PARADISE CREEK BIOTA
SAMPLING AND ANALYSIS PLAN
PECK IRON AND METAL
REMEDIAL INVESTIGATION
PORTSMOUTH, NORFOLK COUNTY, VIRGINIA

REVISION 02

Prepared for:

U.S. Environmental Protection Agency Region 3
1650 Arch Street
Philadelphia, PA 19103

EPA Contract: EP-S3-07-05
Work Assignment: 044RICOA3Z4

May 2016

HydroGeoLogic, Inc

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LIST OF ACRONYMS AND ABBREVIATIONS

ASTM	ASTM International
AWQC	ambient water quality criteria
BERA	Baseline Ecological Risk Assessment
bgs	below ground surface
CDM	CDM Federal Programs
CLP	Contract Laboratory Program
COPC	contaminant of potential concern
CPUE	catch per unit effort
CRQL	contract required quantitation limit
CSM	Conceptual Site Model
DO	dissolved oxygen
DQO	data quality objective
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
GPS	global positioning system
HGL	HydroGeoLogic, Inc.
HHRA	Human Health Risk Assessment
ID	identification
µg/L	micrograms per liter
mg/kg	milligrams per kilogram
MS	matrix spike
MSD	matrix spike duplicate
NOAA	National Oceanic and Atmospheric Administration
PARCCS	precision, accuracy, representativeness, completeness, comparability, and sensitivity
PCB	polychlorinated biphenyl
PCDDs	polychlorinated dibenzo-p-dioxins
PCDFs	polychlorinated dibenzofurans
PM	Project Manager
PRG	preliminary remediation goal

QA	quality assurance
QC	quality control
RAC	Remedial Action Contract
RI	remedial investigation
RSL	regional screening level
SAP	Sampling and Analysis Plan
Site	Peck Iron and Metal Superfund Site
SLERA	Screening Level Ecological Risk Assessment
SMP	Site Management Plan
SOW	Statement of Work
SQuiRTs	Screening Quick Reference Tables
Sr-90	Strontium 90
SVOC	semivolatile organic compound
TAL	target analyte list
TCL	target compound list
TEQ	toxicity equivalents
TOC	total organic carbon
TR/COC	traffic report/chain of custody
UCL	upper confidence limit
UTL	upper tolerance limit
VADEQ	Virginia Department of Environmental Quality
VOC	volatile organic compound

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PORTSMOUTH, NORFOLK COUNTY, VIRGINIA

1.0 INTRODUCTION

This Sampling and Analysis Plan (SAP) presents the sampling requirements, field procedures, and quality assurance (QA)/quality control (QC) for biota and toxicity sediment sampling to be conducted as part of a Remedial Investigation (RI) at the Peck Iron and Metal Superfund Site (Site) in Portsmouth, Virginia. The U.S. Environmental Protection Agency (EPA) site identification (ID) for the Site is VAN000306115. Biota and toxicity sediment sampling is being conducted as part of the RI to determine the potential risks to human health and ecological receptors associated with contaminants discharging from the Site. The RI is being completed under EPA Region 3 Remedial Action Contract (RAC) II, Work Assignment 044RICOA3Z4.

This SAP specifically addresses biota sampling and analysis of aquatic tissue samples and sediment toxicity testing samples that will be collected from Paradise Creek and the three Elizabeth River background locations. Sample tracking and data management protocols and sediment and surface water sampling activities within Paradise Creek are discussed in the EPA and Virginia Department of Environmental Quality (VADEQ)-approved Site Management Plan (SMP) (HGL, 2016). Where appropriate, this SAP references procedures and protocols presented in the SMP (HGL, 2016) and, along with the SMP, will be reviewed and followed by all staff participating in the tissue sampling task. This SAP was developed to address comments and concerns provided by EPA, EPA's Biological Technical Advisory Group, EPA's Office of Analytical Services and Quality Assurance Branch, and VADEQ. Both regulatory agencies and the EPA technical groups will review and approve the document before this SAP is implemented.

1.1 BACKGROUND

The Site is located within the Paradise Creek watershed, specifically along the creek's northern bank. Surface water drainages from the Site discharge directly to Paradise Creek. Paradise Creek, a tidally influenced stream, is a tributary to the Southern Branch of the Elizabeth River and drains approximately 2.9 square miles. The Paradise Creek watershed is highly developed and is covered almost entirely by industrial, commercial, and residential development. Storm water, from as much as a third of the City of Portsmouth, discharges into Paradise Creek from 32 different points along the creek. Several other Superfund sites including the New Gosport Landfill, the Scott Center Annex Landfill and the Paradise Creek Landfill also border the creek.

A detailed discussion of Paradise Creek, the surrounding properties, and the results of past pre-RI sampling is presented in Section 2 of the SMP (HGL, 2016). RI sampling results of Paradise Creek is discussed below in Section 1.2.

1.2 PARADISE CREEK 2015 REMEDIAL INVESTIGATION RESULTS

Sampling of the Paradise Creek channel sediments, tidal wetland sediments, and surface water was conducted as part of the RI of the Site. The RI sampling of Paradise Creek was conducted to determine if Site contaminants of potential concern (COPCs) had migrated from the Site into Paradise Creek and, if present, determine if the COPCs are present at concentrations that could potentially pose a risk to human health and/or ecological receptors. As part of the RI, background sediment and surface water samples were collected from EPA and VADEQ approved sampling locations within the Elizabeth River on the farther shore.

A detailed discussion of the RI Paradise Creek sampling results and data evaluation is not provided within this SAP. Rather, a general overview of the RI sampling results has been provided to justify proposed Paradise Creek and Elizabeth River biota sampling and toxicity sampling locations. A detailed discussion of the RI sampling activities will be provided in a data evaluation report to be submitted upon receipt of all validated analytical results obtained from various field events conducted between January 2015 through February 2016. The data evaluation report is currently scheduled for submission in late June, or early July 2016.

1.2.1 Elizabeth River Background Sampling Results

1.2.1.1 Sampling

Background sediment and surface water samples were collected and analyzed for compounds of concern in order to assess whether metal and organic compound concentrations detected in the Paradise Creek sediment and surface water samples were attributable to natural conditions and regional anthropogenic sources not related to former Site activities. The three background sampling locations approved by EPA and VADEQ are shown on Figure 1.1.

Two sediment samples, one collected from 0 to 0.5 feet below ground surface (bgs) and one from 0.5 to 2 feet bgs, were collected from each of the three background sampling locations. A duplicate sample was collected of one of the 0 to 0.5 foot bgs sediment samples for QA purposes. The sediment samples were analyzed for pH; grain size; Target Analyte List (TAL) metals including mercury; polychlorinated biphenyls (PCBs) (Aroclors and total PCBs); dioxins/furans; pesticides; Target Compound List (TCL) semivolatile organic compounds (SVOCs); gamma emitting isotopes; and Strontium 90 (Sr-90). The three 0 to 0.5 foot bgs sediment samples were also analyzed for PCB congeners. One surface water sample was collected from each of the background sampling locations for laboratory analysis. The surface water samples were analyzed for the same suite of constituents as the sediment samples. A data summary table of the background sediment and surface water data has been included as Tables A.1 (sediment) and A.2 (surface water) in Appendix A.

1.2.1.2 Background Calculations

For analytes that were positively detected in at least 6 of the background sediment samples, 95 percent upper tolerance limits (UTLs) were developed using ProUCL Software (Version 5). The calculated UTLs were utilized as background values. For analytes that were positively detected in five or fewer of the background sediment samples as well as the analytes detected in the three surface water samples, the maximum analyte concentration was recorded. The background UTLs or maximum concentrations were then directly compared to the Paradise Creek data to assess possible Site contributions to the Paradise Creek media. For dioxins/furans and PCB congeners, Toxicity Equivalents (TEQs) were calculated from the background data and compared to Paradise Creek data to assess possible Site contributions.

A discussion on the development of the background dataset and supporting documentation for the provided background dataset is beyond the scope of this SAP and has not been provided. Rather, this information and supporting documentation will be provided in a data evaluation report along with development of background dataset(s) for the Site soils. Submission of the data evaluation report is currently scheduled for submission in late June, or early July 2016.

1.2.2 Paradise Creek Aquatic Sediments

1.2.2.1 RI Sampling

Sediment samples were collected from 12 locations, designated as PCSD01 through PCSD12, within Paradise Creek (Figure 1.2). The sediment sample locations were selected as follows:

- Sediment locations PCSD01 and PCSD02 were located upstream of the Site to assess potential migration of Site contaminants upstream due to tides.
- Sediment location PCSD03 was located at the Site's western property boundary.
- Sediment locations PCSD04 and PCSD05 were located near (PCSD04) and downstream (PCSD05) of a Site outfall discharging surface water from the Site's western drainage system.
- Sediment locations PCSD06 and PCSD07 were located on the Site's eastern property boundary.
- Sediment locations PCSD08, PCSD09, and PCSD10 were located immediately downstream of the Site.
- Sediment locations PCSD11 and PCSD12 were located farther downstream of the Site.

The sediment samples were collected from 0 to 0.5 feet below the bottom of the channel and from 0.5 to 2 feet below the bottom of the channel and submitted for laboratory analysis. Sediment samples from the 0 to 0.5 foot interval were analyzed for TCL volatile organic compounds (VOCs); TCL SVOCs; TCL pesticides; TCL PCBs; total PCBs; TAL metals including mercury and cyanide; pH; gamma spectroscopy; and Sr-90. Three samples from the upper interval were also analyzed for PCB congeners. Sediment samples from the 0.5 to 2 foot

interval were analyzed for TCL VOCs; TCL SVOCs; TCL pesticides; TCL PCBs; total PCBs; TAL metals including mercury and cyanide; pH; gamma spectroscopy; Sr-90; polychlorinated dibenzo-p-dioxins (PCDDs)/polychlorinated dibenzofurans (PCDFs); hexavalent chromium, explosives; and grain size. Six of the lower interval samples were targeted for total organic carbon (TOC) analysis.

1.2.2.2 Analytical Results

A data summary table of the Paradise Creek sediment data has been included as Table A.3 in Appendix A. For evaluating potential risks to human health, the Paradise Creek sediment analytical results were screened against background and the lowest preliminary remediation goals (PRGs) for the consumption of fish, oysters, and crabs. For gamma emitting isotopes, detected concentrations were also evaluated against calculated direct contact PRGs.

For evaluating potential risks to ecological receptors, the Paradise Creek sediment analytical results were screened against background and the following ecological risk screening criteria:

- The lowest Ambient Water Quality Criteria (AWQC) benchmark for sediment in freshwater and marine environments; and
- The lowest National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Tables (SQuiRTs) benchmark for freshwater and marine environments.

Ecological screening was conducted using freshwater and marine benchmarks due to the brackish nature of Paradise Creek.

Metals: The Paradise Creek sediment samples were reported to contain 24 metals, including hexavalent chromium, which was detected in every sediment sample submitted for hexavalent chromium analysis. Of the 24 metals detected, 22 were detected above Elizabeth River background values. Cyanide exceeded background in only one sample (PCSD10-005020); the result is suspect and may be attributable to laboratory blank contamination. The remaining 21 metals detected at concentrations exceeding background were present in one or more of the 12 sample locations and in both the 0 to 0.5 foot bgs and the 0.5 to 2 foot bgs sediment sampling intervals.

