper	ug/L	19	31	61%	2.1	2.1	14	472	3.1	19	--
Modified SPLP	Iron	ug/L	3	31	10%	7.8	7.8	160	5,170	50	3	--
Modified SPLP	Lead	ug/L	--	31	0	1.9	2	--	--	8.1	--	--
Modified SPLP	Manganese	ug/L	11	31	35%	7.2	7.3	32	160	100	1	--
Modified SPLP	Mercury	ug/L	--	31	0	0.0088	0.0088	--	--	0.94	--	--
Modified SPLP	Nickel	ug/L	--	31	0	1.3	1.3	--	--	8.2	--	--
Modified SPLP	Selenium	ug/L	--	31	0	2.3	2.3	--	--	71	--	--
Modified SPLP	Silver	ug/L	--	31	0	1.2	1.2	--	--	0.95	--	31
Modified SPLP	Thallium	ug/L	--	31	0	0.94	0.95	--	--	17	--	--
Modified SPLP	Vanadium	ug/L	4	31	13%	2	2	7.2	31	50	--	--
Modified SPLP	Zinc	ug/L	30	31	97%	1.7	1.7	16	95	81	6	--

Notes:

[a] Only analytes with screening levels are listed

[b] Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:

a = Marine chronic

b = Marine acute

ug/L = micrograms per liter

SPLP = synthetic precipitation leaching procedure

MDL = method detection limit

= number

TABLE 3-4

Comparison of Summarized Detect and Non-Detect MDL Results to Screening Levels - Upland Core and Test Pit Samples

2013 Salt Chuck Mine Superfund Site Field Data Report

Group	Analyte[a]	Units	Number of Detects	Number of Samples	Frequency of Detection	Nondetect Range (MDL)		Detect Range		Screening Level[b]		
						Min	Max	Min	Max	Screening Level	# Detects Exceeding Screening Level	# Nondetects Exceeding Screening Level
Chrome VI	Chromium(VI)	mg/kg	--	3	0%	0.031	0.14	--	--	0.29	--	--
Mercury	Aluminum	mg/kg	16	16	100%	--	--	5,410	32,600	77,000	--	--
TAL Metals	Antimony	mg/kg	--	16	0%	0	0	--	--	31	--	--
TAL Metals	Arsenic	mg/kg	--	16	0%	0.22	0.30	--	--	0.39	--	--
TAL Metals	Barium	mg/kg	--	16	0%	1.90	2.70	--	--	15,000	--	--
TAL Metals	Beryllium	mg/kg	--	16	0%	0.3	0.4	--	--	160	--	--
TAL Metals	Cadmium	mg/kg	--	16	0%	0.18	0.26	--	--	70	--	--
TAL Metals	Chromium	mg/kg	8	16	50%	0.31	0.44	0.36	0.93	0.29	8	8
TAL Metals	Cobalt	mg/kg	16	16	100%	--	--	11.3	42.5	23	1	--
TAL Metals	Copper	mg/kg	16	16	100%	--	--	84.9	2,270	3,100	--	--
TAL Metals	Iron	mg/kg	16	16	100%	--	--	27,900	56,500	55,000	1	--
TAL Metals	Lead	mg/kg	1	16	6%	0	0	16.5	16.5	400	--	--
TAL Metals	Manganese	mg/kg	16	16	100%	--	--	187	824	1,800	--	--
TAL Metals	Mercury	mg/kg	16	16	100%	--	--	0.032	1	10	--	--
TAL Metals	Nickel	mg/kg	12	16	75%	0.25	0.32	4.9	17.4	1,500	--	--
TAL Metals	Selenium	mg/kg	--	16	0%	1.2	1.7	--	--	390	--	--
TAL Metals	Silver	mg/kg	--	16	0%	0.15	0.21	--	--	390	--	--
TAL Metals	Thallium	mg/kg	--	16	0%	0.16	0.23	--	--	0.78	--	--
TAL Metals	Vanadium	mg/kg	16	16	100%	--	--	41.4	201	390	--	--
TAL Metals	Zinc	mg/kg	16	16	100%	--	--	21.6	83.2	23,000	--	--

Notes:

[a]Only analytes with screening levels are listed

[b] Screening Level = Residential Soil RSLs (EPA, 2013)

MDL = method detection limit
mg/kg = milligram per kilogram
TAL = target analyte list
# = number

TABLE 3-5
Comparison of Summarized Detect and Non-Detect MDL Results to Screening Levels - Porewater Samples
2013 Salt Chuck Mine Superfund Site Field Data Report

Group	Analyte[a]	Units	Number of Detects	Number of Samples	Frequency of Detection	Nondetect Range (MDL)		Detect Range		Screening Level[b]		
						Min	Max	Min	Max	Screening Level	# Detects Exceeding Screening Level	# Nondetects Exceeding Screening Level
Hg_Dissolved	Mercury	ug/L	6	50	12%	0.034	0.034	0.034	0.047	0.94	--	--
TAL Metals_Diss	Antimony	ug/L	--	50	0	0.085	1.7	--	--	500	--	--
TAL Metals_Diss	Arsenic	ug/L	--	50	0	0.079	1.6	--	--	36	--	--
TAL Metals_Diss	Barium	ug/L	14	50	28%	5.6	5.6	201	425	200	14	--
TAL Metals_Diss	Beryllium	ug/L	--	50	0	0.051	1	--	--	100	--	--
TAL Metals_Diss	Cadmium	ug/L	--	50	0	0.069	1.4	--	--	8.8	--	--
TAL Metals_Diss	Chromium	ug/L	--	50	0	0.11	2.2	--	--	27.4	--	--
TAL Metals_Diss	Cobalt	ug/L	--	50	0	0.038	0.76	--	--	1	--	--
TAL Metals_Diss	Copper	ug/L	22	50	44%	0.98	0.98	48.2	664	3.1	22	--
TAL Metals_Diss	Iron	ug/L	22	50	44%	25.6	25.6	85.7	34,400	50	22	--
TAL Metals_Diss	Lead	ug/L	--	50	0	0.021	0.42	--	--	8.1	--	--
TAL Metals_Diss	Manganese	ug/L	36	50	72%	4	4	13.9	590	100	16	--
TAL Metals_Diss	Nickel	ug/L	--	50	0	0.049	0.98	--	--	8.2	--	--
TAL Metals_Diss	Selenium	ug/L	3	50	6%	30	30	2.6	49.3	71	--	--
TAL Metals_Diss	Silver	ug/L	--	50	0	0.033	0.66	--	--	0.95	--	--
TAL Metals_Diss	Thallium	ug/L	--	50	0	0.036	0.72	--	--	17	--	--
TAL Metals_Diss	Vanadium	ug/L	--	50	0	0.15	3	--	--	50	--	--
TAL Metals_Diss	Zinc	ug/L	37	50	74%	12	12	42.3	240	81	14	--
TCL PAHs	2-Methylnaphthalene	ug/L	--	7	0	0.1	0.1	--	--	300	--	--
TCL PAHs	Acenaphthene	ug/L	--	7	0	0.05	0.05	--	--	40	--	--
TCL PAHs	Acenaphthylene	ug/L	--	7	0	0.05	0.05	--	--	300	--	--
TCL PAHs	Anthracene	ug/L	--	7	0	0.05	0.05	--	--	300	--	--
TCL PAHs	Benz(a)anthracene	ug/L	--	7	0	0.05	0.05	--	--	300	--	--
TCL PAHs	Benzo(a)pyrene	ug/L	--	7	0	0.05	0.05	--	--	300	--	--
TCL PAHs	Benzo(b)fluoranthene	ug/L	--	7	0	0.05	0.05	--	--	300	--	--
TCL PAHs	Benzo(ghi)perylene	ug/L	1	7	14%	0.05	0.05	0.13	0.13	300	--	--
TCL PAHs	Benzo(k)fluoranthene	ug/L	--	7	0	0.05	0.05	--	--	300	--	--
TCL PAHs	Chrysene	ug/L	--	7	0	0.05	0.05	--	--	300	--	--
TCL PAHs	Dibenz(a,h)anthracene	ug/L	--	7	0	0.05	0.05	--	--	300	--	--
TCL PAHs	Fluoranthene	ug/L	1	7	14%	0.05	0.05	0.13	0.13	11	--	--
TCL PAHs	Fluorene	ug/L	--	7	0	0.05	0.05	--	--	300	--	--
TCL PAHs	HPAH	ug/L	2	7	29%	0.05	0.05	0.13	0.31	300	--	--
TCL PAHs	Indeno(1,2,3-cd)pyrene	ug/L	--	7	0	0.05	0.05	--	--	300	--	--
TCL PAHs	LPAH	ug/L	--	7	0	0.05	0.05	--	--	300	--	--
TCL PAHs	Naphthalene	ug/L	--	7	0	0.05	0.05	--	--	1.4	--	--
TCL PAHs	Phenanthrene	ug/L	--	7	0	0.05	0.05	--	--	4.6	--	--
TCL PAHs	Pyrene	ug/L	1	7	14%	0.05	0.05	0.18	0.18	300	--	--
TCL PAHs	TPAH	ug/L	2	7	29%	0.1	0.1	0.13	0.31	300	--	--

Notes:

[a] Only analytes with screening levels are listed

[b] Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:
a = Marine chronic
b = Marine acute

ug/L = micrograms per liter
MDL = method detection limit
TAL = target analyte list
Diss = dissolved
PAHs = polycylclic aromatic hydrocarbons
# = number

TABLE 3-6
Comparison of Summarized Detect and Non-Detect MDL Results to Screening Levels - Surface Water Samples
2013 Salt Chuck Mine Superfund Site Field Data Report

						Nondetect Range (MDL)		Detect Range		Screening Level[b]		
Group	Analyte[a]	Units	Number of Detects	Number of Samples	Frequency of Detection	Min	Max	Min	Max	Screening Level	# Detects Exceeding Screening Level	# Nondetects Exceeding Screening Level
TAL Metals_Diss	Antimony	ug/L	--	30	0%	0.85	1.7	--	--	500	--	--
TAL Metals_Diss	Arsenic	ug/L	3	30	10%	0.79	1.6	11.2	48.5	36	2	--
TAL Metals_Diss	Barium	ug/L	1	30	3%	2.8	5.6	6.2	6.2	200	--	--
TAL Metals_Diss	Beryllium	ug/L	--	30	0%	0.51	1	--	--	100	--	--
TAL Metals_Diss	Cadmium	ug/L	29	30	97%	0.004	0.004	0.017	0.086	8.8	--	--
TAL Metals_Diss	Chromium	ug/L	27	30	90%	0.13	0.18	0.14	0.22	27.4	--	--
TAL Metals_Diss	Cobalt	ug/L	30	30	100%	--	--	0.028	0.362	1	--	--
TAL Metals_Diss	Copper	ug/L	30	30	100%	--	--	0.287	22.5	3.1	7	--
TAL Metals_Diss	Iron	ug/L	25	30	83%	3	3	3.9	311	50	7	--
TAL Metals_Diss	Lead	ug/L	21	30	70%	0.005	0.008	0.006	0.065	8.1	--	--
TAL Metals_Diss	Manganese	ug/L	19	30	63%	4	4	4	80.8	100	--	--
TAL Metals_Diss	Mercury	ug/L	25	30	83%	0.034	0.034	0.034	0.093	0.94	--	--
TAL Metals_Diss	Nickel	ug/L	30	30	100%	--	--	0.146	0.717	8.2	--	--
TAL Metals_Diss	Selenium	ug/L	3	30	10%	0.2	0.2	0.21	0.34	71	--	--
TAL Metals_Diss	Silver	ug/L	12	30	40%	0.001	0.002	0.023	0.038	0.95	--	--
TAL Metals_Diss	Thallium	ug/L	29	30	97%	0.002	0.002	0.003	0.019	17	--	--
TAL Metals_Diss	Vanadium	ug/L	30	30	100%	--	--	1	3.7	50	--	--
TAL Metals_Diss	Zinc	ug/L	--	30	0%	6	12	--	--	81	--	--
TAL Metals_Total	Antimony	ug/L	--	4	0%	1.7	1.7	--	--	500	--	--
TAL Metals_Total	Arsenic	ug/L	2	4	50%	1.6	1.6	27.7	35.2	36	--	--
TAL Metals_Total	Barium	ug/L	--	4	0%	5.6	5.6	--	--	200	--	--
TAL Metals_Total	Beryllium	ug/L	--	4	0%	1	1	--	--	100	--	--
TAL Metals_Total	Cadmium	ug/L	4	4	100%	--	--	0.023	0.055	8.8	--	--
TAL Metals_Total	Chromium	ug/L	4	4	100%	--	--	0.19	0.3	27.4	--	--
TAL Metals_Total	Cobalt	ug/L	4	4	100%	--	--	0.049	0.127	1	--	--
TAL Metals_Total	Copper	ug/L	4	4	100%	--	--	1.58	4.89	3.1	1	--
TAL Metals_Total	Iron	ug/L	4	4	100%	--	--	44.5	403	50	3	--
TAL Metals_Total	Lead	ug/L	4	4	100%	--	--	0.007	0.058	8.1	--	--
TAL Metals_Total	Manganese	ug/L	4	4	100%	--	--	4.5	13.4	100	--	--
TAL Metals_Total	Mercury	ug/L	1	4	25%	0.034	0.034	0.056	0.056	0.94	--	--
TAL Metals_Total	Nickel	ug/L	4	4	100%	--	--	0.143	0.312	8.2	--	--
TAL Metals_Total	Selenium	ug/L	1	4	25%	0.2	0.2	0.22	0.22	71	--	--
TAL Metals_Total	Silver	ug/L	--	4	0%	0.001	0.002	--	--	0.95	--	--
TAL Metals_Total	Thallium	ug/L	4	4	100%	--	--	0.005	0.008	17	--	--
TAL Metals_Total	Vanadium	ug/L	4	4	100%	--	--	1.3	3.5	50	--	--
TAL Metals_Total	Zinc	ug/L	--	4	0%	12	12	--	--	81	--	--
TCL PAHs	2-Methylnaphthalene	ug/L	--	6	0%	0.1	0.1	--	--	300	--	--
TCL PAHs	Acenaphthene	ug/L	--	6	0%	0.05	0.05	--	--	40	--	--
TCL PAHs	Acenaphthylene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Anthracene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Benz(a)anthracene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Benzo(a)pyrene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Benzo(b)fluoranthene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Benzo(ghi)perylene	ug/L	2	6	33%	0.05	0.05	0.11	0.18	300	--	--
TCL PAHs	Benzo(k)fluoranthene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Chrysene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Dibenz(a,h)anthracene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Fluoranthene	ug/L	--	6	0%	0.05	0.05	--	--	11	--	--
TCL PAHs	Fluorene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	HPAH	ug/L	2	6	33%	0.05	0.05	0.11	0.18	300	--	--
TCL PAHs	Indeno(1,2,3-cd)pyrene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	LPAH	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Naphthalene	ug/L	--	6	0%	0.05	0.05	--	--	1.4	--	--
TCL PAHs	Phenanthrene	ug/L	--	6	0%	0.05	0.05	--	--	4.6	--	--
TCL PAHs	Pyrene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	TPAH	ug/L	2	6	33%	0.1	0.1	0.11	0.18	300	--	--

Notes:
[a] Only analytes with screening levels are listed
[b] Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:
a = Marine chronic
b = Marine acute

ug/L = micrograms per liter
MDL = method detection limit
TAL = target analyte list
Diss = dissolved
PAHs = polycylclic aromatic hydrocarbons
# = number

TABLE 3-7
Comparison of Summarized Detect and Non-Detect MDL Results to Screening Levels - Crab Tissue Samples
2013 Salt Chuck Mine Superfund Site Field Data Report

Group	Analyte[a]	Units	Number of Detects	Number of Samples	Frequency of Detection	Nondetect Range (MDL)		Detect Range		Screening Level[b]		
						Min	Max	Min	Max	Screening Level	# Detects Exceeding Screening Level	# Nondetects Exceeding Screening Level
Mercury	Mercury	mg/Kg ww	16	16	100%	--	--	0.004	0.010	0.14	--	--
TAL Metals	Aluminum	mg/Kg ww	1	16	6%	1.26	2.02	4.81	4.81	1400	--	--
TAL Metals	Antimony	mg/Kg ww	0	16	0%	0.002	0.003	--	--	0.54	--	--
TAL Metals	Arsenic	mg/Kg ww	16	16	100%	--	--	2.87	6.72	0.0021	16	--
TAL Metals	Barium	mg/Kg ww	0	16	0%	0.116	0.184	--	--	270	--	--
TAL Metals	Beryllium	mg/kg ww		16	0%	0.126	0.202	--	--	2.7	--	--
TAL Metals	Cadmium	mg/Kg ww	1	16	6%	0.001	0.002	0.008	0.008	1.4	--	--
TAL Metals	Chromium	mg/Kg ww	7	16	44%	0.012	0.018	0.047	0.131	2000	--	--
TAL Metals	Cobalt	mg/kg ww	8	16	50%	0.001	0.001	0.00429	0.00823	0.41	--	--
TAL Metals	Copper	mg/Kg ww	16	16	100%	--	--	1.88	3.92	54	--	--
TAL Metals	Iron	mg/kg ww	3	16	19%	0.413	0.626	2.86	14.3	950	--	--
TAL Metals	Manganese	mg/Kg ww	16	16	100%	--	--	0.110	1.110	190	--	--
TAL Metals	Nickel	mg/Kg ww	5	16	31%	0.006	0.008	0.045	0.168	27	--	--
TAL Metals	Selenium	mg/Kg ww	16	16	100%	--	--	0.220	0.412	6.8	--	--
TAL Metals	Silver	mg/Kg ww	16	16	100%	--	--	0.015	0.092	6.8	--	--
TAL Metals	Thallium	mg/Kg ww	0	16	0%	0.001	0.001	--	--	0.014	--	--
TAL Metals	Vanadium	mg/Kg ww	3	16	19%	0.001	0.002	0.006	0.007	6.8	--	--
TAL Metals	Zinc	mg/Kg ww	16	16	100%	--	--	24.1	41.6	410	--	--

Notes:

[a]Only analytes with screening levels are listed

[b] Lower of the two (carcinogenic vs. noncancer) fish tissue screening levels (EPA 2013).

MDL = method detection limit
mg/kg ww = milligram per kilogram wet weight
TAL = target analyte list
# = number

TABLE 3-8
Comparison of Summarized Detect and Non-Detect MDL Results to Screening Levels - Groundwater
2013 Salt Chuck Mine Superfund Site Field Data Report

Group	Analyte[a]	Units	Number of Detects	Number of Samples	Frequency of Detection	Nondetect Range (MDL)		Detect Range		Screening Level[b,c]		
						Min	Max	Min	Max	Screening Level	# Detects Exceeding Screening Level	# Nondetects Exceeding Screening Level
DRO/RRO	Diesel range organics	ug/L	4	6	67%	16.4	17.2	112	1,640	1,500	1	--
DRO/RRO	Oil Range Organics	ug/L	6	6	100%	--	--	35.4	562	1,100	--	--
Hg_Tot	Mercury	ug/L	4	7	57%	0.034	0.034	0.16	0.23	0.94	--	--
Hg_Diss	Mercury	ug/L	4	7	57%	0.034	0.034	0.083	0.15	0.94	--	--
TAL Metals	Antimony	ug/L	--	7	0%	0.085	0.085	--	--	500	--	--
TAL Metals	Arsenic	ug/L	7	7	100%	--	--	0.6	11.2	36	--	--
TAL Metals	Barium	ug/L	7	7	100%	--	--	1.6	21.8	200	--	--
TAL Metals	Beryllium	ug/L	--	7	0%	0.051	0.051	--	--	100	--	--
TAL Metals	Cadmium	ug/L	3	7	43%	0.069	0.069	0.071	0.21	8.8	--	--
TAL Metals	Chromium	ug/L	5	7	71%	0.11	0.11	0.17	5.1	27.4	--	--
TAL Metals	Cobalt	ug/L	7	7	100%	--	--	1.1	6.9	1	7	--
TAL Metals	Copper	ug/L	5	7	71%	0.049	0.049	6.7	282	3.1	5	--
TAL Metals	Iron	ug/L	7	7	100%	--	--	979	9,280	50	7	--
TAL Metals	Lead	ug/L	2	7	29%	0.021	0.021	3.1	3.7	8.1	--	--
TAL Metals	Manganese	ug/L	7	7	100%	--	--	143	2,460	100	7	--
TAL Metals	Nickel	ug/L	5	7	71%	0.049	0.049	0.18	4.4	8.2	--	--
TAL Metals	Selenium	ug/L	--	7	0%	1.5	1.5	--	--	71	--	--
TAL Metals	Silver	ug/L	--	7	0%	0.033	0.033	--	--	0.95	--	--
TAL Metals	Thallium	ug/L	--	7	0%	0.036	0.036	--	--	17	--	--
TAL Metals	Vanadium	ug/L	7	7	100%	--	--	0.98	22.4	50	--	--
TAL Metals	Zinc	ug/L	7	7	100%	--	--	0.89	980	81	2	--
TAL Metals_Diss	Antimony	ug/L	--	7	0%	0.085	0.085	--	--	500	--	--
TAL Metals_Diss	Arsenic	ug/L	7	7	100%	--	--	0.55	10.6	36	--	--
TAL Metals_Diss	Barium	ug/L	7	7	100%	--	--	1.5	9.3	200	--	--
TAL Metals_Diss	Beryllium	ug/L	--	7	0%	0.051	0.051	--	--	100	--	--
TAL Metals_Diss	Cadmium	ug/L	1	7	14%	0.069	0.069	0.4	0.4	8.8	--	--
TAL Metals_Diss	Chromium	ug/L	5	7	71%	0.11	0.11	0.13	1.4	27.4	--	--
TAL Metals_Diss	Cobalt	ug/L	7	7	100%	--	--	1	2.8	1	6	--
TAL Metals_Diss	Copper	ug/L	2	7	29%	0.049	0.049	44.2	176	3.1	2	--
TAL Metals_Diss	Iron	ug/L	7	7	100%	--	--	808	6,560	50	7	--
TAL Metals_Diss	Lead	ug/L	--	7	0%	0.021	0.021	--	--	8.1	--	--
TAL Metals_Diss	Manganese	ug/L	7	7	100%	--	--	161	2,100	100	7	--
TAL Metals_Diss	Nickel	ug/L	5	7	71%	0.049	0.049	0.17	4.4	8.2	--	--
TAL Metals_Diss	Selenium	ug/L	--	7	0%	1.5	1.5	--	--	71	--	--
TAL Metals_Diss	Silver	ug/L	--	7	0%	0.033	0.033	--	--	0.95	--	--
TAL Metals_Diss	Thallium	ug/L	--	7	0%	0.036	0.036	--	--	17	--	--
TAL Metals_Diss	Vanadium	ug/L	7	7	100%	--	--	0.64	4.2	50	--	--
TAL Metals_Diss	Zinc	ug/L	6	7	86%	0.6	0.6	0.89	823	81	1	--

TABLE 3-8
Comparison of Summarized Detect and Non-Detect MDL Results to Screening Levels - Groundwater
2013 Salt Chuck Mine Superfund Site Field Data Report

Group	Analyte[a]	Units	Number of Detects	Number of Samples	Frequency of Detection	Nondetect Range (MDL)		Detect Range		Screening Level[b,c]		
						Min	Max	Min	Max	Screening Level	# Detects Exceeding Screening Level	# Nondetects Exceeding Screening Level
TCL PAHs	2-Methylnaphthalene	ug/L	2	6	33%	0.1	0.1	2.3	2.6	300	--	--
TCL PAHs	Acenaphthene	ug/L	6	6	100%	--	--	0.27	8.9	40	--	--
TCL PAHs	Acenaphthylene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Anthracene	ug/L	2	6	33%	0.05	0.05	0.29	0.34	300	--	--
TCL PAHs	Benz(a)anthracene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Benzo(a)pyrene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Benzo(b)fluoranthene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Benzo(ghi)perylene	ug/L	3	6	50%	0.05	0.05	0.15	0.15	300	--	--
TCL PAHs	Benzo(k)fluoranthene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Chrysene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Dibenz(a,h)anthracene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Fluoranthene	ug/L	3	6	50%	0.05	0.05	0.1	0.4	11	--	--
TCL PAHs	Fluorene	ug/L	6	6	100%	--	--	0.091	5.8	300	--	--
TCL PAHs	Indeno(1,2,3-cd)pyrene	ug/L	--	6	0%	0.05	0.05	--	--	300	--	--
TCL PAHs	Naphthalene	ug/L	4	6	67%	0.05	0.05	0.16	18	1.4	2	--
TCL PAHs	Phenanthrene	ug/L	2	6	33%	0.05	0.05	2.2	2.5	4.6	--	--
TCL PAHs	Pyrene	ug/L	3	6	50%	0.05	0.05	0.13	0.29	300	--	--

Notes:
[a] Only analytes with screening levels are listed
[b] Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:
a = Marine chronic
b = Marine acute
[c] Screening Level for Petroleum = 18 AAC 75 Table C values
AAC = Alaska Administrative Code
ug/L = micrograms per liter
MDL = method detection limit
TAL = target analyte list
Diss = dissolved
PAHs = polycylclic aromatic hydrocarbons
# = number

TABLE 4-1
Surface Sediment Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:					SS-139	SS-140	SS-140	SS-141	SS-141	SS-143	SS-144	SS-145	SS-146	SS-147	SS-181	SS-182	SS-183	SS-183
Area					Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:					2013SC-SS-139-00-20130529	2013SC-SS-140-00-20130529	2013SC-SS-9140-00-20130529FD	2013SC-SS-141-00 20130529	2013SC-SS-9141-00-20130529FD	2013SC-SS-143-00-20130529	2013SC-SS-144-00-20130529	2013SC-SS-145-00-20130529	2013SC-SS-146-00 20130529	2013SC-SS-147-00-20130529	2013SC-SS-181-00-20130529	2013SC-SS-182-00-20130529	2013SC-SS-183-00-20130529	2013SC-SS-9183-00-20130529FD
Sample Type:					N	N	FD	N	FD	N	N	N	N	N	N	N	N	FD
Date Sampled:					05/29/13	05/29/13	05/29/13	05/29/13	05/29/13	05/29/13	05/29/13	05/29/13	05/29/13	05/29/13	05/29/13	05/29/13	05/29/13	05/29/13
Depth (feet):					0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
			Screening Level															
ChemGroup	**Analyte**	**Units**	**ERL[a]**	**ERM[b]**														
AVS/SEM	AVS	umol/g	NE	NE		0.90	0.62					4.9	0.50					
AVS/SEM	Cadmium	ug/L	NE	NE		9.67	6.84					8.64	18					
AVS/SEM	Copper	ug/L	NE	NE		5,350	4,640					4,700	6,970					
AVS/SEM	Lead	ug/L	NE	NE		44.1	28.4					48.7	85.6					
AVS/SEM	Nickel	ug/L	NE	NE		51.2	51.3					45.2	118					
AVS/SEM	Zinc	ug/L	NE	NE		449	328					328	840					
AVS/SEM	Acid Volatile Sulfides	mg/Kg	NE	NE		28.7	19.8					158	16					
AVS/SEM	Simultaneously Extracted Metals	umol/g	NE	NE		1.8	1.4					1.7	1.7					
AVS/SEM	Simultaneously extracted metals/acid volatile sulfides	umol/g	NE	NE		2.0	2.2					0.34	3.3					
Hg	Mercury	mg/Kg	0.15	0.71	0.059 J	0.037 J		0.049 J	0.046 J	0.055 J	0.064 J	0.096 J	0.12 J	0.07 J	0.044 J	0.12	0.068 J	0.065 J
TAL Metals	Aluminum	mg/Kg	NE	18,000	7,960	11,200		7,810	7,070	9,340	7,910	8,570	8,970	8,880	8,160	6,450	6,010	6,210
TAL Metals	Antimony	mg/Kg	NE	9.3	0.62 U	0.47 U		0.41 U	0.41 U	0.54 U	0.56 U	0.75 U	0.58 U	0.55 U	0.35 U	0.35 U	0.32 U	0.33 U
TAL Metals	Arsenic	mg/Kg	8.2	70	0.41 U	0.31 U		0.27 U	0.27 U	0.36 U	0.37 U	0.5 U	0.39 U	0.37 U	0.23 U	0.23 U	0.22 U	0.22 U
TAL Metals	Barium	mg/Kg	NE	48	3.7 U	2.8 U		2.5 U	2.4 U	3.3 U	3.3 U	4.5 U	3.5 U	3.3 U	2.1 U	2.1 U	1.9 U	2 U
TAL Metals	Beryllium	mg/Kg	NE	NE	0.47 U	0.36 U		0.31 U	0.31 U	0.42 U	0.43 U	0.58 U	0.45 U	0.42 U	0.27 U	0.27 U	0.25 U	0.25 U
TAL Metals	Cadmium	mg/Kg	1.2	9.6	0.35 U	0.26 U		0.23 U	0.23 U	0.31 U	0.31 U	0.43 U	0.33 U	0.31 U	0.2 U	0.2 U	0.18 U	0.18 U
TAL Metals	Calcium	mg/Kg	NE	NE	13,700	34,300		7,140	6,390	22,400	17,000	33,000	25,200	21,100	4,120	9,930	3,790	4,100
TAL Metals	Chromium	mg/Kg	81	370	0.6 U	10 J		2.8 J	0.39 U	0.53 U	0.54 U	0.73 U	0.57 U	0.53 U	0.33 U	0.34 U	0.31 U	0.31 U
TAL Metals	Cobalt	mg/Kg	NE	10	**11.2 J**	**11.8**		**15.3**	**13 J**	9.3 J	**12.7 J**	**13.6 J**	0.37 UJ	10 J	**13.7 J**	**12.7 J**	**12.4 J**	**12.6 J**
TAL Metals	Copper	mg/Kg	34	270	**328 J**	**309 J**		**697 J**	**558 J**	**215 J**	**838 J**	**606 J**	**288 J**	**422 J**	**1,230 J**	**3,010 J**	**3,900 J**	**4,260 J**
TAL Metals	Iron	mg/Kg	NE	22,000,000	25,900 J	31,500		30,000	27,500 J	25,000 J	27,800 J	34,700 J	25,100 J	29,700 J	40,800 J	37,400 J	41,600 J	44,200 J
TAL Metals	Lead	mg/Kg	46.7	218	0.39 U	0.29 UJ		0.26 UJ	0.26 U	0.35 U	0.35 U	0.48 U	0.37 U	0.35 U	0.22 U	0.22 U	0.21 U	0.21 U
TAL Metals	Magnesium	mg/Kg	NE	NE	9,420	11,900		9,420	8,330	9,130	9,640	10,100	9,060	9,280	9,290	7,760	7,020	7,270
TAL Metals	Manganese	mg/Kg	NE	260	212 J	**261 J**		249 J	221 J	249 J	226 J	255 J	244 J	233 J	241 J	**271 J**	243 J	251 J
TAL Metals	Nickel	mg/Kg	20.9	51.6	0.43 U	11		8.3	7	9.5	0.39 U	0.53 U	10.2	0.39 U	7.3	6.6	8.4	8.5
TAL Metals	Potassium	mg/Kg	NE	NE	1,330	935		858	737	1,150	1,150	1,530	1,220	1,120	53.1 U	53.6 U	49.2 U	49.9 U
TAL Metals	Selenium	mg/Kg	NE	1	*2.3 U*	*1.7 U*		*1.5 U*	*1.5 U*	*2 U*	*2 U*	*2.8 U*	*2.1 U*	*2 U*	*1.3 U*	**1.3 J**	**1.2 J**	**1.5 J**
TAL Metals	Silver	mg/Kg	1	3.7	0.29 U	0.22 U		0.19 U	0.19 U	0.25 U	0.26 U	0.35 U	0.27 U	0.26 U	0.16 U	0.16 U	0.15 U	0.15 U
TAL Metals	Sodium	mg/Kg	NE	NE	12,500	4,590		4,290	4,240	9,160	9,970	16,900	11,500	9,360	2,070	2,080	1,210	1,240
TAL Metals	Thallium	mg/Kg	NE	NE	0.31 U	0.23 U		0.2 U	0.2 U	0.27 U	0.28 U	0.38 U	0.29 U	0.28 U	0.17 U	0.17 U	0.16 U	0.16 U
TAL Metals	Vanadium	mg/Kg	NE	57	55.3 J	**67.5 J**		**64.5 J**	54.8 J	54.2 J	54 J	**74.8 J**	50.4 J	51.5 J	**60.7 J**	**63.5 J**	57 J	55.8 J
TAL Metals	Zinc	mg/Kg	150	410	30.4	45.8		33.5	28.1	37.7	30.7	38.7	36.7	34.6	27.2	23.7	22.3	22.6
Grain Size	Particle size, 1 inch (25.40mm)	g	NE	NE	0	0	0	0				0	0					
Grain Size	Particle size, 1.5 inch (38.1mm)	g	NE	NE	0	0	0	0				0	0					
Grain Size	Particle size, 2 inch, (50.80mm)	g	NE	NE	0	0	0	0				0	0					
Grain Size	Particle size, 3 inch, (76.20mm)	g	NE	NE	0	0	0	0				0	0					
Grain Size	Particle size, 3/4 inch (19.05mm)	g	NE	NE	0	9.4	0	0				0	0					
Grain Size	Particle size, 3/8 inch (9.525mm)	g	NE	NE	0	95	48	0				0	0					
Grain Size	Particle size, Hydrometer (.008 mm)	mg/L	NE	NE	1.0	1.0	1.0	1.0				1.0	1.0					
Grain Size	Particle size, Hydrometer (.011 mm)	mg/L	NE	NE	1.0	1.0	1.0	1.0				1.0	1.0					
Grain Size	Particle size, Hydrometer (.015 mm)	mg/L	NE	NE	1.0	1.0	1.0	1.0				1.0	1.0					
Grain Size	Particle size, Hydrometer (.026 mm)	mg/L	NE	NE	1.0	1.0	1.0	1.0				1.0	1.0					
Grain Size	Particle size, Hydrometer (.040 mm)	mg/L	NE	NE	1.0	1.0	1.0	1.0				1.0	1.0					
Grain Size	Particle size, Hydrometer (0.004mm)	mg/L	NE	NE	1.0	1.0	1.0	1.0				1.0	1.0					
Grain Size	Particle size, Sieve No. 04, 4 mesh, (4.75mm)	g	NE	NE	1.1	56	63	0				0	0					
Grain Size	Particle size, Sieve No. 10, 9 mesh, (2.00mm)	g	NE	NE	4.6	60	72	0.60				1.9	1.8					
Grain Size	Particle size, Sieve No. 140, 150 mesh, (0.106mm)	g	NE	NE	62	95	69	186				12	104					
Grain Size	Particle size, Sieve No. 20, 20 mesh, (0.850mm)	g	NE	NE	3.3	50	55	1.1				1.2	3.0					
Grain Size	Particle size, Sieve No. 200, 200 mesh, (0.075mm)	g	NE	NE	98	59	37	89				17	48					
Grain Size	Particle size, Sieve No. 40, 35 mesh, (0.425mm)	g	NE	NE	4.2	36	33	3.2				1.4	3.5					
Grain Size	Particle size, Sieve No. 60, 60 mesh, (0.250mm)	g	NE	NE	7.1	30	25	15				2.1	8.2					
Grain Size	Sample Weight	g	NE	NE	385.4	578.4	473.7	408.1				167	314					

Notes:

ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams

FD = field duplicate sample
N = normal sample

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method detection limit shown

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)
[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)
Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-1
Surface Sediment Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:					SS-184	SS-185	SS-186	SS-187	SS-188	SS-189	SS-510
Area					Site	Site	Site	Site	Site	Site	Background
Activity ID:					2013SC-SS-184-00-20130529	2013SC-SS-185-00-20130530	2013SC-SS-186-00-20130530	2013SC-SS-187-00-20130530	2013SC-SS-188-00-20130530	2013SC-SS-189-00-20130530	2013SC-SB-510-00 20130527
Sample Type:					N	N	N	N	N	N	N
Date Sampled:					05/29/13	05/30/13	05/30/13	05/30/13	05/30/13	05/30/13	05/27/13
Depth (feet):					0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
			Screening Level								
ChemGroup	**Analyte**	**Units**	**ERL[a]**	**ERM[b]**							
AVS/SEM	AVS	umol/g	NE	NE							-3.20E-03
AVS/SEM	Cadmium	ug/L	NE	NE							9.68
AVS/SEM	Copper	ug/L	NE	NE							578
AVS/SEM	Lead	ug/L	NE	NE							87.2
AVS/SEM	Nickel	ug/L	NE	NE							89.4
AVS/SEM	Zinc	ug/L	NE	NE							552
AVS/SEM	Acid Volatile Sulfides	mg/Kg	NE	NE							0.854
AVS/SEM	Simultaneously Extracted Metals	umol/g	NE	NE							0.21
AVS/SEM	Simultaneously extracted metals/acid volatile sulfides	umol/g	NE	NE							1
Hg	Mercury	mg/Kg	0.15	0.71	0.062 J	**0.16**	0.094 J	0.023 J	0.05 J	0.053 J	0.0064 U
TAL Metals	Aluminum	mg/Kg	NE	18,000	6,610	16,500	9,230	9,140	6,820	9,420	7,680
TAL Metals	Antimony	mg/Kg	NE	9.3	0.34 U	0.38 U	0.34 U	0.38 U	0.42 U	0.38 U	0.33 U
TAL Metals	Arsenic	mg/Kg	8.2	70	0.22 U	0.25 U	0.23 U	6.6	7.2	0.25 U	0.22 U
TAL Metals	Barium	mg/Kg	NE	48	2 U	2.3 U	2.1 U	2.3 U	2.5 U	2.3 U	2 U
TAL Metals	Beryllium	mg/Kg	NE	NE	0.26 U	0.29 U	0.26 U	0.29 U	0.32 U	0.29 U	0.25 U
TAL Metals	Cadmium	mg/Kg	1.2	9.6	0.19 U	0.21 U	0.2 U	0.21 U	0.24 U	0.21 U	0.19 U
TAL Metals	Calcium	mg/Kg	NE	NE	2,280	23,200	16,000	4,840	2,640	3,980	22,500
TAL Metals	Chromium	mg/Kg	81	370	0.32 U	2.2 J	1.5 J	9.1 J	6.9 J	0.36 U	4.9 J
TAL Metals	Cobalt	mg/Kg	NE	10	**12.9 J**	**30.8**	**15.6**	7.5	8.9	**15 J**	0.21 U
TAL Metals	Copper	mg/Kg	34	270	**1,570 J**	**2,000 J**	**1,570 J**	**172 J**	**168 J**	**495 J**	13.5 J
TAL Metals	Iron	mg/Kg	NE	22,000,000	26,900 J	63,100	46,500	17,900	20,100	29,700 J	13,400
TAL Metals	Lead	mg/Kg	46.7	218	0.21 U	0.24 UJ	0.22 UJ	9.2 J	14.5 J	0.24 U	0.21 UJ
TAL Metals	Magnesium	mg/Kg	NE	NE	7,760	19,300	11,300	7,830	6,970	9,200	6,910
TAL Metals	Manganese	mg/Kg	NE	260	222 J	**558 J**	**282 J**	**370 J**	**281 J**	**773 J**	170 J
TAL Metals	Nickel	mg/Kg	20.9	51.6	7.4	14.9	8.5	6.6	5.5 J	8.7	5.2 J
TAL Metals	Potassium	mg/Kg	NE	NE	50.4 U	951	665	669	579 J	657	462 J
TAL Metals	Selenium	mg/Kg	NE	1	***1.2 U***	*1.4 U*	*1.3 U*	*1.4 U*	*1.5 U*	*1.4 U*	*1.2 U*
TAL Metals	Silver	mg/Kg	1	3.7	0.16 U	0.18 U	0.16 U	0.18 U	0.19 U	0.18 U	0.15 U
TAL Metals	Sodium	mg/Kg	NE	NE	1,390	2,610	1,860	5,460	4,760	3,050	2,230
TAL Metals	Thallium	mg/Kg	NE	NE	0.17 U	0.19 U	0.17 U	0.19 U	0.21 U	0.19 U	0.16 U
TAL Metals	Vanadium	mg/Kg	NE	57	51.4 J	**135 J**	**71.5 J**	40.7 J	50.9 J	**68.7 J**	29.4 J
TAL Metals	Zinc	mg/Kg	150	410	26	60.6	28.6	32.9	22.6	38.4	23.5
Grain Size	Particle size, 1 inch (25.40mm)	g	NE	NE							0
Grain Size	Particle size, 1.5 inch (38.1mm)	g	NE	NE							0
Grain Size	Particle size, 2 inch, (50.80mm)	g	NE	NE							0
Grain Size	Particle size, 3 inch, (76.20mm)	g	NE	NE							0
Grain Size	Particle size, 3/4 inch (19.05mm)	g	NE	NE							10
Grain Size	Particle size, 3/8 inch (9.525mm)	g	NE	NE							94
Grain Size	Particle size, Hydrometer (.008 mm)	mg/L	NE	NE							1.0
Grain Size	Particle size, Hydrometer (.011 mm)	mg/L	NE	NE							1.0
Grain Size	Particle size, Hydrometer (.015 mm)	mg/L	NE	NE							1.0
Grain Size	Particle size, Hydrometer (.026 mm)	mg/L	NE	NE							1.0
Grain Size	Particle size, Hydrometer (.040 mm)	mg/L	NE	NE							1.0
Grain Size	Particle size, Hydrometer (0.004mm)	mg/L	NE	NE							1.0
Grain Size	Particle size, Sieve No. 04, 4 mesh, (4.75mm)	g	NE	NE							141
Grain Size	Particle size, Sieve No. 10, 9 mesh, (2.00mm)	g	NE	NE							77
Grain Size	Particle size, Sieve No. 140, 150 mesh, (0.106mm)	g	NE	NE							15
Grain Size	Particle size, Sieve No. 20, 20 mesh, (0.850mm)	g	NE	NE							47
Grain Size	Particle size, Sieve No. 200, 200 mesh, (0.075mm)	g	NE	NE							3.1
Grain Size	Particle size, Sieve No. 40, 35 mesh, (0.425mm)	g	NE	NE							25
Grain Size	Particle size, Sieve No. 60, 60 mesh, (0.250mm)	g	NE	NE							14
Grain Size	Sample Weight	g	NE	NE							438.9

Notes:

ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams

FD = field duplicate sample
N = normal sample

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method detection limit shown

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)
[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL)
Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL)

TABLE 4-2

Sediment Toxicity Bioassay Results

2013 Salt Chuck Mine Superfund Site Field Data Report

Sample Description	Location	Area	Sample Date	Sample Depth (feet)	Polychaete *Neanthes arenaceodentata*	Bivalve *Mytilus galloprovincialis*
13214112 (NAS #4424G/4534G)	SS-510	Background	05/27/13	0-0.5		
13214126 (NAS #4425G)	SS-145	Site	05/29/13	0-0.5		
13214127 (NAS #4426G)	SS-146	Site	05/29/13	0-0.5	ü[a,b]	
13214130 (NAS #4428G)	SS-140	Site	05/29/13	0-0.5		ü[c]
13214133 (NAS #4430G)	SS-140 FD	Site	05/29/13	0-0.5		ü[c]

Notes:

Metals results for these samples are listed in Table 4-1

ü = Significant effect seen when compared with the control sediment and/or reference area results.

[a] Statistically significant effect when compared to laboratory control but not reference area sediment.

[b] Statistically significant reduced growth, but no effect on survival.

[c] Statistically significant reduced larval development, but no effect on survival.

TABLE 4-3
Agronomic Sediment Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:			SS-181	SS-182	SS-183	SS-183	SS-184	SS-185	SS-186	SS-187	SS-188	SS-189
Area			Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:			2013SC-SS-181-20131529	2013SC-SS-182-20131529	2013SC-SS-183-20131529	2013SC-SS-9183-20131529	2013SC-SS-184-20131529	2013SC-SS-185-20131530	2013SC-SS-186-20131530	2013SC-SS-187-20131530	2013SC-SS-188-20131530	2013SC-SS-189-20131530
Sample Type:			N	N	N	FD	N	N	N	N	N	N
Date Sampled:			05/29/13	05/29/13	05/29/13	05/29/13	05/29/13	05/30/13	05/30/13	05/30/13	05/30/13	05/30/13
Depth (feet):			0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
Soil Texture:			Loamy Sand	Sand	Sand	Sand	Sand	Loam	Loam	Loamy Sand	Loamy Sand	Loam
ChemGroup	**Analyte**	**Units**										
Physical Characteristics	Sand	%	74	86	86	90	92	48	52	78	74	48
Physical Characteristics	Silt	%	20	8	6	4	2	40	38	14	16	40
Physical Characteristics	Clay	%	6	6	8	6	6	12	10	8	10	12
Nitrogen	Kjeldahl nitrogen	mg/kg	40 U	40 U	40 U	40 U	40 U	40 U	40 U	370	201	40 U
Soil Analysis	Boron	mg/kg	2.3	2.1	1.9	1.7	1.3	3.3	3.5	20.3	10.6	9.5
Soil Analysis	Calcium	mg/kg	633	1515	717	697	208	2054	2157	1362	848	690
Soil Analysis	Copper	mg/kg	216.0	283.0	293.0	277.0	210.0	244.0	282.0	126.0	60.5	191.0
Soil Analysis	Iron	mg/kg	13	13	25	22	8	2	9	60	99	15
Soil Analysis	Magnesium	mg/kg	279	268	201	228	266	299	278	1877	1223	905
Soil Analysis	Manganese	mg/kg	1	1	1	1	1	1	1	5	15	2
Soil Analysis	Nitrogen	mg/kg	3	5	5	51	79	8	7	22	9	12
Soil Analysis	Organic Matter	%	0.4	0.3	0.4	0.4	0.3	0.4	0.3	14.8	6.6	3.0
Soil Analysis	Phosphorus	mg/kg	8	9	6	7	4	2	3	22	19	13
Soil Analysis	Phosphorus, Weak Bray	mg/kg	19	8	12	13	23	2	1	20	21	9
Soil Analysis	Potassium	mg/kg	81	69	62	63	76	94	83	410	294	260
Soil Analysis	Sodium	mg/kg	1,313	1,191	1,016	1,151	1,381	1,429	1,310	9,614	7,632	3,092
Soil Analysis	Sulfur	mg/kg	122	118	85	97	119	135	125	479	385	280
Soil Analysis	Zinc	mg/kg	0.5	0.3	0.3	0.4	0.4	0.5	0.5	2.8	1.1	0.7
Cation Saturation	Calcium	%	27.8	50.0	36.5	33.1	11.0	53.5	56.8	10.4	8.0	13.8
Cation Saturation	Magnesium	%	20.2	14.6	16.9	17.8	23.2	12.8	12.1	23.7	19.0	29.8
Cation Saturation	Potassium	%	1.8	1.2	1.6	1.5	2.1	1.3	1.1	1.6	1.4	2.7
Cation Saturation	Sodium	%	50.2	34.3	45.0	47.6	63.8	32.4	30.1	64.3	62.6	53.8
Soil Salinity	Bicarbonate	meq/L	1.8	2.1	1.7	1.9	1.3	1.9	1.7	1.9	4.0	2.7
Soil Salinity	Boron	mg/kg	1.6	1.7	1.4	1.5	1.1	1.5	1.3	2.0	2.3	2.6
Soil Salinity	Calcium	meq/L	5.3	6.4	3.8	4.1	3.7	7	5.2	3.2	7.4	7.9
Soil Salinity	Carbonate	meq/L	0	0	0	0	0	0	0	0	0	0
Soil Salinity	Chloride	meq/L	110	150	72.5	91.5	81.5	136.5	92.5	82.0	211.4	212.9
Soil Salinity	EC	dS/m	13.5	12.4	10.5	7.4	8.5	14.0	15.9	23.4	25.5	20.1
Soil Salinity	ESP	none	34.7	37.2	19.7	32.2	19.1	38.0	18.5	20.0	41.0	42.0
Soil Salinity	Magnesium	meq/L	17.0	21.1	13.2	14.6	13.7	20.1	13.4	10.8	24.9	28.0
Soil Salinity	pH	none	7.7	8.1	8.1	8.0	7.5	8.1	8.3	7.0	6.4	7.1
Soil Salinity	SAR	none	36.8	41.1	17.5	33.0	16.8	42.4	16.2	17.8	47.9	50.0
Soil Salinity	Saturation	%	30.1	27.9	31.0	29.9	31.6	35.1	30.3	101.7	77.4	39.8
Soil Salinity	Sodium	meq/L	123.1	152.4	51.1	101.0	49.6	156.2	49.5	47.1	192.9	211.9

Notes:
Metals results for these samples are listed in Table 4-1
J = The analyte was positively identified; the quantitation is an estimation.
meq/L = milliequivalents per liter
mg/kg = milligrams per kilogram
U = The analyte was analyzed for, but not detected at the method reporting limit shown

TABLE 4-4
Marine Sediment Core and Test Pit Sample Results - May 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:					SB-004	SB-004	SB-004	SB-013	SB-013	SB-018	SB-018	SB-021	SB-021	SB-031	SB-031	SB-031	SB-031	SB-032	SB-032	SB-033	SB-033	SB-043	SB-043	SB-043	SB-052	SB-052
Area					Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:					2013SC-SB-004-0_5-20130528	2013SC-SB-004-00-20130528	2013SC-SB-9004-0_5-20130528FD	2013SC-SB-013-0_5-20130528	2013SC-SB-013-00-20130528	2013SC-SB-018-0_5-20130527	2013SC-SB-018-00-20130527	2013SC-SB-021-0_5-20130528	2013SC-SB-021-00-20130528	2013SC-SB-031-0_5-20130528	2013SC-SB-031-00-20130528	2013SC-SB-031-01-20130528	2013SC-SB-9031-00-20130528FD	2013SC-SB-032-0_5-20130527	2013SC-SB-032-00-20130527	2013SC-SB-033-0_5-20130527	2013SC-SB-033-00-20130527	2013SC-SB-043-0_5-20130527	2013SC-SB-043-00-20130527	2013SC-SB-043-01-20130527	2013SC-SB-052-0_5-20130528	2013SC-SB-052-00-20130528
Sample Type:					N	FD	FD	N	N	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N
Date Sampled:					05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/27/13	05/27/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/27/13	05/27/13	05/27/13	05/27/13	05/27/13	05/27/13	05/27/13	05/28/13	05/28/13
Depth (feet):					0.5 - 1	0 - 0.5	0.5 - 1	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5
ChemGroup		**Analyte**	**Units**	**Screening Level ERL[a]**	**Screening Level ERM[b]**																					
Metals, Chrome VI		Chromium VI	mg/Kg	NE	NE																					
Metals, Hg		Mercury	mg/Kg	0.15	0.71	0.11 J	0.076 J	0.13	**0.4**	0.12	**0.17**	0.064 J	0.052 J	**0.17**	0.11 J	0.091 J	**0.21**	0.15	0.1 J	0.068 J	0.14	0.12 J	0.13	0.11 J	0.13	**0.19**	0.063 J
TAL Metals		Aluminum	mg/Kg	NE	18,000	7,310	6,940	7,280	5,410	5,370	7,240	9,580	6,830	7,620	7,980	7,630	15,000	8,020	6,300	6,620	9,320	9,050	12,200	12,500	8,110	4,190	4,170
TAL Metals		Antimony	mg/Kg	NE	9.3	0.36 U	0.36 U	0.35 U	0.35 U	0.36 U	0.36 U	0.34 U	0.36 U	0.41 U	0.35 U	0.41 U	0.36 U	0.42 U	0.41 U	0.39 U	0.34 U	0.46 U	0.36 U	0.34 U	0.34 U	0.35 U	0.34 U
TAL Metals		Arsenic	mg/Kg	8.2	70	0.24 U	0.24 U	0.23 U	0.23 U	0.24 U	0.24 U	0.23 U	6.5	0.27 U	0.23 U	0.28 U	0.24 U	0.28 U	0.28 U	0.26 U	0.23 U	0.3 U	0.24 U	0.23 U	0.22 U	0.23 U	0.23 U
TAL Metals		Barium	mg/Kg	NE	48	2.1 U	2.2 U	2.1 U	2.1 U	2.1 U	2.2 U	14.6 J	2.2 U	2.4 U	2.1 U	2.5 U	2.2 U	2.5 U	18.4 J	7.2 J	2 U	2.7 U	11.1 J	12.1 J	17.1 J	2.1 U	2.1 U
TAL Metals		Beryllium	mg/Kg	NE	NE	0.27 U	0.28 U	0.27 U	0.26 U	0.27 U	0.28 U	0.26 U	0.28 U	0.31 U	0.27 U	0.32 U	0.28 U	0.32 U	0.32 U	0.3 U	0.26 U	0.35 U	0.28 U	0.26 U	0.26 U	0.27 U	0.26 U
TAL Metals		Cadmium	mg/Kg	1.2	9.6	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.23 U	0.2 U	0.23 U	0.21 U	0.24 U	0.23 U	0.22 U	0.19 U	0.26 U	0.2 U	0.2 U	0.19 U	0.2 U	0.2 U
TAL Metals		Calcium	mg/Kg	NE	NE	3,350	3,270	3,250	2,500	2,620	3,940 J	5,080 J	2,650	3,160	5,860	3,590	14,700	3,890	2,810 J	2,900 J	13,300	4,710	18,200 J	17,200 J	14,500 J	1,960	1,850
TAL Metals		Chromium	mg/Kg	81	370	0.34 U	0.35 U	0.34 U	1.2 J	1.3 J	1.5 J	2 J	1.1 J	1.1 J	1.7 J	2.5 J	1.9 J	2.5 J	2.3 J	2 J	0.33 U	0.44 U	2.5 J	1.5 J	1.3 J	0.34 U	0.33 U
TAL Metals		Cobalt	mg/Kg	NE	10	**13.5 J**	**13 J**	**14.3 J**	**12.5**	**12.5**	**16.1**	**16.8**	**17.6**	**14.8**	**25**	**16.8**	**30.8**	**17.9**	**12.6**	**11.3**	**22.1 J**	**17.3 J**	**18.5**	**17.6**	**19.6**	**10.5 J**	**10.1 J**
TAL Metals		Copper	mg/Kg	34	270	**3,870 J**	**2,620 J**	**3,830 J**	**4,060**	**2,600**	**5,010**	**1,710**	**5,760**	**690**	**1,070 J**	**1,220 J**	**1,170 J**	**1,350 J**	**658**	**636**	**3,610 J**	**946 J**	**1,040**	**913**	**1,470**	**745 J**	**1,520 J**
TAL Metals		Iron	mg/Kg	NE	22,000,000	29,200	32,000 J	31,600	118,000 J	109,000 J	27,200 J	46,000 J	63,700 J	55,400 J	31,400	49,400	59,900	55,000	31,000 J	35,900 J	42,400	52,900	56,600 J	53,000 J	45,000 J	48,600	33,200
TAL Metals		Lead	mg/Kg	46.7	218	0.23 U	0.23 U	6.3	0.22 U	7.3	0.23 U	3.8 J	0.23 U	7	0.22 UJ	15.2 J	0.23 UJ	0.26 UJ	14	9.6	0.22 U	0.29 U	0.72 J	0.65 J	0.64 J	29.5	0.22 U
TAL Metals		Magnesium	mg/Kg	NE	NE	8,140	7,800	8,130	6,370	6,270	7,670	10,400	7,520	8,520	10,200	8,940	18,700	9,440	7,540	7,860	10,600	10,400	13,600	13,500	9,750	5,140	5,140
TAL Metals		Manganese	mg/Kg	NE	260	219 J	207 J	229 J	180 J	183 J	**293**	**277**	228 J	223 J	**406 J**	237 J	**509 J**	247 J	209	178	**395 J**	**265 J**	**336**	**317**	**352**	184 J	166 J
TAL Metals		Nickel	mg/Kg	20.9	51.6	7.4	7.1	7.7	6	5.9	8.8	8.8	7.8	6.2 J	11.3	9.1	13.8	10.2	6.5 J	5.9 J	11.3	9.3	10.5	8.6	10.3	0.24 U	0.24 U
TAL Metals		Potassium	mg/Kg	NE	NE	511 J	55.5 U	432 J	311 J	353 J	584 J	704	587 J	480 J	770	681 J	1,360	675 J	733	578 J	621	763	887	989	740	346 J	347 J
TAL Metals		Selenium	mg/Kg	NE	1	**1.4 J**	*1.3 U*	**1.4 J**	**3.5 J**	**2.7 J**	**1.5 J**	*1.2 U*	**5.8 J**	*1.5 U*	*1.3 U*	*1.5 U*	*1.3 U*	*1.5 U*	*1.5 U*	*1.4 U*	**2.2 J**	*1.7 U*	**1.5 J**	*1.3 U*	*1.2 U*	*1.3 U*	*1.3 U*
TAL Metals		Silver	mg/Kg	1	3.7	0.17 U	0.17 U	0.16 U	0.16 U	0.17 U	0.17 U	0.16 U	**6.7**	0.19 U	0.16 U	0.19 U	0.17 U	0.19 U	0.19 U	0.18 U	0.16 U	0.21 U	0.17 U	0.16 U	0.16 U	0.16 U	0.16 U
TAL Metals		Sodium	mg/Kg	NE	NE	937	1,970	806	1,480	1,880	895	1,550	96.7 J	188 J	1,210	3,550	1,720	3,400	3,190	2,860	1,820	3,060	1,970	2,020	847	2,320	1,810
TAL Metals		Thallium	mg/Kg	NE	NE	0.18 U	0.18 U	0.17 U	0.17 U	0.18 U	0.18 U	0.17 U	0.18 U	0.2 U	0.18 U	0.21 U	0.18 U	0.21 U	0.21 U	0.19 U	0.17 U	0.23 U	0.18 U	0.17 U	0.17 U	0.17 U	0.17 U
TAL Metals		Vanadium	mg/Kg	NE	57	**58.5 J**	**61.1 J**	**62.6 J**	**88.9**	**78**	**65.7**	**77**	**76.5**	**80.6**	**123 J**	**114 J**	**159 J**	**122 J**	**59.7**	49.6	**108 J**	**87.7 J**	**94.5**	**84.7**	**101**	53.7 J	50.6 J
TAL Metals		Zinc	mg/Kg	150	410	56	43.1	72.3	25.6	25.6	30.5	60	32.9	30.1	46.3	34.4	56.2	36.1	35	24.7	42	37.6	33.9	33	35.2	24.4	20.9
TCL PAHs	HPAH	Benz(a)anthracene	ug/Kg	261	1,600	32	12	10	14	37			16	10					15	6.6	46	7.5				56	8.5
TCL PAHs	HPAH	Benzo(a)pyrene	ug/Kg	430	1,600	26	14	14	24	22			6.6	8.8					15	8	110	8.1				46	9.4
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/Kg	NE	NE	21	9.7	13	19	17			6.2	6.9					13	5.8	80	6.5				37	7.8
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/Kg	NE	NE	25	20	18	28	18			12	16					16	9.7	71	13				41	9.5
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/Kg	NE	NE	15	7.6	7.5	11	12			4.5	5.5					8.7	4.3 J	62	5				31	4.9
TCL PAHs	HPAH	Chrysene	ug/Kg	384	2,800	23	9.9	8.4	9.1	29			6.8	9.1					12	4.9	39	6.2				44	5.9
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/Kg	63.4	260	4 J	1.7 U	1.7 U	1.7 U	1.7 U			1.7 U	1.7 U					1.7 U	1.7 U	10	1.7 U				8.6	1.7 U
TCL PAHs	HPAH	Fluoranthene	ug/Kg	600	5,100	65	13	9.5	9.5	46			35	12					41	7.8	66	12				78	9.7
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/Kg	NE	NE	18	10	11	14	16			4.4	7.3					9.5	5	55	6.6				34	6.9
TCL PAHs	HPAH	Pyrene	ug/Kg	665	2,600	59	19	15	11	49			32	16					34	11	110	17				86	11
TCL PAHs	HPAH	Total HPAH	ug/kg	1,700	9,600	288	115.2	106.4	139.6	246			123.5	91.6					164.2	63.1	649	81.9				461.6	73.6
TCL PAHs	LPAH	Acenaphthene	ug/Kg	16	500	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U			1.7 U	1.7 U					5.3	1.7 U	1.7 U	1.7 U				1.7 U	1.7 U
TCL PAHs	LPAH	Acenaphthylene	ug/Kg	44	640	6.6	7	5.3	4.9	7.9			1.7 U	6.3					1.7 U	1.7 U	23	4.5				16	1.7 U
TCL PAHs	LPAH	Anthracene	ug/Kg	85.3	1,100	7.5	1.7 U	1.7 U	1.7 U	6.5			1.7 U	1.7 U					1.7 U	1.7 U	8.6	1.7 U				8.2	1.7 U
TCL PAHs	LPAH	Fluorene	ug/Kg	19	540	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U			1.7 U	1.7 U					1.7 U	1.7 U	1.7 U	1.7 U				1.7 U	1.7 U
TCL PAHs	LPAH	Naphthalene	ug/Kg	160	2,100	4.2 J	1.7 U	1.7 U	1.7 U	1.7 U			1.7 U	1.7 U					1.7 U	1.7 U	1.7 U	1.7 U				1.7 U	1.7 U
TCL PAHs	LPAH	Phenanthrene	ug/Kg	240	1,500	23	8.2	4.5	6.8	7.4			5.2	9.7					6.7	1.7 U	10	4.3				17	1.7 U
TCL PAHs	LPAH	Total LPAH	ug/kg	552	3,160	41.3	15.2	9.8	11.7	21.8			5.2	16					12	1.7 U	41.6	8.8				41.2	1.7 U
TCL PAHs	TPAH	Total PAH	ug/kg	4,022	44,792	329.3	130.4	116.2	151.3	267.8			128.7	107.6					176.2	63.1	690.6	90.7				502.8	73.6
TCL PAHs		2-Methylnaphthalene	ug/Kg	70	670	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U			1.7 U	1.7 U					1.7 U	1.7 U	1.7 U	1.7 U				1.7 U	1.7 U
Genchem, TOC		Organic carbon	mg/Kg	NE	NE	910 J	520 J	980 J	550 J	1,800 J			1,100 J	5,500 J					7,600 J	5,500 J	1,100 J	3,000 J				870 J	230 J
Genchem		Total solids	%	NE	NE	83.7	82.4	81.6	84.6	81.8			81.1	72.5					71.1	74.2	82.1	79.4				82.8	85.7
BulkDensity		Bulk Density	g/cm3	NE	NE	2.22	2.29	2.17	2.44	2.30			2.29						2.00	2.00	2.19	2.10				2.39	2.39
Grain Size		Particle size, 1 inch (25.40mm)	g	NE	NE	0.00	0.00	0.00	0.00	0.00			0.00						0.00	0.00	0.00	0.00				0.00	0.00
Grain Size		Particle size, 1.5 inch (38.1mm)	g	NE	NE	0.00	0.00	0.00	0.00	0.00			0.00						0.00	0.00	0.00	0.00				0.00	0.00
Grain Size		Particle size, 2 inch, (50.80mm)	g	NE	NE	0.00	0.00	0.00	0.00	0.00			0.00						0.00	0.00	0.00	0.00				0.00	0.00
Grain Size		Particle size, 3 inch, (76.20mm)	g	NE	NE	0.00	0.00	0.00	0.00	0.00			0.00						0.00	0.00	0.00	0.00				0.00	0.00
Grain Size		Particle size, 3/4 inch (19.05mm)	g	NE	NE	0.00	0.00	0.00	0.00	0.00			0.00						0.00	0.00	0.00	0.00				0.00	0.00
Grain Size		Particle size, 3/8 inch (9.525mm)	g	NE	NE	10.30	0.00	5.60	0.00	0.00			5.90						0.00	0.00	0.00	0.00				0.00	0.00
Grain Size		Particle size, Hydrometer (.008 mm)	mg/L	NE	NE	1.00	1.00	1.00	1.00	1.00			1.00						1.00	1.00	1.01	1.00				1.00	1.00
Grain Size		Particle size, Hydrometer (.011 mm)	mg/L	NE	NE	1.00	1.00	1.00	1.00	1.00			1.00						1.00	1.00	1.01	1.00				1.00	1.00
Grain Size		Particle size, Hydrometer (.015 mm)	mg/L	NE	NE	1.00	1.00	1.00	1.00	1.00			1.00						1.00	1.00	1.01	1.01				1.00	1.00
Grain Size		Particle size, Hydrometer (.026 mm)	mg/L	NE	NE	1.00	1.00	1.00	1.00	1.00			1.00						1.01	1.00	1.01	1.01				1.00	1.00
Grain Size		Particle size, Hydrometer (.040 mm)	mg/L	NE	NE	1.01	1.01	1.01		1.01			1.01						1.01	1.01	1.02	1.01				1.00	
Grain Size		Particle size, Hydrometer (.041 mm)	mg/L	NE	NE				1.01																		1.00
Grain Size		Particle size, Hydrometer (0.004mm)	mg/L	NE	NE	1.00	1.00	1.00	1.00	1.00			1.00						1.00	1.00	1.00	1.00				1.00	1.00
Grain Size		Particle size, Sieve No. 04, 4 mesh, (4.75mm)	g	NE	NE	0.10	0.00	0.30	0.00	0.30			0.00						0.00	0.00	0.00	0.50				0.50	0.40
Grain Size		Particle size, Sieve No. 10, 9 mesh, (2.00mm)	g	NE	NE	1.40	0.80	1.70	0.00	0.30			3.40						0.40	0.00	0.00	0.50				3.10	1.70
Grain Size		Particle size, Sieve No. 140, 150 mesh, (0.106mm)	g	NE	NE	170.50	194.63	143.90	244.92	201.65			169.54						163.26	174.64	24.29	135.23				261.17	271.40
Grain Size		Particle size, Sieve No. 20, 20 mesh, (0.850mm)	g	NE	NE	2.71	2.00	1.04	0.82	0.35			6.33						0.77	0.72	0.00	0.75				2.34	2.34
Grain Size		Particle size, Sieve No. 200, 200 mesh, (0.075mm)	g	NE	NE	78.87	77.53	71.43	62.56	59.18			75.92						63.68	69.86	46.27	100.02				57.30	60.83
Grain Size		Particle size, Sieve No. 40, 35 mesh, (0.425mm)	g	NE	NE	10.44	9.59	6.56	11.04	5.32			25.31						9.65	7.56	0.58	1.87				15.20	13.26
Grain Size		Particle size, Sieve No. 60, 60 mesh, (0.250mm)	g	NE	NE	36.73	42.76	28.99	65.42	42.17			63.26						42.84	38.17	1.16	10.49				72.11	70.97
Grain Size		Sample Weight	g	NE	NE	456.80	462.80	404.10	473.90	408.50			496.00						445.40	414.10	414.10	434.40				455.00	

Notes:
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method detection limit shown

FD = field duplicate sample
N = normal sample

TABLE 4-4
Marine Sediment Core and Test Pit Sample Results - May 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-004	SB-004	SB-004	SB-013	SB-013	SB-018	SB-018	SB-021	SB-021	SB-031	SB-031	SB-031	SB-031	SB-032	SB-032	SB-033	SB-033	SB-043	SB-043	SB-043	SB-052	SB-052
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						2013SC-SB-004-0_5-20130528	2013SC-SB-004-00-20130528	2013SC-SB-9004-0_5-20130528FD	2013SC-SB-013-0_5-20130528	2013SC-SB-013-00-20130528	2013SC-SB-018-0_5-20130527	2013SC-SB-018-00-20130527	2013SC-SB-021-0_5-20130528	2013SC-SB-021-00-20130528	2013SC-SB-031-0_5-20130528	2013SC-SB-031-00-20130528	2013SC-SB-031-01-20130528	2013SC-SB-9031-00-20130528FD	2013SC-SB-032-0_5-20130527	2013SC-SB-032-00-20130527	2013SC-SB-033-0_5-20130527	2013SC-SB-033-00-20130527	2013SC-SB-043-0_5-20130527	2013SC-SB-043-00-20130527	2013SC-SB-043-01-20130527	2013SC-SB-052-0_5-20130528	2013SC-SB-052-00-20130528
Sample Type:						N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Date Sampled:						05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/27/13	05/27/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/27/13	05/27/13	05/27/13	05/27/13	05/27/13	05/27/13	05/28/13	05/28/13
Depth (feet):						0.5 - 1	0 - 0.5	0.5 - 1	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5
				Screening Level																							
ChemGroup		**Analyte**	**Units**	**ERL[a]**	**ERM[b]**																						

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)

[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)

Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-4
Marine Sediment Core and Test Pit Sample Results - May 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-052	SB-059	SB-059	SB-059	SB-061	SB-061	SB-062	SB-062	SB-062	SB-078	SB-078	SB-078	SB-079	SB-079	SB-079	SB-082	SB-082	SB-082	SB-089	SB-089	SB-089	SB-111	SB-111	SB-111
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						2013SC-SB-052-01-20130528	2013SC-SB-059-0_5-20130527	2013SC-SB-059-00-20130527	2013SC-SB-059-01-20130527	2013SC-SB-061-0_5-20130527	2013SC-SB-061-00-20130527	2013SC-SB-062-0_5-20130528	2013SC-SB-062-00-20130528	2013SC-SB-062-01-20130528	2013SC-SB-078-0_5-20130528	2013SC-SB-078-00-20130528	2013SC-SB-078-01-20130528	2013SC-SB-079-0_5-20130528	2013SC-SB-079-00-20130528	2013SC-SB-079-01-20130528	2013SC-SB-082-0_5-20130528	2013SC-SB-082-00-20130528	2013SC-SB-082-01-20130528	2013SC-SB-089-0_5-20130528	2013SC-SB-089-00-20130528	2013SC-SB-089-01-20130528	2013SC-SB-111-0_5-20130523	2013SC-SB-111-00-20130523	2013SC-SB-111-01-20130523
Sample Type:						N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Date Sampled:						05/28/13	05/27/13	05/27/13	05/27/13	05/27/13	05/27/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/23/13	05/23/13	05/23/13
Depth (feet):						1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2
ChemGroup		**Analyte**	**Units**	**Screening Level ERL[a]**	**Screening Level ERM[b]**																								
Metals, Chrome VI		Chromium VI	mg/Kg	NE	NE			0.031 UJ			0.032 UJ		0.031 UJ						0.033 UJ										
Metals, Hg		Mercury	mg/Kg	0.15	0.71	0.049 J	**1.1**	0.083 J	0.076 J	0.056 J	0.042 J	0.11 J	0.11 J	**0.16**	0.06 J	0.04 J	0.052 J	0.074 J	**0.45**	0.088 J	0.14	0.12 J	0.056 J	**0.17**	**0.27**	**0.23**	0.043 J	0.042 J	0.019 J
TAL Metals		Aluminum	mg/Kg	NE	18,000	4,190	4,670	6,330	3,900	10,300	6,540	5,630	5,430	5,250	7,700	7,440	7,410	6,670	8,150	9,620	11,600	8,590	8,810	7,770	12,100	12,500	8,410	9,550	8,460
TAL Metals		Antimony	mg/Kg	NE	9.3	0.35 U	0.34 U	0.36 U	0.35 U	0.36 U	0.35 U	0.34 U	0.34 U	0.31 U	0.36 U	0.35 U	0.36 U	0.38 U	0.36 U	0.36 U	0.39 U	0.49 U	0.41 U	0.38 U	0.42 U	0.36 U	0.036 U	0.036 U	0.034 U
TAL Metals		Arsenic	mg/Kg	8.2	70	0.23 U	0.23 U	0.24 U	0.23 U	0.24 U	0.23 U	0.23 U	0.22 U	0.21 U	0.24 U	0.23 U	0.24 U	0.25 U	0.24 U	0.24 U	0.26 U	0.33 U	0.27 U	0.25 U	0.28 U	0.24 U	3.2 J	2.1 J	1.8 J
TAL Metals		Barium	mg/Kg	NE	48	2.1 U	2.1 U	12.4 J	2.1 U	2.1 U	5.3 J	2.1 U	2 U	1.9 U	2.1 U	2.1 U	2.2 U	9.6 J	2.2 U	2.2 U	13 J	2.9 U	4.4 J	2.3 U	2.5 U	2.1 U	0.22 U	0.22 U	6.8
TAL Metals		Beryllium	mg/Kg	NE	NE	0.27 U	0.26 U	0.28 U	0.27 U	0.27 U	0.27 U	0.26 U	0.26 U	0.24 U	0.27 U	0.27 U	0.28 U	0.29 U	0.28 U	0.28 U	0.3 U	0.37 U	0.31 U	0.29 U	0.32 U	0.27 U	0.028 U	0.028 U	0.026 U
TAL Metals		Cadmium	mg/Kg	1.2	9.6	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.18 U	0.2 U	0.2 U	0.21 U	0.22 U	0.21 U	0.21 U	0.22 U	0.28 U	0.23 U	0.21 U	0.24 U	0.2 U	0.021 U	0.021 U	0.019 U
TAL Metals		Calcium	mg/Kg	NE	NE	1,730	4,430	3,280	3,840	12,100	3,990 J	6,380	6,020	6,030	7,270	6,450	7,160	3,570 J	4,120	7,560	5,560 J	5,280	3,720 J	5,710	6,400	13,800	3,610 J	5,670 J	3,050 J
TAL Metals		Chromium	mg/Kg	81	370	0.34 U	0.33 U	1.1 J	0.34 U	2 J	1 J	0.33 U	0.32 U	0.3 U	0.35 U	0.34 U	2.3 J	2.1 J	2.1 J	2.5 J	2.7 J	2.8 J	6.7 J	7.7 J	3 J	5.3 J	4.9 J	4.8 J	4.3 J
TAL Metals		Cobalt	mg/Kg	NE	10	**10.1 J**	**12 J**	**13.3 J**	**10.7 J**	**18.6**	**11.3**	**12.9 J**	**11.5 J**	**10.9 J**	**15.1**	**14**	**13.8**	**11.3**	**14.8**	**16.9**	**19.8**	**15.2**	9.4	**19.9**	**20.3**	**25.3**	5.3 J	4.6 J	3.2 J
TAL Metals		Copper	mg/Kg	34	270	**494 J**	**1,370 J**	**748 J**	**1,450 J**	**1,690**	**870**	**674 J**	**555 J**	**616 J**	**642 J**	**721 J**	**635 J**	**380**	**576**	**1,310**	**876**	**606**	**222**	**805 J**	**823 J**	**706 J**	**105 J**	**79.8 J**	12.5 J
TAL Metals		Iron	mg/Kg	NE	22,000,000	38,500	32,300	43,000	46,900	59,500 J	30,100 J	29,700	27,600	26,000	39,500	39,000	38,300	28,100 J	42,200 J	57,900 J	49,300 J	61,000 J	30,100 J	44,900	57,900	59,900	18,200	26,200	15,600
TAL Metals		Lead	mg/Kg	46.7	218	8.7	0.22 U	1.6 J	0.22 U	0.23 U	0.62 J	0.22 U	0.21 U	0.2 U	0.23 UJ	0.22 UJ	0.23 UJ	1.8 J	0.23 U	0.23 U	2.8 J	0.31 U	2 J	0.24 UJ	0.27 UJ	0.23 UJ	1.5	1.2	1.6
TAL Metals		Magnesium	mg/Kg	NE	NE	5,120	5,820	7,680	4,760	11,700	7,840	6,850	6,800	6,390	9,150	8,520	8,790	8,080	8,990	10,600	13,300	10,200	8,760	9,400	13,800	14,700	7,000	8,280	6,980
TAL Metals		Manganese	mg/Kg	NE	260	163 J	199 J	222 J	172 J	**309 J**	200	220 J	198 J	187 J	243 J	230 J	225 J	181	232 J	**272 J**	**317**	239 J	243	**300 J**	**314 J**	**421 J**	205 J	177 J	195 J
TAL Metals		Nickel	mg/Kg	20.9	51.6	6	5.8	6.2	6.1	10	6.4	6.1	0.24 U	0.22 U	7.4	7.7	6.7	5.9 J	7.4	8.6	9.6	8.2	8	13.6	9.9	14.1	5.1 J	4.8 J	4.4 J
TAL Metals		Potassium	mg/Kg	NE	NE	313 J	500 J	604	330 J	563 J	513 J	523 J	688	496 J	637	567 J	627	798	681	722	991	831	683 J	713	884	1,060	617	636	532 J
TAL Metals		Selenium	mg/Kg	NE	1	*1.3 U*	*1.3 U*	*1.3 U*	*1.3 U*	*1.3 U*	*1.3 U*	*1.3 U*	*1.2 U*	*1.2 U*	*1.3 U*	*1.3 U*	*1.3 U*	*1.4 U*	*1.3 U*	*1.3 U*	*1.4 U*	*1.8 U*	*1.5 U*	*1.4 U*	*1.5 U*	*1.3 U*	0.13 UJ	0.13 UJ	0.12 UJ
TAL Metals		Silver	mg/Kg	1	3.7	0.16 U	0.16 U	0.17 U	0.16 U	0.17 U	0.16 U	0.16 U	0.16 U	0.15 U	0.17 U	0.16 U	0.17 U	0.18 U	0.17 U	0.17 U	0.18 U	0.23 U	0.19 U	0.18 U	0.2 U	0.17 U	0.017 U	0.017 U	0.016 U
TAL Metals		Sodium	mg/Kg	NE	NE	953	1,930	2,220	1,600	1,930	2,300	1,430	2,080	1,560	1,700	1,950	2,120	3,290	3,180	2,040	1,590	5,470	2,710	2,710	1,930	1,950	2,330	2,540	1,720
TAL Metals		Thallium	mg/Kg	NE	NE	0.18 U	0.17 U	0.18 U	0.18 U	0.18 U	0.18 U	0.17 U	0.17 U	0.16 U	0.18 U	0.17 U	0.18 U	0.19 U	0.18 U	0.18 U	0.2 U	0.24 U	0.2 U	0.19 U	0.21 U	0.18 U	0.018 U	0.018 U	0.017 U
TAL Metals		Vanadium	mg/Kg	NE	57	55.2 J	**63.1 J**	**64.2 J**	**85.1 J**	**89.2**	49.3	**63.9 J**	52.1 J	52.7 J	**71.1 J**	**62.6 J**	**63.6 J**	45.9	**61.4**	**76.4**	**107**	**79.7**	54.6	**123 J**	**113 J**	**129 J**	28.3 J	26.2 J	23.5 J
TAL Metals		Zinc	mg/Kg	150	410	21	23.5	24.9	18.4	34.9	21.5	23.9	21	20.3	27	25.8	24.4	23.6	31.2	35.6	40.1	31.9	29.5	35.5	40.6	45.2	22.3 J	17.5 J	20.4 J
TCL PAHs	HPAH	Benz(a)anthracene	ug/Kg	261	1,600	7.2	8.7	7	17			5.7	1.7 U	16	26	27	28	9.1	8.8	24	100	7.7	8	62	10	**350**			
TCL PAHs	HPAH	Benzo(a)pyrene	ug/Kg	430	1,600	11	11	23	23			13	4.9	19	38	36	37	12	12	31	89	12	10	56	13	240			
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/Kg	NE	NE	10	8.6	18	18			11	1.7 U	16	34	38	30	10	8.7	22	83 J	10	6.6	41	9.6	180			
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/Kg	NE	NE	15	16	36	31			44	18	29	40	34	62	15	17	29	79	16	13	41	14	130			
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/Kg	NE	NE	5.4	5.2	9.4	9.2			4.3	1.7 U	7.9	15	18	14	6.1	6.5	16	41	6	4.7	26	7.1	120			
TCL PAHs	HPAH	Chrysene	ug/Kg	384	2,800	5.3	6.2	6.9	12			5	1.7 U	11	15	17	18	10	7.4	18	69	5.9	5.7	39	9.1	220			
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/Kg	63.4	260	1.7 U	1.7 U	1.7 U	1.7 U			1.7 U	1.7 U	1.7 U	6.3	6.5	5.9	1.7 U	1.7 U	5	10	1.7 U	1.7 U	6.3	1.7 U	28			
TCL PAHs	HPAH	Fluoranthene	ug/Kg	600	5,100	7.3	6	5.9	12			4.3	1.7 U	14	18	18	19	9.6	11	65	160	9	22	42	12	**650**			
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/Kg	NE	NE	9.3	11	20	21			31	12	23	36	36	35	8.8	9	19	53	9.5	6.4	34	9.5	110			
TCL PAHs	HPAH	Pyrene	ug/Kg	665	2,600	9.7	9.8	13	17			5.1	1.7 U	14	21	23	22	41	42	71	170	13	26	82	14	580			
TCL PAHs	HPAH	Total HPAH	ug/kg	1,700	9,600	80.2	82.5	139.2	160.2			123.4	34.9	149.9	249.3	253.5	270.9	121.6	122.4	300	854	89.1	102.4	429.3	98.3	**2,608**			
TCL PAHs	LPAH	Acenaphthene	ug/Kg	16	500	1.7 U	1.7 U	1.7 U	1.7 U			1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U			
TCL PAHs	LPAH	Acenaphthylene	ug/Kg	44	640	1.7 U	5.9	8.3	15			6	4.3	5.6	19	12	22	7.4	5.7	17	27	1.7 U	1.7 U	21	9.1	**52**			
TCL PAHs	LPAH	Anthracene	ug/Kg	85.3	1,100	1.7 U	1.7 U	1.7 U	1.7 U			1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	3.9 J	1.7 U	1.7 U	4.9	13	1.7 U	1.7 U	4.2 J	1.7 U	26			
TCL PAHs	LPAH	Fluorene	ug/Kg	19	540	1.7 U	1.7 U	1.7 U	1.7 U			1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	5.1			
TCL PAHs	LPAH	Naphthalene	ug/Kg	160	2,100	1.7 U	1.7 U	1.7 U	1.7 U			1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	4.3			
TCL PAHs	LPAH	Phenanthrene	ug/Kg	240	1,500	1.7 U	1.7 U	6.7	1.7 U			1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	8.1	4.5	20	1.7 U	5	1.7 U	1.7 U	11			
TCL PAHs	LPAH	Total LPAH	ug/kg	552	3,160	1.7 U	5.9	15	15			6	4.3	5.6	19	12	25.9	7.4	13.8	26.4	60	1.7 U	5	25.2	9.1	98.4			
TCL PAHs	TPAH	Total PAH	ug/kg	4,022	44,792	80.2	88.4	154.2	175.2			129.4	39.2	155.5	268.3	265.5	296.8	129	136.2	326.4	914	89.1	107.4	454.5	107.4	2,706			
TCL PAHs		2-Methylnaphthalene	ug/Kg	70	670	1.7 U	1.7 U	1.7 U	1.7 U			1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U			
Genchem, TOC		Organic carbon	mg/Kg	NE	NE		200 J	490 J	190 J		560 J	200 J	240 J	150 J	170 J	240 J	240 J	4,400 J	3,700 J	2,600 J	7,200 J	15,000 J	15,000 J	4,000 J	6,900 J	670 J			
Genchem		Total solids	%	NE	NE		84.8	83.9	84.9		81.9	85.1	84.1	83.2	84.3	83	83.7	76.6	79.6	78.5	73.4	63.4	75.9	77.8	77	82.7			
BulkDensity		Bulk Density	g/cm3	NE	NE			2.28			2.20	2.33	2.22	2.27	2.24	2.28	2.24	2.11	2.19	2.22	1.93	1.59	1.92	2.08	2.08	2.31			
Grain Size		Particle size, 1 inch (25.40mm)	g	NE	NE		0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Grain Size		Particle size, 1.5 inch (38.1mm)	g	NE	NE		0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Grain Size		Particle size, 2 inch, (50.80mm)	g	NE	NE		0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Grain Size		Particle size, 3 inch, (76.20mm)	g	NE	NE		0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Grain Size		Particle size, 3/4 inch (19.05mm)	g	NE	NE		0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.30	0.00	0.00	0.00			
Grain Size		Particle size, 3/8 inch (9.525mm)	g	NE	NE		0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.30	0.00	72.30	0.00	0.00	0.00			
Grain Size		Particle size, Hydrometer (.008 mm)	mg/L	NE	NE		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.01			
Grain Size		Particle size, Hydrometer (.011 mm)	mg/L	NE	NE		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.00	1.01			
Grain Size		Particle size, Hydrometer (.015 mm)	mg/L	NE	NE		1.00	1.00	1.01		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.00	1.01			
Grain Size		Particle size, Hydrometer (.026 mm)	mg/L	NE	NE		1.00	1.01	1.01		1.00	1.01	1.01	1.00	1.01	1.00	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.02			
Grain Size		Particle size, Hydrometer (.040 mm)	mg/L	NE	NE		1.01	1.01	1.01		1.00	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.02	1.01	1.01	1.02	1.01	1.02			
Grain Size		Particle size, Hydrometer (.041 mm)	mg/L	NE	NE																								
Grain Size		Particle size, Hydrometer (0.004mm)	mg/L	NE	NE		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.01			
Grain Size		Particle size, Sieve No. 04, 4 mesh, (4.75mm)	g	NE	NE		0.00	0.10	0.00		0.80	0.00	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.00	3.70	0.00	45.60	0.00	0.00	0.00			
Grain Size		Particle size, Sieve No. 10, 9 mesh, (2.00mm)	g	NE	NE		0.00	0.20	0.00		0.60	0.00	0.00	0.00	0.00	0.00	0.30	0.60	0.50	1.50	1.90	0.00	53.30	0.00	0.00	0.00			
Grain Size		Particle size, Sieve No. 140, 150 mesh, (0.106mm)	g	NE	NE		261.85	192.71	198.50		242.75	146.08	182.27	181.30	139.42	213.19	152.14	160.66	174.44	170.39	84.15	125.18	49.77	122.29	247.46	19.45			
Grain Size		Particle size, Sieve No. 20, 20 mesh, (0.850mm)	g	NE	NE		0.00	0.00	0.00		0.40	0.61	0.38	0.00	0.00	0.00	0.00	0.74	0.37	1.56	1.98	0.28	29.22	0.68	0.67	0.00			
Grain Size		Particle size, Sieve No. 200, 200 mesh, (0.075mm)	g	NE	NE		75.88	86.70	92.28		129.01	56.98	81.76	72.40	93.62	101.07	88.25	74.26	66.84	59.91	27.23	43.69	15.05	56.70	61.03	37.28			
Grain Size		Particle size, Sieve No. 40, 35 mesh, (0.425mm)	g	NE	NE		1.97	1.18	2.05		0.80	2.42	3.00	3.59	0.34	1.58	1.06	5.51	5.51	9.34	2.97	2.52	21.43	2.05	6.04	0.54			
Grain Size		Particle size, Sieve No. 60, 60 mesh, (0.250mm)	g	NE	NE		35.39	16.95	20.10		8.84	21.82	25.50	29.32	5.39	16.19	11.65	32.72	38.93	41.24	15.84	20.72	20.72	21.18	52.98	2.16			
Grain Size		Sample Weight	g	NE	NE		454.90	454.30	473.70		466.00	435.20	432.80	434.40	389.20	455.60	406.60	426.70	424.30	451.20	356.40	322.90	383.00	527.40	525.10	416.00			

Notes:
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method detection limit shown

FD = field duplicate sample
N = normal sample

TABLE 4-4
Marine Sediment Core and Test Pit Sample Results - May 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-052	SB-059	SB-059	SB-059	SB-061	SB-061	SB-062	SB-062	SB-062	SB-078	SB-078	SB-078	SB-079	SB-079	SB-079	SB-082	SB-082	SB-082	SB-089	SB-089	SB-089	SB-111	SB-111	SB-111
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						2013SC-SB-052-01-20130528	2013SC-SB-059-0_5-20130527	2013SC-SB-059-00-20130527	2013SC-SB-059-01-20130527	2013SC-SB-061-0_5-20130527	2013SC-SB-061-00-20130527	2013SC-SB-062-0_5-20130528	2013SC-SB-062-00-20130528	2013SC-SB-062-01-20130528	2013SC-SB-078-0_5-20130528	2013SC-SB-078-00-20130528	2013SC-SB-078-01-20130528	2013SC-SB-079-0_5-20130528	2013SC-SB-079-00-20130528	2013SC-SB-079-01-20130528	2013SC-SB-082-0_5-20130528	2013SC-SB-082-00-20130528	2013SC-SB-082-01-20130528	2013SC-SB-089-0_5-20130528	2013SC-SB-089-00-20130528	2013SC-SB-089-01-20130528	2013SC-SB-111-0_5-20130523	2013SC-SB-111-00-20130523	2013SC-SB-111-01-20130523
Sample Type:						N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Date Sampled:						05/28/13	05/27/13	05/27/13	05/27/13	05/27/13	05/27/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/23/13	05/23/13	05/23/13
Depth (feet):						1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2
ChemGroup		**Analyte**	**Units**	**Screening Level**																									
				ERL[a]	**ERM[b]**																								

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)

[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)

Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-4
Marine Sediment Core and Test Pit Sample Results - May 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-115	SB-115	SB-115	SB-115	SB-115	SB-117	SB-117	SB-117	SB-121	SB-121	SB-121	SB-123	SB-123	SB-123	SB-123	SB-123	SB-127	SB-127	SB-127	SB-129	SB-129	SB-129	SB-129	SB-133
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						2013SC-SB-115-0_5-20130522	2013SC-SB-115-00-20130522	2013SC-SB-115-01-20130522	2013SC-SB-115-02-20130522	2013SC-SB-9115-00-20130522FD	2013SC-SB-117-0_5-20130524	2013SC-SB-117-00-20130524	2013SC-SB-117-01-20130524	2013SC-SB-121-0_5-20130523	2013SC-SB-121-00-20130523	2013SC-SB-121-01-20130523	2013SC-SB-123-0_5-20130523	2013SC-SB-123-00-20130523	2013SC-SB-123-01-20130523	2013SC-SB-123-02-20130523	2013SC-SB-9123-00-20130523FD	2013SC-SB-127-0_5-20130522	2013SC-SB-127-00-20130522	2013SC-SB-127-01-20130522	2013SC-SB-129-0_5-20130523	2013SC-SB-129-00-20130523	2013SC-SB-129-01-20130523	2013SC-SB-9129-00-20130523FD	2013SC-SB-133-0_5-20130522
Sample Type:						N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	FD	N
Date Sampled:						05/22/13	05/22/13	05/22/13	05/22/13	05/22/13	05/24/13	05/24/13	05/24/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/22/13	05/22/13	05/22/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/22/13
Depth (feet):						0.5 - 1	0 - 0.5	1 - 2	2 - 3	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	2 - 3	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0 - 0.5	0.5 - 1
ChemGroup		**Analyte**	**Units**	**Screening Level ERL[a]**	**Screening Level ERM[b]**																								
Metals, Chrome VI		Chromium VI	mg/Kg	NE	NE		0.14 U			0.14 U																0.16 U			
Metals, Hg		Mercury	mg/Kg	0.15	0.71	0.02 J	0.035 J	0.021 J	0.018 J	0.046 J	0.015 J	0.032 J	0.012 J	0.019 J	0.03 J	0.024 J	**0.25**	**0.23**	0.14	0.037 J	0.15	0.09 J	0.074 J	0.061 J	**0.2**	0.082 J	0.054 J	0.096 J	0.077 J
TAL Metals		Aluminum	mg/Kg	NE	18,000	8,810	9,920	10,500	7,030	10,000	10,100	11,100	12,300	9,450	8,860	7,570	11,300	13,500	17,400	9,230	14,300	7,840	8,930	7,730	16,700	11,200	11,800	10,700	12,700
TAL Metals		Antimony	mg/Kg	NE	9.3	0.034 U	0.035 U	0.035 U	0.065 U	0.035 U	0.37 U	0.36 U	0.35 U	0.35 U	0.035 U	0.039 U	0.038 U	0.042 U	0.39 U	0.041 U	0.035 U	0.37 U	0.038 U	0.035 U	0.39 U	0.2 U	0.43 U	0.4 U	0.37 U
TAL Metals		Arsenic	mg/Kg	8.2	70	2.8 J	2.1 J	**8.8 J**	3.2 J	2.2 J	**9**	0.24 U	0.23 U	0.23 U	2.4 J	1 J	1.5 J	1.6 J	0.26 U	2.4 J	1.6 J	0.25 U	1.7 J	0.69 J	0.26 U	0.27 U	0.29 U	0.27 U	0.25 U
TAL Metals		Barium	mg/Kg	NE	48	0.2 U	7.7	0.21 U	0.39 U	9.2	2.2 U	2.2 U	2.1 U	2.1 U	0.21 U	36.1	16.6	18.4	2.3 U	10.7	14.9	2.2 U	9.6	8.2	2.3 U	1.2 U	2.6 U	2.4 U	2.2 U
TAL Metals		Beryllium	mg/Kg	NE	NE	0.026 U	0.027 U	0.027 U	0.049 U	0.027 U	0.29 U	0.28 U	0.27 U	0.27 U	0.027 U	0.03 U	0.029 U	0.032 U	0.3 U	0.031 U	0.027 U	0.29 U	0.029 U	0.027 U	0.3 U	0.31 U	0.33 U	0.31 U	0.28 U
TAL Metals		Cadmium	mg/Kg	1.2	9.6	0.019 U	0.02 U	1.2	0.037 U	0.02 U	0.21 U	0.2 U	0.2 U	0.2 U	0.02 U	0.022 U	0.022 U	0.024 U	0.22 U	0.79	0.02 U	0.21 U	0.022 U	0.02 U	0.22 U	0.11 U	0.24 U	0.23 U	0.21 U
TAL Metals		Calcium	mg/Kg	NE	NE	14,700 J	5,090 J	23,500 J	153,000 J	5,060 J	3,910 J	4,280 J	4,160 J	18,600 J	4,190 J	164,000 J	10,600 J	17,700 J	14,600 J	5,140 J	12,200 J	8,580 J	4,970 J	6,490 J	15,900 J	8,990 J	9,170 J	6,950 J	12,100 J
TAL Metals		Chromium	mg/Kg	81	370	4.1 J	4.7 J	5.9 J	7.7 J	3.6 J	0.36 U	12.5	11.8	0.34 U	4.6 J	5.5 J	1.6 J	1.7 J	0.37 U	5.5 J	1.5 J	0.36 U	1.6 J	1.3 J	40.5	0.39 U	0.42 U	43.5	0.36 U
TAL Metals		Cobalt	mg/Kg	NE	10	3.7 J	5.5 J	4.6 J	3.6 J	6.1 J	0.24 UJ	8.3 J	6.5 J	**10.2 J**	7.6 J	3 J	**12.7 J**	**13.1 J**	**28.6 J**	4.9 J	**11.2 J**	**23.1 J**	9.1 J	8.2 J	**25.9 J**	**19.9 J**	**21.8 J**	**20.4 J**	**21.5 J**
TAL Metals		Copper	mg/Kg	34	270	15.7 J	**524 J**	15.3 J	10.4 J	**232 J**	**40.3 J**	**125 J**	20 J	**101 J**	**61.9 J**	7.6 J	**901 J**	**1,190 J**	**1,570 J**	**530 J**	**699 J**	**1,970 J**	**918 J**	**2,050 J**	**1,190 J**	**1,030 J**	**1,400 J**	**828 J**	**1,040 J**
TAL Metals		Iron	mg/Kg	NE	22,000,000	16,700	20,900	21,200	13,000	21,100	18,900	22,800	20,700	22,400	18,500	13,900	59,900	65,200	60,000	20,100	68,700	46,100	31,400	24,800	69,800	54,400	29,500	51,900	53,000
TAL Metals		Lead	mg/Kg	46.7	218	1.2	1.4	1.2	1.2	1.4	0.24 U	0.23 U	0.22 U	0.22 U	1.5	0.81	1.9	1.9	0.25 U	1.8	1.6	0.24 U	1.3	0.86	0.24 U	0.13 U	0.27 U	0.25 U	0.23 U
TAL Metals		Magnesium	mg/Kg	NE	NE	7,640	8,840	9,010	6,520	8,870	8,060	9,160	9,850	8,570	7,410	6,440	12,700	14,900	18,600	7,360	15,700	8,620	9,440	8,280	18,600	11,600	10,300	11,400	13,000
TAL Metals		Manganese	mg/Kg	NE	260	196 J	223 J	230 J	164 J	125 J	**344 J**	**381 J**	**281 J**	**268 J**	224 J	178 J	**280 J**	**270 J**	**445 J**	198 J	244 J	**361 J**	185 J	189 J	**415 J**	**305 J**	**407 J**	**310 J**	**331 J**
TAL Metals		Nickel	mg/Kg	20.9	51.6	4.9 J	5.6 J	7.7 J	6.8 J	5.3 J	0.26 U	10.1	8.1	10.2	7.7 J	4.6 J	6.8 J	7 J	13.7	6.5 J	6 J	12.1	5.3 J	4.7 J	**27.4**	10.4	14.7	**25.7**	11.2
TAL Metals		Potassium	mg/Kg	NE	NE	604	661	559 J	418 J	581 J	688	762	728	595	531 J	467 J	1,040	1,300	1,640	735	1,210	529 J	782	540 J	1,490	984	1,080	961	1,130
TAL Metals		Selenium	mg/Kg	NE	1	0.12 UJ	0.38 J	0.3 J	0.24 UJ	0.26 J	*1.4 U*	*1.3 U*	*1.3 U*	*1.3 U*	0.13 UJ	0.14 UJ	0.58 J	0.48 J	*1.4 U*	0.68 J	0.44 J	**1.8 J**	0.35 J	**1.1 J**	*1.4 U*	*1.5 U*	*1.6 U*	*1.5 U*	*1.4 U*
TAL Metals		Silver	mg/Kg	1	3.7	0.016 U	0.016 U	0.017 U	0.03 U	0.016 U	0.17 U	0.17 U	0.16 U	0.16 U	0.017 U	0.018 U	0.83	0.75	0.18 U	0.019 U	0.64	0.17 U	0.018 U	0.94	0.18 U	0.094 U	0.2 U	0.19 U	0.17 U
TAL Metals		Sodium	mg/Kg	NE	NE	1,950	2,500	2,540	3,190	2,010	3,850	4,650	2,930	1,090	706	2,190	2,310	3,670	2,690	1,270	3,720	2,420	3,370	1,950	3,040	3,710	2,630	4,070	3,050
TAL Metals		Thallium	mg/Kg	NE	NE	0.017 U	0.017 U	0.018 U	0.032 U	0.017 U	0.19 U	0.18 U	0.17 U	0.18 U	0.018 U	0.019 U	0.019 U	0.021 U	0.19 U	0.02 U	0.017 U	0.19 U	0.019 U	0.018 U	0.19 U	0.1 U	0.21 U	0.2 U	0.18 U
TAL Metals		Vanadium	mg/Kg	NE	57	27.5 J	30 J	29.7 J	22.9 J	33.9 J	42.3 J	56.1 J	43.4 J	47.7 J	31.3 J	17.8 J	**64.2 J**	**62.9 J**	**135 J**	30.2 J	52.8 J	**111 J**	41.6 J	35.1 J	**130 J**	**95.4 J**	**116 J**	**93.8 J**	**96.8 J**
TAL Metals		Zinc	mg/Kg	150	410	21.7 J	24.2 J	26.5 J	23.6 J	25.8 J	38.5 J	35.4 J	35.1 J	39.2 J	25.4 J	18.1 J	27.9 J	29.1 J	52.8 J	24.6 J	24.3 J	42.9 J	22.5 J	18.8 J	113 J	40.5 J	52 J	105 J	41.9 J
TCL PAHs	HPAH	Benz(a)anthracene	ug/Kg	261	1,600																								
TCL PAHs	HPAH	Benzo(a)pyrene	ug/Kg	430	1,600																								
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/Kg	NE	NE																								
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/Kg	NE	NE																								
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/Kg	NE	NE																								
TCL PAHs	HPAH	Chrysene	ug/Kg	384	2,800																								
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/Kg	63.4	260																								
TCL PAHs	HPAH	Fluoranthene	ug/Kg	600	5,100																								
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/Kg	NE	NE																								
TCL PAHs	HPAH	Pyrene	ug/Kg	665	2,600																								
TCL PAHs	HPAH	Total HPAH	ug/kg	1,700	9,600																								
TCL PAHs	LPAH	Acenaphthene	ug/Kg	16	500																								
TCL PAHs	LPAH	Acenaphthylene	ug/Kg	44	640																								
TCL PAHs	LPAH	Anthracene	ug/Kg	85.3	1,100																								
TCL PAHs	LPAH	Fluorene	ug/Kg	19	540																								
TCL PAHs	LPAH	Naphthalene	ug/Kg	160	2,100																								
TCL PAHs	LPAH	Phenanthrene	ug/Kg	240	1,500																								
TCL PAHs	LPAH	Total LPAH	ug/kg	552	3,160																								
TCL PAHs	TPAH	Total PAH	ug/kg	4,022	44,792																								
TCL PAHs		2-Methylnaphthalene	ug/Kg	70	670																								
Genchem, TOC		Organic carbon	mg/Kg	NE	NE		3,300																		6,300		7,160		
Genchem		Total solids	%	NE	NE		79.8																		72.3		72.1		
BulkDensity		Bulk Density	g/cm3	NE	NE		2.15																		1.87		1.97		
Grain Size		Particle size, 1 inch (25.40mm)	g	NE	NE		0.00																		0.00		0.00		
Grain Size		Particle size, 1.5 inch (38.1mm)	g	NE	NE		0.00																		0.00		0.00		
Grain Size		Particle size, 2 inch, (50.80mm)	g	NE	NE		0.00																		0.00		0.00		
Grain Size		Particle size, 3 inch, (76.20mm)	g	NE	NE		0.00																		0.00		0.00		
Grain Size		Particle size, 3/4 inch (19.05mm)	g	NE	NE		0.00																		0.00		0.00		
Grain Size		Particle size, 3/8 inch (9.525mm)	g	NE	NE		0.00																		0.00		1.50		
Grain Size		Particle size, Hydrometer (.008 mm)	mg/L	NE	NE		1.00																		1.00		1.00		
Grain Size		Particle size, Hydrometer (.011 mm)	mg/L	NE	NE		1.00																		1.00		1.00		
Grain Size		Particle size, Hydrometer (.015 mm)	mg/L	NE	NE		1.00																		1.01		1.01		
Grain Size		Particle size, Hydrometer (.026 mm)	mg/L	NE	NE		1.01																		1.01		1.01		
Grain Size		Particle size, Hydrometer (.040 mm)	mg/L	NE	NE		1.01																		1.01		1.01		
Grain Size		Particle size, Hydrometer (.041 mm)	mg/L	NE	NE																								
Grain Size		Particle size, Hydrometer (0.004mm)	mg/L	NE	NE		1.00																		1.00		1.00		
Grain Size		Particle size, Sieve No. 04, 4 mesh, (4.75mm)	g	NE	NE		20.50																		0.00		0.90		
Grain Size		Particle size, Sieve No. 10, 9 mesh, (2.00mm)	g	NE	NE		35.40																		1.20		1.30		
Grain Size		Particle size, Sieve No. 140, 150 mesh, (0.106mm)	g	NE	NE		105.51																		44.85		46.22		
Grain Size		Particle size, Sieve No. 20, 20 mesh, (0.850mm)	g	NE	NE		43.64																		0.64		1.14		
Grain Size		Particle size, Sieve No. 200, 200 mesh, (0.075mm)	g	NE	NE		71.64																		80.09		71.33		
Grain Size		Particle size, Sieve No. 40, 35 mesh, (0.425mm)	g	NE	NE		24.10																		1.92		1.71		
Grain Size		Particle size, Sieve No. 60, 60 mesh, (0.250mm)	g	NE	NE		26.70																		3.20		3.99		
Grain Size		Sample Weight	g	NE	NE		490.30																		432.40		404.30		

Notes:
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method detection limit shown

FD = field duplicate sample
N = normal sample

TABLE 4-4
Marine Sediment Core and Test Pit Sample Results - May 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-115	SB-115	SB-115	SB-115	SB-115	SB-117	SB-117	SB-117	SB-121	SB-121	SB-121	SB-123	SB-123	SB-123	SB-123	SB-123	SB-127	SB-127	SB-127	SB-129	SB-129	SB-129	SB-129	SB-133
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						2013SC-SB-115-0_5-20130522	2013SC-SB-115-00-20130522	2013SC-SB-115-01-20130522	2013SC-SB-115-02-20130522	2013SC-SB-9115-00-20130522FD	2013SC-SB-117-0_5-20130524	2013SC-SB-117-00-20130524	2013SC-SB-117-01-20130524	2013SC-SB-121-0_5-20130523	2013SC-SB-121-00-20130523	2013SC-SB-121-01-20130523	2013SC-SB-123-0_5-20130523	2013SC-SB-123-00-20130523	2013SC-SB-123-01-20130523	2013SC-SB-123-02-20130523	2013SC-SB-9123-00-20130523FD	2013SC-SB-127-0_5-20130522	2013SC-SB-127-00-20130522	2013SC-SB-127-01-20130522	2013SC-SB-129-0_5-20130523	2013SC-SB-129-00-20130523	2013SC-SB-129-01-20130523	2013SC-SB-9129-00-20130523FD	2013SC-SB-133-0_5-20130522
Sample Type:						N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	FD	N
Date Sampled:						05/22/13	05/22/13	05/22/13	05/22/13	05/22/13	05/24/13	05/24/13	05/24/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/22/13	05/22/13	05/22/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/22/13
Depth (feet):						0.5 - 1	0 - 0.5	1 - 2	2 - 3	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	2 - 3	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0 - 0.5	0.5 - 1
ChemGroup		**Analyte**	**Units**	**Screening Level**																									
				ERL[a]	**ERM[b]**																								

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)

[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)

Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-4
Marine Sediment Core and Test Pit Sample Results - May 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-133	SB-133	SB-133	SB-133	SB-157	SB-157	SB-157	SB-157	SB-176	SB-177	SB-191	SB-191	SB-191	SB-192	SB-192	SB-192	SB-192	SB-196	SB-196	SB-197	SB-197	SB-197	SB-199	SB-199
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						2013SC-SB-133-00-20130522	2013SC-SB-133-01-20130522	2013SC-SB-133-02-20130522	2013SC-SB-9133-01-20130522FD	2013SC-SB-157-0_5-20130525	2013SC-SB-157-00-20130525	2013SC-SB-157-01-20130525	2013SC-SB-157-02-20130525	2013SC-SB-176-00-20130530	2013SC-SB-177-0_5-20130530	2013SC-SB-191-0_5-20130523	2013SC-SB-191-00-20130523	2013SC-SB-191-01-20130523	2013SC-SB-192-0_5-20130523	2013SC-SB-192-00-20130523	2013SC-SB-192-01-20130523	2013SC-SB-192-02-20130523	2013SC-SB-196-0_5-20130524	2013SC-SB-196-00-20130524	2013SC-SB-197-0_5-20130524	2013SC-SB-197-00-20130524	2013SC-SB-197-01-20130524	2013SC-SB-199-0_5-20130524	2013SC-SB-199-00-20130524
Sample Type:						N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Date Sampled:						05/22/13	05/22/13	05/22/13	05/22/13	05/25/13	05/25/13	05/25/13	05/25/13	05/30/13	05/30/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/24/13	05/24/13	05/24/13	05/24/13	05/24/13	05/24/13	05/24/13
Depth (feet):						0 - 0.5	1 - 2	2 - 3	1 - 2	0.5 - 1	0 - 0.5	1 - 2	2 - 3	0 - 0.5	0.5 - 1	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	2 - 2.4	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5
ChemGroup		**Analyte**	**Units**	**Screening Level ERL[a]**	**Screening Level ERM[b]**																								
Metals, Chrome VI		Chromium VI	mg/Kg	NE	NE																								
Metals, Hg		Mercury	mg/Kg	0.15	0.71	0.098 J	0.1 J	0.099 J	**0.25**	0.073 J	0.088 J	0.14	0.0067 U	0.059 J	0.096 J	0.11 J	0.073 J	**2.2**	0.034 J	**0.18**	0.028 J	0.028 J	0.026 J	0.083 J	0.0075 U	0.035 J	0.0075 U	0.02 J	0.024 J
TAL Metals		Aluminum	mg/Kg	NE	18,000	9,120	9,230	12,400	10,200	8,970	11,000	13,800	10,400	7,130	5,680	7,150	7,320	8,040	11,400	6,920	10,400	10,800	9,960	10,000	11,400	11,400	10,300	11,800	11,500
TAL Metals		Antimony	mg/Kg	NE	9.3	0.039 U	0.36 U	0.36 U	0.37 U	0.36 U	0.37 U	0.38 U	0.34 U	0.35 U	0.33 U	0.036 U	0.037 U	0.037 U	0.18 U	0.18 U	0.17 U	0.18 U	0.33 U	0.36 U	0.39 U	0.37 U	0.38 U	0.38 U	0.35 U
TAL Metals		Arsenic	mg/Kg	8.2	70	1.6 J	0.24 U	0.24 U	0.25 U	0.24 U	0.24 U	0.25 U	0.23 U	0.23 U	0.22 U	1.4 J	1.9 J	2.2 J	0.12 U	0.25 U	0.22 U	0.24 U	0.22 U	0.24 U	0.26 U	0.25 U	0.26 U	0.25 U	0.23 U
TAL Metals		Barium	mg/Kg	NE	48	13.3	2.1 U	2.2 U	2.2 U	2.1 U	2.2 U	2.3 U	2 U	2.1 U	2 U	12.9	9	7.4	1.1 U	1.1 U	1 U	1.1 U	2 U	2.2 U	2.3 U	2.2 U	3.8 J	6.4 J	5.2 J
TAL Metals		Beryllium	mg/Kg	NE	NE	0.03 U	0.27 U	0.28 U	0.28 U	0.27 U	0.28 U	0.29 U	0.26 U	0.27 U	0.25 U	0.028 U	0.028 U	0.028 U	0.14 U	0.28 U	0.26 U	0.28 U	0.25 U	0.28 U	0.3 U	0.28 U	0.29 U	0.29 U	0.27 U
TAL Metals		Cadmium	mg/Kg	1.2	9.6	0.022 U	0.2 U	0.2 U	0.21 U	0.2 U	0.21 U	0.21 U	0.19 U	0.2 U	0.18 U	0.021 U	0.021 U	0.021 U	0.1 U	0.1 U	0.095 U	0.1 U	0.19 U	0.2 U	0.22 U	0.21 U	0.22 U	0.22 U	0.2 U
TAL Metals		Calcium	mg/Kg	NE	NE	6,300 J	10,500 J	11,500 J	11,100 J	8,760	5,500	19,700	12,600	3,080	2,240	5,760 J	3,730 J	6,030 J	6,640 J	4,880 J	3,210 J	24,700 J	11,300 J	24,400 J	4,250 J	4,740 J	4,130 J	34,100 J	4,020 J
TAL Metals		Chromium	mg/Kg	81	370	1.6 J	0.35 U	0.35 U	0.36 U	1.5 J	2.1 J	2 J	9.5 J	0.34 U	0.31 U	0.035 U	1.3 J	1.7 J	0.17 U	0.36 U	0.32 U	0.35 U	0.32 U	0.35 U	10.9 J	7.9 J	8.6 J	7.8 J	7.7 J
TAL Metals		Cobalt	mg/Kg	NE	10	9.7 J	**21.5 J**	**24.9 J**	**20.5 J**	**18.1**	**13.7**	**17.5**	6.4	**13.8 J**	**13.5 J**	**10.2 J**	9.1 J	7.5 J	4 J	7.5 J	0.21 UJ	0.23 UJ	9.2 J	**13.2 J**	0.25 U	7.5	4.8 J	7.9	9.4
TAL Metals		Copper	mg/Kg	34	270	**454 J**	**993 J**	**777 J**	**1,130 J**	**1,750**	**797**	**874**	**82.2**	**2,170 J**	**651 J**	**1,290 J**	**692 J**	**739 J**	**82.2 J**	**447 J**	0.59 UJ	12.6 J	**831 J**	**383 J**	28.3	**174**	0.68 U	**255**	**199**
TAL Metals		Iron	mg/Kg	NE	22,000,000	34,900	53,000	49,600	45,300	53,700 J	55,400 J	49,800 J	21,100 J	34,400	35,700	21,600	27,700	22,300	22,500	27,300	18,300	19,300	30,800	25,800	18,900 J	24,600 J	19,300 J	22,600 J	26,900 J
TAL Metals		Lead	mg/Kg	46.7	218	1.3	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.24 U	0.21 U	0.22 U	0.21 U	1.2	1.3	1	0.11 U	0.12 U	0.11 U	0.11 U	0.21 U	0.23 U	0.25 U	0.23 U	0.91 J	1.5 J	1.7 J
TAL Metals		Magnesium	mg/Kg	NE	NE	10,200	10,200	14,200	11,500	10,300	11,700	15,800	8,900	8,290	7,040	8,210	7,850	8,890	8,960	7,810	9,150	9,180	9,860	9,970	10,100	10,700	9,340	10,500	11,400
TAL Metals		Manganese	mg/Kg	NE	260	198 J	**342 J**	**406 J**	**332 J**	**289 J**	215 J	**308 J**	**268 J**	226 J	216 J	208 J	186 J	**299 J**	132 J	117 J	152 J	160 J	218 J	**277 J**	259	248	211	240	**319**
TAL Metals		Nickel	mg/Kg	20.9	51.6	5.5 J	10.1	11.6	9.6	8.8	7.1	8.5	8.1	7.2	6.1	5.4 J	4.9 J	5 J	6.9	0.26 U	0.23 U	8.3	6.6	10.3	9.1	7.9	9.1	9.4	8.5
TAL Metals		Potassium	mg/Kg	NE	NE	942	806	1,390	950	863	905	1,240	613	518 J	546	810	900	837	878	618	665	643	526 J	755	770	776	677	742	618
TAL Metals		Selenium	mg/Kg	NE	1	0.26 J	*1.3 U*	*1.3 U*	*1.3 U*	**1.5 J**	*1.3 U*	*1.4 U*	*1.2 U*	*1.3 U*	*1.2 U*	0.83 J	0.4 J	0.39 J	0.65 U	*1.4 U*	*1.2 U*	*1.3 U*	*1.2 U*	*1.3 U*	*1.4 U*	*1.4 U*	*1.4 U*	*1.4 U*	*1.4 U*	*1.3 U*
TAL Metals		Silver	mg/Kg	1	3.7	0.018 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.18 U	0.16 U	0.16 U	0.15 U	0.97	0.017 U	0.017 U	0.083 U	0.086 U	0.078 U	0.084 U	0.15 U	0.17 U	0.18 U	0.17 U	0.18 U	0.18 U	0.16 U
TAL Metals		Sodium	mg/Kg	NE	NE	4,800	2,560	2,700	2,750	2,120	2,070	2,440	1,510	2,040	1,090	2,530	4,020	2,130	2,810	2,190	1,760	1,670	1,420	2,260	3,280	3,170	3,040	3,160	2,110
TAL Metals		Thallium	mg/Kg	NE	NE	0.02 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.19 U	0.17 U	0.17 U	0.16 U	0.018 U	0.019 U	0.018 U	0.089 U	0.092 U	0.084 U	0.09 U	0.17 U	0.18 U	0.19 U	0.18 U	0.59 J	0.19 U	0.18 U
TAL Metals		Vanadium	mg/Kg	NE	57	41.3 J	**100 J**	**121 J**	**90.1 J**	**77.4**	**60.6**	**80.2**	42.7	**57.4 J**	**62.8 J**	42.5 J	40.5 J	37.6 J	20.1 J	33.1 J	0.85 UJ	0.91 UJ	47.4 J	51.3 J	45.9	47	34.3	47.4	48.5
TAL Metals		Zinc	mg/Kg	150	410	23.4 J	39.5 J	48.4 J	37.8 J	36.7	27.8	34.5	33.8	26.8	25	24.5 J	23.3 J	21 J	18.8 J	15.6 J	17.5 J	19.4 J	28 J	36.7 J	31.6	41.4	30	32	32.5
TCL PAHs	HPAH	Benz(a)anthracene	ug/Kg	261	1,600																								
TCL PAHs	HPAH	Benzo(a)pyrene	ug/Kg	430	1,600																								
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/Kg	NE	NE																								
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/Kg	NE	NE																								
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/Kg	NE	NE																								
TCL PAHs	HPAH	Chrysene	ug/Kg	384	2,800																								
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/Kg	63.4	260																								
TCL PAHs	HPAH	Fluoranthene	ug/Kg	600	5,100																								
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/Kg	NE	NE																								
TCL PAHs	HPAH	Pyrene	ug/Kg	665	2,600																								
TCL PAHs	HPAH	Total HPAH	ug/kg	1,700	9,600																								
TCL PAHs	LPAH	Acenaphthene	ug/Kg	16	500																								
TCL PAHs	LPAH	Acenaphthylene	ug/Kg	44	640																								
TCL PAHs	LPAH	Anthracene	ug/Kg	85.3	1,100																								
TCL PAHs	LPAH	Fluorene	ug/Kg	19	540																								
TCL PAHs	LPAH	Naphthalene	ug/Kg	160	2,100																								
TCL PAHs	LPAH	Phenanthrene	ug/Kg	240	1,500																								
TCL PAHs	LPAH	Total LPAH	ug/kg	552	3,160																								
TCL PAHs	TPAH	Total PAH	ug/kg	4,022	44,792																								
TCL PAHs		2-Methylnaphthalene	ug/Kg	70	670																								
Genchem, TOC		Organic carbon	mg/Kg	NE	NE															2,750									
Genchem		Total solids	%	NE	NE															79									
BulkDensity		Bulk Density	g/cm3	NE	NE															1.94									
Grain Size		Particle size, 1 inch (25.40mm)	g	NE	NE															0.00									
Grain Size		Particle size, 1.5 inch (38.1mm)	g	NE	NE															0.00									
Grain Size		Particle size, 2 inch, (50.80mm)	g	NE	NE															0.00									
Grain Size		Particle size, 3 inch, (76.20mm)	g	NE	NE															0.00									
Grain Size		Particle size, 3/4 inch (19.05mm)	g	NE	NE															0.00									
Grain Size		Particle size, 3/8 inch (9.525mm)	g	NE	NE															2.40									
Grain Size		Particle size, Hydrometer (.008 mm)	mg/L	NE	NE															1.00									
Grain Size		Particle size, Hydrometer (.011 mm)	mg/L	NE	NE															1.00									
Grain Size		Particle size, Hydrometer (.015 mm)	mg/L	NE	NE															1.00									
Grain Size		Particle size, Hydrometer (.026 mm)	mg/L	NE	NE															1.00									
Grain Size		Particle size, Hydrometer (.040 mm)	mg/L	NE	NE															1.00									
Grain Size		Particle size, Hydrometer (.041 mm)	mg/L	NE	NE																								
Grain Size		Particle size, Hydrometer (0.004mm)	mg/L	NE	NE															1.00									
Grain Size		Particle size, Sieve No. 04, 4 mesh, (4.75mm)	g	NE	NE															1.30									
Grain Size		Particle size, Sieve No. 10, 9 mesh, (2.00mm)	g	NE	NE															1.80									
Grain Size		Particle size, Sieve No. 140, 150 mesh, (0.106mm)	g	NE	NE															358.27									
Grain Size		Particle size, Sieve No. 20, 20 mesh, (0.850mm)	g	NE	NE															1.42									
Grain Size		Particle size, Sieve No. 200, 200 mesh, (0.075mm)	g	NE	NE															95.00									
Grain Size		Particle size, Sieve No. 40, 35 mesh, (0.425mm)	g	NE	NE															5.20									
Grain Size		Particle size, Sieve No. 60, 60 mesh, (0.250mm)	g	NE	NE															30.72									
Grain Size		Sample Weight	g	NE	NE															558.50									