The highest number of metal maximum concentrations were reported in the sediment samples obtained from PCSD04, the sample location nearest to the Site's Western Drainage Conveyance outfall. Metals with the highest concentrations at PCSD04 included beryllium, chromium, cobalt, copper, nickel, and zinc. Other maximum metal concentrations were detected at sample locations PCSD01 (antimony), PCSD05 (arsenic and hexavalent chromium), PCSD07 (cadmium, silver and vanadium), and PCSD10 (aluminum and manganese). Thallium concentrations from location PCSD02, which is downstream of PCSD12, remained generally consistent, ranging from 1.2 milligrams per kilogram (mg/kg) to 2 mg/kg, except at location PCSD04, where thallium was not detected. Downstream of locations PCSD04 and PCSD07, metal concentrations generally decrease or decrease and then stay relatively consistent. With the exception of antimony, metal concentrations gradually

decreased upstream of sample location PCSD04. Antimony was detected in only one sample, PCSD01, and only in the 0.5 to 2 foot bgs sediment sample. Metal concentrations decreasing upstream and downstream of location PCSD04 suggests the Site and specifically, the Site's Western Drainage Conveyance outfall, as a primary contaminant source of those metals in Paradise Creek. The gradual decrease of the metal exceedances upstream of location PCSD04 also indicate some upstream migration of Site contaminants most likely due to storm surges and tidal flow.

Of the 22 metals exceeding background, 16 were detected at concentrations exceeding human health PRGs (Table 1.1.1A) while 10 metals were detected at concentrations exceeding ecological screening criteria (Table 1.1.1B). Human health screening criteria exceedances were observed in all 12 sample locations. Metals exceeding human health PRGs included aluminum, antimony, arsenic, beryllium, cadmium, chromium, hexavalent chromium, cobalt, copper, cyanide, manganese, nickel, silver, thallium, vanadium, and zinc. Ecological screening criteria exceedances were observed in 11 of the 12 sample locations. Metals exceeding ecological criteria included arsenic, cadmium, chromium, cobalt, copper, cyanide, lead, nickel, silver and zinc. Figures 1.3 and 1.4 present the distribution of metals within the Paradise Creek sediments, identifying those metals that exceed background, human health criteria (Figure 1.3), and ecological criteria (Figure 1.4).

As discussed above, the cyanide detection and human health PRG exceedance is suspect. In addition, the location of the maximum antimony concentration (and human health PRG exceedance) upstream of the Site and the relatively consistent thallium concentration range detected throughout Paradise Creek, suggests both antimony and thallium are not attributable to the Site.

PCBs: PCB results compared to human health and ecological screening criteria have been included as Tables 1.1.2A and 1.1.2B, respectively.

Three PCB Aroclors—Aroclor-1248, Aroclor-1260, and Aroclor-1268—were detected in Paradise Creek sediments. Aroclors were not detected in any of the Elizabeth River background sediment samples; therefore, all Aroclor concentrations detected in Paradise Creek were assumed to be representative of the Site. Aroclor-1260 was the most prevalent Aroclor detected in the sediment samples. Aroclor and total PCB concentrations were observed to have a similar distribution pattern as the metals data. The highest Aroclor and total PCB concentrations were detected in the 0 to 0.5 foot bgs sediment sample obtained from location PCSD04. PCBs were detected upstream of sample location PCSD04, but the PCB concentrations decreased as distance upstream increased. Downstream of location PCSD04, PCB concentrations decreased from 670 micrograms per kilogram (μg/kg) to concentrations ranging from 35 μg/kg to 240 μg/kg. All PCB detections in the Paradise Creek sediment samples exceeded background and human health screening criteria. PCB concentrations in all samples, except those collected from location PCSD01, also exceeded ecological screening criteria. Figures 1.5 and 1.6 depict the Aroclor concentrations exceeding human health (Figure 1.5) and ecological screening criteria (Figure 1.6).

Individual PCB congeners were detected in the background sediment samples. The presence of PCB congeners within the background sediment samples allowed for background TEQs to be calculated for dioxin-like PCBs. Four Paradise Creek sediment samples plus a duplicate sample were submitted for PCB congener analysis. TEQs calculated for the dioxin-like PCB congener data for all five samples (four samples plus a duplicate) exceeded background calculated TEQs. The calculated Paradise Creek sediment TEQs for the dioxin-like PCB congeners are also shown on Figures 1.5 and 1.6.

Dioxins/Furans: Dioxins/furans were detected in the Elizabeth River background sediment samples. No background UTLs or maximum background concentrations were calculated for the individual dioxins/furans detected in the background sediment samples; rather TEQs were calculated from the background dataset and compared to dioxin/furan TEQs generated from the Paradise Creek sediment dataset.

The Paradise Creek sediment samples exhibited detections of 26 dioxins/furans (Table 1.1.3A). Dioxin/furan TEQ exceedances of background were observed in several of the Paradise Creek samples, specifically, from locations PCSD04, PCSD07, and PCSD09. At all 3 locations, the dioxin/furan TEQs for birds, fish, humans, and mammals exceeded human health PRGs. The distribution of the Paradise Creek sediment dioxin/furan TEQs is provided as Figure 1.7.

No ecological screening criteria was available for evaluating the TEQs (Table 1.1.3B). An AQWC benchmark was available for dioxin 2,3,7,8-TCDD. The dioxin was not detected in any of the sediment samples at concentrations exceeding its AWQC benchmark.

Pesticides: No pesticides were detected in the Elizabeth River sediment background samples; consequently, pesticides detected in the Paradise Creek sediment samples have been assumed to be attributable to former Site activities or localized anthropogenic sources.

Paradise Creek sediment pesticide analytical results were screened against human health PRGs and ecological screening benchmarks. These screening tables have been included as Tables 1.1.4A and 1.1.4B, respectively. Three pesticides were detected: 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT, with 4,4'-DDE being the most prevalent. The pesticides were detected in most of the samples with the maximum pesticide concentrations reported in the two sediment samples retrieved from location PCSD09. All detected concentrations exceeded both human health and ecological screening criteria. Pesticides were reported as nondetect in PCSD10, PCSD11, and PCSD12. The pesticide detections were inconsistent with the distribution of metals, PCBs, and dioxin/furan detections. The pesticides were detected sporadically in the sediment samples obtained from locations PCSD01 through PCSD05, PCSD07, PCSD08, and PCSD09. Downstream of PCSD09, no pesticides were detected in the sediment samples. The highest 4,4'-DDE concentration was detected in the 0.5 to 2 foot bgs sediment sample obtained from location PCSD05. The highest 4,4'-DDD and 4,4'-DDT concentrations were detected in the 0 to 0.5 foot bgs sediment sample obtained from location PCSD09. Based on the distribution of pesticides, a source of the pesticides exists in the vicinity of location PCSD09, located downstream of the Site and near the Victory Boulevard bridge.

SVOCs and VOCs: SVOCs were detected in the Elizabeth River background sediment samples and UTLs were generated for evaluation of the Paradise Creek sediment SVOC data. The Elizabeth River background sediment samples were not analyzed for VOCs; consequently, VOCs detected in the Paradise Creek sediment samples were considered either attributable to the Site or to laboratory blank contamination. The SVOC and VOC screening results are included as Tables 1.1.5A (human health screening) and 1.1.5B (ecological screening).

Two VOCs were detected sporadically in the Paradise Creek sediment samples. Neither VOC was detected at concentrations exceeding screening criteria.

As shown in Table 1.1.5A, four SVOCs, benzo(a)anthracene, benzo(a)pyrene, bis(2-ethyhexyl)phthalate, and chrysene were detected at concentrations exceeding both background levels and human health PRGs. All four SVOCs exhibited exceedances in the sediment sample obtained from location PCSD04 at 0 to 0.5 foot bgs, and bis(2-ethyhexyl)phthalate and chrysene exceedances were reported in the 0.5 to 2 foot bgs interval. Bis(2-ethyhexyl)phthalate also exceeded background and its human health PRG in the 0 to 0.5 foot bgs sediment samples from PCSD07 and PCSD09.

As shown in Table 1.1.5B, nine SVOCs exceeded background and ecological screening benchmarks. The majority of these exceedances occurred in the sediment samples collected from location PCSD04. Exceedances of anthracene, di-n-butylphthalate, and fluoranthene were also reported in the sediment samples obtained from location PCSD05. As with the human health PRG exceedances, bis(2-ethyhexyl)phthalate concentrations in the 0 to 0.5 foot bgs sediment interval exceeded ecological benchmarks. Di-n-butylphthalate was also detected at a concentration exceeding background and ecological benchmarks in the 0 to 0.5 foot bgs sediment sample from location PCSD02.

The distribution of the SVOC background exceedances and exceedances of applicable screening criteria corresponds with the metals, PCB, and dioxin/furan exceedances noted for Paradise Creek sediments.

Isotopes: Gamma emitting isotopes and Sr-90 positive screening results are included in Tables 1.1.6A (human health screening) and 1.1.6B (ecological screening). Due to matrix interferences, Radium-226, one of the isotopes previously identified in Site soils during gamma scanning activities, could not be detected. Nine gamma emitting isotopes and Sr-90 were detected in the Paradise Creek sediments, including Radium-226 degradation daughter isotopes Bismuth-214 and Lead-214. Because Bismuth-214 and Lead-214 are daughter products of Radium-226 and can be utilized to assess Radium-226 concentrations, the two isotopes were screened against the Radium-226 PRGs.

Of the gamma emitting isotopes detected, only Radium-228 was reported in the background sediment samples. The highest detections of Bismuth-214 and Lead-214 occurred in the two sediment samples retrieved from location PCSD04. The Lead-214 concentration detected in the 0.5 to 2 foot bgs interval exceeded the Radium-226 direct contact PRG. Sr-90 was detected in only one sample, the 0 to 0.5 foot bgs sediment sample from location PCSD10.

The isotopes were screened against sediment PRGs associated with direct contact as well as the PRG derived for the consumption of fish, crabs, and oysters. Potassium-40 was the only isotope detected at concentrations exceeding the direct soil contact PRG. The Potassium-40 direct contact exceedances occurred in the sediment samples collected from locations PCSD02 and PCSD04 through PCSD12. Potassium-40 was not reported in the background sediment samples. Consequently, based on the similar distribution of the elevated Potassium-40 with metals, PCBs, dioxins/furans, and SVOCs within Paradise Creek, the elevated detections of Potassium-40 might be attributable to the Site.

Consumption PRGs were developed for Cesium-137, Lead-212, Lead-214, Potassium-40, Radium-228, Uranium-235, and Strontium-90. With the exception of Lead-214, when detected, the above isotopes were detected at concentrations exceeding the consumption PRGs.

None of the 10 isotopes exceeded ecological screening benchmarks.

Miscellaneous Chemistry: Grain size analysis conducted on the Paradise Creek sediment samples from the 0.5 to 2 foot bgs interval shows that the creek is underlain with a mixture of clayey silty sands and silts and clays. Sands were encountered at high percentages only at locations PCSD01 and PCSD03. Sediment pH ranged from 7.04 to 8.06. TOC samples were also collected from the 0.5 to 2 foot bgs interval at locations PCSD01, PCSD03, and PCSD05. The TOC concentrations reported were 13,000 mg/kg at PCSD01, 17,000 mg/kg at PCSD03, and 65,000 mg/kg at PCSD05 (Table 1.1.7).

1.2.2.3 Conclusions

Comparison of the Paradise Creek sediment data against background results and applicable screening criteria indicate that metals, PCBs, dioxins/furans, pesticides, SVOCs, and isotopes attributable to the Site are present at concentrations potentially posing a risk to human health and ecological receptors. The distribution of the metals, PCBs, dioxins/furans, SVOCs, and isotopes suggest the Site's Western Drainage Conveyance system has resulted in contamination of Paradise Creek. In addition, contaminant migration upstream and downstream of the Site is occurring, most likely due to tidal flow.