Notes:
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method detection limit shown

FD = field duplicate sample
N = normal sample

TABLE 4-4
Marine Sediment Core and Test Pit Sample Results - May 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-133	SB-133	SB-133	SB-133	SB-157	SB-157	SB-157	SB-157	SB-176	SB-177	SB-191	SB-191	SB-191	SB-192	SB-192	SB-192	SB-192	SB-196	SB-196	SB-197	SB-197	SB-197	SB-199	SB-199
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						2013SC-SB-133-00-20130522	2013SC-SB-133-01-20130522	2013SC-SB-133-02-20130522	2013SC-SB-9133-01-20130522FD	2013SC-SB-157-0_5-20130525	2013SC-SB-157-00-20130525	2013SC-SB-157-01-20130525	2013SC-SB-157-02-20130525	2013SC-SB-176-00-20130530	2013SC-SB-177-0_5-20130530	2013SC-SB-191-0_5-20130523	2013SC-SB-191-00-20130523	2013SC-SB-191-01-20130523	2013SC-SB-192-0_5-20130523	2013SC-SB-192-00-20130523	2013SC-SB-192-01-20130523	2013SC-SB-192-02-20130523	2013SC-SB-196-0_5-20130524	2013SC-SB-196-00-20130524	2013SC-SB-197-0_5-20130524	2013SC-SB-197-00-20130524	2013SC-SB-197-01-20130524	2013SC-SB-199-0_5-20130524	2013SC-SB-199-00-20130524
Sample Type:						N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Date Sampled:						05/22/13	05/22/13	05/22/13	05/22/13	05/25/13	05/25/13	05/25/13	05/25/13	05/30/13	05/30/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/23/13	05/24/13	05/24/13	05/24/13	05/24/13	05/24/13	05/24/13	05/24/13
Depth (feet):						0 - 0.5	1 - 2	2 - 3	1 - 2	0.5 - 1	0 - 0.5	1 - 2	2 - 3	0 - 0.5	0.5 - 1	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	2 - 2.4	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5
ChemGroup		**Analyte**	**Units**	**Screening Level**																									
				ERL[a]	**ERM[b]**																								

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)

[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)

Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-4
Marine Sediment Core and Test Pit Sample Results - May 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-199	SB-202	SB-202	SB-202	SB-209	SB-209	SB-209	SB-222	SB-223
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						2013SC-SB-199-01-20130524	2013SC-SB-202-00-20130524	2013SC-SB-9202-00-20130524FD	2013SC-SB-202-0_5-20130524	2013SC-SB-209-00-20130527	2013SC-SB-209-01-20130527	2013SC-SB-209-02-20130527	2013SC-SB-222-00-20130530	2013SC-SB-223-0_5-20130530
Sample Type:						N	N	FD	N	N	N	N	N	N
Date Sampled:						05/24/13	05/24/13	05/24/13	05/24/13	05/27/13	05/27/13	05/27/13	05/30/13	05/30/13
Depth (feet):						1 - 2	0 - 0.5	0 - 0.5	0.5 - 1	0 - 0.5	1 - 1.5	2 - 2.5	0 - 0.5	0.5 - 1
ChemGroup		**Analyte**	**Units**	**Screening Level ERL[a]**	**Screening Level ERM[b]**									
Metals, Chrome VI		Chromium VI	mg/Kg	NE	NE									
Metals, Hg		Mercury	mg/Kg	0.15	0.71	0.007 U	0.0067 U	0.0068 U	0.0065 U	0.097 J	0.081 J	**0.26**	0.095 J	0.08 J
TAL Metals		Aluminum	mg/Kg	NE	18,000	9,290	10,800	12,200	10,400	7,850	5,570	13,800	6,980	10,500
TAL Metals		Antimony	mg/Kg	NE	9.3	0.35 U	0.34 U	0.33 U	0.34 U	0.39 U	0.35 U	0.36 U	0.36 U	0.41 U
TAL Metals		Arsenic	mg/Kg	8.2	70	0.23 U	0.23 U	0.22 U	0.23 U	0.26 U	0.23 U	0.24 U	0.24 U	0.27 U
TAL Metals		Barium	mg/Kg	NE	48	8.8 J	4.4 J	3.8 J	2.8 J	2.3 U	2.1 U	2.1 U	2.2 U	2.5 U
TAL Metals		Beryllium	mg/Kg	NE	NE	0.26 U	0.26 U	0.25 U	0.26 U	0.3 U	0.27 U	0.27 U	0.28 U	0.31 U
TAL Metals		Cadmium	mg/Kg	1.2	9.6	0.2 U	0.19 U	0.19 U	0.19 U	0.22 U	0.2 U	0.2 U	0.21 U	0.23 U
TAL Metals		Calcium	mg/Kg	NE	NE	43,100 J	3,850 J	3,600 J	3,250 J	3,770	5,610	15,800	3,160	9,800
TAL Metals		Chromium	mg/Kg	81	370	9 J	8.1 J	8.3 J	7.3 J	0.38 U	0.34 U	0.34 U	0.35 U	0.4 U
TAL Metals		Cobalt	mg/Kg	NE	10	6.8	5.4 J	5.6	5.9	**14.1 J**	**12.6 J**	**26.1 J**	**14.1 J**	**12.4 J**
TAL Metals		Copper	mg/Kg	34	270	**43.8**	28	**37.9**	15.8	**942 J**	**1,410 J**	**687 J**	**719 J**	**909 J**
TAL Metals		Iron	mg/Kg	NE	22,000,000	16,200 J	21,400 J	27,600 J	18,200 J	42,600	27,900	53,300	42,900	34,300 J
TAL Metals		Lead	mg/Kg	46.7	218	1.1 J	1.3 J	1.3 J	1.2 J	0.25 U	0.22 U	0.23 U	0.23 U	0.26 U
TAL Metals		Magnesium	mg/Kg	NE	NE	7,290	9,900	11,000	10,100	8,990	7,030	16,600	8,020	22,400
TAL Metals		Manganese	mg/Kg	NE	260	227	**301**	**279**	257	212 J	203 J	**455 J**	211 J	**335 J**
TAL Metals		Nickel	mg/Kg	20.9	51.6	8.1	6.2	7.3	6.3	8.4	5.9	12.4	7	9.2
TAL Metals		Potassium	mg/Kg	NE	NE	522 J	597	643	502 J	634 J	520 J	1,390	479 J	715
TAL Metals		Selenium	mg/Kg	NE	1	*1.3 U*	*1.2 U*	*1.2 U*	*1.3 U*	*1.4 U*	**1.3 J**	*1.3 U*	*1.3 U*	*1.5 U*
TAL Metals		Silver	mg/Kg	1	3.7	0.16 U	0.16 U	0.15 U	0.16 U	0.18 U	0.16 U	0.17 U	0.17 U	0.19 U
TAL Metals		Sodium	mg/Kg	NE	NE	2,630	1,640	1,900	1,660	3,100	1,660	2,160	1,510	4,320
TAL Metals		Thallium	mg/Kg	NE	NE	0.24 J	0.17 U	0.17 U	0.17 U	0.2 U	0.18 U	0.18 U	0.18 U	0.2 U
TAL Metals		Vanadium	mg/Kg	NE	57	44.5	38.2	38.4	38	**88.9 J**	53.9 J	**128 J**	**72.1 J**	**60.2 J**
TAL Metals		Zinc	mg/Kg	150	410	30	27.9	27.6	27.3	27.3	24.2	48.7	29.2	35.4
TCL PAHs	HPAH	Benz(a)anthracene	ug/Kg	261	1,600					6.2	1.7 U	82		
TCL PAHs	HPAH	Benzo(a)pyrene	ug/Kg	430	1,600					1.7 U	1.7 U	73		
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/Kg	NE	NE					5.6	4.9	53 J		
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/Kg	NE	NE					9.9	12	31		
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/Kg	NE	NE					1.7 U	1.7 U	31		
TCL PAHs	HPAH	Chrysene	ug/Kg	384	2,800					4.5	1.7 U	41		
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/Kg	63.4	260					1.7 U	1.7 U	6.5		
TCL PAHs	HPAH	Fluoranthene	ug/Kg	600	5,100					9.1	1.7 U	66		
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/Kg	NE	NE					4.5	6.3	31		
TCL PAHs	HPAH	Pyrene	ug/Kg	665	2,600					11	1.7 U	67		
TCL PAHs	HPAH	Total HPAH	ug/kg	1,700	9,600					50.8	23.2	481.5		
TCL PAHs	LPAH	Acenaphthene	ug/Kg	16	500					1.7 U	1.7 U	1.7 U		
TCL PAHs	LPAH	Acenaphthylene	ug/Kg	44	640					1.7 U	1.7 U	6.1		
TCL PAHs	LPAH	Anthracene	ug/Kg	85.3	1,100					1.7 U	1.7 U	6.2		
TCL PAHs	LPAH	Fluorene	ug/Kg	19	540					1.7 U	1.7 U	1.7 U		
TCL PAHs	LPAH	Naphthalene	ug/Kg	160	2,100					1.7 U	1.7 U	1.7 U		
TCL PAHs	LPAH	Phenanthrene	ug/Kg	240	1,500					4.8	1.7 U	3.8 J		
TCL PAHs	LPAH	Total LPAH	ug/kg	552	3,160					4.8	1.7 U	16.1		
TCL PAHs	TPAH	Total PAH	ug/kg	4,022	44,792					55.6	23.2	497.6		
TCL PAHs		2-Methylnaphthalene	ug/Kg	70	670					1.7 U	1.7 U	1.7 U		
Genchem, TOC		Organic carbon	mg/Kg	NE	NE		6,170							
Genchem		Total solids	%	NE	NE		86.7							
BulkDensity		Bulk Density	g/cm3	NE	NE		2.14							
Grain Size		Particle size, 1 inch (25.40mm)	g	NE	NE		0.00					0.00		
Grain Size		Particle size, 1.5 inch (38.1mm)	g	NE	NE		0.00					0.00		
Grain Size		Particle size, 2 inch, (50.80mm)	g	NE	NE		0.00					0.00		
Grain Size		Particle size, 3 inch, (76.20mm)	g	NE	NE		0.00					0.00		
Grain Size		Particle size, 3/4 inch (19.05mm)	g	NE	NE		0.00					0.00		
Grain Size		Particle size, 3/8 inch (9.525mm)	g	NE	NE		85.70					0.00		
Grain Size		Particle size, Hydrometer (.008 mm)	mg/L	NE	NE		1.00					1.01		
Grain Size		Particle size, Hydrometer (.011 mm)	mg/L	NE	NE		1.00					1.01		
Grain Size		Particle size, Hydrometer (.015 mm)	mg/L	NE	NE		1.00					1.01		
Grain Size		Particle size, Hydrometer (.026 mm)	mg/L	NE	NE		1.00					1.02		
Grain Size		Particle size, Hydrometer (.040 mm)	mg/L	NE	NE		1.00					1.02		
Grain Size		Particle size, Hydrometer (.041 mm)	mg/L	NE	NE									
Grain Size		Particle size, Hydrometer (0.004mm)	mg/L	NE	NE		1.00					1.01		
Grain Size		Particle size, Sieve No. 04, 4 mesh, (4.75mm)	g	NE	NE		92.70					0.00		
Grain Size		Particle size, Sieve No. 10, 9 mesh, (2.00mm)	g	NE	NE		132.20					0.00		
Grain Size		Particle size, Sieve No. 140, 150 mesh, (0.106mm)	g	NE	NE		64.40					60.98		
Grain Size		Particle size, Sieve No. 20, 20 mesh, (0.850mm)	g	NE	NE		125.85					1.30		
Grain Size		Particle size, Sieve No. 200, 200 mesh, (0.075mm)	g	NE	NE		12.06					47.35		
Grain Size		Particle size, Sieve No. 40, 35 mesh, (0.425mm)	g	NE	NE		61.46					5.84		
Grain Size		Particle size, Sieve No. 60, 60 mesh, (0.250mm)	g	NE	NE		47.64					12.97		
Grain Size		Sample Weight	g	NE	NE		656.40					498.20		

Notes:
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method detection limit shown

FD = field duplicate sample
N = normal sample

TABLE 4-4
Marine Sediment Core and Test Pit Sample Results - May 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-199	SB-202	SB-202	SB-202	SB-209	SB-209	SB-209	SB-222	SB-223
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						2013SC-SB-199-01-20130524	2013SC-SB-202-00-20130524	2013SC-SB-9202-00-20130524FD	2013SC-SB-202-0_5-20130524	2013SC-SB-209-00-20130527	2013SC-SB-209-01-20130527	2013SC-SB-209-02-20130527	2013SC-SB-222-00-20130530	2013SC-SB-223-0_5-20130530
Sample Type:						N	N	FD	N	N	N	N	N	N
Date Sampled:						05/24/13	05/24/13	05/24/13	05/24/13	05/27/13	05/27/13	05/27/13	05/30/13	05/30/13
Depth (feet):						1 - 2	0 - 0.5	0 - 0.5	0.5 - 1	0 - 0.5	1 - 1.5	2 - 2.5	0 - 0.5	0.5 - 1
ChemGroup		**Analyte**	**Units**	**Screening Level**										
				ERL[a]	**ERM[b]**									

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)

[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)

Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-5
Marine Sediment Core and Test Pit Sample Results - August 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-301	SB-301	SB-301	SB-301	SB-301	SB-301	SB-301	SB-303	SB-303	SB-303	SB-303	SB-303	SB-303	SB-303	SB-303
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						20130830	20130830	20130830FD	20130830	20130830	20130830	20130830	20130828	20130828	20130828	20130828	20130828	20130828FD	20130828	20130828
Sample Type:						N	N	FD	N	N	N	N	N	N	N	N	N	FD	N	N
Date Sampled:						08/30/13	08/30/13	08/30/13	08/30/13	08/30/13	08/30/13	08/30/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13
Depth (feet):						0 - 0.5	0.5 - 1	0.5 - 1	1 - 1.5	2 - 2.5	3 - 4	4 - 5	0 - 0.5	0.5 - 1	1 - 1.5	2 - 2.5	3 - 4	3 - 4	4 - 5	5 - 6	6 - 7
ChemGroup		**Analyte**	**Units**	**Screening Level** **ERL[a]**	**ERM[b]**																
Metals, Hg		Mercury	mg/Kg	0.15	0.71	0.083 J	0.073 J	0.066 J	0.11 J	0.024 J	0.0072 U	0.0093 J	0.095 J	**0.32**	0.082 J	0.063 J	0.089 J	0.071 J	0.14	0.061 J	0.096 J
TAL Metals		Aluminum	mg/Kg	NE	18,000	8,340 J	8,260 J	4,270 J	9,890	7,350 J	7,470 J	8,150 J	6,340	6,250	7,020 J	8,940	9,710	9,060	8,160	10,400	5,340
TAL Metals		Antimony	mg/Kg	NE	9.3	0.22 U	0.17 U	0.18 U	0.17 U	0.18 U	0.18 U	0.16 U	0.18 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.17 U	0.18 U	0.17 U
TAL Metals		Arsenic	mg/Kg	8.2	70	0.15 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.11 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.12 U	0.12 U
TAL Metals		Barium	mg/Kg	NE	48	1.3 U	1 U	1.1 U	1 U	1.1 U	1.1 U	0.96 U	1.1 U	0.96 U	0.95 U	0.99 U	0.95 U	0.96 U	1 U	1.1 U	1 U
TAL Metals		Beryllium	mg/Kg	NE	NE	0.17 U	0.13 U	0.13 U	0.13 U	0.14 U	0.13 U	0.12 U	0.13 U	0.12 U	0.12 U	0.13 U	0.12 U	0.12 U	0.13 U	0.14 U	0.13 U
TAL Metals		Cadmium	mg/Kg	1.2	9.6	0.12 U	0.096 U	0.099 U	0.098 U	0.1 U	0.1 U	0.091 U	0.099 U	0.091 U	0.09 U	0.093 U	0.09 U	0.09 U	0.097 U	0.1 U	0.098 U
TAL Metals		Calcium	mg/Kg	NE	NE	3,920 J	5,110 J	2,770 J	8,520	5,890 J	6,220 J	2,790 J	3,540	2,660	3,450 J	11,600	12,100	11,500	8,530	21,500	5,130
TAL Metals		Chromium	mg/Kg	81	370	0.21 UJ	0.16 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	7.9 J	0.17 UJ	0.15 UJ	0.15 UJ	0.16 UJ	0.15 UJ	0.15 UJ	0.17 UJ	0.17 UJ	0.17 UJ
TAL Metals		Cobalt	mg/Kg	NE	10	**15.9 J**	**14.3 J**	**14.8 J**	**18.1 J**	**12.9 J**	**15.3 J**	8.8 J	**10.6 J**	**11.1 J**	**12 J**	**13.6 J**	**13.1 J**	**14.2 J**	**14.1 J**	**13.9 J**	**11.6 J**
TAL Metals		Copper	mg/Kg	34	270	**1,340 J**	**851 J**	**1,030 J**	**1,370 J**	**1,330 J**	**691 J**	**55.5 J**	**1,820 J**	**1,680 J**	**3,140 J**	**2,590 J**	**2,700 J**	**2,890 J**	**5,120 J**	**981 J**	**4,090 J**
TAL Metals		Iron	mg/Kg	NE	22,000,000	42,500 J	49,100	19,600 J	69,900 J	29,200 J	26,000 J	16,400 J	25,100 J	21,600 J	23,700 J	25,400 J	26,000 J	26,800 J	29,200 J	54,100 J	32,600 J
TAL Metals		Lead	mg/Kg	46.7	218	4.3	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	3.5	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U
TAL Metals		Magnesium	mg/Kg	NE	NE	9,500 J	10,300 J	5,270 J	12,300	9,120 J	9,190 J	7,330 J	7,760	7,620	7,790 J	10,300	10,200	10,000	9,670	12,900	6,970
TAL Metals		Manganese	mg/Kg	NE	260	235 J	239 J	252 J	**312 J**	229 J	**273 J**	**304 J**	186 J	194 J	233 J	**287 J**	**269 J**	**281 J**	252 J	**309 J**	207 J
TAL Metals		Nickel	mg/Kg	20.9	51.6	10.1 J	7 J	7.3 J	8.8 J	6.1 J	7.4 J	11.2 J	6.4 J	6.7 J	8.7 J	8.4 J	6.9 J	7.4 J	9.3 J	7.3 J	6 J
TAL Metals		Potassium	mg/Kg	NE	NE	742	949	529 J	951	1,160	1,230	240 J	292 J	286 J	408 J	468 J	550	454 J	377 J	662	314 J
TAL Metals		Selenium	mg/Kg	NE	1	0.8 U	0.62 U	0.64 U	0.64 U	0.65 U	0.64 U	0.59 U	0.64 U	0.59 U	0.58 U	0.69 J	**1.3 J**	**1.2 J**	**3 J**	0.65 U	**2.8 J**
TAL Metals		Silver	mg/Kg	1	3.7	0.1 U	0.079 U	0.082 U	0.081 U	0.083 U	0.082 U	0.075 U	0.082 U	0.075 U	0.074 U	0.077 U	0.074 U	0.074 U	0.08 U	0.083 U	0.081 U
TAL Metals		Sodium	mg/Kg	NE	NE	4,230 J	1,990 J	758 J	1,520	1,680 J	1,440 J	278 J	99.4 J	116 J	239 J	726	466 J	526 J	397 J	252 J	186 J
TAL Metals		Thallium	mg/Kg	NE	NE	0.11 U	0.085 U	0.088 U	0.087 U	0.089 U	0.088 U	0.08 U	0.088 U	0.08 U	0.079 U	0.082 U	0.08 U	0.08 U	0.086 U	0.089 U	0.086 U
TAL Metals		Vanadium	mg/Kg	NE	57	**143 J**	**60.3 J**	**65.7 J**	**105 J**	52.9 J	**57.7 J**	34.8 J	42.1 J	41.4 J	45.7 J	53.2 J	56.3 J	**64.1 J**	54 J	**78.8 J**	53.7 J
TAL Metals		Zinc	mg/Kg	150	410	35.5 J	26.9 J	28.1 J	32.2 J	24 J	28.6 J	32.5 J	20.8 J	22.7 J	25 J	26.2 J	24.8 J	26.7 J	25.9 J	25.7 J	21.8 J
TCL PAHs	HPAH	Benz(a)anthracene	ug/Kg	261	1,600																
TCL PAHs	HPAH	Benzo(a)pyrene	ug/Kg	430	1,600																
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/Kg	NE	NE																
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/Kg	NE	NE																
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/Kg	NE	NE																
TCL PAHs	HPAH	Chrysene	ug/Kg	384	2,800																
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/Kg	63.4	260																
TCL PAHs	HPAH	Fluoranthene	ug/Kg	600	5,100																
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/Kg	NE	NE																
TCL PAHs	HPAH	Pyrene	ug/Kg	665	2,600																
TCL PAHs	HPAH	Total HPAH	ug/kg	1,700	9,600																
TCL PAHs	LPAH	Acenaphthene	ug/Kg	16	500																
TCL PAHs	LPAH	Acenaphthylene	ug/Kg	44	640																
TCL PAHs	LPAH	Anthracene	ug/Kg	85.3	1,100																
TCL PAHs	LPAH	Fluorene	ug/Kg	19	540																
TCL PAHs	LPAH	Naphthalene	ug/Kg	160	2,100																
TCL PAHs	LPAH	Phenanthrene	ug/Kg	240	1,500																
TCL PAHs	LPAH	Total LPAH	ug/kg	552	3,160																
TCL PAHs	TPAH	Total PAH	ug/kg	4,022	44,792																
TCL PAHs		2-Methylnaphthalene	ug/Kg	70	670																

Notes:
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation
U = The analyte was analyzed for, but not detected at the method detection limit shown

FD = field duplicate sample
N = normal sample

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)
[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)

Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-5
Marine Sediment Core and Test Pit Sample Results - August 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-303	SB-303	SB-303	SB-303	SB-303	SB-303	SB-303	SB-303	SB-303	SB-303	SB-304	SB-304	SB-304	SB-304	SB-304	SB-304
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						20130828	20130828	20130828	20130828	20130828	20130828	20130828	20130828	20130828	20130828	20130828	20130828	20130828FD	01-20130828	20130828	20130828
Sample Type:						N	N	N	FD	N	N	N	N	N	N	N	N	FD	N	N	N
Date Sampled:						08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13
Depth (feet):						7 - 8	8 - 9	9 - 10	9 - 10	10 - 11	11 - 12	12 - 13	13 - 14	14 - 15	15 - 16	0.5 - 1	0 - 0.5	0 - 0.5	1 - 1.5	2 - 2.5	3 - 4
				Screening Level																	
ChemGroup		**Analyte**	**Units**	**ERL**[a]	**ERM**[b]																
Metals, Hg		Mercury	mg/Kg	0.15	0.71	0.075 J	0.05 J	0.15	0.15	**0.38**	0.078 J	0.008 J	0.0066 U	0.015 J	0.0065 U	**0.3 J**	**0.34 J**	0.084 J	0.13 J	0.084 J	0.1 J
TAL Metals		Aluminum	mg/Kg	NE	18,000	7,300	7,900	16,300	13,100	17,600	7,330	8,490 J	6,480	12,900	10,300	9,180 J	12,400 J	9,220 J	9,070 J	12,300 J	8,510 J
TAL Metals		Antimony	mg/Kg	NE	9.3	0.17 U	0.17 U	0.18 U	0.18 U	0.2 U	0.18 U	0.17 U	0.16 U	0.16 U	0.16 U	0.18 U	0.18 U	0.19 U	0.18 U	0.17 U	0.18 U
TAL Metals		Arsenic	mg/Kg	8.2	70	0.11 U	0.11 U	0.12 U	0.12 U	0.13 U	0.12 U	3	0.21 U	3.5	2.8	0.23 U	0.24 U	0.25 U	0.24 U	0.23 U	0.24 U
TAL Metals		Barium	mg/Kg	NE	48	1 U	1 U	1.1 U	1.1 U	1.2 U	1.1 U	1 U	26.9	0.96 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U
TAL Metals		Beryllium	mg/Kg	NE	NE	0.13 U	0.13 U	0.14 U	0.14 U	0.15 U	0.13 U	0.13 U	0.25 U	0.12 U	0.12 U	0.27 U	0.27 U	0.28 U	0.27 U	0.27 U	0.27 U
TAL Metals		Cadmium	mg/Kg	1.2	9.6	0.097 U	0.096 U	0.1 U	0.1 U	0.11 U	0.099 U	0.095 U	0.091 U	0.091 U	0.091 U	0.1 U	0.1 U	0.11 U	0.1 U	0.099 U	0.1 U
TAL Metals		Calcium	mg/Kg	NE	NE	7,530	8,470	18,200	16,200	19,500	6,980	87,900 J	164,000	5,690	8,270	10,800 J	12,900 J	9,240 J	12,600 J	21,700 J	8,480 J
TAL Metals		Chromium	mg/Kg	81	370	0.17 UJ	0.16 UJ	0.17 UJ	0.18 UJ	0.19 UJ	0.17 UJ	9.1 J	0.31 U	9.2	8.2	0.34 U	0.34 U	0.36 U	0.34 U	0.34 U	0.34 U
TAL Metals		Cobalt	mg/Kg	NE	10	**16.2 J**	**15.7 J**	**23 J**	**23 J**	**29.2 J**	**14.8 J**	6.7 J	0.2 UJ	8.2 J	9.4 J	**16**	**16.4**	**15.7**	**16.1**	**14.6**	**15.2**
TAL Metals		Copper	mg/Kg	34	270	**1,070 J**	**891 J**	**917 J**	**916 J**	**2,600 J**	**2,090 J**	**470 J**	16.2	33.2	**43.5**	**1,110**	**784**	**847**	**1,330**	**1,390**	**2,220**
TAL Metals		Iron	mg/Kg	NE	22,000,000	24,200 J	27,100 J	50,500 J	55,300 J	68,900	31,500 J	17,800 J	15,000 J	24,900 J	22,200 J	29,500 J	34,500 J	30,800 J	28,400 J	44,200 J	31,000 J
TAL Metals		Lead	mg/Kg	46.7	218	0.11 U	0.11 U	0.11 U	0.12 U	0.12 U	0.11 U	0.11 U	0.1 U	2.8	3.5	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.11 U
TAL Metals		Magnesium	mg/Kg	NE	NE	8,690	9,350	18,700	15,400	20,700	8,460	7,320 J	5,770	10,500	8,880	10,200 J	14,900 J	11,500 J	11,400 J	15,500 J	10,800 J
TAL Metals		Manganese	mg/Kg	NE	260	**293 J**	**290 J**	**445 J**	**449 J**	**555 J**	256 J	236 J	194	**285**	**369**	**315 J**	**312 J**	**307 J**	**328 J**	**320 J**	**280 J**
TAL Metals		Nickel	mg/Kg	20.9	51.6	9.7 J	8.6 J	13.5 J	13.1 J	13.9 J	7.9 J	6.9 J	0.22 U	10.9	11.2	7.9	7.6	7.9	9	8.3	8.2
TAL Metals		Potassium	mg/Kg	NE	NE	898	779	1,150	1,030	1,390	754	638	322 J	368 J	2,100	635	992	891	715	812	882
TAL Metals		Selenium	mg/Kg	NE	1	0.63 U	0.62 U	0.66 U	0.67 U	0.93 J	0.93 J	0.62 U	*1.2 U*	0.59 U	0.59 U	*1.3 U*	*1.3 U*	*1.4 U*	*1.3 U*	*1.3 U*	*1.3 U*
TAL Metals		Silver	mg/Kg	1	3.7	0.08 U	0.079 U	0.084 U	0.085 U	0.092 U	0.082 U	0.079 U	0.075 U	0.075 U	0.075 U	0.082 U	0.083 U	0.087 U	0.082 U	0.081 U	0.083 U
TAL Metals		Sodium	mg/Kg	NE	NE	322 J	365 J	572 J	526 J	858	321 J	1,460 J	2,360	554	564	1,730	2,220	2,240	2,230	2,040	1,880
TAL Metals		Thallium	mg/Kg	NE	NE	0.086 U	0.085 U	0.09 U	0.091 U	0.098 U	0.088 U	0.084 U	0.08 U	0.08 U	0.08 U	0.088 U	0.089 U	0.093 U	0.088 U	0.087 U	0.088 U
TAL Metals		Vanadium	mg/Kg	NE	57	**81.8 J**	**81.8 J**	**118 J**	**124 J**	**143 J**	53.4 J	36.7 J	0.81 UJ	50.2 J	37.2 J	**64.7**	**68.3**	**68**	**68.6**	**64**	**60.4**
TAL Metals		Zinc	mg/Kg	150	410	29.9 J	28.9 J	43.1 J	42.6 J	55.8 J	25.8 J	31.8 J	22.2	38.9	47.7	30.4	31.9	30	29.8	27.7	28.6
TCL PAHs	HPAH	Benz(a)anthracene	ug/Kg	261	1,600																
TCL PAHs	HPAH	Benzo(a)pyrene	ug/Kg	430	1,600																
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/Kg	NE	NE																
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/Kg	NE	NE																
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/Kg	NE	NE																
TCL PAHs	HPAH	Chrysene	ug/Kg	384	2,800																
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/Kg	63.4	260																
TCL PAHs	HPAH	Fluoranthene	ug/Kg	600	5,100																
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/Kg	NE	NE																
TCL PAHs	HPAH	Pyrene	ug/Kg	665	2,600																
TCL PAHs	HPAH	Total HPAH	ug/kg	1,700	9,600																
TCL PAHs	LPAH	Acenaphthene	ug/Kg	16	500																
TCL PAHs	LPAH	Acenaphthylene	ug/Kg	44	640																
TCL PAHs	LPAH	Anthracene	ug/Kg	85.3	1,100																
TCL PAHs	LPAH	Fluorene	ug/Kg	19	540																
TCL PAHs	LPAH	Naphthalene	ug/Kg	160	2,100																
TCL PAHs	LPAH	Phenanthrene	ug/Kg	240	1,500																
TCL PAHs	LPAH	Total LPAH	ug/kg	552	3,160																
TCL PAHs	TPAH	Total PAH	ug/kg	4,022	44,792																
TCL PAHs		2-Methylnaphthalene	ug/Kg	70	670																

Notes:
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation
U = The analyte was analyzed for, but not detected at the method detection limit shown

FD = field duplicate sample
N = normal sample

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)
[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)

Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-5
Marine Sediment Core and Test Pit Sample Results - August 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-304	SB-304	SB-304	SB-304	SB-304	SB-304	SB-304	SB-304	SB-304	SB-304	SB-304	SB-305	SB-305	SB-305	SB-305	SB-305
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						20130828	20130828	20130828	20130828	20130828	20130828	10-20130828	20130828	20130828FD	20130828	20130828	20130827	20130827	20130827	20130827	20130827
Sample Type:						N	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N
Date Sampled:						08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/28/13	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13
Depth (feet):						4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - 11	11 - 12	11 - 12	12 - 13	13 - 14	0 - 0.5	0.5 - 1	1 - 1.5	2 - 2.5	3 - 4
				Screening Level																	
ChemGroup		**Analyte**	**Units**	**ERL[a]**	**ERM[b]**																
Metals, Hg		Mercury	mg/Kg	0.15	0.71	0.15	0.11 J	0.082 J	0.044 J	0.074 J	0.0072 U	0.0076 J	0.0068 U	0.0067 U	0.0076 U	0.0068 U	0.11 J	0.036 J	0.1 J	***0.18***	0.041 J
TAL Metals		Aluminum	mg/Kg	NE	18,000	11,500	12,600	11,900	7,110	8,980	8,430	9,350	8,460	8,610	13,700	12,500	5,270	5,220	5,790	5,600	5,970
TAL Metals		Antimony	mg/Kg	NE	9.3	0.19 U	0.18 U	0.18 U	0.18 U	0.17 U	0.18 U	0.17 U	0.17 U	0.17 U	0.18 U	0.17 U	0.17 U	0.18 U	0.18 U	0.18 U	0.18 U
TAL Metals		Arsenic	mg/Kg	8.2	70	0.12 U	0.23 U	0.12 U	0.12 U	0.12 U	**9.5**	4.4	0.11 U	3.1	4.8	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U
TAL Metals		Barium	mg/Kg	NE	48	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U
TAL Metals		Beryllium	mg/Kg	NE	NE	0.14 U	0.27 U	0.14 U	0.14 U	0.13 U	0.14 U	0.13 U	0.13 U	0.13 U	0.14 U	0.13 U	0.13 U	0.14 U	0.14 U	0.14 U	0.14 U
TAL Metals		Cadmium	mg/Kg	1.2	9.6	0.11 U	0.1 U	0.1 U	0.1 U	0.098 U	0.1 U	0.098 U	0.096 U	0.095 U	0.1 U	0.096 U	0.097 U	0.1 U	0.1 U	0.1 U	0.1 U
TAL Metals		Calcium	mg/Kg	NE	NE	12,600	17,900	16,000	9,360	5,690	6,810	39,400	75,800	69,500	23,900	4,270	4,220	5,210	5,480	5,170	6,240
TAL Metals		Chromium	mg/Kg	81	370	0.18 UJ	0.34 UJ	0.17 UJ	0.17 UJ	0.17 UJ	7.6 J	7.8 J	8.7 J	7.1 J	8.5 J	8.1 J	0.17 U	0.17 U	0.17 U	0.18 U	0.17 U
TAL Metals		Cobalt	mg/Kg	NE	10	**17.2 J**	**14 J**	**14.9 J**	**11.3 J**	**11.3 J**	7.2 J	5.2 J	4.6 J	4.3 J	9 J	8.1 J	**11.6 J**	**10.5 J**	**10.3 J**	**12.6 J**	**12.3 J**
TAL Metals		Copper	mg/Kg	34	270	**872**	**1,960**	**1,080**	**2,140**	**4,160**	**46.5**	31.7 J	18.9	15.4	**103 J**	**39.5 J**	**1,330**	**1,020**	**1,080**	**1,100**	**903**
TAL Metals		Iron	mg/Kg	NE	22,000,000	53,900	65,400	57,600	20,600	33,600	17,300	17,500 J	15,000	15,400	25,000 J	24,700 J	34,400 J	32,500 J	33,300 J	59,800 J	60,600 J
TAL Metals		Lead	mg/Kg	46.7	218	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.12 U	5.8	0.11 U	0.11 U	0.11 U	0.12 U	0.11 U
TAL Metals		Magnesium	mg/Kg	NE	NE	13,400	13,900	14,800	9,140	10,200	8,120	8,500	8,240	8,250	12,800	12,300	6,330	6,090	7,200	6,790	6,810
TAL Metals		Manganese	mg/Kg	NE	260	**333 J**	**293 J**	**306 J**	213 J	236 J	**279 J**	253 J	226 J	237 J	**309 J**	**293 J**	194	182	174	215	207
TAL Metals		Nickel	mg/Kg	20.9	51.6	8.4 J	7.8 J	9.1 J	5.7 J	7.5 J	9.8 J	7.6 J	7 J	5.7 J	10.6 J	10.3 J	6.2	5.6	5.6	7.6	7.2
TAL Metals		Potassium	mg/Kg	NE	NE	889	757	1,040	630	752	548 J	557 J	523 J	435 J	495 J	390 J	543 J	661	578 J	512 J	521 J
TAL Metals		Selenium	mg/Kg	NE	1	0.69 U	*1.3 U*	0.66 U	0.87 J	**2.4 J**	0.65 U	0.63 U	0.62 U	0.61 U	0.67 U	0.62 U	0.63 U	0.65 U	0.65 U	0.67 U	0.66 U
TAL Metals		Silver	mg/Kg	1	3.7	0.087 U	0.082 U	0.084 U	0.084 U	0.081 U	0.083 U	0.08 U	0.079 U	0.078 U	0.086 U	0.079 U	0.08 U	0.083 U	0.083 U	0.085 U	0.084 U
TAL Metals		Sodium	mg/Kg	NE	NE	2,030	1,990	2,070	1,950	1,910	1,810	1,940	1,670	1,730	1,470	874	1,490	1,500	1,790	2,580	2,400
TAL Metals		Thallium	mg/Kg	NE	NE	0.094 U	0.088 U	0.09 U	0.09 U	0.087 U	0.088 U	0.086 U	0.085 U	0.084 U	0.092 U	0.085 U	0.086 U	0.089 U	0.089 U	0.091 U	0.09 U
TAL Metals		Vanadium	mg/Kg	NE	57	**91.3**	**61.4**	**81.7**	47.2	44.6	41.4	34.3 J	33.5	32.5	44.3 J	44.1 J	56.3 J	49.1 J	56.2 J	**98.6 J**	**102 J**
TAL Metals		Zinc	mg/Kg	150	410	36.2 J	26.9 J	28.5 J	20.8 J	26.7 J	32.3 J	26.8 J	24.4 J	26.2 J	37 J	32.8 J	22.6	20.9	19.9	24.6	22.7
TCL PAHs	HPAH	Benz(a)anthracene	ug/Kg	261	1,600																
TCL PAHs	HPAH	Benzo(a)pyrene	ug/Kg	430	1,600																
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/Kg	NE	NE																
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/Kg	NE	NE																
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/Kg	NE	NE																
TCL PAHs	HPAH	Chrysene	ug/Kg	384	2,800																
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/Kg	63.4	260																
TCL PAHs	HPAH	Fluoranthene	ug/Kg	600	5,100																
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/Kg	NE	NE																
TCL PAHs	HPAH	Pyrene	ug/Kg	665	2,600																
TCL PAHs	HPAH	Total HPAH	ug/kg	1,700	9,600																
TCL PAHs	LPAH	Acenaphthene	ug/Kg	16	500																
TCL PAHs	LPAH	Acenaphthylene	ug/Kg	44	640																
TCL PAHs	LPAH	Anthracene	ug/Kg	85.3	1,100																
TCL PAHs	LPAH	Fluorene	ug/Kg	19	540																
TCL PAHs	LPAH	Naphthalene	ug/Kg	160	2,100																
TCL PAHs	LPAH	Phenanthrene	ug/Kg	240	1,500																
TCL PAHs	LPAH	Total LPAH	ug/kg	552	3,160																
TCL PAHs	TPAH	Total PAH	ug/kg	4,022	44,792																
TCL PAHs		2-Methylnaphthalene	ug/Kg	70	670																

Notes:
PAH = polycyclic aromatic hydrocarbor
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation
U = The analyte was analyzed for, but not detected at the method detection limit show

FD = field duplicate sample
N = normal sample

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)
[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Table

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)

Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-5
Marine Sediment Core and Test Pit Sample Results - August 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-305	SB-305	SB-305	SB-305	SB-305	SB-305	SB-305	SB-305	SB-305	SB-306	SB-306	SB-306	SB-306	SB-306	SB-306	SB-306
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						20130827FD	20130827	20130827	20130827	20130827	20130827	20130827	20130827FD	20130827	20130829	20130829	20130829FD	20130829	20130829	20130829	20130829
Sample Type:						FD	N	N	N	N	N	N	FD	N	N	N	FD	N	N	N	N
Date Sampled:						08/27/13	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13	08/27/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13
Depth (feet):						3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	9 - 10	10 - 11	0.5 - 1	0 - 0.5	0.5 - 1	1 - 1.5	2 - 2.5	3 - 4	4 - 5
				Screening Level																	
ChemGroup		**Analyte**	**Units**	**ERL[a]**	**ERM[b]**																
Metals, Hg		Mercury	mg/Kg	0.15	0.71	0.043 J	0.086 J	0.052 J	***0.35***	***0.55***	0.084 J	0.0064 U	0.0068 U	0.0077 U	0.064 J	0.14		**0.96**			0.021 J
TAL Metals		Aluminum	mg/Kg	NE	18,000	6,650	6,820	16,500	7,820	9,750	11,100	10,100	9,950	6,110	5,810	6,440		8,170			18,000
TAL Metals		Antimony	mg/Kg	NE	9.3	0.18 U	0.18 U	0.2 U	0.17 U	0.18 U	0.19 U	0.16 U	0.17 U	0.19 U	0.17 U	0.18 U		0.19 U			0.17 U
TAL Metals		Arsenic	mg/Kg	8.2	70	0.24 U	0.12 U	0.13 U	0.23 U	0.12 U	0.12 U	6.1	0.22 U	4.1	0.11 U	0.12 U		0.12 U			3.4
TAL Metals		Barium	mg/Kg	NE	48	1.1 U	1.1 U	1.2 U	1 U	1.1 U	1.1 U	0.95 U	1 U	35	1 U	1.1 U		1.1 U			1 U
TAL Metals		Beryllium	mg/Kg	NE	NE	0.28 U	0.13 U	0.15 U	0.27 U	0.14 U	0.14 U	0.24 U	0.26 U	0.15 U	0.13 U	0.14 U		0.14 U			0.13 U
TAL Metals		Cadmium	mg/Kg	1.2	9.6	0.1 U	0.1 U	0.11 U	0.098 U	0.1 U	0.11 U	0.09 U	0.095 U	0.11 U	0.097 U	0.1 U		0.11 U			0.098 U
TAL Metals		Calcium	mg/Kg	NE	NE	6,130	6,770	17,000	8,350	10,400	6,390	23,300 J	41,900 J	190,000	2,690	7,370		3,860			3,390
TAL Metals		Chromium	mg/Kg	81	370	0.35 U	0.17 U	0.19 U	0.33 U	0.17 U	0.18 U	11.1	13.3	8.9	0.17 UJ	0.18 UJ		0.18 UJ			10.3 J
TAL Metals		Cobalt	mg/Kg	NE	10	**11.5 J**	**13.6 J**	**25 J**	**14.3 J**	**19.8 J**	**12.4 J**	5.8 J	0.21 UJ	4 J	**11.2 J**	**11.2 J**		**12.7 J**			7.5 J
TAL Metals		Copper	mg/Kg	34	270	**1,100**	**1,700**	**1,570**	**1,430**	**1,380**	**1,820**	19.7	16	12.1	**2,080**	**2,980**		**1,970**			**55.2**
TAL Metals		Iron	mg/Kg	NE	22,000,000	69,000 J	62,000 J	68,600 J	23,700 J	44,200 J	30,300 J	18,200 J	17,500 J	11,600 J	55,200	101,000		77,300			32,400
TAL Metals		Lead	mg/Kg	46.7	218	0.12 U	0.11 U	0.13 U	0.11 U	0.11 U	0.12 U	0.1 U	0.11 U	0.12 U	0.11 U	16.4		7.2			0.11 U
TAL Metals		Magnesium	mg/Kg	NE	NE	7,840	8,150	19,300	9,890	12,000	11,000	9,170	8,590	5,940	7,180	7,710		10,100			14,300
TAL Metals		Manganese	mg/Kg	NE	260	206	238	**426**	**263**	**340**	**295**	**281**	***267***	180	182 J	196 J		219 J			**305 J**
TAL Metals		Nickel	mg/Kg	20.9	51.6	8.1	8.1	13.4	7.7	10.5	9.9	9.5	9.8	7.1	5.8 J	6.4 J		6.9 J			9.9 J
TAL Metals		Potassium	mg/Kg	NE	NE	722	656	1,440	781	1,010	801	495 J	546 J	461 J	346 J	452 J		608 J			580 J
TAL Metals		Selenium	mg/Kg	NE	1	*1.3 U*	0.65 U	0.73 U	*1.3 U*	0.66 U	0.68 U	*1.2 U*	*1.2 U*	0.71 U	**1.3 J**	**3 J**		**1.1 J**			0.64 U
TAL Metals		Silver	mg/Kg	1	3.7	0.086 U	0.082 U	0.093 U	0.081 U	0.084 U	0.087 U	0.074 U	0.078 U	0.09 U	0.08 U	0.086 U		0.087 U			0.081 U
TAL Metals		Sodium	mg/Kg	NE	NE	2,560	2,190	2,990	1,640	2,280	2,140	1,560 J	2,400 J	4,140	1,600	2,010		2,470			1,680
TAL Metals		Thallium	mg/Kg	NE	NE	0.092 U	0.088 U	0.099 U	0.087 U	0.09 U	0.093 U	0.079 U	0.084 U	0.097 U	0.086 U	0.092 U		0.093 U			0.087 U
TAL Metals		Vanadium	mg/Kg	NE	57	**95.3 J**	**90.3 J**	**136 J**	52.4 J	**108 J**	**61.6 J**	40.1 J	36.7 J	24.4 J	**78.1**	**59.2**		**61.8**			43.9
TAL Metals		Zinc	mg/Kg	150	410	19.2	26.3	56	31.6	42.4	37.6	33.6	34.3	23.9	21.1 J	30.5 J		**249 J**			40.1 J
TCL PAHs	HPAH	Benz(a)anthracene	ug/Kg	261	1,600										31	43	110	140	90	33	
TCL PAHs	HPAH	Benzo(a)pyrene	ug/Kg	430	1,600										27	48 J	81 J	58 J	43	25	
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/Kg	NE	NE										18	30	53	51	36	19	
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/Kg	NE	NE										18	33	34	39	31 J	22	
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/Kg	NE	NE										14	26	34	1.7 UJ	33 J	15	
TCL PAHs	HPAH	Chrysene	ug/Kg	384	2,800										15	35	30	68	38 J	19	
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/Kg	63.4	260										3.4 J	1.7 U	7.9	9.3	7.3 J	3.8	
TCL PAHs	HPAH	Fluoranthene	ug/Kg	600	5,100										33	65	280	410	290	20	
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/Kg	NE	NE										14	26	33	38	28 J	16	
TCL PAHs	HPAH	Pyrene	ug/Kg	665	2,600										43	69	340	410	290	17	
TCL PAHs	HPAH	Total HPAH	ug/Kg	1,700	9,600										216.4	375	1002.9	1223.3	886.3	189.8	
TCL PAHs	LPAH	Acenaphthene	ug/Kg	16	500										1.7 U	1.7 U	1.7 U	**24**	**64**	6.5	
TCL PAHs	LPAH	Acenaphthylene	ug/Kg	44	640										4.9	9.3	6.1	6.8	6.1 J	1.7 U	
TCL PAHs	LPAH	Anthracene	ug/Kg	85.3	1,100										5	67	12	30	47	9.7	
TCL PAHs	LPAH	Fluorene	ug/Kg	19	540										1.7 U	1.7 U	1.7 U	4.7	11 J	1.7 U	
TCL PAHs	LPAH	Naphthalene	ug/Kg	160	2,100										1.7 U	1.7 U	1.7 U	12	7.1 J	5	
TCL PAHs	LPAH	Phenanthrene	ug/Kg	240	1,500										13	20	7.3	8.9	49	4.1	
TCL PAHs	LPAH	Total LPAH	ug/Kg	552	3,160										22.9	96.3	25.4	86.4	184.2	25.3	
TCL PAHs	TPAH	Total PAH	ug/Kg	4,022	44,792										239.3	471.3	1,028	1,314	1,071	215.1	
TCL PAHs		2-Methylnaphthalene	ug/Kg	70	670										1.7 U	1.7 U	1.7 U	4 J	1.7 UJ	1.7 U	

Notes:
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation
U = The analyte was analyzed for, but not detected at the method detection limit shown

FD = field duplicate sample
N = normal sample

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)
[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)

Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-5
Marine Sediment Core and Test Pit Sample Results - August 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-306	SB-306	SB-306	SB-307	SB-307	SB-307	SB-307	SB-307	SB-307	SB-307	SB-307	SB-307	SB-307	SB-307	SB-307
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						20130829	20130829	20130829	20130829	20130829	20130829	20130829FD	20130829	20130829	20130829	20130829	20130829	20130829	20130829	20130829
Sample Type:						N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N
Date Sampled:						08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13
Depth (feet):						5 - 6	6 - 7	7 - 8	0 - 0.5	0.5 - 1	1 - 1.5	1 - 1.5	2 - 2.5	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	8.5 - 9
ChemGroup		**Analyte**	**Units**	**Screening Level ERL[a]**	**Screening Level ERM[b]**																
Metals, Hg		Mercury	mg/Kg	0.15	0.71	0.016 J	0.0066 U	0.0065 U	0.059 J	0.096 J	0.076 J	0.11 J	0.07 J	0.074 J	0.054 J	0.066 J	**0.23 J**	**0.46 J**	0.0076 J	0.0068 J	
TAL Metals		Aluminum	mg/Kg	NE	18,000	13,200	12,300	13,600	6,920 J	7,280 J	6,770 J	7,340 J	6,010 J	7,130 J	6,740 J	7,570 J	12,800 J	11,800 J	11,700 J	5,940 J	
TAL Metals		Antimony	mg/Kg	NE	9.3	0.17 U	0.16 U	0.16 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.18 U	0.18 U	0.18 U	0.18 U	0.17 U	0.17 U	
TAL Metals		Arsenic	mg/Kg	8.2	70	3.6	0.11 U	2.9	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.24 U	0.24 U	0.24 U	0.24 U	0.23 U	0.11 U	
TAL Metals		Barium	mg/Kg	NE	48	1 U	0.98 U	0.94 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	28.7	
TAL Metals		Beryllium	mg/Kg	NE	NE	0.13 U	0.12 U	0.12 U	0.26 U	0.26 U	0.26 U	0.26 U	0.27 U	0.27 U	0.27 U	0.27 U	0.28 U	0.28 U	0.26 U	0.13 U	
TAL Metals		Cadmium	mg/Kg	1.2	9.6	0.096 U	0.092 U	0.089 U	0.095 U	0.098 U	0.097 U	0.098 U	0.098 U	0.098 U	0.1 U	0.1 U	0.1 U	0.1 U	0.097 U	0.094 U	
TAL Metals		Calcium	mg/Kg	NE	NE	4,030	3,580	4,390	6,850 J	7,860 J	7,010 J	7,360 J	6,760 J	7,590 J	8,840 J	8,990 J	14,100 J	13,000 J	7,750 J	206,000 J	
TAL Metals		Chromium	mg/Kg	81	370	8.8	7.9	9.4	0.33 U	0.33 U	0.33 U	0.33 U	0.34 U	0.34 U	0.34 U	0.34 U	0.35 U	0.35 U	0.33 U	5.7	
TAL Metals		Cobalt	mg/Kg	NE	10	7.5 J	6.9 J	7.1 J	**10.8**	**13.4**	**11.3**	**11.3**	**11.7**	**10.8**	**10.4**	**15.2**	**17.8**	**15.9**	6.8	3.7	
TAL Metals		Copper	mg/Kg	34	270	**42.3**	**38.8**	34	**1,250**	**816**	**712**	**874**	**1,130**	**1,360**	**369**	**542**	**1,000**	**4,910**	**74.7**	**40.4**	
TAL Metals		Iron	mg/Kg	NE	22,000,000	23,100 J	23,100 J	24,800 J	32,500 J	25,800 J	43,300 J	27,600 J	28,500 J	31,700 J	46,600 J	47,100 J	65,600 J	45,800 J	20,200 J	10,800 J	
TAL Metals		Lead	mg/Kg	46.7	218	0.11 U	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	
TAL Metals		Magnesium	mg/Kg	NE	NE	10,700	10,400	11,000	8,730 J	9,230 J	8,400 J	9,300 J	7,540 J	8,860 J	8,530 J	9,480 J	15,100 J	14,800 J	12,500 J	6,500 J	
TAL Metals		Manganese	mg/Kg	NE	260	252	258	**262**	214 J	253 J	217 J	213 J	224 J	215 J	210 J	**295 J**	**340 J**	**321 J**	**300 J**	181 J	
TAL Metals		Nickel	mg/Kg	20.9	51.6	11.7	11.1	12.4	0.24 U	7	5.8	5.8	6.1	0.24 U	0.25 U	7.5	9.4	8.1	12.9	4.6	
TAL Metals		Potassium	mg/Kg	NE	NE	499 J	348 J	392 J	622	757	570 J	719	439 J	509 J	531 J	665	994	844	464 J	388 J	
TAL Metals		Selenium	mg/Kg	NE	1	0.62 U	0.6 U	0.58 U	*1.2 U*	*1.3 U*	*1.3 U*	*1.3 U*	*1.3 U*	*1.3 U*	*1.3 U*	*1.3 U*	*1.3 U*	*1.3 U*	*1.3 U*	0.61 U	
TAL Metals		Silver	mg/Kg	1	3.7	0.079 U	0.076 U	0.073 U	0.079 U	0.081 U	0.08 U	0.08 U	0.081 U	0.081 U	0.082 U	0.083 U	0.084 U	0.085 U	0.08 U	0.077 U	
TAL Metals		Sodium	mg/Kg	NE	NE	1,190	987	726	1,650	1,470	1,750	1,860	2,080	2,380	2,920	2,540	2,650	2,260	1,060	2,770	
TAL Metals		Thallium	mg/Kg	NE	NE	0.084 U	0.081 U	0.079 U	0.084 U	0.086 U	0.086 U	0.086 U	0.087 U	0.087 U	0.088 U	0.089 U	0.09 U	0.091 U	0.085 U	0.083 U	
TAL Metals		Vanadium	mg/Kg	NE	57	38.8 J	37.6 J	40.8 J	43.6	51.8	47.6	48.2	54.2	45.1	55.1	**76.1**	**92.4**	**70.6**	38.7	22.6	
TAL Metals		Zinc	mg/Kg	150	410	35.1	29.2	34.3	20	24.8	21	21.3	22.3	20.2	18.6	27.4	35.7	42.6	34.9	19.9	
TCL PAHs	HPAH	Benz(a)anthracene	ug/Kg	261	1,600			1.7 U													1.7 U
TCL PAHs	HPAH	Benzo(a)pyrene	ug/Kg	430	1,600			1.7 U													1.7 U
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/Kg	NE	NE			1.7 U													1.7 U
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/Kg	NE	NE			9.7													3.9
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/Kg	NE	NE			1.7 U													1.7 U
TCL PAHs	HPAH	Chrysene	ug/Kg	384	2,800			1.7 U													1.7 U
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/Kg	63.4	260			1.7 U													1.7 U
TCL PAHs	HPAH	Fluoranthene	ug/Kg	600	5,100			1.7 U													36
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/Kg	NE	NE			1.7 U													1.7 U
TCL PAHs	HPAH	Pyrene	ug/Kg	665	2,600			1.7 U													14
TCL PAHs	HPAH	Total HPAH	ug/Kg	1,700	9,600			9.7													53.9
TCL PAHs	LPAH	Acenaphthene	ug/Kg	16	500			1.7 U													1.7 U
TCL PAHs	LPAH	Acenaphthylene	ug/Kg	44	640			1.7 U													1.7 U
TCL PAHs	LPAH	Anthracene	ug/Kg	85.3	1,100			1.7 U													1.7 U
TCL PAHs	LPAH	Fluorene	ug/Kg	19	540			1.7 U													1.7 U
TCL PAHs	LPAH	Naphthalene	ug/Kg	160	2,100			1.7 U													1.7 U
TCL PAHs	LPAH	Phenanthrene	ug/Kg	240	1,500			1.7 U													1.7 U
TCL PAHs	LPAH	Total LPAH	ug/kg	552	3,160			1.7 U													1.7 U
TCL PAHs	TPAH	Total PAH	ug/kg	4,022	44,792			9.7													53.9
TCL PAHs		2-Methylnaphthalene	ug/Kg	70	670			1.7 U													1.7 U

Notes:
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation
U = The analyte was analyzed for, but not detected at the method detection limit shown

FD = field duplicate sample
N = normal sample

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)
[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)

Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-5
Marine Sediment Core and Test Pit Sample Results - August 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-308	SB-308	SB-308	SB-308	SB-308	SB-308	SB-308	SB-308	SB-308	SB-308	SB-308	SB-308	SB-313	SB-313	SB-316	SB-316	SB-319
Area						Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:						20130829	20130829	20130829FD	20130829	20130829	20130829	20130829	20130829	20130829	20130829	20130829	20130829	20130828	20130828	20130830	20130828	20130829
Sample Type:						N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Date Sampled:						08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/29/13	08/28/13	08/28/13	08/30/13	08/28/13	08/29/13
Depth (feet):						0 - 0.5	0.5 - 1	0.5 - 1	1 - 1.5	2 - 2.5	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	2 - 2.5	3 - 4	3 - 4	7 - 8	4 - 5
ChemGroup		**Analyte**	**Units**	**Screening Level** ERL[a]	ERM[b]																	
Metals, Hg		Mercury	mg/Kg	0.15	0.71	0.061 J	0.11	0.12	0.11 J	0.14	0.056 J	0.082 J	0.038 J	0.052 J	**1.7**	0.0098 J	0.0077 J					
TAL Metals		Aluminum	mg/Kg	NE	18,000	6,700	7,020	7,350	6,380	6,260	6,310	6,410	6,850	6,730	5,930	10,900 J	13,400 J					
TAL Metals		Antimony	mg/Kg	NE	9.3	0.16 U	0.16 U	0.16 U	0.17 U	0.17 U	0.17 U	0.18 U	0.17 U	0.18 U	0.17 U	0.18 U	0.18 U					
TAL Metals		Arsenic	mg/Kg	8.2	70	0.11 U	0.11 U	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.11 U	0.24 U	0.23 U					
TAL Metals		Barium	mg/Kg	NE	48	0.96 U	0.96 U	0.97 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1 U	1.1 U	1.1 U					
TAL Metals		Beryllium	mg/Kg	NE	NE	0.12 U	0.12 U	0.12 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.14 U	0.13 U	0.28 U	0.27 U					
TAL Metals		Cadmium	mg/Kg	1.2	9.6	0.091 U	0.091 U	0.092 U	0.095 U	0.099 U	0.099 U	0.1 U	0.099 U	0.1 U	0.097 U	0.1 U	0.1 U					
TAL Metals		Calcium	mg/Kg	NE	NE	4,430	6,180	6,530	5,900	5,850	3,910	2,880	2,860	2,790	2,540	3,090 J	3,460 J					
TAL Metals		Chromium	mg/Kg	81	370	0.16 UJ	0.16 UJ	0.16 UJ	0.16 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.35 U	12.1					
TAL Metals		Cobalt	mg/Kg	NE	10	**11.6 J**	**12.5 J**	**13.1 J**	**12.6 J**	**10.7 J**	**17.6 J**	10 J	**10.8 J**	**10.5 J**	**10.4 J**	**12.3**	**11.9**					
TAL Metals		Copper	mg/Kg	34	270	**1,920**	**1,490**	**1,390**	**1,470**	**1,140**	**2,350**	**307**	**327**	**570 J**	**1,960 J**	**53.4**	**36.9**					
TAL Metals		Iron	mg/Kg	NE	22,000,000	54,700	54,500	58,200	56,000	47,400	57,500	61,600	46,500	23,900 J	20,900 J	20,600 J	22,700 J					
TAL Metals		Lead	mg/Kg	46.7	218	0.1 U	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U					
TAL Metals		Magnesium	mg/Kg	NE	NE	8,260	8,770	9,220	7,810	7,980	8,000	8,010	8,510	8,400	7,510	8,760 J	10,800 J					
TAL Metals		Manganese	mg/Kg	NE	260	219 J	233 J	241 J	223 J	198 J	**315 J**	176 J	0.16 UJ	175 J	168 J	**295 J**	**283 J**					
TAL Metals		Nickel	mg/Kg	20.9	51.6	5.8 J	6 J	6.2 J	6.5 J	5.6 J	9.4 J	5 J	5.4 J	5.2 J	5.1 J	15.6	12					
TAL Metals		Potassium	mg/Kg	NE	NE	495 J	562	645	504 J	440 J	400 J	409 J	469 J	611	419 J	390 J	591 J					
TAL Metals		Selenium	mg/Kg	NE	1	0.59 U	0.59 U	0.59 U	0.62 U	0.64 U	0.77 J	0.64 U	0.64 U	0.65 U	**1.2 J**	*1.3 U*	*1.3 U*					
TAL Metals		Silver	mg/Kg	1	3.7	0.075 U	0.075 U	0.075 U	0.078 U	0.082 U	0.081 U	0.082 U	0.082 U	0.082 U	0.08 U	0.084 U	0.082 U					
TAL Metals		Sodium	mg/Kg	NE	NE	835	945	906	1,220	1,310	1,290	1,200	1,440	1,300	1,130	886	836					
TAL Metals		Thallium	mg/Kg	NE	NE	0.08 U	0.08 U	0.081 U	0.084 U	0.087 U	0.087 U	0.088 U	0.087 U	0.088 U	0.085 U	0.09 U	0.088 U					
TAL Metals		Vanadium	mg/Kg	NE	57	54.3	55.2	56.5	**57.7**	47.3	**91.2**	49.2	0.44 U	49.8 J	42.2 J	40.3	44.2					
TAL Metals		Zinc	mg/Kg	150	410	21.2 J	22.8 J	23.9 J	23 J	20.7 J	35.6 J	21.7 J	23.6 J	22.3 J	23.6 J	48.5	70					
TCL PAHs	HPAH	Benz(a)anthracene	ug/Kg	261	1,600													1.7 U	10	1.7 U	42	1.7 U
TCL PAHs	HPAH	Benzo(a)pyrene	ug/Kg	430	1,600													1.7 U	16	1.7 U	14	1.7 U
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/Kg	NE	NE													1.7 U	11	1.7 U	10	1.7 U
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/Kg	NE	NE													7.7	14	6.3	8	4.4
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/Kg	NE	NE													1.7 U	7	1.7 U	9	1.7 U
TCL PAHs	HPAH	Chrysene	ug/Kg	384	2,800													1.7 U	8.5	1.7 U	21	1.7 U
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/Kg	63.4	260													1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
TCL PAHs	HPAH	Fluoranthene	ug/Kg	600	5,100													3.7 J	24	5.5	310	36
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/Kg	NE	NE													3.8 J	8	1.7 U	4.3	1.7 U
TCL PAHs	HPAH	Pyrene	ug/Kg	665	2,600													6.5	39	6	310	26
TCL PAHs	HPAH	Total HPAH	ug/Kg	1,700	9,600													21.7	137.5	17.8	728.3	66.4
TCL PAHs	LPAH	Acenaphthene	ug/Kg	16	500													1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
TCL PAHs	LPAH	Acenaphthylene	ug/Kg	44	640													1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
TCL PAHs	LPAH	Anthracene	ug/Kg	85.3	1,100													1.7 U	1.7 U	4.3	51	1.7 U
TCL PAHs	LPAH	Fluorene	ug/Kg	19	540													1.7 U	1.7 U	5.4	1.7 U	1.7 U
TCL PAHs	LPAH	Naphthalene	ug/Kg	160	2,100													1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
TCL PAHs	LPAH	Phenanthrene	ug/Kg	240	1,500													1.7 U	1.7 U	1.7 U	13	1.7 U
TCL PAHs	LPAH	Total LPAH	ug/Kg	552	3,160													1.7 U	1.7 U	9.7	64	1.7 U
TCL PAHs	TPAH	Total PAH	ug/Kg	4,022	44,792													21.7	137.5	27.5	792.3	66.4
TCL PAHs		2-Methylnaphthalene	ug/Kg	70	670													1.7 U	1.7 U	1.7 U	1.7 U	1.7 U

Notes:
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
ug/L = micrograms per liter
mg/L = milligrams per liter
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation
U = The analyte was analyzed for, but not detected at the method detection limit shown

FD = field duplicate sample
N = normal sample

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)
[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)

Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-5
Marine Sediment Core and Test Pit Sample Results - August 2013
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:						SB-322	SB-322
Area						Site	Site
Activity ID:						20130830	20130830
Sample Type:						N	N
Date Sampled:						08/30/13	08/30/13
Depth (feet):						2 - 2.5	4 - 5
				Screening Level			
ChemGroup		**Analyte**	**Units**	**ERL[a]**	**ERM[b]**		
Metals, Hg		Mercury	mg/Kg	0.15	0.71		
TAL Metals		Aluminum	mg/Kg	NE	18,000		
TAL Metals		Antimony	mg/Kg	NE	9.3		
TAL Metals		Arsenic	mg/Kg	8.2	70		
TAL Metals		Barium	mg/Kg	NE	48		
TAL Metals		Beryllium	mg/Kg	NE	NE		
TAL Metals		Cadmium	mg/Kg	1.2	9.6		
TAL Metals		Calcium	mg/Kg	NE	NE		
TAL Metals		Chromium	mg/Kg	81	370		
TAL Metals		Cobalt	mg/Kg	NE	10		
TAL Metals		Copper	mg/Kg	34	270		
TAL Metals		Iron	mg/Kg	NE	22,000,000		
TAL Metals		Lead	mg/Kg	46.7	218		
TAL Metals		Magnesium	mg/Kg	NE	NE		
TAL Metals		Manganese	mg/Kg	NE	260		
TAL Metals		Nickel	mg/Kg	20.9	51.6		
TAL Metals		Potassium	mg/Kg	NE	NE		
TAL Metals		Selenium	mg/Kg	NE	1		
TAL Metals		Silver	mg/Kg	1	3.7		
TAL Metals		Sodium	mg/Kg	NE	NE		
TAL Metals		Thallium	mg/Kg	NE	NE		
TAL Metals		Vanadium	mg/Kg	NE	57		
TAL Metals		Zinc	mg/Kg	150	410		
TCL PAHs	HPAH	Benz(a)anthracene	ug/Kg	261	1,600	36	1.7 U
TCL PAHs	HPAH	Benzo(a)pyrene	ug/Kg	430	1,600	15	1.7 U
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/Kg	NE	NE	13	3.1 J
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/Kg	NE	NE	12	8.9
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/Kg	NE	NE	11	1.7 U
TCL PAHs	HPAH	Chrysene	ug/Kg	384	2,800	22	1.7 U
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/Kg	63.4	260	1.7 U	1.7 U
TCL PAHs	HPAH	Fluoranthene	ug/Kg	600	5,100	250	1.7 U
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/Kg	NE	NE	6.8	1.7 U
TCL PAHs	HPAH	Pyrene	ug/Kg	665	2,600	250	1.7 U
TCL PAHs	HPAH	Total HPAH	ug/kg	1,700	9,600	615.8	12
TCL PAHs	LPAH	Acenaphthene	ug/Kg	16	500	1.7 U	1.7 U
TCL PAHs	LPAH	Acenaphthylene	ug/Kg	44	640	1.7 U	1.7 U
TCL PAHs	LPAH	Anthracene	ug/Kg	85.3	1,100	4.1	1.7 U
TCL PAHs	LPAH	Fluorene	ug/Kg	19	540	1.7 U	1.7 U
TCL PAHs	LPAH	Naphthalene	ug/Kg	160	2,100	1.7 U	1.7 U
TCL PAHs	LPAH	Phenanthrene	ug/Kg	240	1,500	3.8 J	1.7 U
TCL PAHs	LPAH	Total LPAH	ug/kg	552	3,160	7.9	1.7 U
TCL PAHs	TPAH	Total PAH	ug/kg	4,022	44,792	623.7	12
TCL PAHs		2-Methylnaphthalene	ug/Kg	70	670	1.7 U	1.7 U

Notes:
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
ug/L = micrograms per liter
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FD = field duplicate sample
N = normal sample

[a] Screening Level = Marine sediment ERL value listed in NOAA SQuiRT (Buchman, 2008)
[b] Screening Level = Marine sediment ERM value (AET, if no ERM) listed in NOAA SQuiRT (Buchman, 2008)

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds minimum screening level (ERL if available, ERM if no ERL)

Italics = analyte not detected but method detection limit exceeds the minimum screening level (ERL if available, ERM if no ERL)

TABLE 4-6
Marine Sediment Core and Test Pit Sample Results - Modified SPLP Metals Analysis
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:				SB-004	SB-004	SB-004	SB-013	SB-013	SB-021	SB-032	SB-032	SB-033	SB-033	SB-052
Area				Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:				0_5-20130528	20130528	20130528FD	20130528	00-20130528	20130528	0_5-20130527	20130527	20130527	20130527	20130528
Sample Type:				N	N	FD	N	N	N	N	N	N	N	N
Date Sampled:				05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/27/13	05/27/13	05/27/13	05/27/13	05/28/13
Depth (feet):				0.5 - 1	0 - 0.5	0.5 - 1	0.5 - 1	0 - 0.5	0.5 - 1	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1
	Analyte	**Units**	**Screening Level[a]**											
Modified SPLP	Aluminum	ug/L	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Modified SPLP	Antimony	ug/L	500	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U
Modified SPLP	Arsenic	ug/L	36	2.5 UJ	2.5 U	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 U
Modified SPLP	Barium	ug/L	200	120 J	40 J	170 J	130 J	110 J	160 J	140 J	63 J	95 J	150 J	160 J
Modified SPLP	Beryllium	ug/L	100	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Modified SPLP	Cadmium	ug/L	8.8	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.5 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Modified SPLP	Calcium	ug/L	NE	305,000	313,000	305,000	308,000	302,000	296,000	312,000	310,000	315,000	317,000	326,000
Modified SPLP	Chromium	ug/L	27.4	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
Modified SPLP	Cobalt	ug/L	1	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*	**54**	*8.6 U*	*8.6 U*	*8.6 U*	**2.9**	*8.6 U*
Modified SPLP	Copper	ug/L	3.1	**104**	**138**	**167**	**30**	**51**	**472**	2.1 U	2.1 U	2.1 U	**121**	**42**
Modified SPLP	Iron	ug/L	50	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	**160**	**2,410**	7.8 U	7.8 U	7.8 U
Modified SPLP	Lead	ug/L	8.1	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	2 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Modified SPLP	Magnesium	ug/L	NE	1,060,000	1,070,000	1,060,000	1,060,000	1,060,000	1.03E+06	1,060,000	1,050,000	1,050,000	1,060,000	1,060,000
Modified SPLP	Manganese	ug/L	100	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.3 U	32	7.2 U	**160**	51	7.2 U
Modified SPLP	Mercury	ug/L	0.94	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U
Modified SPLP	Nickel	ug/L	8.2	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Modified SPLP	Potassium	ug/L	NE	404,000	412,000	407,000	407,000	423,000	414,000	397,000	404,000	405,000	411,000	374,000
Modified SPLP	Selenium	ug/L	71	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U
Modified SPLP	Silver	ug/L	0.95	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*
Modified SPLP	Sodium	ug/L	NE	9,100,000 J	9,220,000	9,200,000 J	9,300,000 J	9,400,000 J	9.20E+06 J	9,100,000 J	9,100,000 J	9,100,000 J	9,200,000 J	8,870,000
Modified SPLP	Thallium	ug/L	17	0.94 U	0.94 UJ	0.94 U	0.94 U	0.94 U	0.95 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 UJ
Modified SPLP	Vanadium	ug/L	50	2 U	2 U	2 U	2 U	2 U	31	2 U	2 U	2 U	2 U	2 U
Modified SPLP	Zinc	ug/L	81	44 J	1.7 U	80.5 J	50 J	39 J	**83.4 J**	50 J	16 J	35 J	**89.5 J**	64.5 J

Notes:
ug/L = micrograms per liter

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method detection limit shown
FD = field duplicate sample
N = normal sample

[a] Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:

a = Marine chronic
b = Marine acute

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds the screening level
Italics = analyte not detected but method detection limit exceeds the screening level

TABLE 4-6
Marine Sediment Core and Test Pit Sample Results - Modified SPLP Metals Analysis
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:				SB-052	SB-052	SB-059	SB-059	SB-059	SB-062	SB-062	SB-062	SB-078	SB-078	SB-078	SB-079	SB-079	SB-079
Area				Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:				20130528	20130528	0_5-20130527	20130527	20130527	20130528	20130528	20130528	0_5-20130528	20130528	20130528	20130528	20130528	20130528
Sample Type:				N	N	N	N	N	N	N	N	N	N	N	N	N	N
Date Sampled:				05/28/13	05/28/13	05/27/13	05/27/13	05/27/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13
Depth (feet):				0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2
	Analyte	**Units**	**Screening Level[a]**														
Modified SPLP	Aluminum	ug/L	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Modified SPLP	Antimony	ug/L	500	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U
Modified SPLP	Arsenic	ug/L	36	2.5 U	2.5 U	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 UJ
Modified SPLP	Barium	ug/L	200	150 J	130 J	130 J	190 J	120 J	150 J	130 J	180 J	130 J	110 J	170 J	110 J	110 J	180 J
Modified SPLP	Beryllium	ug/L	100	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Modified SPLP	Cadmium	ug/L	8.8	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Modified SPLP	Calcium	ug/L	NE	326,000	318,000	311,000	311,000	311,000	308,000	303,000	312,000	307,000	327,000	309,000	326,000	291,000	280,000
Modified SPLP	Chromium	ug/L	27.4	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
Modified SPLP	Cobalt	ug/L	1	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*	*8.6 U*
Modified SPLP	Copper	ug/L	3.1	**36**	**32**	**45**	**21**	**31**	**21**	**32**	**14**	**21**	**28**	**20**	2.1 U	2.1 U	2.1 U
Modified SPLP	Iron	ug/L	50	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U	7.8 U
Modified SPLP	Lead	ug/L	8.1	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Modified SPLP	Magnesium	ug/L	NE	1,060,000	1,050,000	1,060,000	1,030,000	1,050,000	1,060,000	1,060,000	1,040,000	1,050,000	1,080,000	1,040,000	1,070,000	1,020,000	980,000
Modified SPLP	Manganese	ug/L	100	7.2 U	49	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	50	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U	7.2 U
Modified SPLP	Mercury	ug/L	0.94	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U
Modified SPLP	Nickel	ug/L	8.2	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Modified SPLP	Potassium	ug/L	NE	374,000	373,000	401,000	379,000	397,000	400,000	415,000	381,000	401,000	391,000	388,000	403,000	414,000	399,000
Modified SPLP	Selenium	ug/L	71	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U
Modified SPLP	Silver	ug/L	0.95	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*
Modified SPLP	Sodium	ug/L	NE	8,840,000	8,790,000	9,200,000 J	8,800,000 J	9,100,000 J	9,200,000 J	9,300,000 J	9,000,000 J	9,200,000 J	9,080,000	9,000,000 J	9,130,000	9,100,000 J	8,800,000 J
Modified SPLP	Thallium	ug/L	17	0.94 UJ	0.94 UJ	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 UJ	0.94 U	0.94 UJ	0.94 U	0.94 U
Modified SPLP	Vanadium	ug/L	50	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Modified SPLP	Zinc	ug/L	81	63.8 J	61 J	62 J	**84.8 J**	56 J	66.3 J	56 J	**83.8 J**	51 J	39 J	79.5 J	41 J	49 J	**95 J**

Notes:
ug/L = micrograms per liter

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method detection limit shown
FD = field duplicate sample
N = normal sample

[a] Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:

a = Marine chronic
b = Marine acute

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds the screening level
Italics = analyte not detected but method detection limit exceeds the screening level

TABLE 4-6
Marine Sediment Core and Test Pit Sample Results - Modified SPLP Metals Analysis
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:				SB-082	SB-082	SB-082	SB-089	SB-089	SB-089
Area				Site	Site	Site	Site	Site	Site
Activity ID:				20130528	20130528	20130528	0_5-20130528	20130528	20130528
Sample Type:				N	N	N	N	N	N
Date Sampled:				05/28/13	05/28/13	05/28/13	05/28/13	05/28/13	05/28/13
Depth (feet):				0.5 - 1	0 - 0.5	1 - 2	0.5 - 1	0 - 0.5	1 - 2
	Analyte	**Units**	**Screening Level[a]**						
Modified SPLP	Aluminum	ug/L	NE	25 U	25 U	25 U	25 U	25 U	25 U
Modified SPLP	Antimony	ug/L	500	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U
Modified SPLP	Arsenic	ug/L	36	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 UJ
Modified SPLP	Barium	ug/L	200	160 J	160 J	130 J	130 J	150 J	120 J
Modified SPLP	Beryllium	ug/L	100	2 U	2 U	2 U	2 U	2 U	2 UJ
Modified SPLP	Cadmium	ug/L	8.8	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Modified SPLP	Calcium	ug/L	NE	319,000	314,000	328,000	330,000	327,000	316,000
Modified SPLP	Chromium	ug/L	27.4	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
Modified SPLP	Cobalt	ug/L	1	*8.6 U*	*8.6 U*	**2.7**	*8.6 U*	*8.6 U*	*8.6 U*
Modified SPLP	Copper	ug/L	3.1	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U
Modified SPLP	Iron	ug/L	50	7.8 U	**5,170**	7.8 U	7.8 U	7.8 U	7.8 U
Modified SPLP	Lead	ug/L	8.1	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Modified SPLP	Magnesium	ug/L	NE	1,080,000	1,060,000	1,050,000	1,060,000	1,060,000	1,060,000
Modified SPLP	Manganese	ug/L	100	43	80	36	61	51	89
Modified SPLP	Mercury	ug/L	0.94	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U	0.0088 U
Modified SPLP	Nickel	ug/L	8.2	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Modified SPLP	Potassium	ug/L	NE	416,000	414,000	380,000	381,000	379,000	392,000
Modified SPLP	Selenium	ug/L	71	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U
Modified SPLP	Silver	ug/L	0.95	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*	*1.2 U*
Modified SPLP	Sodium	ug/L	NE	9,260,000	9,170,000	8,920,000	8,950,000	8,860,000	9,100,000 J
Modified SPLP	Thallium	ug/L	17	0.94 UJ	0.94 UJ	0.94 UJ	0.94 UJ	0.94 UJ	0.94 U
Modified SPLP	Vanadium	ug/L	50	14	2 U	7.2	2 U	15	2 U
Modified SPLP	Zinc	ug/L	81	**83.8 J**	66.3 J	52 J	63 J	77.3 J	38 J

Notes:
ug/L = micrograms per liter

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method detection limit shown
FD = field duplicate sample
N = normal sample

[a] Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:

a = Marine chronic
b = Marine acute

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds the screening level
Italics = analyte not detected but method detection limit exceeds the screening level

TABLE 4-7
Upland Core and Test Pit Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:				SB-041	SB-041	SB-041	SB-053	SB-053	SB-053	SB-053	SB-173	SB-173	SB-173	SB-173
Area				Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:				20130525	20130525	20130525FD	20130525	20130525	20130525	20130525FD	20130525	20130525	20130525	20130525FD
Sample Type:				N	N	FD	N	N	N	FD	N	N	N	FD
Date Sampled:				05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13
Depth (feet):				0.5 - 1	0 - 0.5	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	1 - 2
ChemGroup	**Analyte**	**Units**	**Screening Level[a]**											
Metals, Chrome VI	Chromium VI	mg/Kg	0.29		0.14 U	0.14 U		0.031 U						
Metals, Hg	Mercury	mg/Kg	10	0.11	0.19	0.13	0.032 J	0.037 J	0.075 J	0.062 J	0.034 J	0.063 J	0.052 J	0.14
TAL Metals	Aluminum	mg/Kg	77,000	7,100	6,460	7,540	7,450	6,610	6,480	6,040	7,410	6,760	7,760	8,440
TAL Metals	Antimony	mg/Kg	31	0.34 U	0.34 U	0.34 U	0.39 U	0.37 U	0.37 U	0.35 U	0.34 U	0.35 U	0.36 U	0.37 U
TAL Metals	Arsenic	mg/Kg	0.39	0.23 U	0.23 U	0.23 U	0.26 U	0.25 U	0.25 U	0.23 U	0.23 U	0.23 U	0.24 U	0.25 U
TAL Metals	Barium	mg/Kg	15,000	2.1 U	2.1 U	2.1 U	2.4 U	2.2 U	2.2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.2 U
TAL Metals	Beryllium	mg/Kg	160	0.26 U	0.26 U	0.26 U	0.3 U	0.28 U	0.28 U	0.27 U	0.26 U	0.27 U	0.28 U	0.29 U
TAL Metals	Cadmium	mg/Kg	70	0.19 U	0.19 U	0.2 U	0.22 U	0.21 U	0.21 U	0.2 U	0.19 U	0.2 U	0.21 U	0.21 U
TAL Metals	Calcium	mg/Kg	NE	2,970	2,810	3,310	3,410	2,860	3,120	2,640	3,070	2,820	3,340	3,620
TAL Metals	Chromium	mg/Kg	0.29	**0.61 J**	**0.36 J**	**0.43 J**	**0.79 J**	*0.36 U*	*0.36 U*	*0.34 U*	**0.46 J**	**0.61 J**	**0.86 J**	**0.93 J**
TAL Metals	Cobalt	mg/Kg	23	12	11.3	12.2	13.2	11.5	13.5	12.8	12.7	12.6	12.8	14.5
TAL Metals	Copper	mg/Kg	3,100	918	825	998	912	750 J	875 J	730 J	790	801	582	703
TAL Metals	Iron	mg/Kg	55,000	39,700 J	32,400 J	35,500 J	39,300 J	32,100	42,000	40,200	27,900 J	52,800 J	28,400 J	30,600 J
TAL Metals	Lead	mg/Kg	400	0.22 U	0.22 U	0.22 U	0.25 U	0.23 UJ	0.24 UJ	0.22 UJ	0.22 U	0.22 U	0.23 U	0.24 U
TAL Metals	Magnesium	mg/Kg	NE	8,160	7,950	9,100	8,490	7,610	7,450	7,080	9,180	8,140	9,270	9,680
TAL Metals	Manganese	mg/Kg	1,800	196 J	187 J	208 J	218 J	187 J	211 J	205 J	274 J	202 J	291 J	277 J
TAL Metals	Nickel	mg/Kg	1,500	5.3 J	4.9 J	5.3 J	5.7 J	0.26 U	0.26 U	0.25 U	5.3 J	5.5 J	5.7 J	6.6
TAL Metals	Potassium	mg/Kg	NE	342 J	283 J	335 J	60.2 U	498 J	419 J	360 J	254 J	252 J	270 J	301 J
TAL Metals	Selenium	mg/Kg	390	1.3 U	1.3 U	1.3 U	1.4 U	1.4 U	1.4 U	1.3 U	1.3 U	1.3 U	1.3 U	1.4 U
TAL Metals	Silver	mg/Kg	390	0.16 U	0.16 U	0.16 U	0.18 U	0.17 U	0.17 U	0.16 U	0.16 U	0.16 U	0.17 U	0.17 U
TAL Metals	Sodium	mg/Kg	NE	42.1 J	342 J	413 J	775	1,030	783	900	41.6 J	129 J	43.7 J	55.7 J
TAL Metals	Thallium	mg/Kg	0.78	0.17 U	0.17 U	0.17 U	0.2 U	0.18 U	0.19 U	0.18 U	0.17 U	0.17 U	0.18 U	0.19 U
TAL Metals	Vanadium	mg/Kg	390	47.1	41.4	46.4	54.4	47.6 J	57.9 J	52.3 J	44.7	53.7	44.6	52.6
TAL Metals	Zinc	mg/Kg	23,000	22.8	21.6	23.2	24.4	22	25.7	24.8	23.4	23.7	24.6	28.4

Notes:
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method detection limit shown
FD = field duplicate sample
N = normal sample

[a]Screening Level = Residential Soil RSLs (EPA, 2013)
NE = not established
BOLD = detected result exceeds the soil screening level
Italics = analyte not detected but method detection limit exceeds the soil screening level

TABLE 4-7
Upland Core and Test Pit Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:				SB-178	SB-179	SB-180	SB-220a	SB-221
Area				Site	Site	Site	Site	Site
Activity ID:				20130530	20130530	20130530	20130530	20130530
Sample Type:				N	N	N	N	N
Date Sampled:				05/30/13	05/30/13	05/30/13	05/30/13	05/30/13
Depth (feet):				0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0 - 0.5
ChemGroup	**Analyte**	**Units**	**Screening Level[a]**					
Metals, Chrome VI	Chromium VI	mg/Kg	0.29					
Metals, Hg	Mercury	mg/Kg	10	0.097 J	1	0.088 J	0.16	0.066 J
TAL Metals	Aluminum	mg/Kg	77,000	9,660	32,600	5,410	6,490	8,200
TAL Metals	Antimony	mg/Kg	31	0.34 U	0.46 U	0.32 U	0.37 U	0.46 U
TAL Metals	Arsenic	mg/Kg	0.39	0.23 U	0.3 U	0.22 U	0.24 U	0.3 U
TAL Metals	Barium	mg/Kg	15,000	2.1 U	2.7 U	1.9 U	2.2 U	2.7 U
TAL Metals	Beryllium	mg/Kg	160	0.26 U	0.35 U	0.25 U	0.28 U	0.35 U
TAL Metals	Cadmium	mg/Kg	70	0.19 U	0.26 U	0.18 U	0.21 U	0.26 U
TAL Metals	Calcium	mg/Kg	NE	3,920	26,800	2,410	3,060	3,510
TAL Metals	Chromium	mg/Kg	0.29	*0.33 U*	*0.44 U*	*0.31 U*	*0.35 U*	*0.44 U*
TAL Metals	Cobalt	mg/Kg	23	16.8 J	**42.5 J**	12.6 J	12.2 J	17.8 J
TAL Metals	Copper	mg/Kg	3,100	429 J	2,270 J	1,410 J	777 J	84.9 J
TAL Metals	Iron	mg/Kg	55,000	37,500 J	**56,500**	35,500 J	40,500 J	51,400 J
TAL Metals	Lead	mg/Kg	400	0.22 U	0.29 U	0.21 U	16.5	0.29 U
TAL Metals	Magnesium	mg/Kg	NE	11,400	35,500	6,440	7,120	9,340
TAL Metals	Manganese	mg/Kg	1,800	289 J	824 J	199 J	203 J	304 J
TAL Metals	Nickel	mg/Kg	1,500	11.8	17.4	5.7	7.4	0.32 U
TAL Metals	Potassium	mg/Kg	NE	52.5 U	1,410	49.2 U	56 U	70.6 U
TAL Metals	Selenium	mg/Kg	390	1.3 U	1.7 U	1.2 U	1.3 U	1.7 U
TAL Metals	Silver	mg/Kg	390	0.16 U	0.21 U	0.15 U	0.17 U	0.21 U
TAL Metals	Sodium	mg/Kg	NE	138 J	319 J	42.9 J	102 J	317 J
TAL Metals	Thallium	mg/Kg	0.78	0.17 U	0.23 U	0.16 U	0.18 U	0.23 U
TAL Metals	Vanadium	mg/Kg	390	67.5 J	201 J	54.7 J	55.7 J	87.2 J
TAL Metals	Zinc	mg/Kg	23,000	34.5	83.2	22.1	28.3	32.4

Notes:
mg/Kg = milligrams per kilogram
g = grams
J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method detection limit shown
FD = field duplicate sample
N = normal sample

[a]Screening Level = Residential Soil RSLs (EPA, 2013)
NE = not established
BOLD = detected result exceeds the soil screening level
Italics = analyte not detected but method detection limit exceeds the soil screening level

TABLE 4-8
Pore Water Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:					PW-002	PW-003	PW-003	PW-006	PW-008	PW-014	PW-016	PW-017	PW-022	PW-027	PW-030	PW-037	PW-042	PW-045	PW-055	PW-055
Area					Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:					2013SC-PW-002-N	2013SC-PW-003-N	2013SC-PW-9003-FD	2013SC-PW-006-N	2013SC-PW-008-N	2013SC-PW-014-N	2013SC-PW-016-N	2013SC-PW-017-N	2013SC-PW-022-N	2013SC-PW-027-N	2013SC-PW-030-N	2013SC-PW-037-N	2013SC-PW-042-N	2013SC-PW-045-N	2013SC-PW-055-N	2013SC-PW-9055-FD
Sample Type:																				
Date Sampled:					05/28/13	05/28/13	05/28/13	05/28/13	05/27/13	05/27/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13
Depth (feet):					0 - 3	0 - 3	0 - 3	0 - 3	0 - 3	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2
ChemGroup		**Analyte**	**Units**	**Screening Level[a]**																
Hg_Diss		Mercury	ug/L	0.94	0.034 J	0.044 J	0.034 J	0.034 U	0.041 J	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U
TAL Metals_Diss		Aluminum	ug/L	NE	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	42.6 J	26.1 U	78.7 J	34.3 J	26.1 U	29.9 J	26.1 U	45.9 J	31.3 J
TAL Metals_Diss		Antimony	ug/L	500	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	0.085 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
TAL Metals_Diss		Arsenic	ug/L	36	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	0.079 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
TAL Metals_Diss		Barium	ug/L	200	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	**281 J**	5.6 U	**425 J**	5.6 UJ	**221 J**	5.6 UJ	5.6 U	5.6 UJ	5.6 UJ
TAL Metals_Diss		Beryllium	ug/L	100	0.51 U	1 U	0.51 U	0.51 U	1 U	0.51 U	1 U	1 U	1 U	0.051 U	1 U	1 U	1 U	1 U	1 U	1 U
TAL Metals_Diss		Cadmium	ug/L	8.8	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	0.069 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
TAL Metals_Diss		Calcium	ug/L	NE	212,000	309,000	332,000	252,000	329,000	189,000	127,000	207,000 J	368,000	10,200 J	198,000 J	350,000	185,000 J	402,000	343,000 J	356,000 J
TAL Metals_Diss		Chromium	ug/L	27.4	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.11 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
TAL Metals_Diss		Cobalt	ug/L	1	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.038 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
TAL Metals_Diss		Copper	ug/L	3.1	**616**	**256**	**268**	**545**	**145**	0.98 U	0.98 U	0.98 UJ	0.98 U	**664 J**	0.98 UJ	**92.1**	0.98 UJ	**66.2**	**73.2 J**	**82.4 J**
TAL Metals_Diss		Iron	ug/L	50	25.6 U	25.6 U	25.6 U	25.6 U	25.6 U	**952**	**34,400**	25.6 U	25.6 U	**85.7 J**	**824**	25.6 U	**1,810**	25.6 U	25.6 U	25.6 U
TAL Metals_Diss		Lead	ug/L	8.1	0.21 U	0.42 U	0.42 U	0.21 U	0.42 U	0.21 U	0.42 U	0.42 U	0.42 U	0.021 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
TAL Metals_Diss		Magnesium	ug/L	NE	578,000	931,000	992,000	720,000	1.04E+06	519,000	351,000	566,000	1.08E+06	25,100	514,000	1.05E+06	438,000	1.25E+06	920,000	1,070,000
TAL Metals_Diss		Manganese	ug/L	100	**156**	**125**	**124**	33.6	65.7	**168**	68.1	4 U	4 U	13.9	**173**	4 U	63	4 U	4 U	4 U
TAL Metals_Diss		Nickel	ug/L	8.2	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.049 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U
TAL Metals_Diss		Potassium	ug/L	NE	182,000	283,000	308,000	230,000	305,000	193,000	111,000	188,000	362,000	21,400	189,000	338,000	167,000	393,000	321,000	325,000
TAL Metals_Diss		Selenium	ug/L	71	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	36.3 J	2.6 J	30 U	30 U	30 U	30 U	30 U	30 U
TAL Metals_Diss		Silver	ug/L	0.95	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.033 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
TAL Metals_Diss		Sodium	ug/L	NE	4,860,000	7,910,000	8,550,000	6,180,000	8,820,000	1,190,000	1,330,000	4,640,000	9,290,000	469,000	4,410,000	8,770,000	3,990,000	10,400,000	7,440,000	8,840,000
TAL Metals_Diss		Thallium	ug/L	17	0.36 U	0.72 U	0.72 U	0.36 U	0.72 U	0.36 U	0.72 U	0.72 U	0.72 U	0.036 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
TAL Metals_Diss		Vanadium	ug/L	50	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	0.15 U	3 U	3 U	3 U	3 U	3 U	3 U
TAL Metals_Diss		Zinc	ug/L	81	**240**	**185**	**190**	53	12 U	12 U	**96 J**	59.3 J	79.9 J	**157 J**	**87.4 J**	70.4 J	66.7 J	70 J	65.8 J	66.9 J
TCL PAHs		2-Methylnaphthalene	ug/L	300	0.1 U	0.1 U	0.1 U		0.1 U	0.1 U										
TCL PAHs	HPAH	Benz(a)anthracene	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	HPAH	Benzo(a)pyrene	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	HPAH	Chrysene	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	HPAH	Fluoranthene	ug/L	11	0.05 U	0.05 U	0.05 U		0.05 U	0.13										
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	HPAH	Pyrene	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.18										
TCL PAHs	HPAH	Total HPAH	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.31										
TCL PAHs	LPAH	Acenaphthene	ug/L	40	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	LPAH	Acenaphthylene	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	LPAH	Anthracene	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	LPAH	Fluorene	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	LPAH	Naphthalene	ug/L	1.4	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	LPAH	Phenanthrene	ug/L	4.6	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	LPAH	Total LPAH	ug/L	300	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U										
TCL PAHs	TPAH	Total PAH	ug/L	15	0.1 U	0.1 U	0.1 U		0.1 U	0.31										

Notes:
ug/L = micrograms per liter
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
J = The analyte was positively identified; the quantitation is an estimation
U = The analyte was analyzed for, but not detected at the method reporting limit shown

[a]Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:
a = Marine chronic
b = Marine acute

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds the screening level
Italics = analyte not detected but method detection limit exceeds the screening level

TABLE 4-8
Pore Water Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:					PW-056	PW-064	PW-065	PW-066	PW-068	PW-069	PW-071	PW-071	PW-073	PW-074	PW-076	PW-080	PW-081	PW-086	PW-088	PW-091
Area					Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:					2013SC-PW-056-	2013SC-PW-064-	2013SC-PW-065-	2013SC-PW-066-	2013SC-PW-068-	2013SC-PW-069-	2013SC-PW-071-	2013SC-PW-9071-	2013SC-PW-073-	2013SC-PW-074-	2013SC-PW-076-	2013SC-PW-080-	2013SC-PW-081-	2013SC-PW-086-	2013SC-PW-088-	2013SC-PW-091-
Sample Type:					N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N
Date Sampled:					05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13
Depth (feet):					0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2
ChemGroup		**Analyte**	**Units**	**Screening Level[a]**																
Hg_Diss		Mercury	ug/L	0.94	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U
TAL Metals_Diss		Aluminum	ug/L	NE	39.1 J	32.1 J	33.2 J	26.1 U	33.4 J	29.9 J	26.1 U	26.1 U	26.1 U	38.5 J	56.9 J	45 J	26.1 U	26.1 U	26.4 J	26.1 U
TAL Metals_Diss		Antimony	ug/L	500	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
TAL Metals_Diss		Arsenic	ug/L	36	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
TAL Metals_Diss		Barium	ug/L	200	**340 J**	5.6 UJ	5.6 UJ	5.6 U	5.6 UJ	5.6 UJ	**301 J**	5.6 U	**206 J**	5.6 UJ	**350 J**	5.6 UJ	5.6 U	5.6 U	**201 J**	**207 J**
TAL Metals_Diss		Beryllium	ug/L	100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TAL Metals_Diss		Cadmium	ug/L	8.8	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
TAL Metals_Diss		Calcium	ug/L	NE	330,000 J	214,000 J	244,000 J	235,000	238,000 J	310,000 J	333,000	331,000	283,000 J	285,000 J	343,000 J	331,000 J	356,000	352,000	288,000 J	342,000
TAL Metals_Diss		Chromium	ug/L	27.4	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
TAL Metals_Diss		Cobalt	ug/L	1	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
TAL Metals_Diss		Copper	ug/L	3.1	**159 J**	0.98 UJ	0.98 UJ	**93.4**	**239 J**	**48.2 J**	**119**	**99.2**	0.98 UJ	**144 J**	**74.7 J**	**126 J**	0.98 U	0.98 U	0.98 UJ	0.98 U
TAL Metals_Diss		Iron	ug/L	50	25.6 U	25.6 U	**131**	25.6 U	25.6 U	25.6 U	25.6 U	25.6 U	**592**	25.6 U	25.6 U	25.6 U	**692**	**211**	**1,940**	**1,690**
TAL Metals_Diss		Lead	ug/L	8.1	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
TAL Metals_Diss		Magnesium	ug/L	NE	922,000	639,000	633,000	605,000	616,000	953,000	911,000	902,000	766,000	910,000	1.11E+06	940,000	1.04E+06	1.05E+06	840,000	961,000
TAL Metals_Diss		Manganese	ug/L	100	**209**	77.5	27	39	**224**	4 U	4 U	4 U	74.1	4 U	4 U	4 U	98.9	90.5	**126**	**120**
TAL Metals_Diss		Nickel	ug/L	8.2	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U
TAL Metals_Diss		Potassium	ug/L	NE	303,000	214,000	233,000	214,000	215,000	297,000	291,000	287,000	260,000	285,000	346,000	310,000	315,000	314,000	270,000	301,000
TAL Metals_Diss		Selenium	ug/L	71	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U
TAL Metals_Diss		Silver	ug/L	0.95	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
TAL Metals_Diss		Sodium	ug/L	NE	7,460,000	5,310,000	5,490,000	5,110,000	5,200,000	7,520,000	7,330,000	7,210,000	6,380,000	7,390,000	8,890,000	7,590,000	8,260,000	8,280,000	6,780,000	7,670,000
TAL Metals_Diss		Thallium	ug/L	17	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
TAL Metals_Diss		Vanadium	ug/L	50	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
TAL Metals_Diss		Zinc	ug/L	81	**95.8 J**	67.3 J	57.1 J	12 U	12 U	63.1 J	**117 J**	12 U	66.3 J	45.2 J	**123 J**	57.2 J	12 U	71 J	69.3 J	79.8 J
TCL PAHs		2-Methylnaphthalene	ug/L	300																
TCL PAHs	HPAH	Benz(a)anthracene	ug/L	300																
TCL PAHs	HPAH	Benzo(a)pyrene	ug/L	300																
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/L	300																
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/L	300																
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/L	300																
TCL PAHs	HPAH	Chrysene	ug/L	300																
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/L	300																
TCL PAHs	HPAH	Fluoranthene	ug/L	11																
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/L	300																
TCL PAHs	HPAH	Pyrene	ug/L	300																
TCL PAHs	HPAH	Total HPAH	ug/L	300																
TCL PAHs	LPAH	Acenaphthene	ug/L	40																
TCL PAHs	LPAH	Acenaphthylene	ug/L	300																
TCL PAHs	LPAH	Anthracene	ug/L	300																
TCL PAHs	LPAH	Fluorene	ug/L	300																
TCL PAHs	LPAH	Naphthalene	ug/L	1.4																
TCL PAHs	LPAH	Phenanthrene	ug/L	4.6																
TCL PAHs	LPAH	Total LPAH	ug/L	300																
TCL PAHs	TPAH	Total PAH	ug/L	15																

Notes:
ug/L = micrograms per liter
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
J = The analyte was positively identified; the quantitation is an estimatior
U = The analyte was analyzed for, but not detected at the method reporting limit shown

[a]Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:
a = Marine chronic
b = Marine acute

NE = not established

NOAA = National Oceanic and Atmospheric Administratior
SQuiRT = Screening Quick Reference Table:

BOLD = detected result exceeds the screening level
Italics = analyte not detected but method detection limit exceeds the screening level

TABLE 4-8
Pore Water Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:					PW-091	PW-092	PW-094	PW-096	PW-097	PW-100	PW-101	PW-102	PW-103	PW-169	PW-170	PW-171	PW-174	PW-175	PW-511	PW-512	PW-513
Area					Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Background	Background	Background
Activity ID:					2013SC-PW-9091-FD	2013SC-PW-092-N	2013SC-PW-094-N	2013SC-PW-096-N	2013SC-PW-097-N	2013SC-PW-100-N	2013SC-PW-101-N	2013SC-PW-102-N	2013SC-PW-103-N	2013SC-PW-169-N	2013SC-PW-170-N	2013SC-PW-171-N	2013SC-PW-174-N	2013SC-PW-175-N	2013SC-PW-511-N	2013SC-PW-512-N	2013SC-PW-513-N
Sample Type:																					
Date Sampled:					05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/27/13	05/27/13	05/29/13	05/29/13	05/29/13
Depth (feet):					0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 3	0 - 3	0 - 2	0 - 2	0 - 2
ChemGroup		**Analyte**	**Units**	**Screening Level[a]**																	
Hg_Diss		Mercury	ug/L	0.94	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.034 U	0.047 J	0.035 J	0.034 U	0.034 U	0.034 U
TAL Metals_Diss		Aluminum	ug/L	NE	26.1 U	31.4 J	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	39.7 J	35.8 J	40.1 J	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U
TAL Metals_Diss		Antimony	ug/L	500	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
TAL Metals_Diss		Arsenic	ug/L	36	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
TAL Metals_Diss		Barium	ug/L	200	5.6 U	**222 J**	**205 J**	**217 J**	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 UJ	**220 J**	5.6 UJ	5.6 U	5.6 U	5.6 U	5.6 U	**234 J**
TAL Metals_Diss		Beryllium	ug/L	100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.51 U	1 U	1 U	1 U
TAL Metals_Diss		Cadmium	ug/L	8.8	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
TAL Metals_Diss		Calcium	ug/L	NE	359,000	318,000 J	402,000	277,000	359,000	332,000	342,000	371,000	327,000	255,000 J	330,000 J	229,000 J	123,000	333,000	413,000	368,000	365,000
TAL Metals_Diss		Chromium	ug/L	27.4	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
TAL Metals_Diss		Cobalt	ug/L	1	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
TAL Metals_Diss		Copper	ug/L	3.1	0.98 U	0.98 UJ	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 UJ	0.98 UJ	**659 J**	**318**	**83.8**	0.98 U	0.98 U	0.98 U
TAL Metals_Diss		Iron	ug/L	50	**1,890**	25.6 U	**1,180**	25.6 U	**121**	**998**	**689**	**355**	**883**	**2,330**	**316**	25.6 U	**1,530**	25.6 U	25.6 U	**841**	25.6 U
TAL Metals_Diss		Lead	ug/L	8.1	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
TAL Metals_Diss		Magnesium	ug/L	NE	1.02E+06	833,000	1.11E+06	747,000	984,000	910,000	935,000	1.02E+06	868,000	700,000	848,000	708,000	333,000	979,000	1,230,000	1,060,000	1,100,000
TAL Metals_Diss		Manganese	ug/L	100	**116**	82.3	56.2	**236**	76.6	90.7	**117**	76.3	83.5	**352**	**590**	4 U	94.5	26.7	**213**	39.1	4 U
TAL Metals_Diss		Nickel	ug/L	8.2	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U
TAL Metals_Diss		Potassium	ug/L	NE	312,000	287,000	351,000	253,000	317,000	290,000	290,000	327,000	288,000	220,000	261,000	220,000	106,000	324,000	393,000	347,000	334,000
TAL Metals_Diss		Selenium	ug/L	71	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	49.3 J	30 U	30 U	30 U	30 U	30 U	30 U
TAL Metals_Diss		Silver	ug/L	0.95	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
TAL Metals_Diss		Sodium	ug/L	NE	8,080,000	6,890,000	8,630,000	6,160,000	7,820,000	7,430,000	7,470,000	8,110,000	7,020,000	5,770,000	6,760,000	5,640,000	2,960,000	8,190,000	10,700,000	8,940,000	9,260,000
TAL Metals_Diss		Thallium	ug/L	17	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
TAL Metals_Diss		Vanadium	ug/L	50	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
TAL Metals_Diss		Zinc	ug/L	81	12 U	71.3 J	**81.2 J**	59 J	12 U	12 U	12 U	70.6 J	12 U	74.7 J	**81.8 J**	**101 J**	**143**	12 U	**81.2**	70.8	42.3
TCL PAHs		2-Methylnaphthalene	ug/L	300													0.1 U	0.1 U			
TCL PAHs	HPAH	Benz(a)anthracene	ug/L	300													0.05 U	0.05 U			
TCL PAHs	HPAH	Benzo(a)pyrene	ug/L	300													0.05 U	0.05 U			
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/L	300													0.05 U	0.05 U			
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/L	300													0.05 U	0.13			
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/L	300													0.05 U	0.05 U			
TCL PAHs	HPAH	Chrysene	ug/L	300													0.05 U	0.05 U			
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/L	300													0.05 U	0.05 U			
TCL PAHs	HPAH	Fluoranthene	ug/L	11													0.05 U	0.05 U			
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/L	300													0.05 U	0.05 U			
TCL PAHs	HPAH	Pyrene	ug/L	300													0.05 U	0.05 U			
TCL PAHs	HPAH	Total HPAH	ug/L	300													0.05 U	0.13			
TCL PAHs	LPAH	Acenaphthene	ug/L	40													0.05 U	0.05 U			
TCL PAHs	LPAH	Acenaphthylene	ug/L	300													0.05 U	0.05 U			
TCL PAHs	LPAH	Anthracene	ug/L	300													0.05 U	0.05 U			
TCL PAHs	LPAH	Fluorene	ug/L	300													0.05 U	0.05 U			
TCL PAHs	LPAH	Naphthalene	ug/L	1.4													0.05 U	0.05 U			
TCL PAHs	LPAH	Phenanthrene	ug/L	4.6													0.05 U	0.05 U			
TCL PAHs	LPAH	Total LPAH	ug/L	300													0.05 U	0.05 U			
TCL PAHs	TPAH	Total PAH	ug/L	15													0.1 U	0.13			

Notes:
ug/L = micrograms per liter
PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
J = The analyte was positively identified; the quantitation is an estimatior
U = The analyte was analyzed for, but not detected at the method reporting limit shown

[a]Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:
a = Marine chronic
b = Marine acute

NE = not established

NOAA = National Oceanic and Atmospheric Administratior
SQuiRT = Screening Quick Reference Table:

BOLD = detected result exceeds the screening level
Italics = analyte not detected but method detection limit exceeds the screening level