1.2.3 Paradise Creek Tidal Wetland Sediment Results

1.2.3.1 RI Sampling

Sediment samples were collected from 18 locations within tidal wetlands, designated as PCWLSD01 through PCWLSD18 (Figure 1.2). The sediment sample locations along both sides of Paradise Creek upstream and downstream of the Site were selected to determine if tidal flow and storm surges have resulted in Site COPCs being deposited within the wetlands. The tidal wetland samples were collected in the same manner as the Paradise Creek sediment samples.

The sediment samples were collected from 0 to 0.5 feet below the bottom of the channel and from 0.5 to 2 feet below the bottom of the channel. Sediment samples from the 0 to 0.5 foot interval were analyzed for TCL VOCs; TCL SVOCs; TCL pesticides; TCL PCBs; total PCBs;

TAL metals, including mercury and cyanide; pH; gamma spectroscopy; and Sr-90. In addition, two samples were submitted for PCB congener analysis, eight samples were submitted for dioxins/furans analysis, nine samples were submitted for hexavalent chromium analysis, and nine samples were submitted for TOC analysis.

1.2.3.2 Analytical Results

A data summary table of the tidal wetland sediment data from Paradise Creek has been included as Table A.4 in Appendix A. For evaluating potential risks to human health, the analytical results were screened against background and the following screening criteria:

- The lowest PRGs for the consumption of fish, oysters, and crabs; and
- EPA residential soils Regional Screening Levels (RSLs) (cancer risk = 10^{-6}; hazard index = 0.1)

For evaluating potential risks to ecological receptors, the tidal wetland sediment analytical results were screened against background and the following ecological risk screening criteria:

- The lowest AWQC benchmark for sediment in freshwater and marine environments; and
- The lowest NOAA SQuiRTs benchmark for freshwater and marine environments.

Ecological screening was conducted using freshwater and marine benchmarks due to the brackish nature of Paradise Creek. No background samples were collected of the Elizabeth River tidal wetland sediments. Therefore, for background comparisons, the Paradise Creek background sediment sampling dataset was utilized. It is assumed that the sediment analytical results from the Elizabeth River sediment samples is suitable to evaluate Paradise Creek tidal wetland sediment samples.

Although the tidal wetland analytical data and screening results are provided below, proposed Paradise Creek biota and toxicity assessment sampling activities will be conducted solely within Paradise Creek and therefore are based on the Paradise Creek sediment data. Consequently, figures depicting COPC distributions within the tidal wetland sediments are not provided herein. Rather, COPC distribution figures for the tidal wetlands will be provided in the Data Evaluation report scheduled for submitted to the EPA in late June or early July 2016.

Metals: Metals detections were compared to human health screening criteria and ecological screening benchmarks in Tables 1.2.1A and 1.2.1B, respectively. Twenty-three metals were detected in the Paradise Creek tidal wetland sediment. Of the metals detected, 16 were detected at concentrations exceeding background and human health screening criteria and 12 were detected at concentrations exceeding background and ecological screening benchmarks.

Human health screening criteria exceedances were observed at all 18 sample locations; ecological screening criteria exceedances were observed at 16 of the 18 sample locations. Several of the metals, including cobalt, thallium, and vanadium, and to a lesser extent, nickel, were detected in nearly every sample at concentrations exceeding background and human

health screening criteria. Metals concentrations exceeding human health screening criteria and background were detected primarily in sediment samples from locations PCWLSD01, PCWLSD03, and PCWLSD08, and to a lesser extent in PCWLSD09, PCWLSD10, PCWLSD11, and PCWLSD14. Nickel and silver were detected in nearly every sample at concentrations exceeding background and ecological screening criteria. Metal concentrations exceeding background and ecological screening criteria were also detected primarily in the sediment samples from locations PCWLSD01, PCWLSD03, and PCWLSD08. PCWLSD08 was located within the wetlands just south of the Site embankment. PCWLSD09, PCWLSD10, PCWLSD11 and PCWLSD14 are located on the northern shore of Paradise Creek, just downstream of the Site. PCWLSD01 and PCWLSD03 are located on the southern shore of Paradise Creek and upstream of the Site. Both locations were located in the tidal wetlands immediately adjacent to the Paradise Creek channel.

PCBs: Aroclor, total PCBs, and PCB congener positive detect analytical results compared to human health screening criteria and ecological screening benchmarks have been included as Tables 1.2.2A and 1.2.2B, respectively.

Aroclors were not detected in any of the Elizabeth River background sediment samples; therefore, all Aroclor concentrations detected in the Paradise Creek tidal wetland sediments were assumed to be representative of the Site. Aroclor 1260 was detected in the 0 to 0.5 foot bgs tidal wetland sediment samples obtained from PCWLSD01, PCWLSD03, PCWLSD08, and PCWLSD14 as well as within the 0.5 to 2 foot bgs sediment sample from PCWLSD03. PCWLSD01 and PCWLSD03 are located on the southern shore on the inside curve of Paradise Creek and upstream of the Site. The presence of Aroclor 1260 at these locations suggest sediment from Paradise Creek is being deposited on the inside curve of the creek during storm surges and possible through tidal action. PCWLSD08 is located immediately adjacent to the Site, suggesting overland transport of Site soils into the wetlands is resulting in contamination of this area. PCWLSD14 is located on the northern shore of Paradise Creek and downstream of the Site. Aroclor 1260 had a similar distribution pattern as metal concentrations exceeding background. The Aroclor-1260 and total PCB concentrations detected in these samples exceeded the human health PRG and ecological screening benchmarks. The total PCB concentration in the 0 to 0.5 foot bgs sediment sample collected at PCWLSD01 exceeded the EPA residential soil RSL.

As stated above in Section 1.2.2.2, individual PCB congeners were detected in the background aquatic sediment allowing for background TEQs to be calculated for dioxin-like PCBs. PCB congeners were analyzed in only two tidal wetland sediment samples. Within the 0 to 0.5 foot bgs sediment sample from PCWLSD01, TEQ values calculated from the PCB congener data exceeded background concentrations. All PCB congener detections in this sample exceeded PCB congener human health PRG. The second PCB congener analysis was conducted on the 0 to 0.5 foot bgs sediment sample collected from PCWLSD11. The calculated TEQs from this sample were below background; however, approximately 31 of the PCB congeners detected in this sample were detected at concentrations exceeding the PCB congener human health PRG.

Dioxins/Furans: Dioxins/furans were detected in the Elizabeth River background sediment samples. No background UTLs or maximum background concentrations were calculated for

the individual dioxins/furans detected in the background sediment samples; rather, TEQs were calculated from the background dataset and compared to dioxin/furan TEQs generated from the Paradise Creek sediment dataset.

The dioxin/furans detected in the Paradise Creek tidal wetland sediment data were compared to human health screening criteria and ecological screening benchmarks in Tables 1.2.3A and 1.2.3B, respectively. Dioxins/furans were analyzed in both sediment sampling intervals collected from locations PCWLSD06, PCWLSD09, PCWLSD11 and PCWLSD15. Many of the detected individual dioxins/furans detected in all of the samples exceeded the calculated PRGs specified in the SMP (HGL, 2016). However, all of the calculated TEQs associated with the dioxin/furan data were below background.

Eleven of the 21 dioxins/furans detected in the tidal wetland sediment samples were detected at concentrations in one or more sediment samples exceeding their human health PRG. None of the detected dioxins/furans exceeded EPA residential soil RSLs.

Pesticides: Pesticide detections and screening results are summarized in Tables 1.2.4A (human health screening) and 1.2.4B (ecological screening). 4,4'-DDD and 4,4'-DDE were detected in the sediment samples collected from location PCWLSD15. Both pesticides were detected at similar concentrations and both exceeded sediment ecological screening benchmarks. Neither pesticide was detected in the background Elizabeth River sediment samples; consequently, the pesticides are assumed to be associated with the Site or very localized usage.

SVOCs and VOCs: SVOC and VOC positive screening results are included as Tables 1.2.5A (human health screening) and 1.2.5B (ecological screening). Three VOCs were detected sporadically in the Paradise Creek tidal wetland sediment samples; however, none of the VOCs were detected at concentrations exceeding screening criteria.

Fourteen SVOCs were detected in the Paradise Creek tidal wetland sediment samples. One SVOC, 2,6-dinitrotoluene was detected in the 0 to 0.5 foot bgs sediment sample obtained from PCWLSD13 at a concentration that exceeded both background and the human health screening criterion. Three SVOCs, di-n-butylphthalate, fluoranthene, and phenanthrene were detected at concentrations that exceeded background and ecological screening benchmarks. Di-n-butylphthalate ecological screening exceedances occurred in the 0 to 0.5 foot bgs sediment samples from PCWLSD01, PCWLSD09, and PCWLSD12 as well as within the 0.5 to 2 foot bgs sediment sample from PCWLSD09.

Isotopes: Gamma emitting isotopes and Sr-90 detections and screening results are summarized in Tables 1.2.6A (human health screening) and 1.2.6B (ecological screening). Although the radionuclides measurements varied, the measurements appeared relatively consistent among the tidal wetland sediments; however, as with Sr-90, the highest Radium-228 measurement was obtained from location PCWLSD06. The concentrations of Bismuth-214 and Lead-214, the daughter isotopes to Radium-226, were relatively consistent across all 18 tidal wetland sampling locations, with the exception of the tidal wetlands sediment samples collected from location PCWLSD08 immediately adjacent to the Site boundary. In PCWLSD08, the concentrations of both isotopes were higher than observed in any other tidal wetland sediment

sample. All of the detected isotopes exceeded background and human health PRGs for consumption of fish, crabs, and oysters. Potassium-40 was also detected in many of the tidal wetland sediment samples at concentrations exceeding PRGs for direct contact.

Miscellaneous Chemistry: Grain size analysis indicate the Paradise Creek tidal wetland sediment samples are composed primarily of silts and clays with varying amounts of sands. Sediment pH was neutral, ranging from 6.38 to 7.67. TOC concentrations ranged from 37,000 mg/kg (PCWLSD03) to 52,000 mg/kg (PCWLSD11).

1.2.3.3 Conclusions

Analysis and screening of the tidal wetland sediments along Paradise Creek have identified the presence of Site COPCs on the same (northern) and opposite (southern) shore of Paradise Creek as the Site. Metals, PCBs, and radionuclides have all been detected at concentrations exceeding background concentrations and applicable screening criteria. PCB contamination appears to primarily be limited to the top 0.5 feet of sediment while elevated metals and isotope concentrations have been detected in both the 0 to 0.5 interval and the 0.5 to 2 foot bgs interval. Primary areas of analyte exceedances occurred along the northern bank of Paradise Creek just east of the Site's eastern property boundary and on the southern bank upstream of Paradise Creek, upstream of the Site, along the inside curve of Paradise Creek in reference to rising high tides and storm surges.

1.2.4 Paradise Creek Surface Water Results

1.2.4.1 RI Sampling

Surface water samples were collected from 12 Paradise Creek sediment sample locations and were designated as PCSW01 through PCSW12 (Figure 1.2). The surface water samples were collected from the midpoint between the channel bottom and the top of the water column, approximately 1 to 2 feet below the water surface. All of the surface water samples were analyzed for TCL VOCs; TCL SVOCs; TCL pesticides; TCL PCBs; Total PCBs; TAL metals including mercury and cyanide; pH; gamma spectroscopy; and Sr-90. In addition, two samples were submitted for PCB congener analysis, eight samples were submitted for dioxins/furans analysis, nine samples were submitted for hexavalent chromium analysis, and nine samples were submitted for TOC analysis.

1.2.4.2 Analytical Results

A data summary table of the Paradise Creek surface water data has been included as Table A.5 in Appendix A. For evaluating potential risks to human health, the Paradise Creek surface water analytical results were screened against the lowest AWQC benchmarks for freshwater and marine environments and/or calculated PRGs. Specifically, the lowest AWQC benchmark between the consumption of fish and water and the consumption of water only was utilized. For TEQs developed from the PCB congener data, the TEQs were screened against the Virginia Water Quality Criterion based on fish consumption per the SMP (HGL, 2016).