TABLE 4-9
Surface Water Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:					SW-015	SW-029	SW-075	SW-084	SW-084	SW-085	SW-098	SW-099	SW-104	SW-105	SW-106	SW-106	SW-108	SW-108
Area					Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:					2013SC-SW-015-N	2013SC-SW-029-N	2013SC-SW-075-N	2013SC-SW-084-N	2013SC-SW-9084-FD	2013SC-SW-085-N	2013SC-SW-098-N	2013SC-SW-099-N	2013SC-SW-104-N	2013SC-SW-105-N	2013SC-SW-106-N	2013SC-SW-9106-FD	2013CS-SW-108-N	2013CS-SW-108-N
Sample Type:																		
Date Sampled:					05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/26/13	05/26/13
ChemGroup		**Analyte**	**Units**	**Screening Level[a]**														
Hg Dissolved		Mercury	ug/L	0.94	0.05 J	0.054 J	0.049 J	0.042 J	0.042 J	0.035 J	0.038 J	0.052 J	0.034 J	0.034 U	0.038 J	0.04 J	0.034 U	0.037 J
TAL Metals_Diss		Aluminum	ug/L	NE	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U
TAL Metals_Diss		Antimony	ug/L	500	0.85 U	1.7 U	1.7 U	1.7 U	1.7 U	0.85 U	0.85 U	1.7 U	0.85 U	1.7 U	0.85 U	0.85 U	1.7 U	1.7 U
TAL Metals_Diss		Arsenic	ug/L	36	0.79 U	1.6 U	1.6 U	1.6 U	1.6 U	0.79 U	0.79 U	1.6 U	11.2	**36.2**	0.79 U	0.79 U	1.6 U	1.6 U
TAL Metals_Diss		Barium	ug/L	200	2.8 U	5.6 U	5.6 U	5.6 U	5.6 U	2.8 U	2.8 U	5.6 U	2.8 U	5.6 U	2.8 U	2.8 U	5.6 U	5.6 U
TAL Metals_Diss		Beryllium	ug/L	100	0.51 U	1 U	1 U	1 U	1 U	0.51 U	0.51 U	1 U	0.51 U	1 U	0.51 U	0.51 U	1 U	1 U
TAL Metals_Diss		Cadmium	ug/L	8.8	0.004 U	0.054	0.06	0.03	0.032 J	0.03 J	0.036	0.052	0.039	0.059	0.024 J	0.017 J	0.07	0.068
TAL Metals_Diss		Calcium	ug/L	NE	11,800	270,000	287,000	54,100	57,700	94,900	139,000	257,000	177,000	254,000	96,700	98,100	337,000	348,000
TAL Metals_Diss		Chromium	ug/L	27.4	0.18 U	0.19 J	0.19 J	0.21 J	0.21 J	0.16 J	0.17 J	0.18 U	0.16 J	0.19 J	0.22 J	0.13 U	0.17 J	0.18 J
TAL Metals_Diss		Cobalt	ug/L	1	0.032 J	0.074	0.092	0.138	0.144	0.362	0.186	0.092	0.044	0.038	0.121	0.029	0.028 J	0.033 J
TAL Metals_Diss		Copper	ug/L	3.1	1.54	**22.5**	**14.9**	**22.2**	**20.9**	**10.8**	**9.98**	**6.57**	1.95	1.62	1.81	1.41	0.739	1.03
TAL Metals_Diss		Iron	ug/L	50	**311**	21	20.3	**246**	**202**	**93.8**	**58.5**	44.2	45.6	16.1 J	**52.5**	**109**	3 U	3.9 J
TAL Metals_Diss		Lead	ug/L	8.1	0.009 J	0.019 J	0.011 J	0.065	0.043	0.008 J	0.009 J	0.008 U	0.007 J	0.014 J	0.008 U	0.006 J	0.006 J	0.007 J
TAL Metals_Diss		Magnesium	ug/L	NE	19,800	778,000	845,000	138,000	148,000	257,000	390,000	752,000	440,000	888,000 J	275,000	275,000	1.06E+06	1.11E+06
TAL Metals_Diss		Manganese	ug/L	100	33.7	20.6	18.9 J	36.9	34.9	80.8	62	34.5	8.9 J	4.5 J	6.3 J	6.1 J	4 U	4 U
TAL Metals_Diss		Nickel	ug/L	8.2	0.717	0.462	0.521	0.258 J	0.281 J	0.447	0.425	0.286 J	0.284 J	0.302	0.308 J	0.344	0.471	0.308 J
TAL Metals_Diss		Potassium	ug/L	NE	7,200	278,000	296,000	46,000	49,300	94,300	148,000	260,000	171,000	253,000	94,500	93,200	324,000	335,000
TAL Metals_Diss		Selenium	ug/L	71	0.2 U	0.2 U	0.2 U	0.34 J	0.22 J	0.2 U	0.2 U	0.2 U	0.2 U	0.21 J	0.2 U	0.2 U	0.2 U	0.2 U
TAL Metals_Diss		Silver	ug/L	0.95	0.002 U	0.002 UJ	0.002 UJ	0.001 UJ	0.002 UJ	0.002 U	0.002 U	0.037 J	0.027 J	0.001 UJ	0.002 UJ	0.028 J	0.001 U	0.031 J
TAL Metals_Diss		Sodium	ug/L	NE	177,000	6,770,000	7,440,000	1,210,000	1,270,000	2,450,000	3,440,000	6,520,000	4,000,000	7,520,000	2,350,000	2,480,000	8,810,000	9,170,000
TAL Metals_Diss		Thallium	ug/L	17	0.002 U	0.007 J	0.007 J	0.019 J	0.007 J	0.003 J	0.004 J	0.004 J	0.006 J	0.01 J	0.007 J	0.019 J	0.014 J	0.012 J
TAL Metals_Diss		Vanadium	ug/L	50	1 J	3.5 J	2.9 J	1.5 J	1.2 J	1.4 J	2.2 J	3.2 J	2.6 J	2.6 J	1.5 J	1.9 J	2.8 J	3 J
TAL Metals_Diss		Zinc	ug/L	81	6 U	12 U	12 U	12 U	12 U	6 U	6 U	12 U	6 U	12 U	6 U	6 U	12 U	12 U
Hg		Mercury	ug/L	0.94									0.034 U	0.056 J	0.034 U	0.034 U		
TAL Metals		Aluminum	ug/L	NE									26.1 U	26.1 U	26.1 U	26.1 U		
TAL Metals		Antimony	ug/L	500									1.7 U	1.7 U	1.7 U	1.7 U		
TAL Metals		Arsenic	ug/L	36									27.7	35.2	1.6 U	1.6 U		
TAL Metals		Barium	ug/L	200									5.6 U	5.6 U	5.6 U	5.6 U		
TAL Metals		Beryllium	ug/L	100									1 U	1 U	1 U	1 U		
TAL Metals		Cadmium	ug/L	8.8									0.052	0.055	0.026 J	0.023 J		
TAL Metals		Calcium	ug/L	NE									192,000	239,000	95,700	90,900		
TAL Metals		Chromium	ug/L	27.4									0.3	0.2 J	0.19 J	0.2 J		
TAL Metals		Cobalt	ug/L	1									0.127	0.05	0.049	0.049		
TAL Metals		Copper	ug/L	3.1									**4.89**	1.73	1.58	1.73		
TAL Metals		Iron	ug/L	50									**403**	44.5	**114**	**120**		
TAL Metals		Lead	ug/L	8.1									0.058	0.007 J	0.008 J	0.01 J		
TAL Metals		Magnesium	ug/L	NE									660,000	869,000	303,000	291,000		
TAL Metals		Manganese	ug/L	100									13.4 J	4.5 J	6.3 J	6.5 J		
TAL Metals		Nickel	ug/L	8.2									0.312	0.308	0.151 J	0.143 J		
TAL Metals		Potassium	ug/L	NE									187,000	238,000	89,700	84,900		
TAL Metals		Selenium	ug/L	71									0.2 U	0.2 U	0.2 U	0.22 J		
TAL Metals		Silver	ug/L	0.95									0.001 U	0.001 UJ	0.002 UJ	0.001 UJ		
TAL Metals		Sodium	ug/L	NE									5.68E+06	6.87E+06	2.63E+06	2.47E+06		
TAL Metals		Thallium	ug/L	17									0.006 J	0.008 J	0.005 J	0.007 J		
TAL Metals		Vanadium	ug/L	50									3.5 J	2.7 J	1.9 J	1.3 J		
TAL Metals		Zinc	ug/L	81									12 U	12 U	12 U	12 U		
TCL PAHs		2-Methylnaphthalene	ug/L	300	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U			0.1 U						
TCL PAHs	HPAH	Benz(a)anthracene	ug/L	300	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	HPAH	Benzo(a)pyrene	ug/L	300	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/L	300	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/L	300	0.11	0.05 U	0.18	0.05 U	0.05 U			0.05 U						
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/L	300	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	HPAH	Chrysene	ug/L	300	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/L	300	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/L	300	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	HPAH	Pyrene	ug/L	300	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	HPAH	Total HPAH	ug/L	300	0.11	0.05 U	0.18	0.05 U	0.05 U			0.05 U						
TCL PAHs	LPAH	Acenaphthene	ug/L	40	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	LPAH	Acenaphthylene	ug/L	300	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	LPAH	Anthracene	ug/L	300	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	LPAH	Fluoranthene	ug/L	11	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	LPAH	Fluorene	ug/L	300	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	LPAH	Naphthalene	ug/L	1.4	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	LPAH	Phenanthrene	ug/L	4.6	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	LPAH	Total LPAH	ug/L	300	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U						
TCL PAHs	TPAH	Total PAH	ug/L	300	0.11	0.1 U	0.18	0.1 U	0.1 U			0.1 U						

Notes:
ug/L = micrograms per liter

TABLE 4-9
Surface Water Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:					SW-015	SW-029	SW-075	SW-084	SW-084	SW-085	SW-098	SW-099	SW-104	SW-105	SW-106	SW-106	SW-108	SW-108
Area					Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
Activity ID:					2013SC-SW-015-	2013SC-SW-029-	2013SC-SW-075-	2013SC-SW-084-	2013SC-SW-9084-	2013SC-SW-085-	2013SC-SW-098-	2013SC-SW-099-	2013SC-SW-104-	2013SC-SW-105-	2013SC-SW-106-	2013SC-SW-9106-	2013CS-SW-108-	2013CS-SW-108-
Sample Type:					N	N	N	N	FD	N	N	N	N	N	N	FD	N	N
Date Sampled:					05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/25/13	05/26/13	05/26/13
ChemGroup		**Analyte**	**Units**	**Screening Level[a]**														

PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
J = The analyte was positively identified; the quantitation is an estimation
U = The analyte was analyzed for, but not detected at the method detection limit shown

[a] Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:
a = Marine chronic
b = Marine acute

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds the screening level
Italics = analyte not detected but method detection limit exceeds the screening level

** SPLP water results are not include in Table 3-6

TABLE 4-9
Surface Water Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:					SW-108	SW-108	SW-108	SW-108	SW-108	SW-108	SW-108	SW-108	SW-108	SW-113	SW-501	SW-503	SW-505	SW-507
Area					Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Background	Background	Background	Background
Activity ID:					2013CS-SW-108-N	2013CS-SW-108-N	2013CS-SW-108-N	2013CS-SW-108-N	2013CS-SW-108-N	2013CS-SW-108-N	2013SC-SW-108-N	2013SC-SW-108-N	2013SC-SW-9108-FD	2013SC-SW-113-N	2013SC-SW-501-N	2013SC-SW-503-N	2013SC-SW-505-N	2013SC-SW-507-N
Sample Type:																		
Date Sampled:					05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/25/13	05/26/13	05/25/13	05/28/13	05/28/13	05/28/13	05/28/13
ChemGroup		**Analyte**	**Units**	**Screening Level[a]**														
Hg Dissolved		Mercury	ug/L	0.94	0.041 J	0.042 J	0.04 J	0.041 J	0.043 J	0.047 J	0.042 J	0.046 J	0.036 J	0.038 J	0.034 U	0.093 J	0.082 J	0.034 U
TAL Metals_Diss		Aluminum	ug/L	NE	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	27.3 J	35.3 J	28.9 J	26.1 U
TAL Metals_Diss		Antimony	ug/L	500	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
TAL Metals_Diss		Arsenic	ug/L	36	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U
TAL Metals_Diss		Barium	ug/L	200	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U
TAL Metals_Diss		Beryllium	ug/L	100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.51 U	1 U	1 U	1 U	1 U
TAL Metals_Diss		Cadmium	ug/L	8.8	0.064	0.056	0.04	0.028 J	0.024 J	0.018 J	0.073	0.064	0.062	0.073	0.086	0.069	0.067	0.067
TAL Metals_Diss		Calcium	ug/L	NE	334,000	309,000	249,000	196,000	160,000	127,000	334,000	290,000	310,000	311,000	370,000	384,000	374,000	367,000
TAL Metals_Diss		Chromium	ug/L	27.4	0.17 J	0.17 J	0.15 J	0.19 J	0.16 J	0.14 J	0.2 J	0.16 J	0.17 J	0.17 J	0.21 J	0.22 J	0.21 J	0.22 J
TAL Metals_Diss		Cobalt	ug/L	1	0.046	0.041	0.039	0.037	0.029	0.028	0.055	0.042	0.042	0.055	0.055	0.042	0.033	0.03
TAL Metals_Diss		Copper	ug/L	3.1	1.34	1.68	2.08	2.51	2.75	2.96	1.53	2.42	1.39	2.52	0.343	0.287	0.366	0.311
TAL Metals_Diss		Iron	ug/L	50	9.2 J	13.3 J	19.5 J	27.1	25.8	27.2	9.5 J	13.8 J	8.8 J	12.6 J	5.7 J	3 U	3 U	3 U
TAL Metals_Diss		Lead	ug/L	8.1	0.005 U	0.005 U	0.006 U	0.006 U	0.009 J	0.005 U	0.008 J	0.006 J	0.005 U	0.007 U	0.026 J	0.019 J	0.02 J	0.019 J
TAL Metals_Diss		Magnesium	ug/L	NE	1.06E+06	975,000	782,000	582,000	475,000	368,000	1,070,000	635,000	923,000	965,000	1,100,000	1,240,000	1,170,000	1,100,000
TAL Metals_Diss		Manganese	ug/L	100	4.8 J	4.8 J	4 J	4 U	4 U	4 U	6.9 J	6.2 J	5.3 J	9.6 J	4 U	4 U	4 U	4 U
TAL Metals_Diss		Nickel	ug/L	8.2	0.241 J	0.262	0.186 J	0.146 J	0.257 J	0.158 J	0.39	0.344	0.238 J	0.322 J	0.26 J	0.274 J	0.302	0.295
TAL Metals_Diss		Potassium	ug/L	NE	326,000	297,000	242,000	189,000	157,000	123,000	334,000	282,000	296,000	307,000	341,000	349,000	339,000	331,000
TAL Metals_Diss		Selenium	ug/L	71	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
TAL Metals_Diss		Silver	ug/L	0.95	0.023 J	0.024 J	0.025 J	0.001 UJ	0.001 UJ	0.001 UJ	0.001 U	0.026 J	0.024 J	0.031 J	0.002 UJ	0.001 UJ	0.001 UJ	0.001 UJ
TAL Metals_Diss		Sodium	ug/L	NE	8,730,000	8,090,000	6,590,000	4,980,000	4,040,000	3,010,000	8,840,000	5,280,000	7,730,000	8,330,000	8,680,000	9,690,000	9,220,000	8,670,000
TAL Metals_Diss		Thallium	ug/L	17	0.009 J	0.009 J	0.008 J	0.007 J	0.006 J	0.005 J	0.01 J	0.008 J	0.009 J	0.008 J	0.01 J	0.009 J	0.009 J	0.009 J
TAL Metals_Diss		Vanadium	ug/L	50	3.6 J	2.8 J	2.7 J	2.8 J	2.7 J	3.2 J	3.2 J	2.3 J	3.3 J	2.6 J	3.7 J	2.6 J	3.4 J	3.4 J
TAL Metals_Diss		Zinc	ug/L	81	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U	12 U
Hg		Mercury	ug/L	0.94														
TAL Metals		Aluminum	ug/L	NE														
TAL Metals		Antimony	ug/L	500														
TAL Metals		Arsenic	ug/L	36														
TAL Metals		Barium	ug/L	200														
TAL Metals		Beryllium	ug/L	100														
TAL Metals		Cadmium	ug/L	8.8														
TAL Metals		Calcium	ug/L	NE														
TAL Metals		Chromium	ug/L	27.4														
TAL Metals		Cobalt	ug/L	1														
TAL Metals		Copper	ug/L	3.1														
TAL Metals		Iron	ug/L	50														
TAL Metals		Lead	ug/L	8.1														
TAL Metals		Magnesium	ug/L	NE														
TAL Metals		Manganese	ug/L	100														
TAL Metals		Nickel	ug/L	8.2														
TAL Metals		Potassium	ug/L	NE														
TAL Metals		Selenium	ug/L	71														
TAL Metals		Silver	ug/L	0.95														
TAL Metals		Sodium	ug/L	NE														
TAL Metals		Thallium	ug/L	17														
TAL Metals		Vanadium	ug/L	50														
TAL Metals		Zinc	ug/L	81														
TCL PAHs		2-Methylnaphthalene	ug/L	300														
TCL PAHs	HPAH	Benz(a)anthracene	ug/L	300														
TCL PAHs	HPAH	Benzo(a)pyrene	ug/L	300														
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/L	300														
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/L	300														
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/L	300														
TCL PAHs	HPAH	Chrysene	ug/L	300														
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/L	300														
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/L	300														
TCL PAHs	HPAH	Pyrene	ug/L	300														
TCL PAHs	HPAH	Total HPAH	ug/L	300														
TCL PAHs	LPAH	Acenaphthene	ug/L	40														
TCL PAHs	LPAH	Acenaphthylene	ug/L	300														
TCL PAHs	LPAH	Anthracene	ug/L	300														
TCL PAHs	LPAH	Fluoranthene	ug/L	11														
TCL PAHs	LPAH	Fluorene	ug/L	300														
TCL PAHs	LPAH	Naphthalene	ug/L	1.4														
TCL PAHs	LPAH	Phenanthrene	ug/L	4.6														
TCL PAHs	LPAH	Total LPAH	ug/L	300														
TCL PAHs	TPAH	Total PAH	ug/L	300														

Notes:
ug/L = micrograms per liter

TABLE 4-9
Surface Water Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:					SW-108	SW-108	SW-108	SW-108	SW-108	SW-108	SW-108	SW-108	SW-108	SW-113	SW-501	SW-503	SW-505	SW-507
Area					Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Background	Background	Background	Background
Activity ID:					2013CS-SW-108-	2013CS-SW-108-	2013CS-SW-108-	2013CS-SW-108-	2013CS-SW-108-	2013CS-SW-108-	2013SC-SW-108-	2013SC-SW-108-	2013SC-SW-9108-	2013SC-SW-113-	2013SC-SW-501-	2013SC-SW-503-	2013SC-SW-505-	2013SC-SW-507-
Sample Type:					N	N	N	N	N	N	N	N	FD	N	N	N	N	N
Date Sampled:					05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/26/13	05/25/13	05/26/13	05/25/13	05/28/13	05/28/13	05/28/13	05/28/13
ChemGroup		**Analyte**	**Units**	**Screening Level[a]**														

PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
J = The analyte was positively identified; the quantitation is an estimation
U = The analyte was analyzed for, but not detected at the method detection limit shown

[a] Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:
a = Marine chronic
b = Marine acute

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds the screening level
Italics = analyte not detected but method detection limit exceeds the screening level

** SPLP water results are not include in Table 3-6

TABLE 4-9
Surface Water Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:					SW-509	SW-509	SW-600**	
Area					Background	Background	Modified SPLP water	
Activity ID:					2013SC-SW-509-N	2013SC-SW-9509-FD	2013SC-SW-600	
Sample Type:							N	
Date Sampled:					05/28/13	05/28/13	05/29/13	
ChemGroup		**Analyte**	**Units**	**Screening Level[a]**				
Hg Dissolved		Mercury	ug/L	0.94	0.034 U	0.036 J		
TAL Metals_Diss		Aluminum	ug/L	NE	36.9 J	26.1 U		
TAL Metals_Diss		Antimony	ug/L	500	1.7 U	1.7 U		
TAL Metals_Diss		Arsenic	ug/L	36	1.6 U	**48.5**		
TAL Metals_Diss		Barium	ug/L	200	5.6 U	6.2 J		
TAL Metals_Diss		Beryllium	ug/L	100	1 U	1 U		
TAL Metals_Diss		Cadmium	ug/L	8.8	0.063	0.074		
TAL Metals_Diss		Calcium	ug/L	NE	385,000	349,000		
TAL Metals_Diss		Chromium	ug/L	27.4	0.2 J	0.21 J		
TAL Metals_Diss		Cobalt	ug/L	1	0.037	0.029 J		
TAL Metals_Diss		Copper	ug/L	3.1	0.412	0.334		
TAL Metals_Diss		Iron	ug/L	50	3 U	5.1 J		
TAL Metals_Diss		Lead	ug/L	8.1	0.043	0.059		
TAL Metals_Diss		Magnesium	ug/L	NE	1,160,000	1,300,000 J		
TAL Metals_Diss		Manganese	ug/L	100	4 U	4 U		
TAL Metals_Diss		Nickel	ug/L	8.2	0.315 J	0.283 J		
TAL Metals_Diss		Potassium	ug/L	NE	348,000	357,000		
TAL Metals_Diss		Selenium	ug/L	71	0.2 U	0.2 U		
TAL Metals_Diss		Silver	ug/L	0.95	0.031 J	0.038 J		
TAL Metals_Diss		Sodium	ug/L	NE	9,140,000	10,800,000		
TAL Metals_Diss		Thallium	ug/L	17	0.009 J	0.01 J		
TAL Metals_Diss		Vanadium	ug/L	50	2.1 J	3.5 J		
TAL Metals_Diss		Zinc	ug/L	81	12 U	12 U		
Hg		Mercury	ug/L	0.94			0.0811	J
TAL Metals		Aluminum	ug/L	NE			25	U
TAL Metals		Antimony	ug/L	500			8.8	U
TAL Metals		Arsenic	ug/L	36			2.5	U
TAL Metals		Barium	ug/L	200			5.2	U
TAL Metals		Beryllium	ug/L	100			2	U
TAL Metals		Cadmium	ug/L	8.8			1.4	U
TAL Metals		Calcium	ug/L	NE			351000	
TAL Metals		Chromium	ug/L	27.4			6.8	U
TAL Metals		Cobalt	ug/L	1			*8.6*	*U*
TAL Metals		Copper	ug/L	3.1			2.1	U
TAL Metals		Iron	ug/L	50			**65**	
TAL Metals		Lead	ug/L	8.1			1.9	U
TAL Metals		Magnesium	ug/L	NE			1110000	
TAL Metals		Manganese	ug/L	100			7.2	U
TAL Metals		Nickel	ug/L	8.2			1.3	U
TAL Metals		Potassium	ug/L	NE			380000	
TAL Metals		Selenium	ug/L	71			2.3	U
TAL Metals		Silver	ug/L	0.95			*1.2*	*U*
TAL Metals		Sodium	ug/L	NE			8910000	
TAL Metals		Thallium	ug/L	17			0.94	U
TAL Metals		Vanadium	ug/L	50			2	U
TAL Metals		Zinc	ug/L	81			1.7	U
TCL PAHs		2-Methylnaphthalene	ug/L	300				
TCL PAHs	HPAH	Benz(a)anthracene	ug/L	300				
TCL PAHs	HPAH	Benzo(a)pyrene	ug/L	300				
TCL PAHs	HPAH	Benzo(b)fluoranthene	ug/L	300				
TCL PAHs	HPAH	Benzo(ghi)perylene	ug/L	300				
TCL PAHs	HPAH	Benzo(k)fluoranthene	ug/L	300				
TCL PAHs	HPAH	Chrysene	ug/L	300				
TCL PAHs	HPAH	Dibenz(a,h)anthracene	ug/L	300				
TCL PAHs	HPAH	Indeno(1,2,3-cd)pyrene	ug/L	300				
TCL PAHs	HPAH	Pyrene	ug/L	300				
TCL PAHs	HPAH	Total HPAH	ug/L	300				
TCL PAHs	LPAH	Acenaphthene	ug/L	40				
TCL PAHs	LPAH	Acenaphthylene	ug/L	300				
TCL PAHs	LPAH	Anthracene	ug/L	300				
TCL PAHs	LPAH	Fluoranthene	ug/L	11				
TCL PAHs	LPAH	Fluorene	ug/L	300				
TCL PAHs	LPAH	Naphthalene	ug/L	1.4				
TCL PAHs	LPAH	Phenanthrene	ug/L	4.6				
TCL PAHs	LPAH	Total LPAH	ug/L	300				
TCL PAHs	TPAH	Total PAH	ug/L	300				

Notes:
ug/L = micrograms per liter

TABLE 4-9
Surface Water Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:					SW-509	SW-509	SW-600**
Area					Background	Background	Modified SPLP water
Activity ID:					2013SC-SW-509-N	2013SC-SW-9509-FD	2013SC-SW-600-N
Sample Type:							
Date Sampled:					05/28/13	05/28/13	05/29/13
ChemGroup		**Analyte**	**Units**	**Screening Level[a]**			

PAH = polycyclic aromatic hydrocarbon
HPAH = high molecular weight PAH
LPAH = low molecular weight PAH
J = The analyte was positively identified; the quantitation is an estimation
U = The analyte was analyzed for, but not detected at the method detection limit shown

[a] Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:
a = Marine chronic
b = Marine acute

NE = not established

NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables

BOLD = detected result exceeds the screening level
Italics = analyte not detected but method detection limit exceeds the screening level

** SPLP water results are not include in Table 3-6

TABLE 4-10
Crab Tissue Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Report

Location:				BIOTA-107	BIOTA-130	BIOTA-138	BIOTA-142	BIOTA-148	BIOTA-148	BIOTA-149	BIOTA-150	BIOTA-151	BIOTA-152	BIOTA-153	BIOTA-500	BIOTA-502	BIOTA-504	BIOTA-506	BIOTA-508
Area				Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Background	Background	Background	Background	Background
Activity ID:				2013SC-Biota-107-CR	2013SC-Biota-130-CR	2013SC-Biota-138-CR	2013SC-Biota-142-CR	2013SC-Biota-148-CR	2013SC-Biota-9148-FD	2013SC-Biota-149-CR	2013SC-Biota-150-CR	2013SC-Biota-151-CR	2013SC-Biota-152-CR	2013SC-Biota-153-CR	2013SC-Biota-500-CR	2013SC-Biota-502-CR	2013SC-Biota-504-CR	2013SC-Biota-506-CR	2013SC-Biota-508-CR-
Sample Type:				N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N
Date Sampled:				05/25/13	05/24/13	05/22/13	05/23/13	05/27/13	05/27/13	05/28/13	05/27/13	05/28/13	05/28/13	05/27/13	05/29/13	05/29/13	05/29/13	05/29/13	05/28/13
ChemGroup	**Analyte**	**Units**	**Screening Level[a]**																
Arsenic Speciation	Inorganic Arsenic (As+3 & As+5)	ng/g dw	NE	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
Arsenic Speciation	ASB + Cation	ng/g dw	NE	20,100 J	25,200 J	23,300 J	17,900 J	20,500 J	17,800 J	19,300 J	15,900 J	22,300 J	35,800 J	18,200 J	27,700 J	35,700 J	33,400 J	21,500 J	18,200 J
Arsenic Speciation	Dimethylarsinic Acid	ng/g dw	NE	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
Arsenic Speciation	Monomethylarsonic Acid	ng/g dw	NE	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U	120 U
Arsenic Speciation	Unknown Arsenic Species	ng/g dw	NE	1,010 J	1,120 J	840 J	1,270 J	911 J	945 J	1,140 J	994 J	1,250 J	1,160 J	1,380 J	1,290 J	932 J	1,010 J	1,060 J	1,150 J
Arsenic Speciation	Total Arsenic	ng/g dw	NE	21,110	26,320	24,140	19,170	21,411	18,745	20,440	16,894	23,550	36,960	19,580	28,990	36,632	34,410	22,560	19,350
Lipids	Moisture content	%	NE	81.2	83.2	83.5	79.6	79.9	79.7	79.7	83.1	80.2	82.2	81.1	79.8	80.4	81.6	79.2	80.4
Lipids	Lipids	%	NE	0.3	0.68	0.42	0.59	0.69	0.64	0.19	0.21	0.32	0.1	0.23	0.28	0.7	0.56	0.91	0.65
Hg	Mercury	mg/Kg ww	0.14	0.008272	0.007308	0.007227	0.0095472	0.0088641	0.0068208	0.0084854	0.0063882	0.0070686	0.0064614	0.0081081	0.0072922	0.0050176	0.0042504	0.0058032	0.0069384
TAL Metals	Aluminum	mg/Kg ww	1,400	1.7 U	1.3 U	1.3 U	1.6 U	1.6 U	1.5 U	1.6 U	1.4 U	1.6 U	4.8	1.5 U	2.0 U	1.6 U	1.5 U	1.6 U	1.5 U
TAL Metals	Antimony	mg/Kg ww	0.54	0.0023 U	0.0016 U	0.0016 U	0.0020 U	0.0020 U	0.0019 U	0.0020 U	0.0017 U	0.0020 U	0.0018 U	0.0019 U	0.0026 U	0.0020 U	0.0018 U	0.0020 U	0.0018 U
TAL Metals	Arsenic	mg/Kg ww	0.0021	**3.9**	**4.2**	**4.0**	**3.8**	**4.0**	**3.8**	**4.1**	**2.9**	**4.7**	**6.3**	**3.7**	**5.8**	**6.7**	**6.1**	**4.4**	**3.7**
TAL Metals	Barium	mg/Kg ww	270	0.16 U	0.12 U	0.12 U	0.15 U	0.15 U	0.14 U	0.15 U	0.12 U	0.14 U	0.13 U	0.14 U	0.18 U	0.14 U	0.13 U	0.15 U	0.14 U
TAL Metals	Beryllium	mg/Kg ww	2.7	0.17 U	0.13 U	0.13 U	0.16 U	0.16 U	0.15 U	0.16 U	0.14 U	0.16 U	0.14 U	0.15 U	0.20 U	0.16 U	0.15 U	0.16 U	0.15 U
TAL Metals	Cadmium	mg/Kg ww	1.4	0.0017 U	0.0012 U	0.0012 U	0.0015 U	0.0015 U	0.0014 U	0.0015 U	0.0013 U	0.0015 U	0.0013 U	0.0014 U	0.0019 U	0.0015 U	0.0075	0.0015 U	0.0014 U
TAL Metals	Chromium	mg/Kg ww	2,000	0.016 U	0.047 J	0.064 J	0.015 UJ	0.014 UJ	0.059	0.097	0.012 U	0.091	0.013 U	0.013 U	0.018 U	0.13 J	0.013 UJ	0.087 J	0.013 UJ
TAL Metals	Cobalt	mg/Kg ww	0.41	0.0010 U	0.0044	0.0043	0.0049	0.0009447 U	0.0008932 U	0.0009541 U	0.0007943 U	0.0009306 U	0.0045	0.0008694 U	0.0065	0.0082	0.0057	0.0052	0.0008624 U
TAL Metals	Copper	mg/Kg ww	54	2.5	2.4	2.9	3.9	2.1	2.2	3.3	2.8	3.1	3.6	2.8	1.9	3.2	2.8	3.2	2.2
TAL Metals	Iron	mg/Kg ww	950	0.55 U	2.9	0.41 U	0.51 U	0.50 U	0.47 U	0.51 U	0.42 U	0.50 U	3.4	0.47 U	0.63 U	14	0.44 U	0.50 U	0.45 U
TAL Metals	Lead	mg/Kg ww	NE	0.041 U	0.030 U	0.031 U	0.039 U	0.038 U	0.037 U	0.039 U	0.032 U	0.038 U	0.034 U	0.036 U	0.048 U	0.037 U	0.035 U	0.040 U	0.035 U
TAL Metals	Magnesium	mg/Kg ww	NE	273	267	243	290	302	272	305	262	277	290	282	281	274	280	266	276
TAL Metals	Manganese	mg/Kg ww	190	0.11	0.14	0.12	1.1	0.13	0.14	0.15	0.11	0.13	0.12	0.23	0.12	0.12	0.12	0.27	0.11
TAL Metals	Nickel	mg/Kg ww	27	0.0073 U	0.17 J	0.045 J	0.0067 UJ	0.0066 UJ	0.0063 U	0.061	0.0056 U	0.0065 U	0.0059 U	0.0062 U	0.0083 U	0.082 J	0.0059 UJ	0.046 J	0.0061 UJ
TAL Metals	Selenium	mg/Kg ww	6.8	0.26	0.25	0.23	0.27	0.22	0.22	0.26	0.22	0.30	0.23	0.25	0.30	0.41	0.29	0.31	0.24
TAL Metals	Silver	mg/Kg ww	6.8	0.021 J	0.015 J	0.040 J	0.041 J	0.022 J	0.028 J	0.035 J	0.025 J	0.044 J	0.036 J	0.043 J	0.075 J	0.092 J	0.086 J	0.087 J	0.049 J
TAL Metals	Thallium	mg/Kg ww	0.014	0.0010 U	0.0007224 U	0.0007425 U	0.0009384 U	0.0009246 U	0.0008729 U	0.0009338 U	0.0007774 U	0.0009108 U	0.0008010 U	0.0008505 U	0.0012 U	0.0009016 U	0.000828 U	0.000936 U	0.0008428 U
TAL Metals	Vanadium	mg/Kg ww	6.8	0.0014 U	0.0055	0.0010 U	0.0013 U	0.0012 U	0.0012 U	0.0013 U	0.0010 U	0.0012 U	0.0073	0.0060	0.0016 U	0.0012 U	0.0011 U	0.0013 U	0.0011 U
TAL Metals	Zinc	mg/Kg ww	410	39	26	24	29	30	39	41	33	42	36	39	40	40	35	37	33

Notes:
mg/kg ww = milligrams per kilogram wet weight
ng/g dw = nanograms per gram dry weight

J = The analyte was positively identified; the quantitation is an estimation.
U = The analyte was analyzed for, but not detected at the method reporting limit shown

FD = field duplicate sample
N = normal sample

[a]Screening Level = Lower of the two (carcinogenic vs. noncancer) fish tissue screening levels (EPA, 2013).
NE = not established
BOLD = detected result exceeds screening level
Italics = analyte not detected but method detection limit exceeds the screening level

TABLE 4-11
Groundwater Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Repor

Location:				GW-01	GW-01	GW-02	GW-03	GW-04	GW-05R	GW-05R
Activity ID:				2013SC-GW-01-20130525	2013SC-GW-901-20130525FD	2013SC-GW-02-20130526	2013SC-GW-03-20130525	2013SC-GW-04-20130526	2013SC-GW-05-20130830	2013SC-GW-905-20130830FD
Sample Type:				N	FD	N	N	N	N	FD
Date Sampled:				5/25/2013	5/25/2013	5/26/2013	5/25/2013	5/26/2013	8/30/2013	8/30/2013
ChemGroup	**Analyte**	**Units**	**Screening Level[a, b]**							
DRO/RRO	Diesel range organics	ug/L	1,500	17.2 UJ	16.4 UJ		**1,640**	1,020	112 J	179 J
DRO/RRO	Residual Range Organics	ug/L	1,100	44.3 J	35.4 J		399 J	562	99.1 J	387 J
Hg	Mercury	ug/L	0.94	0.23	0.18 J	0.034 U	0.16 J	0.23	0.034 U	0.034 U
Hg_Diss	Mercury	ug/L	0.94	0.13 J	0.15 J	0.034 U	0.083 J	0.15 J	0.034 U	0.034 U
TAL Metals	Aluminum	ug/L	NE	26.1 U	26.1 U	498	431	3,460	600	703
TAL Metals	Antimony	ug/L	500	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U
TAL Metals	Arsenic	ug/L	36	0.64 J	0.6 J	0.79 J	2.2	11.2	3.7	3.4
TAL Metals	Barium	ug/L	200	1.6 J	2.7 J	10.4	8.5 J	21.8	9.6 J	9.1 J
TAL Metals	Beryllium	ug/L	100	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U
TAL Metals	Cadmium	ug/L	8.8	0.069 U	0.069 U	0.071 J	0.21 J	0.15 J	0.069 U	0.069 U
TAL Metals	Calcium	ug/L	NE	7,850	7,670	6,230	21,200	36,500	29,200	31,100
TAL Metals	Chromium	ug/L	27.4	0.17 J	0.17 J	2.2	0.81 J	5.1	0.11 U	0.11 U
TAL Metals	Cobalt	ug/L	1	**2.9**	**3**	**1.7**	**1.1**	**6.9**	**2.4 J**	**2.4 J**
TAL Metals	Copper	ug/L	3.1	0.049 U	0.049 U	**84.3**	**282**	**239**	**7.6 J**	**6.7 J**
TAL Metals	Iron	ug/L	50	**1,230**	**1,180**	**979**	**9,280**	**9,030**	**3,240**	**3,550**
TAL Metals	Lead	ug/L	8.1	0.021 U	0.021 U	3.1	0.021 U	3.7	0.021 U	0.021 U
TAL Metals	Magnesium	ug/L	NE	1,820 J	1,880 J	1,590 J	1,980 J	3,330 J	2,050 J	2,140 J
TAL Metals	Manganese	ug/L	100	**419 J**	**434 J**	**143 J**	**283 J**	**1,390 J**	**2,460**	**2,180**
TAL Metals	Nickel	ug/L	8.2	0.23 J	0.18 J	4.4	1.1	4.4	0.049 U	0.049 U
TAL Metals	Potassium	ug/L	NE	337 J	402 J	884 J	884 J	1,600 J	700 J	715 J
TAL Metals	Selenium	ug/L	71	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
TAL Metals	Silver	ug/L	0.95	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U
TAL Metals	Sodium	ug/L	NE	226 U	226 U	226 U	7,360	7,220	4,820 J	4,970 J
TAL Metals	Thallium	ug/L	17	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U
TAL Metals	Vanadium	ug/L	50	0.99 J	0.98 J	3.7 J	3.4 J	22.4	2.7 J	2.3 J
TAL Metals	Zinc	ug/L	81	1.5 J	0.89 J	**980**	44.9	**145**	4.1	3.3
TAL Metals_Diss	Aluminum	ug/L	NE	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U	26.1 U
TAL Metals_Diss	Antimony	ug/L	500	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U
TAL Metals_Diss	Arsenic	ug/L	36	0.55 J	0.61 J	0.66 J	1.8	10.6	3.2	2.9
TAL Metals_Diss	Barium	ug/L	200	1.5 J	1.5 J	9.3 J	8.8 J	4.1 J	7.2 J	8.1 J
TAL Metals_Diss	Beryllium	ug/L	100	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U
TAL Metals_Diss	Cadmium	ug/L	8.8	0.069 U	0.069 U	0.069 U	0.4 J	0.069 U	0.069 U	0.069 U
TAL Metals_Diss	Calcium	ug/L	NE	7,530	8,300	6,340	20,000	34,800	29,200	30,600
TAL Metals_Diss	Chromium	ug/L	27.4	0.13 J	0.15 J	1.4 J	0.36 J	0.38 J	0.11 U	0.11 U
TAL Metals_Diss	Cobalt	ug/L	1	**2.7**	**2.8**	**1.7**	1 J	**1.5**	**2.1 J**	**2 J**
TAL Metals_Diss	Copper	ug/L	3.1	0.049 U	0.049 U	**44.2**	**176**	0.049 U	0.049 U	0.049 U
TAL Metals_Diss	Iron	ug/L	50	**1,060**	**1,160**	**808**	**5,380**	**6,560**	**2,620 J**	**2,640 J**
TAL Metals_Diss	Lead	ug/L	8.1	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U
TAL Metals_Diss	Magnesium	ug/L	NE	1,830 J	1,990 J	1,640 J	1,860 J	3,000 J	2,060 J	2,180 J
TAL Metals_Diss	Manganese	ug/L	100	**400 J**	**421 J**	**161 J**	**238 J**	**1,270 J**	**2,000**	**2,100**
TAL Metals_Diss	Nickel	ug/L	8.2	0.27 J	0.17 J	4.4	0.9 J	0.24 J	0.049 U	0.049 U
TAL Metals_Diss	Potassium	ug/L	NE	465 J	422 J	880 J	935 J	1,960 J	777 J	714 J
TAL Metals_Diss	Selenium	ug/L	71	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
TAL Metals_Diss	Silver	ug/L	0.95	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U	0.033 U
TAL Metals_Diss	Sodium	ug/L	NE	5,240	5,070	2,810 J	7,900	10,200	4,660 J	4,950 J
TAL Metals_Diss	Thallium	ug/L	17	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U	0.036 U
TAL Metals_Diss	Vanadium	ug/L	50	0.85 J	0.86 J	1.6 J	2.2 J	4.2 J	0.64 J	1.1 J
TAL Metals_Diss	Zinc	ug/L	81	1.2 J	0.89 J	**823**	55.8	14.6	3.8	0.6 U
TCL PAHs	2-Methylnaphthalene	ug/L	300	2.3	2.6		0.1 U	0.1 U	0.1 U	0.1 U
TCL PAHs	Acenaphthene	ug/L	40	8	8.9		0.27	1.3	1	0.94
TCL PAHs	Acenaphthylene	ug/L	300	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U
TCL PAHs	Anthracene	ug/L	300	0.34	0.29		0.05 U	0.05 U	0.05 U	0.05 U
TCL PAHs	Benz(a)anthracene	ug/L	300	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U
TCL PAHs	Benzo(a)pyrene	ug/L	300	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U
TCL PAHs	Benzo(b)fluoranthene	ug/L	300	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U
TCL PAHs	Benzo(ghi)perylene	ug/L	300	0.15	0.05 U		0.15	0.15	0.05 U	0.05 U
TCL PAHs	Benzo(k)fluoranthene	ug/L	300	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U
TCL PAHs	Chrysene	ug/L	300	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U
TCL PAHs	Dibenz(a,h)anthracene	ug/L	300	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U
TCL PAHs	Fluoranthene	ug/L	11	0.4	0.32		0.1	0.05 U	0.05 U	0.05 U
TCL PAHs	Fluorene	ug/L	300	5.1	5.8		0.49	0.5	0.11	0.091 J
TCL PAHs	Indeno(1,2,3-cd)pyrene	ug/L	300	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U
TCL PAHs	Naphthalene	ug/L	1.4	**17**	**18**		0.18	0.16	0.05 U	0.05 U
TCL PAHs	Phenanthrene	ug/L	4.6	2.2	2.5		0.05 U	0.05 U	0.05 U	0.05 U
TCL PAHs	Pyrene	ug/L	300	0.29	0.28		0.13	0.05 U	0.05 U	0.05 U

Notes:
PAH = polycyclic aromatic hydrocarbon
DRO = diesel range organics
RRO = residual range organics
ug/L = micrograms per liter
FD = field duplicate sample
N = normal sample
J = The analyte was positively identified; the quantitation is an estimation
U = The analyte was analyzed for, but not detected at the method detection limit showr