For evaluating potential risks to ecological receptors, the Paradise Creek surface water analytical results were screened against background and the following ecological risk screening criteria:

- The lowest EPA benchmark between freshwater or marine environments; and
- The lowest AWQC benchmark between freshwater or marine environments.

Ecological screening was conducted using freshwater and marine benchmarks due to the brackish nature of Paradise Creek.

The Paradise Creek surface water analytical data and screening results are provided below for informational purposes only, since the proposed Paradise Creek biota and toxicity assessment sampling activities are based on the Paradise Creek sediment data. Consequently, figures depicting COPC distributions within the surface water samples are not provided herein. Rather, COPC distribution figures for the surface water data will be provided in the Data Evaluation report scheduled for submitted to the EPA in late June or early July 2016.

Metals: Metal positive detect analytical results compared to human health screening criteria and ecological screening benchmarks have been included as Tables 1.3.1A and 1.3.1B, respectively. Seventeen metals were detected in the Paradise Creek surface water samples. Hexavalent chromium was not detected in any of the surface water samples.

Of the metals detected, only arsenic was detected above background and AWQC. Arsenic exceedances of background and AWQC occurred at PCSW07 and PCSW09 through PCSW12. Aluminum, barium, iron, and thallium concentrations exceeded ecological screening benchmarks in nearly every surface water sample. Lead was detected in PCSW01, PCSW02, PCSW05, PSW07, and PSW11 at concentrations exceeding background and ecological screening benchmarks. Nickel concentrations in surface water exceeded the ecological screening criterion in sample PCSW07 while the arsenic ecological screening criterion exceedance occurred in sample PCSW09.

PCBs: PCB congener detections were compared to human health screening criteria and ecological screening benchmarks in Tables 1.3.2A and 1.3.2B, respectively. PCB Aroclors were not detected in either the Paradise Creek or background surface water samples. PCB congeners were detected in the surface water samples collected from Paradise Creek. All of the PCB congeners, when detected, exceeded the Virginia Water Quality Criterion based on fish consumption. TEQs generated from the dioxin-like PCBs were below human health screening criteria.

Dioxins/Furans: Dioxin/furans were screened against human health screening criteria and ecological screening benchmarks in Tables 1.3.3A and 1.3.3B, respectively. Dioxins/furans were analyzed in the Paradise Creek surface water samples analyzed for dioxins/furans. TEQs calculated from the dioxin/furan data exceeded calculated PRGs in the surface water samples obtained from locations PCSW04, PCSW06, and PCSW08. The highest dioxin/furan TEQs were detected in location PCSW04, the location closest to the outfall of the Site's Western Drainage Conveyance, and PCSW06.

Pesticides: Pesticides were not detected in any of the surface water samples collected from Paradise Creek.

SVOCs: SVOCs were not detected in any of the background surface water samples. Results of screening SVOC detections are included as Tables 1.3.4A (human health screening) and 1.3.4B (ecological screening). Bis(2-ethyhexyl)phthalate was the only SVOC detected at a concentration that exceeded screening criteria. The bis(2-ethyhexyl)phthalate concentration in sample PCSW08 exceeded AWQC benchmark for human health.

No VOCs were detected in any of the surface water samples collected from Paradise Creek.

Isotopes: Gamma emitting isotopes and Sr-90 positive screening results are included as Tables 1.3.4A (human health screening) and 1.3.4B (ecological screening). Background values for the detected isotopes is currently not available for evaluation. Six gamma emitting isotopes were detected in the surface water samples, including the Radium-226 daughter isotopes Bismuth-214 and Lead-214 as well as Radium-228. All of the reported isotopes were detected at concentrations exceeding the calculated PRG for fish consumption. The highest detections of Radium-228 occurred in sample PCSW04 (duplicate) and PCSW05. No discernable pattern was noted in the surface water samples with respect to Bismuth-214 and Lead-214.

Sr-90 was not detected in any of the surface water samples collected from Paradise Creek.

1.2.4.3 Conclusions

Based on comparison of the surface water data against Elizabeth River background values and applicable screening criteria, metals, PCBs, dioxins, and bis(2-ethyhexyl)phthalate are present at concentrations exceeding human health and/or ecological criteria. Criteria exceedances were observed throughout the sampled portion of Paradise Creek; however, some exceedances were limited in the area immediately downstream of the outfall of the Site's Western Drainage Conveyance. Radiological background data is currently unavailable to assess Site concentrations.

1.3 PROJECT ORGANIZATION AND RESPONSIBILITY

Project organization and responsibility are discussed in Sections 5.1 of the SMP (HGL, 2016).

1.4 PROJECT SCHEDULE

A field sampling scheduled has been is included as Figure 1.8.

2.0 FIELD ACTIVITY METHODS AND PROCEDURES

2.1 BIOTA SAMPLING

2.1.1 Biota Sampling Locations

Biota sampling will be conducted within Paradise Creek and at three background locations used to characterize the site media. The Elizabeth River background locations are shown on Figure 1.1 and correspond with Newton Creek, Scuffeltown Creek, and Gilligan Creek. The following biota samples are proposed for the background locations:

- The biota sample from Scuffeltown Creek will be co-located with sampling location BIOTASED01 and labeled BIOTASED01-BTOY (oyster) and BIOTASED01-BTCF (mummichog).
- The biota sample from Gilligan Creek will be co-located with sampling location BIOTASED02 and labeled BIOTASED02-BTOY (oyster) and BIOTASED02-BTCF (mummichog).
- The biota sample from Newton Creek will be co-located with sampling location BIOTASED03 and labeled BIOTASED03-BTOY (oyster) and BIOTASED03-BTCF (mummichog).

With respect to Paradise Creek, the creek has been divided into four biota sampling segments (Figure 2.1). Segment 1 is the portion of Paradise Creek upstream of the Site. Segment 2 is the portion of Paradise Creek immediately adjacent to the Site. Segment 3 is the portion of Paradise Creek downstream of the Site to the Victory Boulevard bridge. Segment 4 is the portion of Paradise Creek downstream of the Victory Boulevard bridge to the creek's confluence with the Elizabeth River. A biota sample will be collected in each of the Paradise Creek segments (Figure 2.1).

- Segment 1 encompasses the portion of the creek upstream of the Site; the biota sample in Segment 1 will be co-located with sampling location PCSD02 and labeled PCSD02_BTOY (oyster) and PCSD02_BTCF (mummichog).
- Segment 2 encompasses the portion of the creek bordering the Site; the biota sample in Segment 2 will be co-located with sampling location PCSD04 and labeled PCSD04_BTOY (oyster) and PCSD04_BTCF (mummichog). A duplicate biota sample (PCBTDUP01OY/ PCBTDUP01CF) will also be collected at this location.
- Segment 3 encompasses the portion of the creek immediately downstream of the Site and west of the Victory Boulevard bridge; the biota sample in Segment 3 will be co-located with sampling location PCSD09 and labeled PCSD09_BTOY (oyster) and PCSD09_BTCF (mummichog).
- Segment 4 encompasses the portion of the creek downstream of the Victory Boulevard bridge; the biota sample in Segment 4 will be co-located with sampling location PCSD12 and labeled PCSD12_BTOY (oyster) and PCSD12_BTCF (mummichog).

The Paradise Creek sediment sampling locations selected for biota sampling were based on the highest concentrations of Site COPCs detected in the sediment as discussed in Section 1.2. for creek segments 1, 2, and 3. Sediment sample location PCSD12 was selected for Segment 4 as it represents the furthest downstream RI sampling locations. Site COPC exceedances were still noted within sample PCSD12.

Contaminants can biologically accumulate in the tissue of fish and other aquatic species at concentrations substantially higher than sediment and surface water. Concentrations of contaminants generally increase with the higher level species as compared to smaller prey species and are good indicators of potential total bioaccumulation. In order to evaluate the potential risk to aquatic receptors within Paradise Creek, community fish and oysters will be sampled as part of the Site RI/Feasibility Study (FS): Specifically, the following species are to be collected from the 4 Paradise Creek segments and the 3 background locations:

- Mummichog (*Fundulis heteroclitus*) (community fish); and
- Eastern Oyster (*Crassostrea virginica*).

Adult oysters will be installed in cages at each biota sampling location and allowed to sit undisturbed for a minimum of 90 days before sampling to allow the oysters time to uptake Site contaminants from Paradise Creek if present. Photographs of the various target species to be sampled are included as Figure 2.2.

2.1.2 Biota Tissue Analytical Sampling Scheme

As discussed in Section 1.2 of this plan, analysis of Paradise Creek sediment and surface water samples indicate Site COPCs consisting of metals, PCBs, dioxins/furans, pesticides, and SVOCs are present in sediment at concentrations posing a potential risk to human health and ecological receptors. Metals, dioxins/furans, and bis(2-ethyhexyl)phthalate are present in surface water at concentrations that pose a potential risk to human health and/or ecological receptors. Based on the evaluation of the creek sediment and surface water data, the aquatic tissue samples to be collected will be analyzed for the following constituents:

- Metals (including mercury);
- Percent lipids and percent moisture;
- PCBs;
- PCB Congeners;
- PCDDs/PCDFs;
- SVOCs; and
- Pesticides.

The biota tissue sampling scheme has been included as Table 2.1. The number of individuals per species that need to be obtained to provide sufficient tissue mass to be analyzed for all of the proposed constituents has been summarized on Table 2.2. The above list of analytes is presented in order of priority if a sample's mass is insufficient for all of the required analyses.

2.1.3 Biota Sampling

HydroGeoLogic, Inc. (HGL) will obtain the proper boating permits, and fishing and crabbing licenses from the Virginia Marine Resources Commission before sampling commences.

2.1.3.1 Community Fish Sampling

Paradise Creek Nature Park, located 3,000 feet downstream of the Site, conducted an aquatic survey of the Paradise Creek Nature Park wetland and cataloged the mummichog (*Fundulis heteroclitus*) (Figure 2.2) as the most abundant community fish species of adequate size for sampling (Sumoski, 2015). Mummichogs (*Fundulis heteroclitus*) have been selected as the target species to represent community fish and will be collected, if present, from all 4 Paradise Creek sampling segments (Figure 2.1) and all three background sampling locations (Figure 1.1). The mummichogs will be collected from shallow areas within several yards and along both banks of the creek in areas that have less than 1.5 feet of water during low tide. Mummichogs will be collected from two 16" galvanized minnow traps baited with bread and deployed within each sampling segment. All traps will be individually numbered and located by global positioning system (GPS). Start and end of soak time will be recorded for each trap as well as trap location. The soak time will be used to determine the catch per unit effort (CPUE) for the number of fish captured in each trap. Traps will be checked at least every 12 hours. The traps will be reset as needed until an adequate number of species are collected to yield sufficient tissue mass for the required analyses. The preferred size range for mummichogs is 2 to 3 inches in length.

All fish collected will be identified to species, measured to the nearest millimeter (mm) in length, and weighed to the nearest gram. If warranted, sub-sampling may be used if large numbers of fish are collected. In this case, all fish will be identified to species and counted. The cataloging will be utilized to qualitatively assess biodiversity in the creek as well as help identify an alternative community species for sampling if mummichogs are not encountered or an insufficient number of mummichogs are captured for analysis. The largest and smallest specimens will be measured to nearest mm and a cumulative weight of the sample will be used to determine the sample biomass. All target fish for tissue sampling will be placed in plastic sample bags that will correspond to the minnow trap and location of capture and placed on ice until processed for tissue analysis. Upon processing, the fish will be preserved as stated in the HGL Field Activity Methods and Procedures guidelines. Location of capture for each individual will be recorded on all data collection forms. All phases of this operation and fish abnormalities will be documented on data sheets and through photography.

Should there be an insufficient number of mummichogs or alternative community fish within a sampling location, HGL will notify EPA and discuss potential approaches for completing the sampling. The following sampling approaches are viable options:

- An alternative species may be selected for sampling in lieu of or to supplement the mummichogs collected. Alternative species will be identified for sampling based on the following characteristics:
    - Species with comparable site fidelity as the mummichogs;

  - Species of the same trophic level and with similar feeding preferences as the mummichogs;
  - Abundant species will be selected over sparse species; and
  - Species of sufficient size to provide adequate tissue mass for analysis will be selected over small species.
- Adjacent (two or more) sampling segments of Paradise Creek may be combined and the fish collected from the combined segment submitted as one sample.
- It may be determined that community fish are not abundantly present within certain areas, and therefore no samples can be collected. In these cases, HGL will provide EPA with a description of the sampling areas and the amount of time spent attempting to sample the segment. If EPA agrees that adequate effort has been spent in an attempt to collect samples from a particular area, at the direction of EPA, HGL will proceed to the next sampling segment.

Samples will be analyzed in the order listed in Section 2.2 with PCBs being highest priority and pesticides being the lowest (this assumes all analyses will be required). If some fish were collected (i.e., mummichogs and/or selected alternative species), but at quantities insufficient to conduct all the requested analyses, the sample may be submitted to the laboratory and sampled for select analyses.

2.1.3.2 Oyster Sampling

The Eastern Oyster (*Crassostrea virginica*) is native to the Chesapeake Bay and its surrounding tributaries and has been selected as the target species for the oyster sampling. An example of the Eastern Oyster is shown on Figure 2.2. Oysters are organisms that are attached to a substrate for its adult life; as such it is a good indicator of contamination within the water column and in the sediment.

As discussed in the SMP (HGL, 2016), oyster beds were installed at the mouth of Paradise Creek by the Paradise Creek Nature Park. However, these oyster beds will not be sampled as part of the biota sampling event because oysters are not present within Paradise Creek at quantities sufficient for sampling. Therefore, oyster cages will be seeded and deployed for this investigation. Oyster cages will be set and seeded in May and harvest will occur within 90 days of culture deployment.

The caged oysters will be purchased locally from an aquaculture farm in clean, contaminant free farms, and will be approximately 3 inches in length, which is the average market size for oysters used for human consumption. The oyster cages will have rigid frames made of non-corrosive metal and designed to maximize water flow to the oysters (Appendix B). The specific number of oysters to be placed in each cage will be determined based on the amount of oyster tissue required to analyze the COPCs. A mortality rate of 50 percent will be assumed. Therefore, an excess number of oysters will be purchased and deployed in Paradise Creek.

One cage of oysters will be deployed at each of the 7 locations (i.e., the 4 creek segments and the 3 background locations), plus an additional cage at the PCSD04 location for duplicate sampling. The cages will be deployed as a "fixed bottom placement" either from shore or from a boat depending upon the depth of the water and sample location. Cages to be deployed by boat will be dropped overboard and allowed to sink to the channel bottom. Concrete blocks and rope will be used to anchor the cages and surface buoys will mark the locations. The surface buoys will be labeled "Property of U.S. Government – DO NOT REMOVE – Study in Progress." Location of each oyster culture deployment and oyster harvest will be recorded on data collection forms. All phases of the operation and oyster abnormalities will be record on data sheets and documented through photography.

Upon retrieval, the oysters will remain in the cages until they are delivered to the designated processing location. A protective covering will be wrapped around the cages during transport to the processing location to prevent contact with contaminated surfaces and prevent desiccation. Once the cages are at the processing location, the oysters will be removed from each cage and processed to sort the non-living from the living specimens. The number non-living oysters will be recorded prior to disposal of the specimens. Living oysters will be shucked and the tissue will be removed and weighed.

All biota processing instruments shall be disinfected after each sample site and species are processed for tissue analysis in a mixture of bleach and distilled water. All disinfected instruments shall be rinsed with distilled water to remove chlorine residue before processing a new sample area. Non re-useable protective gloves will be discarded and new gloves used by personal prior to processing different species and sample sites. Re-usable protective gear will be disinfected with biota processing instruments under the same decontamination protocol between biota species and sample locations.

In addition to background sampling, one sample of caged oysters will be sent directly from the aquaculture company to the Site for immediate processing and sample submittal. This sample will be used as a baseline for contaminant concentrations that could be detected in the oysters deployed both within Paradise Creek and at all three background locations.

2.2 TOXICITY ASSESSMENT

2.2.1 Sediment Sampling

Toxicity aquatic sediment sampling will be conducted to determine if sediments pose a risk to benthic organisms. The following two toxicity tests will be conducted on sediments obtained from four sample locations within Paradise Creek:

- The 28-day amphipod *(Leptocheirus plurnulosus)* chronic survival, growth, and reproduction toxicity test; and
- The 20-day polycheate worm *Strebliospio benedicti* exposure and survival and growth endpoint toxicity test.

The sediments to be used for toxicity testing will be obtained from Paradise Creek sediment sample locations that contained the highest metals concentrations: PCSD04, PCSD05, PCSD06, and PCSD07. Sampling will be conducted to determine whether Site contaminants are harmful/toxic in benthic organisms in Paradise Creek sediments. The toxicity samples will be identified as follows:

- Location PCSD04: PCSD04_TOX01 (*Leptocheirus plurnulosus*) and PCSD04_TOX02 (*Strebliospio benedicti);*
- Location PCSD05: PCSD05_TOX01 (*Leptocheirus plurnulosus*) and PCSD05_TOX02 (*Strebliospio benedicti)*;
- Location PCSD06: PCSD06_TOX01 (*Leptocheirus plurnulosus*) and PCSD06_TOX02 (*Strebliospio benedicti)*; and
- Location PCSD07: PCSD07_TOX01 (*Leptocheirus plurnulosus*) and PCSD07_TOX02 (*Strebliospio benedicti)*.

The locations of the proposed sediment samples to be used for toxicity testing are depicted on Figure 2.3. All sediment samples will be collected using a Ponar® dredge, Eckman dredge, or similar. Sediment from the top 1 foot of sediment will be collected from five locations within a 5-foot radius situated around each proposed toxicity sample location. If present, vegetation and detritus will be removed from the collected sediment before sample shipment. Sediment within the vegetation root mass will be retained to the extent practicable. Depending upon the amount of sediment needed for toxicity testing, a minimum of one gallon of sediment will be collected to fulfill the volume requirements for chemical analyses and toxicity testing. Once enough sediment is collected, the sample will be homogenized in a stainless-steel bowl and split into the appropriate sample containers. All samples will be immediately iced for shipment to the appropriate laboratory with an accompanying traffic report/chain of custody (TR/COC) for toxicity testing and laboratory analysis.

2.2.2 Toxicity Testing

The two toxicity tests will be conducted in accordance with ASTM International (ASTM) methodology described in Standard Guide for Conducting 10-Day Static Sediment Toxicity Tests with Marine and Estuarine Amphipods (E 1367-99) and the ASTM methodology described in *Standard Guide for Collection, Storage, Characterization, and Manipulation of Sediments for Toxicity Testing* (E 1391-94). The ASTM method suggest that Leptocheirus is suitable for sediments "with a silt content greater than 5% and a clay content less than 85%," recognizing that a large proportion of fines, particularly clays, may influence the testing with this species. The range of silt and clay content of Paradise Creek sediment samples by percent weight was 11.9 to 57.0% and 8.0 to 51.0%, respectively. Replicates of the Paradise Creek sediment sample, background sediment sample, and the laboratory control sediment sample will be created by the laboratory to determine if the results are normally distributed. The survival results of the amphipods will be analyzed according to EPA guidance (EPA, 2002) to determine if statistically significant deviation exist between the Paradise Creek sediments and the background sediments (the control). A laboratory control sample will also be analyzed to confirm the acquired lot of *Leptocheirus plurnulosus* are of acceptable quality.

2.2.3 Laboratory Analysis

A sediment samples split from the toxicity testing samples will be submitted to an EPA-selected laboratory and analyzed for Site COPCs identified in the Paradise Creek sediment samples. The sediment samples will be analyzed for:

- Metals (including mercury);
- PCBs;
- PCB Congeners;
- PCDDs/PCDFs;
- SVOCs; and
- Pesticides.

Upon completion of the toxicity tests, the tested species (*Leptocheirus plurnulosus* and *Strebliospio benedicti)* will be submitted to an EPA-selected laboratory for the metals, percent lipids, percent moisture, PCBs, PCB congeners, PCDDs/PCDFs, SVOCs, and pesticides analyses. If the amount of tissue obtained from the toxicity tests is insufficient to analyze for all of the above analyses, the tissue samples will be analyzed for a minimum of metals, percent lipids, and percent moisture. The toxicity test sampling scheme is summarized in Table 2.3.

2.3 FIELD PARAMETERS

2.3.1 Creek Parameters

Channel depth will be collected during installation and retrieval of each trap/line. The methodology for the data collection is included in Section 3.6.1 of the SMP (HGL, 2016). Section 3.6.1 of the SMP (HGL, 2016) has been included as Appendix C. The Paradise Creek channel depth measurements and surface water flow readings during high and low flow conditions will help determine the best place to deploy sampling cages in each creek sampling segment. Oyster cages will be installed, such that the cages will be completely submerged at low tide (including spring low tides) if at all possible based on the magnitude of the tide and the channel depth.

2.3.2 Water Quality Parameters

A water quality or equivalent meter will be used to measure surface water temperature, pH, turbidity, dissolved oxygen (DO), and salinity. In addition, Secchi depth measurements will be recorded at each sampling location during the installation and retrieval of the traps/angling lines. Water quality measurements will be recorded on the field sheet in the field notebook and for each sampling location.

2.3.3 Sediment Quality Parameters

Temperature and pH of the sediment sample will be measured in the field and the sediment will be characterized in accordance with the Unified Soil Classification System.

2.3.4 Gamma Survey and Field Sampling

HGL and their subcontractors working at the Site or who will handle gamma radiation scanning equipment will undergo gamma radiation protection training before conducting any fieldwork. Crew members conducting field sampling activities only within Paradise Creek and the Elizabeth River will not require gamma radiation protection training. Gamma radiation safety is discussed in the Radiation Protection Plan (AVESI, 2014). All samples, equipment, and personnel will be field screened prior to leaving the Site. Gamma survey activities are discussed in Section 4.4 of the SMP (HGL, 2016).

After the biota samples have been rinsed with deionized water and dried the samples will be screened with the gamma radiation detection equipment previously identified in the SMP (HGL, 2016). The tissue samples will also be field-screened with gamma radiation detection equipment after they have been processed.

2.4 SAMPLE MANAGEMENT

2.4.1 Sample Handling

Oyster tissue samples will be placed within clear glass jars that will be sealed, labeled, and placed in a cooler for shipment.

For fish tissue samples, multiple fish (i.e., 3 to 10 fishes) will be required from each sampling segment to obtain the mass needed for laboratory analysis. To the extent practicable, the number of fish used for composite should be consistent across each sampling unit. The smallest size fish in the composite should equal 75 percent of the total length of the largest fish in the composite. Fillet tissue and offal samples obtained from whole body community fish will be wrapped in aluminum foil (matte side toward the sample), and sealed in a watertight resealable plastic bag and immediately placed on ice in a cooler.