TABLE 4-11
Groundwater Sample Results
2013 Salt Chuck Mine Superfund Site Field Data Repor

Location:				GW-01	GW-01	GW-02	GW-03	GW-04	GW-05R	GW-05R
Activity ID:				2013SC-GW-01-20130525	2013SC-GW-901-20130525FD	2013SC-GW-02-20130526	2013SC-GW-03-20130525	2013SC-GW-04-20130526	2013SC-GW-05-20130830	2013SC-GW-905-20130830FD
Sample Type:				N	FD	N	N	N	N	FD
Date Sampled:				5/25/2013	5/25/2013	5/26/2013	5/25/2013	5/26/2013	8/30/2013	8/30/2013
ChemGroup	**Analyte**	**Units**	**Screening Level[a, b]**							

[b] Screening Level = AWQC listed in NOAA SQuiRT (Buchman, 2008) selected in the following order of preference:
a = Marine chronic
b = Marine acute
[b] Screening Level for Petroleum = 18 AAC 75 Table C values

NE = not established

AAC = Alaska Administrative Code
Diss = dissolved
NOAA = National Oceanic and Atmospheric Administration
SQuiRT = Screening Quick Reference Tables
MDL = method detection limit
PAHs = polycyclic aromatic hydrocarbons
TAL = target analyte list

BOLD = detected result exceeds screening level
Italics = analyte not detected but method detection limit exceeds the associated screening le

Figures

0 0.5 1 Miles

N

Figure 1-1
Site Location Map
Salt Chuck Mine, Alaska

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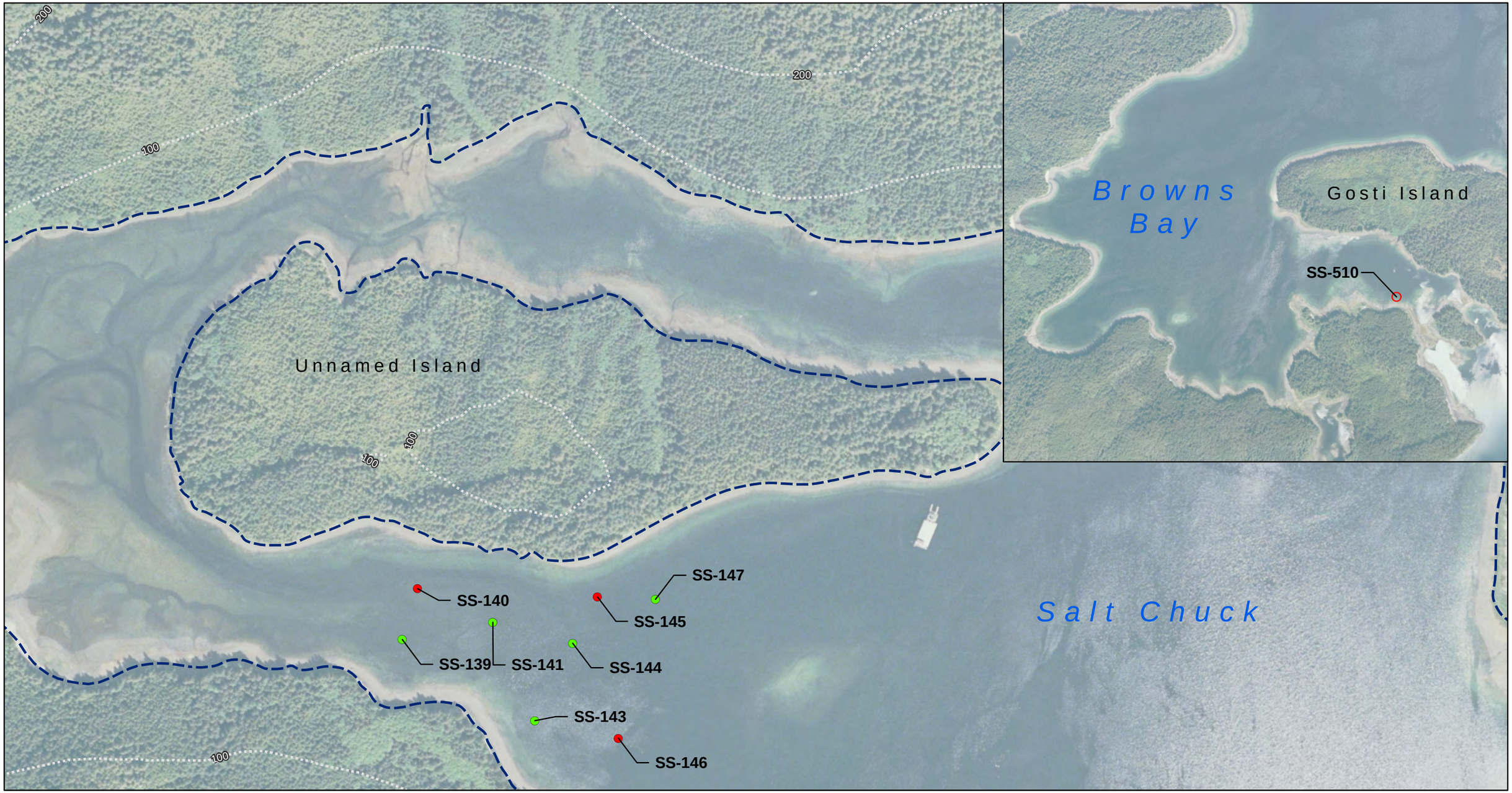

Bioassay and Sediment Chemistry Sample Locations
- Bioassay and Chemistry Sample Location
- Chemistry-only Sample Location
- Reference Bioassay Sample Location

Internal Boundaries
- Approximate Marine Area Boundary (MHHW)

Topography and Bathymetry
- Upland Topographic Contours (100 ft contour line)

N

0 375 750 Feet

Notes:
(1) Aerial photography courtesy US Census Bureau; approximate date 2006. NAD83, UTM Zone 8N, Meters. Pixel size 1 meter.

Figure 2-1
2013 Surface Sediment And Sediment Toxicty Sample Locations
Salt Chuck Mine, Alaska

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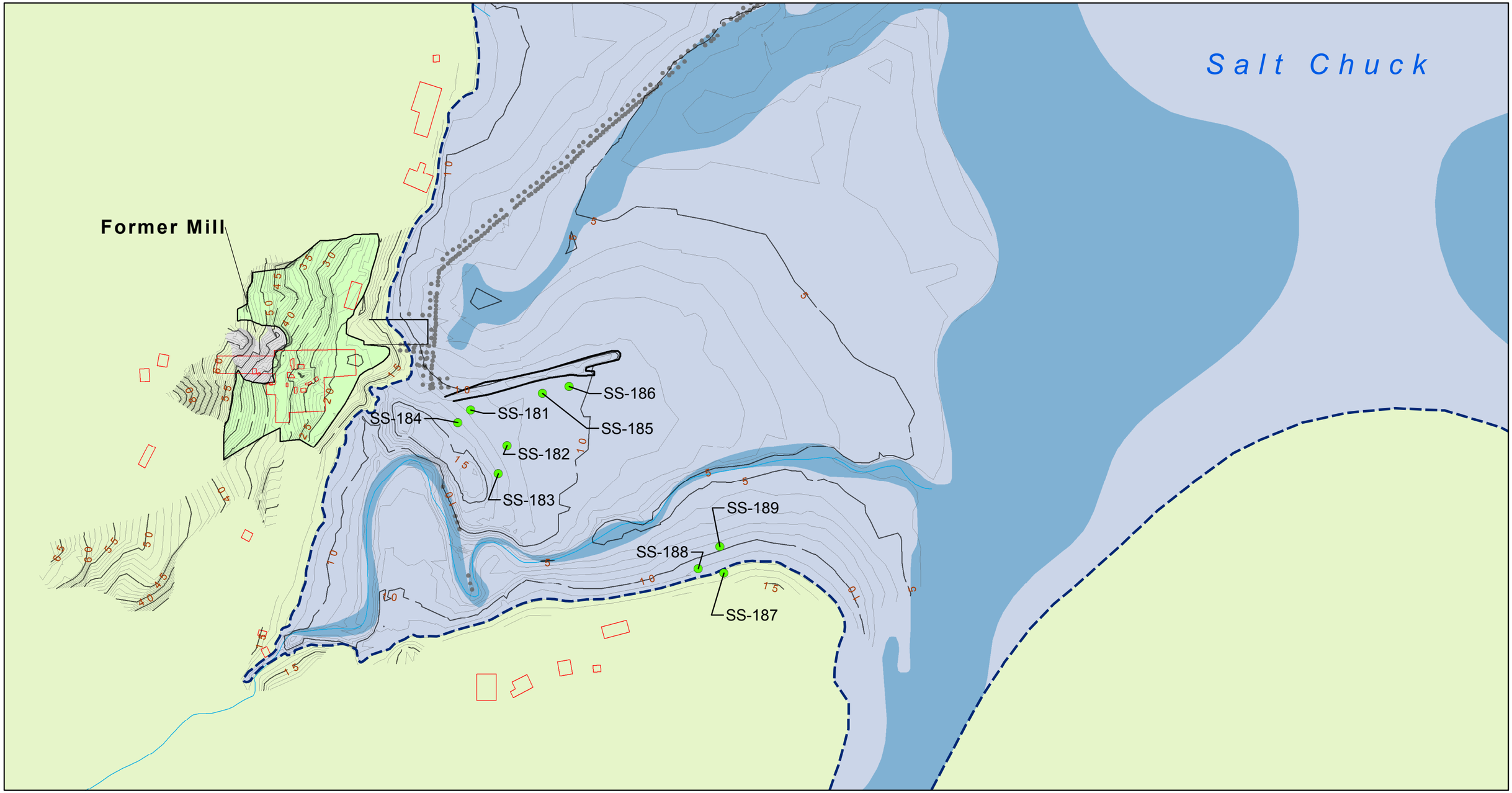

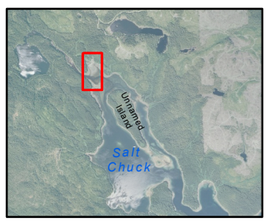

Agronomic Sample Location
- Agronomic and Metals Analyses

Internal Boundaries
- Approximate Marine Area Boundary (MHHW)

Topography and Bathymetry
- Major Elevation Contour (feet NAVD88)
- Minor Elevation Contour (feet NAVD88)

Upland Features
- Upland Stream
- Wooden Barge
- Former Structure

Intertidal Zone Features
- Piling Structure
- Rock Jetty

NTCRA Features
- Tailings and Contaminated Soil Removal Area (Backfilled and Covered)
- Rock Outcrop

N

0 100 200 Feet

Notes:
(1) Aerial photography courtesy US Census Bureau; approximate date 2006. NAD83, UTM Zone 8N, Meters. Pixel size 1 meter.
(2) Historical mine and mill features from Focused Upland Engineering Evaluation/Cost Analysis (EE/CA) Final Report Salt Chuck Mine Report (URS, March 2010)
(3) Marine bathymetry and structures near former mill from 2013 EPA Survey Data
(4) Excavation area and topography at former mill from Final Completion Report Non-Time -Critical Removal Action Salt Chuck Mine Mill Prince of Wales Island, Alaska, North Wind for USFS, May 2012

Figure 2-2
2013 Agronomic Surface Sediment Sample Locations
Salt Chuck Mine, Alaska

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Former Mill

Salt Chuck

SB-137 SB-135 SB-131 SB-126 SB-134 SB-136 SB-125 SB-129 SB-121 SB-133 SB-116 SB-123 SB-128 SB-119 SB-132 SB-112 SB-127 SB-198 SB-205 SB-118 SB-124 SB-111 SB-194 SB-192 SB-197 SB-115 SB-110 SB-195 SB-196 SB-191 SB-193 SB-109 SB-082 SB-308 SB-078 SB-089 SB-052 SB-307 SB-062 SB-320 SB-207 SB-079 SB-319 SB-199 SB-013 SB-321 SB-318 SB-306 SB-157 SB-317 SB-206 SB-032 SB-313 SB-309 SB-033 SB-312 SB-004 SB-311 SB-158 SB-202 SB-163 SB-310 SB-164 SB-117 SB-322 SB-323 SB-220b SB-018 SB-314 SB-162 SB-315 SB-316 SB-201 SB-324 SB-059 SB-021 SB-301 SB-159 SB-036 SB-305 SB-303 SB-043 SB-120 SB-020 SB-304 SB-200 SB-031 SB-165 SB-209 SB-061 SB-176 SB-208 SB-114 SB-177 SB-222 SB-223

2013 Sediment Core Locations
- Deep core with samples
- Shallow core with samples
- Deep core, no sample
- Shallow core, no sample
- Test pit with samples
- Test pit, no sample
- Sample Analyzed for Chromium VI
- Sample Analyzed for Chromium VI and SPLP Metals
- Sample Analyzed for SPLP metals

Internal Boundaries
- Approximate Marine Area Boundary (MHHW)
- Approximate Upland Area Boundary

Topography and Bathymetry
- Major Elevation Contour (feet NAVD88)
- Minor Elevation Contour (feet NAVD88)

Upland Features
- Upland Stream
- Wooden Barge
- Former Structure

Intertidal Zone Features
- Piling Structure
- Rock Jetty

NTCRA Features
- Tailings and Contaminated Soil Removal Area (Backfilled and Covered)
- Rock Outcrop

N

0 200 400 Feet

Notes:
(1) Aerial photography courtesy US Census Bureau; approximate date 2006. NAD83, UTM Zone 8N, Meters. Pixel size 1 meter.
(2) Historical mine and mill features from Focused Upland Engineering Evaluation/Cost Analysis (EE/CA) Final Report Salt Chuck Mine Report (URS, March 2010)
(3) Marine bathymetry and structures near former mill from 2013 EPA Survey Data
(4) Excavation area and topography at former mill from Final Completion Report Non-Time -Critical Removal Action Salt Chuck Mine Mill Prince of Wales Island, Alaska, North Wind for USFS, May 2012

Figure 2-3
2013 Sediment Core and Test Pit Locations
Salt Chuck Mine, Alaska

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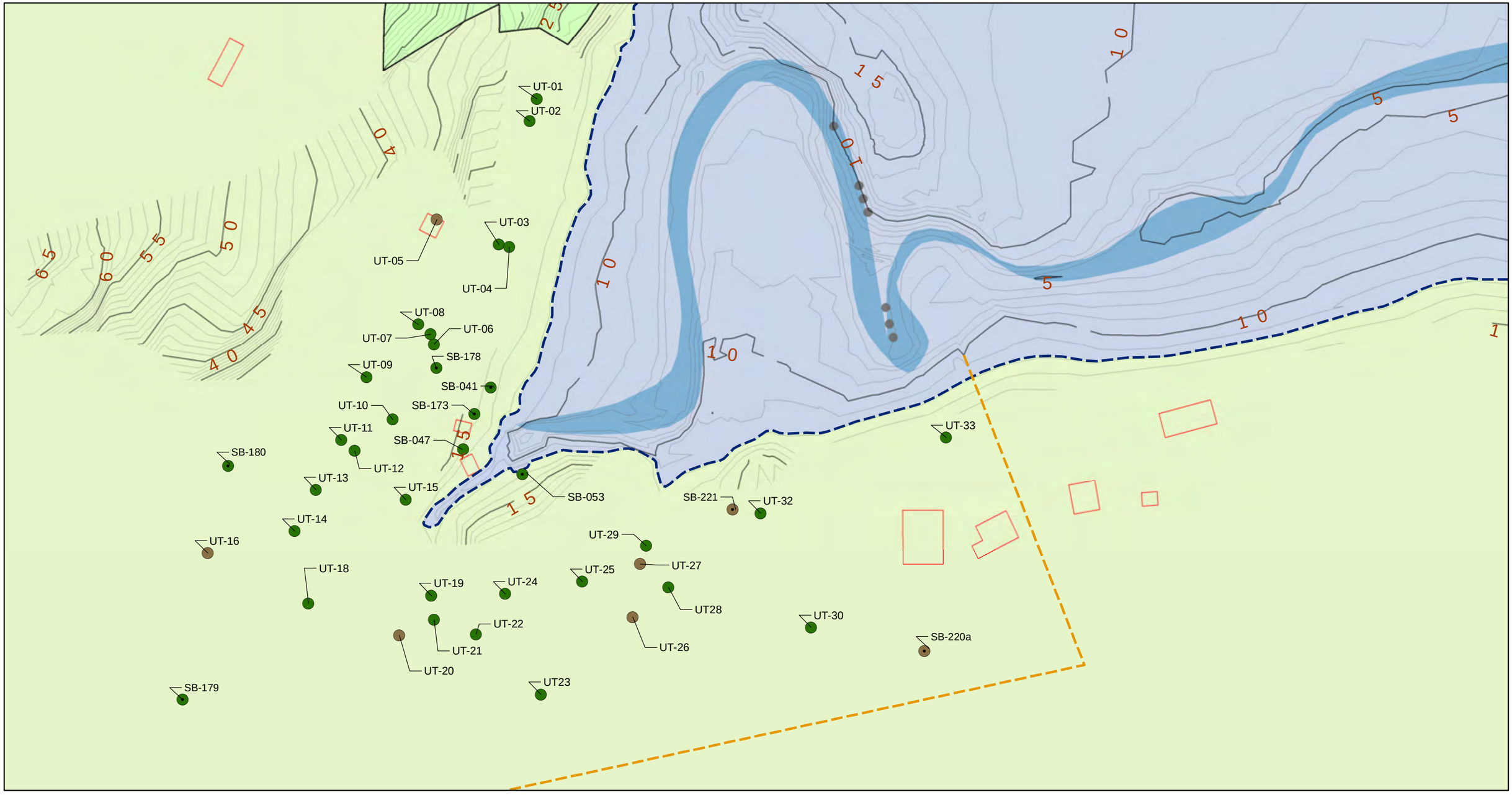

Upland Tailings Locations, Test Pits and Short Cores

- Tailings observed
- No tailings observed
- Tailings observed, sample collected
- No tailings observed, sample collected

Internal Boundaries

- Approximate Upland Area Boundary
- Approximate Marine Area Boundary (MHHW)

Topography and Bathymetry

- Major Elevation Contour (feet NAVD88)
- Minor Elevation Contour (feet NAVD88)

Upland Features

- Former Structure

Intertidal Zone Features

- Piling Structure

NTCRA Features

- Tailings and Contaminated Soil Removal Area (Backfilled and Covered)

N

0 100 200 Feet

Notes:
(1) Aerial photography courtesy US Census Bureau; approximate date 2006. NAD83, UTM Zone 8N, Meters. Pixel size 1 meter.
(2) Historical mine and mill features from Focused Upland Engineering Evaluation/Cost Analysis (EE/CA) Final Report Salt Chuck Mine Report (URS, March 2010)
(3) Marine bathymetry and structures near former mill from 2013 EPA Survey Data
(4) Excavation area and topography at former mill from Final Completion Report Non-Time -Critical Removal Action Salt Chuck Mine Mill Prince of Wales Island, Alaska, North Wind for USFS, May 2012

Figure 2-4
2013 Upland Tailings Sample and Delineation Locations
Salt Chuck Mine, Alaska

EPA

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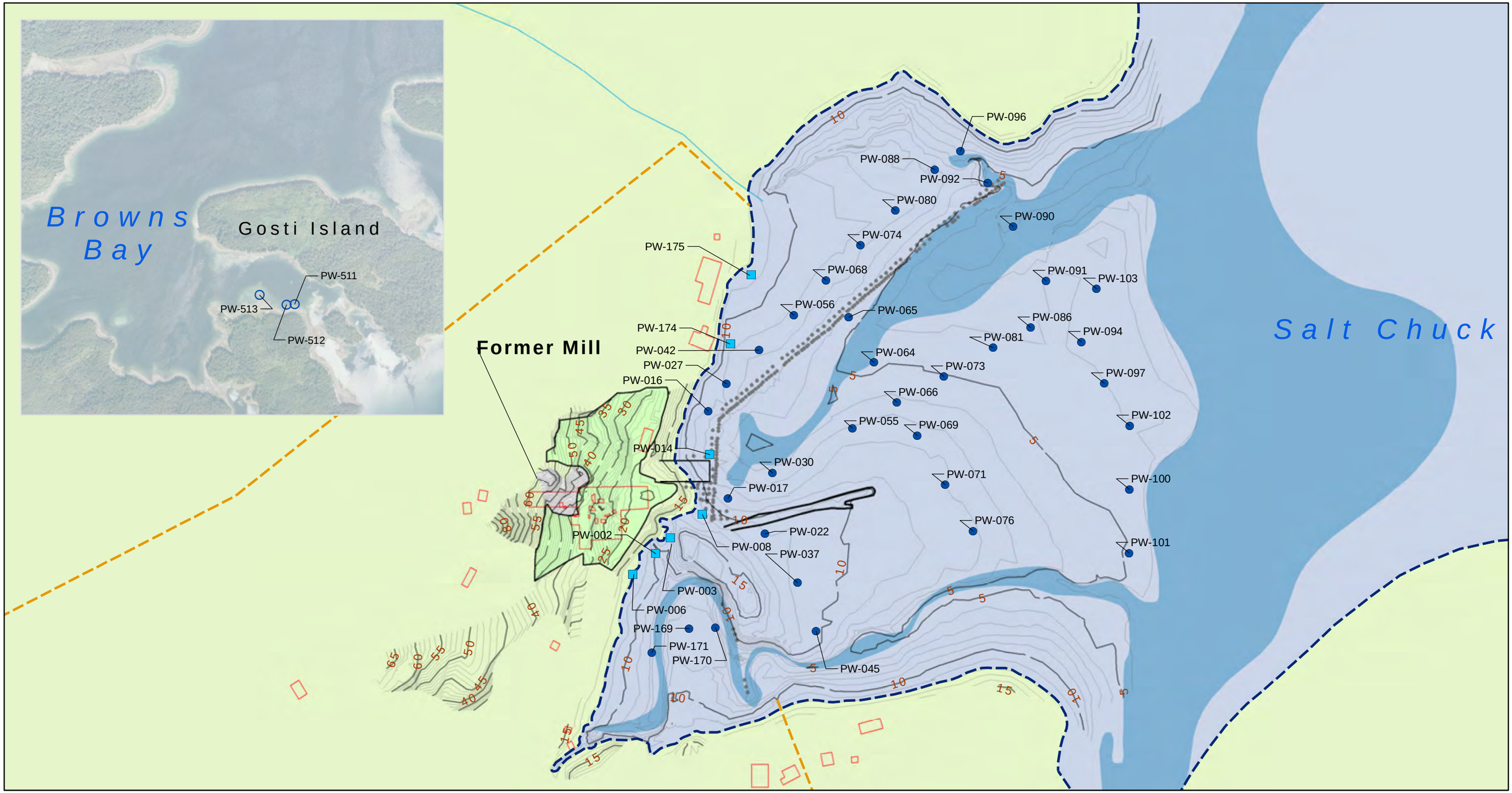

2013 Porewater Sample Locations
- Airstone Sample Location (Reference Area)
- Airstone Sample Location (Site)
- Drive-point Sample Location

Internal Boundaries
- Approximate Upland Area Boundary
- Approximate Marine Area Boundary (MHHW)

Topography and Bathymetry
- Major Elevation Contour (feet NAVD88)
- Minor Elevation Contour (feet NAVD88)

Upland Features
- Upland Stream
- Wooden Barge
- Former Structure

Intertidal Zone Features
- Piling Structure
- Rock Jetty

NTCRA Features
- Tailings and Contaminated Soil Removal Area (Backfilled and Covered)
- Rock Outcrop

N

0 200 400 Feet

Notes:
(1) Aerial photography courtesy US Census Bureau; approximate date 2006. NAD83, UTM Zone 8N, Meters. Pixel size 1 meter.
(2) Historical mine and mill features from Focused Upland Engineering Evaluation/Cost Analysis (EE/CA) Final Report Salt Chuck Mine Report (URS, March 2010)
(3) Marine bathymetry and structures near former mill from 2013 EPA Survey Data
(4) Excavation area and topography at former mill from Final Completion Report Non-Time -Critical Removal Action Salt Chuck Mine Mill Prince of Wales Island, Alaska, North Wind for USFS, May 2012

Figure 2-5
2013 Porewater Sample Locations
Salt Chuck Mine, Alaska

EPA

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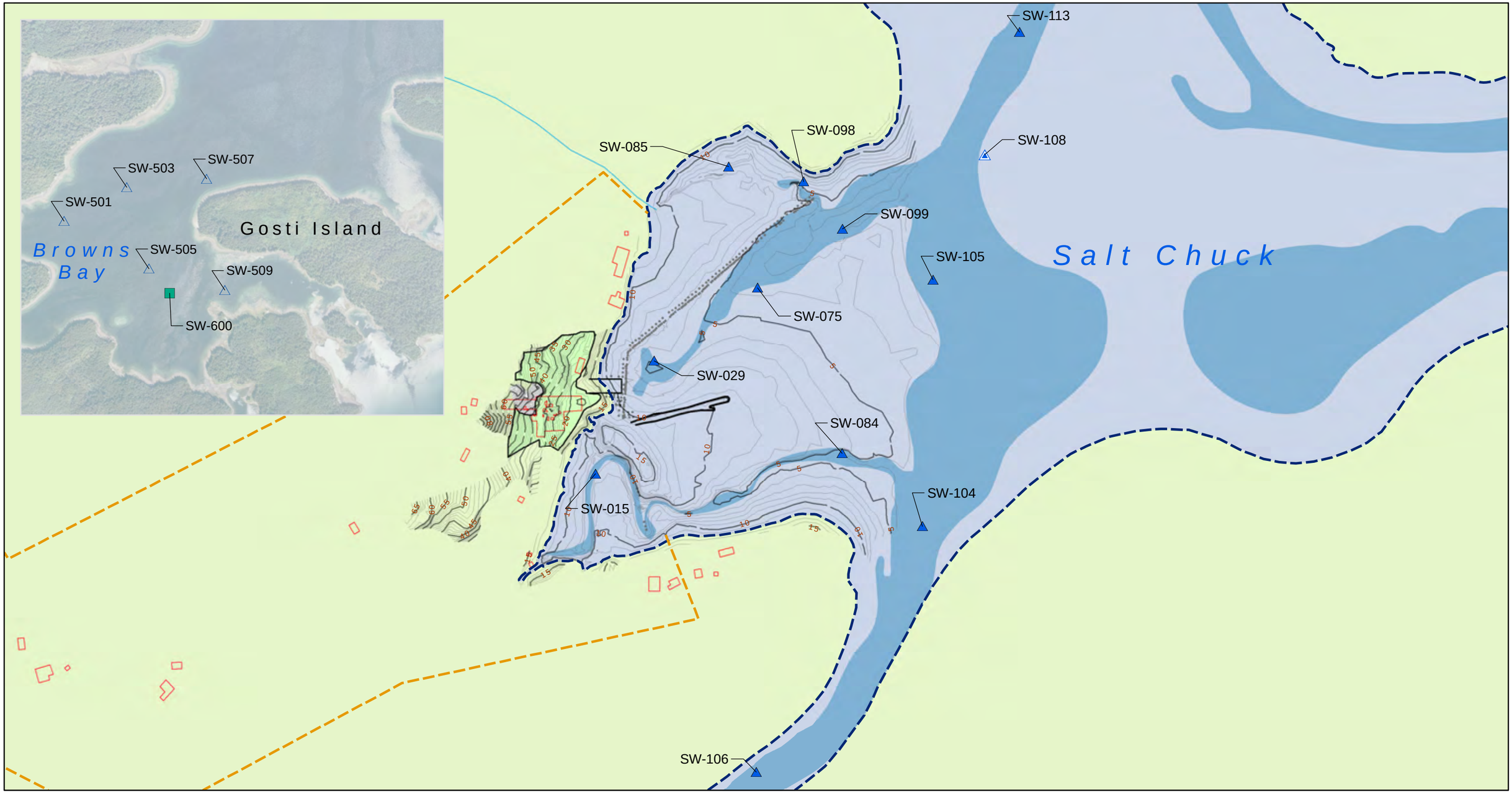

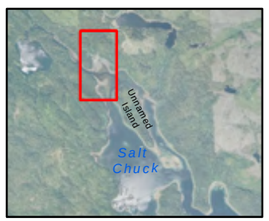

2013 Surface water Sample Locations
- Grab Sample Location
- Hourly Grab Sample Location
- Reference Area Grab Sample Location
- Water used for SPLP Analysis

Internal Boundaries
- Approximate Upland Area Boundary
- Approximate Marine Area Boundary (MHHW)

Topography and Bathymetry
- Major Elevation Contour (feet NAVD88)
- Minor Elevation Contour (feet NAVD88)

Upland Features
- Upland Stream
- Wooden Barge
- Former Structure

Intertidal Zone Features
- Piling Structure
- Rock Jetty

NTCRA Features
- Tailings and Contaminated Soil Removal Area (Backfilled and Covered)
- Rock Outcrop

N

0 200 400 Feet

Notes:
(1) Aerial photography courtesy US Census Bureau; approximate date 2006. NAD83, UTM Zone 8N, Meters. Pixel size 1 meter.
(2) Historical mine and mill features from Focused Upland Engineering Evaluation/Cost Analysis (EE/CA) Final Report Salt Chuck Mine Report (URS, March 2010)
(3) Marine bathymetry and structures near former mill from 2013 EPA Survey Data
(4) Excavation area and topography at former mill from Final Completion Report Non-Time -Critical Removal Action Salt Chuck Mine Mill Prince of Wales Island, Alaska, North Wind for USFS, May 2012

Figure 2-6
2013 Surface Water Sample Locations
Salt Chuck Mine, Alaska

EPA

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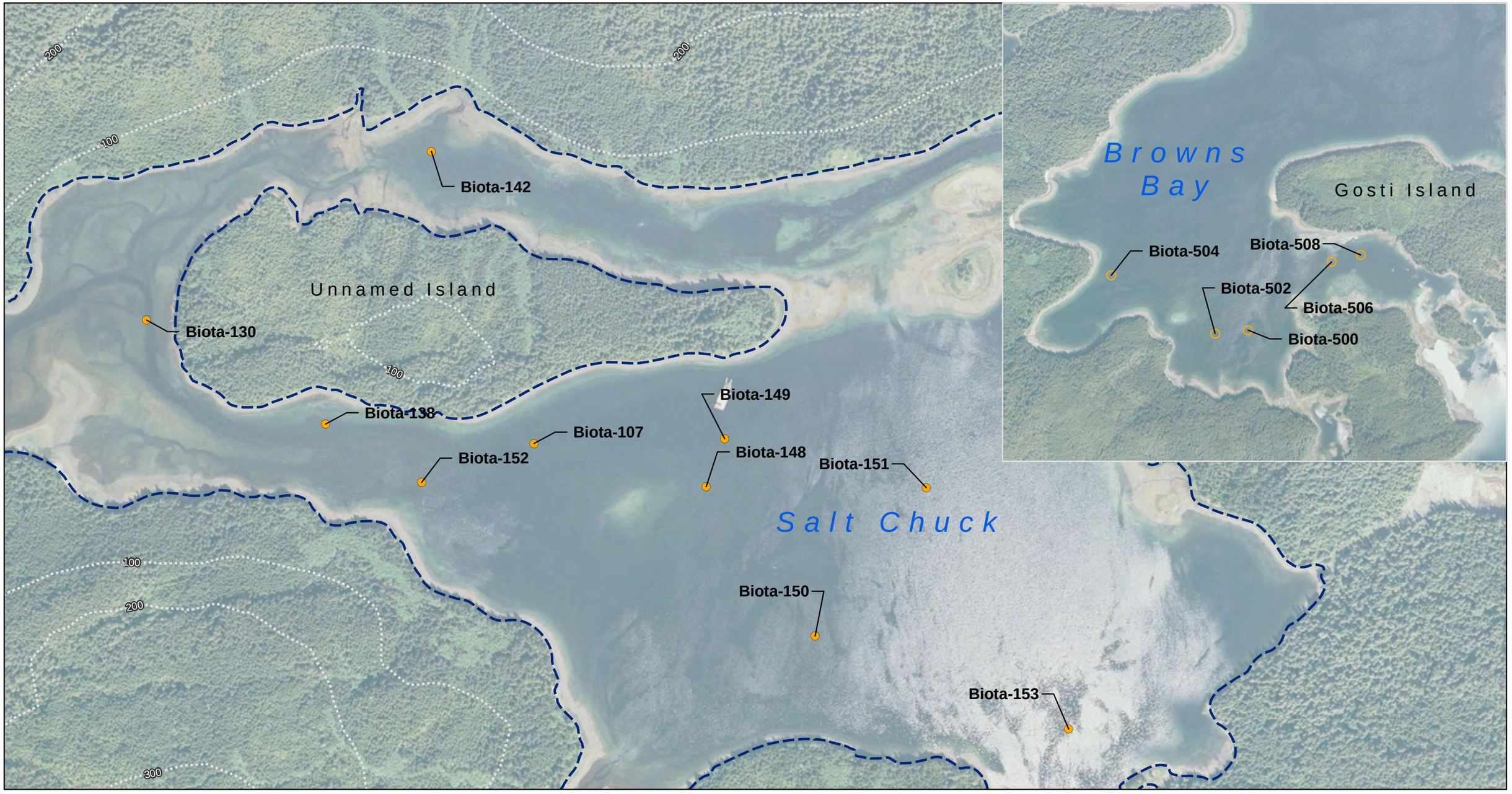

Biota (Dungeness Crab) Sample Locations

- Reference Area Sample Location
- Site Sample Location

Internal Boundaries

- Approximate Marine Area Boundary (MHHW)

Topography and Bathymetry

- Upland Topographic Contours (100 ft contour line)

N

0 375 750 Feet

Notes:
(1) Aerial photography courtesy US Census Bureau; approximate date 2006. NAD83, UTM Zone 8N, Meters. Pixel size 1 meter.

Figure 2-7
2013 Marine Biota Sample Locations
Salt Chuck Mine, Alaska

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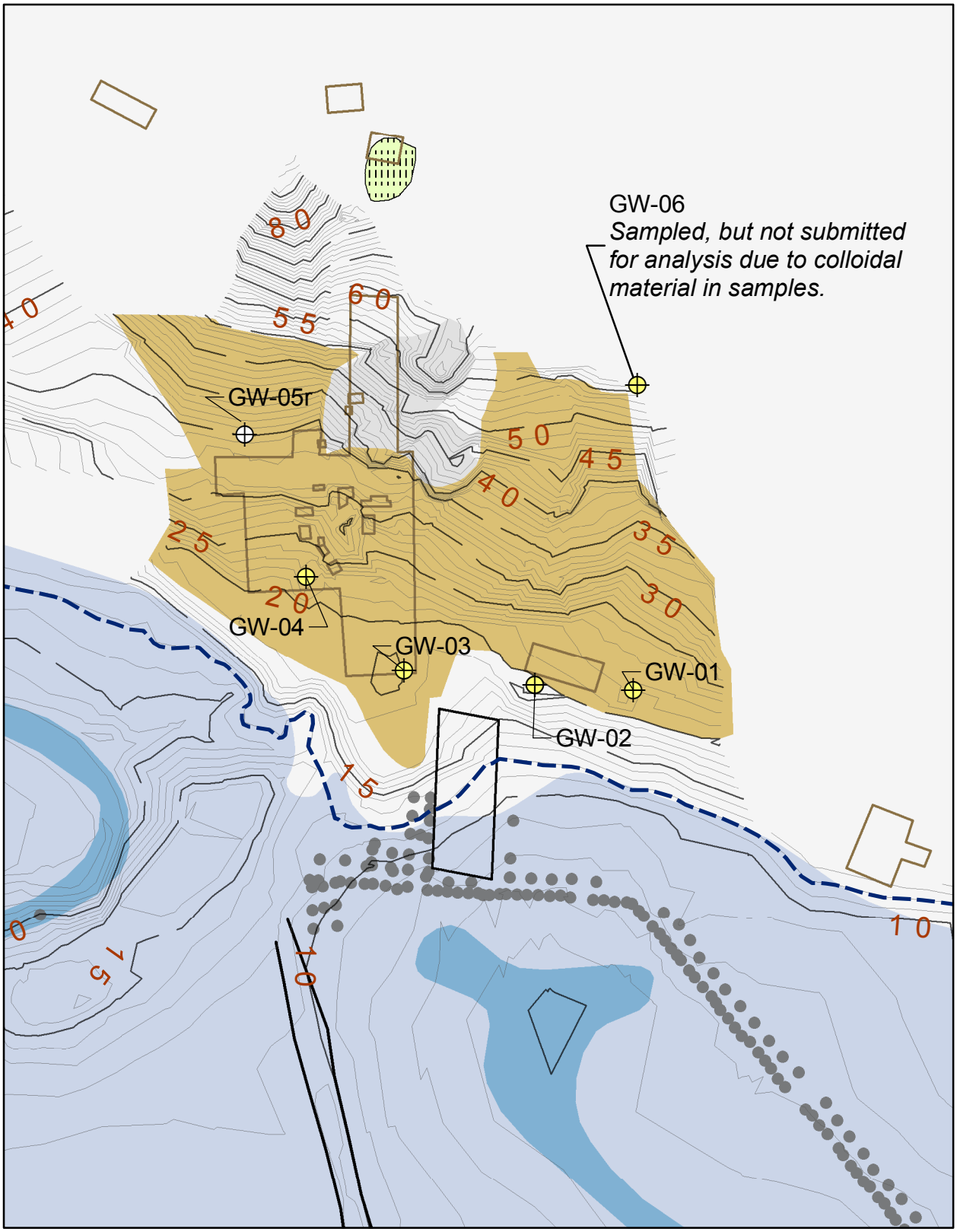

Notes:
(1) Aerial photography courtesy US Census Bureau; approximate date 2006. NAD83, UTM Zone 8N, Meters. Pixel size 1 meter.
(2) Historical mine and mill features from Focused Upland Engineering Evaluation/ Cost Analysis (EE/CA) Final Report Salt Chuck Mine Report (URS, March 2010)
(3) Marine bathymetry and structures near former mill from 2013 EPA Survey Data
(4) Excavation area and topography at former mill from Final Completion Report Non-Time -Critical Removal Action Salt Chuck Mine Mill Prince of Wales Island, Alaska, North Wind for USFS, May 2012

Figure 2-8
2013 Groundwater Sample Locations
Salt Chuck Mine, Alaska

EPA