Tissue samples will be collected as grab samples, meaning individual (or group of fish) will be submitted for one or more analyses being performed by the associated EPA laboratory. Other fish tissue samples will be submitted to other labs for analysis as needed. No compositing of the fish tissue will be performed in the field. The jarred and bagged samples will be labeled as described in Section 2.4.2, wrapped in bubble-wrap, and packed on dry ice in coolers free of cracks, cuts, or any defects in the outer or inner shell including the lid and drain hole, if present. Samples will be packed in dry ice only after all processing is completed. The coolers and dry ice will be used to properly preserve the samples to a temperature less than 4°C. Dry ice shipping requirements are specified as Appendix D.

Custody procedures are detailed in Section 6.3 of the SMP (HGL, 2016). The TR/COC will be completed, sealed in a plastic bag, and taped inside the lid of the cooler. The cooler will be prepared for shipping by taping the lid closed with clear packing tape. Each cooler must be labeled with the required dry ice shipping placards. Federal Express estimates that six pounds of dry ice is required for a standard cooler with an internal volume of 2,904 cubic inches. The exact requirements for dry ice shipping are provided in Appendix C. Two signed custody seals will be placed on the cooler across the edges of the lid on the front and side. An address label

and overnight shipping label will be affixed to the top of the cooler. The air bill number will be recorded in the field logbook and the cooler handed over to the overnight carrier for shipment.

2.4.2 Sample Identification

An alphanumeric coding system will uniquely identify each sample collected during the field investigation. Sample location names are specified in Table 2.1 and 2.3. The sample name will serve as the station location name and will be used with the EPA Contract Laboratory Program (CLP) sample number to identify specific samples.

2.5 EQUIPMENT CALIBRATION MAINTENANCE, AND DECONTAMINATION

Field instruments will be used to collect surface water quality measurements, surface water flow measurements, and gamma radiation detections. Equipment calibration, maintenance, and decontamination protocols are presented in the SMP (HGL, 2016).

2.6 FIELD DOCUMENTATION

Field documentation is described in detail in Section 4.18 of the SMP (HGL, 2016). Field documentation for the aquatic biota sampling effort will include the field logbook, photographs, and field sheets. The field forms to be used during all sampling activities are provided in Appendix E.

2.7 WASTE HANDLING

Investigation-derived waste will be properly disposed of according to Section 10 of the SMP (HGL, 2016).

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3.0 QUALITY ASSURANCE PROJECT PLAN

3.1 QUALITY OBJECTIVES AND CRITERIA FOR MEASUREMENT

3.1.1 End Uses of the Data

The field measurements, tissue data, and toxicity results are being collected to help characterize the potential risk to human health and ecological receptors associated with contamination from the Site discharging to Paradise Creek.

3.1.2 Data Types

Quality of analytical data is defined as either "definitive data" or "screening data with definitive confirmation." For this project, the analytical data generated by the EPA Region 3 selected laboratories will constitute definitive data.

Some data for this project will be screening data that will not receive definitive confirmation. Types of data that are included in the other category include gamma radiation screening results, water quality measurements taken with a field meter, water level measurements, and GPS data. Some analytical data will be produced by methods that are considered to be screening level methods by definition. These data include direct-reading probe methods (aqueous and soil pH).

3.1.3 Data Quality Objectives

The development of data quality objectives (DQOs) focuses on the end use of the collected data and on determining the corresponding data measurement objectives of precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) necessary to satisfy the end use (see Section 3.1.1). The DQO process involves seven steps that are designed to ensure that the type, quantity, and quality of data collected are appropriate for the intended application. Each step supports the project efforts by clarifying the study objective, defining the most appropriate type of data to be collected, and specifying acceptable levels of decision criteria. The steps are defined in *Guidance on Systematic Planning Using the Data Quality Objectives Process*, EPA QA/G4, EPA/240/B-06/001 (EPA, 2006) as follows:

- State the problem;
- Identify the goals of the study;
- Identify information inputs;
- Define the boundaries of the study;
- Develop the analytic approach;
- Specify performance and acceptance criteria; and
- Develop the plan for obtaining data.

The process is based on a framework that, through continual evaluation during project activities, allows for DQO modification as project needs change. Different data uses such as

site characterization, risk assessment, and evaluation of remedial alternatives may require data of varying quality. DQOs specific to this project are presented below.

3.1.3.1 State the Problem

The purpose of this step is to describe the problem to be studied so that the focus of the study will be unambiguous.

The current problem is to complete site characterization to a degree that will support preparation of an RI/FS that includes an assessment of Site risks and a selection of a remedy that eliminates, reduces, or controls risks to human health and the environment. Based on the existing site data, a preliminary Conceptual Site Model (CSM) was developed by Malcolm Pirnie (Malcolm Pirnie, 2008). A review of the CSM identified additional data needs that were required to allow for the effective characterization of the Site and completion of the RI/FS process. An updated CSM is presented in Section 2.0 of the SMP (HGL, 2016) and describes the full extent of the problem at the Site as understood based on all information available to date. Data gaps identified in the current CSM are summarized in Section 2.8 of the SMP (HGL, 2016).

3.1.3.2 Identify the Goals of the Study

This step identifies the questions that the study will attempt to resolve and the actions that may result. The principal study components and related questions are as follows:

Question 1 *Are Site COPCs bioaccumulating within aquatic species and, if so, at what concentrations are Site COPCs present in the tissues of the target species being sampled?*

Question 2 *If Site COPCs are detected in biota samples in Paradise Creek, do they pose an unacceptable risk to human health, the environment, and to the target species being sampled?*

Question 3 *Are the Paradise Creek sediments contaminated by the Site toxic to aquatic invertebrates and amphipods?*

3.1.3.3 Identify Information Inputs

The sampling program described in Section 2 is designed to provide the inputs to address the questions listed above. The sampling program will be supplemented by existing project data and data reports. Environmental investigations have been conducted on the Site and within Paradise Creek since the late 1990s, but the investigations were limited in scope. The existing project data includes analytical results that were generated using analytical methods capable of producing definitive data; however:

- It is not known if the historic biota data underwent review and validation required to constitute data of known quality; and

- Analyses performed were limited primarily to a few target analytes and did not include all of the potential contaminants that may be discharging from the Site to Paradise Creek.

The historic data along with the Paradise Creek sediment and surface water analytical data to be collected prior to the biota sampling event will be utilized to target biota sampling locations and in defining the nature and extent of contamination from the Site. Previous biota analytical results associated with the Elizabeth River (CDM, 2006a and b) will be used qualitatively in evaluating the risk Site contamination poses to Paradise Creek and the Elizabeth River.

3.1.3.4 Define the Boundaries of the Study

The contamination at the Site is thought to have accumulated over a 70-year period since scrap and waste processing activities began in the 1940s. The horizontal spatial boundaries of the study area are the extents of the contamination that has migrated from the Site which is currently unknown.

3.1.3.5 Develop the Analytic Approach

The data collected in the field investigations will be used to produce the RI/FS, including a Human Health Risk Assessment (HHRA), a Screening Level Ecological Risk Assessment (SLERA), and potentially a Baseline Ecological Risk Assessment (BERA). The data will be used in accordance with the following decision rules developed for the project questions presented in Section 3.1.3.2.

Question 1: Are Site COPCs bioaccumulating within aquatic species and, if so, at what concentrations are Site COPCs present in the tissues of the target species being sampled? The sampling scheme, target parameters, and the analytical methods have been selected to ensure that the data population parameters calculated on an analyte- and matrix-specific basis are representative of Paradise Creek to the greatest extent possible. The supporting information that will lead to this decision includes qualitative interpretation of contaminant distribution and quantitative comparison of the population characteristics to human health and environmental screening levels. The primary population characteristic will be the determination of the 95 percent upper confidence limit (UCL) of each contaminant detected at the site. These UCLs will be calculated on a medium- and analyte-specific basis using the EPA's ProUCL program. If there are seven or fewer detected results for an analyte, the maximum detected concentration will be used as the population characteristic. Any analyte with a population characteristic that exceeds the associated RSL will be considered to be a COPC and will be identified for further evaluation. Detected organic chemicals for which there are no associated RSL will also be considered COPCs.

The SAP target analytes and proposed contract required quantitation limits (CRQL) are presented in Table 3.1 (tissue) and 3.2 (sediment).

Question 2: If Site COPCs are detected in biota samples in Paradise Creek, do they pose an unacceptable risk to human health, the environment, and to the target species being sampled? A baseline HHRA, a SLERA, and, potentially, a BERA will be performed for the aquatic

biota in Paradise Creek and will include all COPCs identified in addressing Question 1. The baseline HHRA will determine if an unacceptable risk to human health is present through current or future scenarios involving exposure of adult and child receptors to fish or shellfish consumption. The SLERA will determine if there is potentially unacceptable risk to ecological receptors based on current Site conditions. If a potential for unacceptable risk to ecological receptors is identified, a BERA will be completed to determine if unacceptable risk to ecological receptors is present. The primary decision rule for the RI/FS is if the risk assessments find that an unacceptable risk to human health or the environment is present at the site, then specific remedial actions will be recommended to address that risk.

Question 3: Are the Paradise Creek sediments contaminated by the Site toxic to aquatic invertebrates and amphipods? Sediment samples split from the toxicity assessment sediment samples and the species grown during the toxicity tests will be analyzed for Site COPCs to determine whether a correlation exists between Site COPC concentrations and benthic invertebrate survival, growth, and reproduction. The results of the toxicity assessment tests will be utilized in developing the BERA.

3.1.3.6 Specify Performance and Acceptance Criteria

In general, decision errors for projects involving environmental sampling fall into two categories: false positive (Type I) and false negative (Type II). For this project, a Type I decision error would result in deciding that contaminant concentrations in aquatic biota pose an unacceptable risk when, in fact, they do not. A Type II decision error would result in deciding that contaminant levels do not present an unacceptable risk to human health and the environment, when, in fact, they actually do.

It should be noted that Question 1 in Section 3.1.3.2 constitute estimation problems and Questions 2 constitute decision problems, as defined by *Guidance on Systematic Planning Using the Data Quality Objectives Process* (EPA, 2006). The errors associated with Question 1 are associated with the decision made whether to retain an analyte as a COPC for additional evaluation. In this case, a Type I error will result in the inclusion of an analyte as a COPC for a medium when it is not present at a concentration that is harmful to human health or the environment, and the Type II error will result in the exclusion of that analyte from consideration as a COPC when it is in fact present at a concentration that may represent a threat to human health or the environment.

Type II errors are more serious than Type I errors because they could possibly mask contaminant levels that may pose a risk. In order to manage the possibility of Type II errors, Paradise Creek will be subdivided into four sampling segments, with all five target species to be sampled in each sampling segment, if present. Subdividing Paradise Creek into the 4 sampling segments, will help assess Site contaminant concentrations across the length of Paradise Creek and offset a data gap if one or more target species is not present in one or more of the sampling segments. In addition, three background sampling locations have been selected in tributaries of the Elizabeth River where environmental conditions (water salinity, water depth, etc.) are similar to environmental conditions in Paradise Creek. The collection of

background data from environments similar to Paradise Creek will help clarify the presence of Site contaminants within the target species.

3.1.3.7 Develop the Plan for Obtaining Data

This step identifies a resource-effective data collection design for generating data that are expected to satisfy DQOs. The data collection design (sampling program) is described in Section 2 and is summarized below.

- Identify COPCs in the Paradise Creek aquatic biota; and
- Collect a sufficient amount of analytical data to complete a SLERA and determine if biota tissue sampling will require a BERA.

3.2 DATA MEASUREMENT OBJECTIVES

Data measurement requirements will be met by the following:

- Following standard QA guidance documents;
- Using indicators of data quality;
- Collecting reliable field measurements; and
- Using approved laboratories and standard analytical and validation methods.

3.2.1 Quality Assurance Guidance

QA guidance is discussed in Section 5.5 of the SMP (HGL, 2016).

3.2.2 Data Quality Indicators

PARCCS parameters are indicators of data quality. The following PARCCS goals have been established for this sampling effort to aid in assessing data quality.

3.2.2.1 Precision

The EPA Region 3 approved laboratory will determine the acceptable relative percent difference limit for field duplicates for each analytical method. Otherwise, the acceptable relative percent difference limit for field duplicates is less than or equal to 35 percent for biota samples.

3.2.2.2 Accuracy

Accuracy will be measured by percent recovery, which will be evaluated during data validation in accordance with the CLP statement of work (SOW) and other analytical methodologies.

3.2.2.3 Representativeness

The representativeness of sample results will be assessed qualitatively by reviewing the sampling and analytical procedures and quantitatively by reviewing the results of blank samples. If an analyte is detected in a method, preparation, or rinsate blank, any associated positive result may be considered a false positive result and qualified as a potential artifact of the sampling and analysis process.

3.2.2.4 Completeness

The completeness goal for this project is 90 percent, calculated for the entire project dataset. Data rejected during the validation process will not be considered usable. If the completeness goal is not met, the effect of not meeting this goal and potential corrective action will be discussed by the HGL Project Manager (PM) and the EPA Region 3 Regional PM. Data gaps resulting from rejected results or because planned samples could not be collected will also be evaluated, even if overall completeness goals are met.

3.2.2.5 Comparability

To ensure comparability of results with those collected during previous sampling efforts performed to support the RI/FS, data developed under this investigation will be from samples collected and analyzed using standard EPA analytical methods and QC procedures.

3.2.2.6 Sensitivity

Analytical data will be compared to regulatory levels, RSLs, and ecological screening levels.

3.2.3 Field Measurements

Field measurements from several sources will be collected during the planned field activities:

- A water quality meter, such as a YSI or equivalent meter, will be used to measure temperature, pH, turbidity, DO, and salinity will be measured at each sampling location.
- An electronic, telescoping flow meter will be utilized to measure surface water flow at the channel bottom, mid-channel, and shallow surface at each biota sampling location.
- A gamma radiation detector (Ludlum 2221/44-10 or equivalent) will be utilized to scan all equipment, supplies, samples, and materials leaving the Site.
- A sodium iodide scintillation detector will be utilized to take gamma-ray measurements.
- A GPS unit will be utilized to locate northing and easting coordinates of sample locations.

Manufacturer recommendations for calibration, handling, maintenance, and use will be followed for the instruments used to make field measurements.

3.2.4 Laboratory Analysis

The data uses established for the Site require varying levels of QC requirements and analytical methodology. The specific analyses that may be performed for each component of the sampling are presented in Tables 3.1 and 3.2.

All analyses will be performed under the CLP program. Analytical services procured under the will require complete CLP data packages where applicable as well as complete QC documentation in accordance with the associated method, where applicable. The analytical methods provide details of sample preparation, extraction, analyses, and detection limits. The CRQL's presented in Tables 3.1 and 3.2 and the accuracy and precision limits presented in Table 3.3, for biota samples, are specific to TestAmerica. These limits will be used if analytical services are procured from Test America as a Tier IV laboratory. Test America's analytical methods and the associated preparation and cleanup methods are not from the CLP SOW and are also indicated in these tables. Any laboratory services procured through the CLP will use the analytical presented in the CLP SOW, including the requirements for CRQL, accuracy limits, and precision limits, which will supersede the information presented in Tables 3.1, 3.2, and 3.3.

The accuracy and precision limits for Paradise Creek sediment samples was discussed in the SMP (HGL, 2016) and is hereby adopted. The sediment accuracy and precision limits are generic and anticipated to be performed under the CLP.

3.3 SPECIAL TRAINING REQUIREMENTS AND CERTIFICATION

Site training requirements and certifications are discussed in Section 5.6 of the January 2015 SMP (HGL, 2016). The project-specific health and safety plan provides the basis for the site-specific health and safety training for the Paradise Creek biota sampling. Documentation of site-specific training for each employee must be maintained in the permanent site logbook.

3.4 DOCUMENTATION AND RECORDS

Documentation and Records for sampling and laboratory activities at the Site are discussed in detail in Section 5.7 of the SMP (HGL, 2016).

3.5 FIELD QUALITY CONTROL SAMPLES

Field QC samples are collected to determine whether the data are of suitable quality. The QC samples will be analyzed to determine precision for the entire data collection process including sampling and laboratory analysis, and to assess the possibility of cross-contamination. The QC samples will be prepared and collected to provide data for the subsequent review, interpretation, and validation of the analytical data.

Field QC samples will be prepared or collected as discussed in further detail below. The field QC samples for this project will include field duplicates, temperature blanks, equipment blanks, field blanks, and matrix spike (MS)/matrix spike duplicates (MSD).

3.5.1 Field Duplicates

Field duplicates are samples that are divided into two portions at the time of sampling. Field duplication sampling provides information regarding sample matrix homogeneity, handling, shipping, storage, preparation, and analysis. Field duplicates will be submitted per species type at a frequency of one per every ten samples or one per sampling trip if fewer than ten samples are collected. Duplicate samples will be submitted for the same analyses as the parent sample.

3.5.2 Equipment Rinse Blanks

Per Section 6.4.2 of the SMP, equipment blanks are required only for non-dedicated equipment. Equipment blanks will be collected in non-dedicated equipment is utilized for the collection of sediment and surface water samples as well as tools used to process tissue samples. Equipment blanks will be collected at a rate of 1 to every 20 samples per analysis.

3.5.3 Field Blanks

Per Section 6.4.3 of the SMP, field blanks are required only when aqueous samples are collected. Field blanks will be collected at a rate of 1 to every 20 aqueous samples; consequently, one field blank sample is anticipated. The field blank sample will be analyzed for the same analyses as the surface water samples.

3.5.4 Matrix Spike and Matrix Spike Duplicate

MS/MSD samples are required by the CLP SOW to check organic analysis. In accordance with Section 3.4 of the *ASQAB Sample Submission Procedures* document (EPA, 2005), MS/MSD samples will be collected for every 20 samples submitted for organic parameters and every 10 samples submitted for inorganic parameters. MS/MSD samples will not be collected for SVOC analyses. For solid matrix samples, a double-volume aliquot is collected.

The sample is identified with the same sample number as the environmental samples, and "Do MS/MSD" or "Do QC" is noted on the TR/COC form. Note that the CLP inorganic methods require an MS and a laboratory duplicate instead of an MS/MSD. For these analyses, the laboratory will perform an MS and a laboratory duplicate analysis on the same sample designated for organic MS/MSD analyses.

3.5.5 Temperature Blanks

A temperature blank measures the temperature of the shipment upon arrival at the laboratory. It is used to determine whether sufficient temperature control was maintained during the shipping process. A temperature blank is prepared in the field from analyte-free water in a container used to ship samples (a 40-milliliter vial is suggested) and marked "Temperature

Blank–Do Not Analyze." One temperature blank must be prepared and shipped per cooler containing samples.

3.5.6 Trip Blanks

Per Section 6.4.5 of the SMP, trip blanks are required only for volatile organic compound samples. Trip blanks are not anticipated for the sampling activities discussed in this SAP.

3.6 LABORATORY QUALITY CONTROL SAMPLES

Laboratory QC samples are discussed in detail in Section 6.5 of the SMP (HGL, 2016).

3.7 INTERNAL QUALITY CONTROL CHECKS

Laboratory QC samples are discussed in detail in Section 6.5 of the SMP (HGL, 2016).

3.8 ACCEPTANCE REQUIREMENTS FOR SUPPLIES

Laboratory QC samples are discussed in detail in Section 6.5 of the SMP (HGL, 2016).

3.9 DATA MANAGEMENT

Data Management for sampling activities at the Site is discussed in detail in Section 9 of the 6 SMP (HGL, 2016).

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4.0 ASSESSMENT AND OVERSIGHT

Assessment and Oversight for sampling activities at the Site are discussed in Section 7 of the February 2016 SMP (HGL, 2016).

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5.0 REFERENCES

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TABLES

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Table 1.1.1A
Paradise Creek Sediment Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	Sample Location	PCSD01		PCSD02		PCSD03	
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Metals									
Aluminum	19638	556	mg/kg	**5260**	**2800**	**11000**	**10200**	**13000**	**6340**
Antimony	--	0.222	mg/kg	6.4 U	***0.67 J***	13.2 U	10.6 U	8.3 U	6.6 U
Arsenic	21.52	0.000998	mg/kg	**4.7**	**3.8**	**12.6**	**11.4**	**7.7**	**2.5**
Barium	50.94	111	mg/kg	22.2	14.8 J	46.7	45.3	34.6	19.3 J
Beryllium	1.128	1.11	mg/kg	0.35 J	0.19 J	0.83 J	0.75 J	0.65 J	0.29 J
Cadmium	1.791	0.556	mg/kg	**0.88**	**0.71**	***2.4***	***2.3***	**1**	0.35 J
Calcium	4466	--	mg/kg	932	637	2950	2650	1460	655
Chromium	66.98	0.00299	mg/kg	**27.8**	**17.7**	**66**	**63.2**	**32.5**	**12.1**
Hexavalent Chromium	--	0.00299	mg/kg	--	***0.59***	--	***0.92***	--	***0.62***
Cobalt	1.4	0.167	mg/kg	***22.2***	***16***	***28***	***26.6***	***5.6 J***	**0.45 J**
Copper	88.15	22.2	mg/kg	**33.8**	**30.6**	***105***	***97.9***	**34.8**	**56**
Cyanide	--	0.334	mg/kg	0.73 U	0.68 U	1.5 U	1.1 U	0.99 U	0.69 U
Iron	40619	389	mg/kg	**10700**	**7430**	**29900**	**26100**	**22600**	**10000**
Lead	177.8	400	mg/kg	75.7 J	64.4 J	158 J	157 J	72.7 J	73.9 J
Magnesium	6451	--	mg/kg	1650	1040	4080	3470	3640	1420
Manganese	260.2	77.9	mg/kg	**81.1**	57.9	**174**	**153**	**178**	65.7
Mercury	2.1	0.78	mg/kg	0.24	0.15	0.45	0.39	0.35	0.15
Nickel	20.08	11.1	mg/kg	***23.9***	**16**	***38.1***	***37***	**16.3**	5.3
Potassium	3616	--	mg/kg	1180	787	2240	2020	2320	981
Silver	1.981	2.78	mg/kg	0.86 J	0.64 J	*2.5*	*2.1*	1.7	0.75 J
Sodium	10961	--	mg/kg	2270 J	1620 J	8110 J	6020 J	4500 J	1740 J
Thallium	--	0.00556	mg/kg	***0.68 J-***	***0.31 J-***	***1.4 J***	***1.2 J***	***1.3 J***	***0.6 J-***
Vanadium	34.18	2.8	mg/kg	**16.1**	**10.1**	***34.2***	**32**	**26.5**	**12.9**
Zinc	272.7	167	mg/kg	160	137	***443***	***423***	142	61.4

Table 1.1.1A
Paradise Creek Sediment Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	Sample Location	PCSD04			PCSD05	
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Duplicate	Normal	Normal
Metals								
Aluminum	19638	556	mg/kg	**9770**	**12300 J**	**12800 J**	**14700 J**	**14000 J**
Antimony	--	0.222	mg/kg	8.5 U	9 UJ	10.3 UJ	11.2 UJ	10.3 UJ
Arsenic	21.52	0.000998	mg/kg	**11.1**	**12.2 J**	**11.1 J**	***22.1 J***	***21.8 J***
Barium	50.94	111	mg/kg	*97.9*	*102 J*	*68 J*	*76.2 J*	*69.7 J*
Beryllium	1.128	1.11	mg/kg	***2.1***	***3***	***1.4***	1.1	1
Cadmium	1.791	0.556	mg/kg	***2.1***	***2.8***	***1.9***	***3.8***	***2.9***
Calcium	4466	--	mg/kg	2460	2960	2490	2640	2350
Chromium	66.98	0.00299	mg/kg	***1110***	***1170 J***	***849 J***	***512 J***	***391 J***
Hexavalent Chromium	--	0.00299	mg/kg	--	***0.89***	***0.99***	--	***2.18***
Cobalt	1.4	0.167	mg/kg	***612***	***501***	***404***	***391***	***342***
Copper	88.15	22.2	mg/kg	***398***	***316***	***211***	***149***	***126***
Cyanide	--	0.334	mg/kg	0.96 U	1.1 U	1.1 U	1.4 U	1.2 U
Iron	40619	389	mg/kg	**27500**	**31900**	**29800**	**32100**	**29200**
Lead	177.8	400	mg/kg	*269 J*	*281*	*323*	*266*	*226*
Magnesium	6451	--	mg/kg	3170	4550	4790	4870	4450
Manganese	260.2	77.9	mg/kg	**214**	***290***	**255**	**219**	**193**
Mercury	2.1	0.78	mg/kg	0.38	0.63	0.7	**0.94**	**1.5**
Nickel	20.08	11.1	mg/kg	***942***	***871***	***645***	***290***	***212***
Potassium	3616	--	mg/kg	1850	--	--	--	--
Silver	1.981	2.78	mg/kg	*2.5*	***2.9***	*2.4*	***2.9***	*2.5*
Sodium	10961	--	mg/kg	4760 J	6220	6870	8600	7660
Thallium	--	0.00556	mg/kg	3.5 UJ	3.8 U	4.3 U	4.7 U	4.3 U
Vanadium	34.18	2.8	mg/kg	***55.3***	***34.2***	***35.1***	***39***	***34.3***
Zinc	272.7	167	mg/kg	***1480***	***1390***	***733***	***586***	***443***

Table 1.1.1A
Paradise Creek Sediment Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	Sample Location	PCSD06			PCSD07		
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Duplicate	Normal	Duplicate	Normal
Metals									
Aluminum	19638	556	mg/kg	**17500**	**19200**	**19300**	**14900**	**17000**	**17400**
Antimony	--	0.222	mg/kg	12.1 U	12.6 U	11.4 UJ	13.2 U	13.4 UJ	13.3 U
Arsenic	21.52	0.000998	mg/kg	**15.7**	**14.3**	**11.1**	**13.1**	**14.5**	**15.3**
Barium	50.94	111	mg/kg	*71.4*	*61.9*	*52.5*	*57.5*	*65.9*	*68.3*
Beryllium	1.128	1.11	mg/kg	***1.2***	***1.2***	1.1	1.1 J	1.1 J	***1.2***
Cadmium	1.791	0.556	mg/kg	***3.6***	***2.5***	**1.7**	***3.7***	***3.9***	***4.2***
Calcium	4466	--	mg/kg	*33400*	3120	2960	2900	2940	2860
Chromium	66.98	0.00299	mg/kg	***200***	***187***	***101***	***128***	***136***	***175***
Hexavalent Chromium	--	0.00299	mg/kg	--	***1.14***	***1.1***	--	--	***1.21***
Cobalt	1.4	0.167	mg/kg	***141***	***160***	***71.3***	***62.9***	***66.8***	***97.9***
Copper	88.15	22.2	mg/kg	***169***	***98***	**54.2**	***158***	***174***	***173***
Cyanide	--	0.334	mg/kg	1.3 U	1.4 U	1.3 U	1.5 U	1.5 U	1.4 U
Iron	40619	389	mg/kg	**37300**	**39200**	**35000**	**35500**	**38100**	**38000**
Lead	177.8	400	mg/kg	*220 J*	145 J	87.9	*240 J*	*268*	*296 J*
Magnesium	6451	--	mg/kg	5910	*6940*	*6490*	5180	5530	5570
Manganese	260.2	77.9	mg/kg	***283***	***330***	***302***	**231**	**252**	**259**
Mercury	2.1	0.78	mg/kg	**0.93**	0.71	0.44	0.66	**0.79**	**0.83**
Nickel	20.08	11.1	mg/kg	***137***	***145***	***68.5***	***71.1***	***77.3***	***97.8***
Potassium	3616	--	mg/kg	*3870*	*4350*	*4040*	3150	3480	*3740*
Silver	1.981	2.78	mg/kg	***3.2***	***3.2***	*2.7*	***3***	***3.3***	***3.3***
Sodium	10961	--	mg/kg	9660 J	9670 J	8620	9390 J	9730	8660 J
Thallium	--	0.00556	mg/kg	***1.4 J***	***1.4 J***	***1.5 J***	***1.7 J***	***1.8 J***	***1.9 J***
Vanadium	34.18	2.8	mg/kg	***51.2***	***49.9***	***45.1***	***47.5***	***51.5***	***55.6***
Zinc	272.7	167	mg/kg	***539***	***358***	**215**	***605***	***642***	***684***

Table 1.1.1A
Paradise Creek Sediment Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	Sample Location	PCSD08		PCSD09		PCSD10	
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Metals									
Aluminum	19638	556	mg/kg	**15100**	**18100**	**13100**	**13900**	**17700**	***20000***
Antimony	--	0.222	mg/kg	13.4 UJ	11.6 UJ	13.4 UJ	12.3 UJ	9.2 UJ	10.2 UJ
Arsenic	21.52	0.000998	mg/kg	**12.2**	**14.6**	**13.5**	**14.5**	**11.1**	**12.8**
Barium	50.94	111	mg/kg	*59.8*	*57.9*	*56.4*	*59.6*	46.5	*51.1*
Beryllium	1.128	1.11	mg/kg	1 J	1.1	0.94 J	0.99 J	1	***1.2***
Cadmium	1.791	0.556	mg/kg	***3.7***	***3.2***	***3.5***	***3.6***	**1.5**	**1.6**
Calcium	4466	--	mg/kg	3350	2740	4160	3400	*6050*	*7650*
Chromium	66.98	0.00299	mg/kg	***116***	***148***	***147***	***178***	**43.4**	**50.1**
Hexavalent Chromium	--	0.00299	mg/kg	--	***1.16***	--	***1.14***	--	***0.88***
Cobalt	1.4	0.167	mg/kg	***48.1***	***86***	***67.5***	***86.7***	***7.1 J***	***7.5 J***
Copper	88.15	22.2	mg/kg	***169***	***114***	***159***	***172***	**56.8**	**44.8**
Cyanide	--	0.334	mg/kg	1.5 U	1.3 U	1.4 U	1.4 U	1.1 U	***1 J***
Iron	40619	389	mg/kg	**36900**	**37200**	**33100**	**35000**	**33800**	**39300**
Lead	177.8	400	mg/kg	*212*	*185*	*235*	*258*	92	60.4
Magnesium	6451	--	mg/kg	5400	5920	4690	4980	5560	*6930*
Manganese	260.2	77.9	mg/kg	**238**	***281***	**206**	**228**	**251**	***345***
Mercury	2.1	0.78	mg/kg	**0.82**	0.62	0.6	0.63	0.51	0.69
Nickel	20.08	11.1	mg/kg	***66.6***	***97.4***	***86.3***	***115***	***28.5***	***30.6***
Potassium	3616	--	mg/kg	3180	*3950*	2740	3010	3410	*4180*
Silver	1.981	2.78	mg/kg	***3.1***	***3***	***2.8***	***2.9***	*2.5*	***3***
Sodium	10961	--	mg/kg	*11600*	8740	10300	9940	7060	8300
Thallium	--	0.00556	mg/kg	***1.5 J***	***1.6 J***	***1.4 J***	***1.6 J***	***1.5 J***	***1.8 J***
Vanadium	34.18	2.8	mg/kg	***42.2***	***52.7***	***44.7***	***46.6***	***42.3***	***49.1***
Zinc	272.7	167	mg/kg	***578***	***441***	***595***	***606***	***296***	**209**

Table 1.1.1A
Paradise Creek Sediment Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	Sample Location	PCSD11		PCSD12	
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal
Metals							
Aluminum	19638	556	mg/kg	**13900**	**13300**	**13100**	**17800**
Antimony	--	0.222	mg/kg	12.5 UJ	11.7 UJ	10.1 UJ	10.1 UJ
Arsenic	21.52	0.000998	mg/kg	**11.1**	**11.4**	**10.4**	**13**
Barium	50.94	111	mg/kg	*53.8*	50.8	39.4	40.3
Beryllium	1.128	1.11	mg/kg	1 J	0.97 J	0.79 J	0.88
Cadmium	1.791	0.556	mg/kg	***2.9***	***2.9***	**1.7**	**1.4**
Calcium	4466	--	mg/kg	3040	3840	2740	2070
Chromium	66.98	0.00299	mg/kg	***89.8***	***82.9***	**56.5**	**38.4**
Hexavalent Chromium	--	0.00299	mg/kg	--	***1.18***	--	***0.93***
Cobalt	1.4	0.167	mg/kg	***33.7***	***30.4***	***20.3***	***4.2 J***
Copper	88.15	22.2	mg/kg	***146***	***139***	**82.7**	**43.4**
Cyanide	--	0.334	mg/kg	1.4 U	1.3 U	1 U	1.1 U
Iron	40619	389	mg/kg	**34600**	**32600**	**29000**	**33700**
Lead	177.8	400	mg/kg	163	167	96.6	82.4
Magnesium	6451	--	mg/kg	5230	4620	4300	5600
Manganese	260.2	77.9	mg/kg	**205**	**188**	**192**	**252**
Mercury	2.1	0.78	mg/kg	0.76	0.6	0.67	0.47
Nickel	20.08	11.1	mg/kg	***48.8***	***45.4***	***30.9***	**19.9**
Potassium	3616	--	mg/kg	2850	2570	2720	3520
Silver	1.981	2.78	mg/kg	***2.8***	*2.7*	*2.3*	*2.5*
Sodium	10961	--	mg/kg	*11000*	8850	7120	8050
Thallium	--	0.00556	mg/kg	***1.9 J***	***1.5 J***	***1.3 J***	***2 J***
Vanadium	34.18	2.8	mg/kg	***39.4***	***38.4***	**32.8**	***37.7***
Zinc	272.7	167	mg/kg	***512***	***475***	**265**	161

Table 1.1.1A
Paradise Creek Sediment Metals Human Health Risk Screening

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

-- = no screening value/not sampled

bgs = below ground surface

ft = feet

mg/kg = milligrams per kilogram

PRG = preliminary remedial goal

USEPA = U.S. Environmental Protection Agency

UTL = upper tolerance limit

RSL = Regional Screening Level

NOAA = National Oceanic and Atmospheric Administration

SQuiRTs = Screening Quick Reference Tables

J = positive detect; value estimated

J- = positive detect; value estimated and biased low

UJ = not detected; value shown equals an estimated reporting limit

U = not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*

Results exceeding the calculated PRG for Peck Iron and Metal are **Bolded**

Table 1.1.1B
Paradise Creek Sediment Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs [2]	Sample Location	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Metals										
Aluminum	19638	--	25500	mg/kg	5260	2800	11000	10200	13000	6340
Antimony	--	2	3	mg/kg	6.4 U	*0.67 J*	13.2 U	10.6 U	8.3 U	6.6 U
Arsenic	21.52	7.24	5.9	mg/kg	4.7	3.8	**12.6**	**11.4**	**7.7**	2.5
Barium	50.94	--	--	mg/kg	22.2	14.8 J	46.7	45.3	34.6	19.3 J
Beryllium	1.128	--	--	mg/kg	0.35 J	0.19 J	0.83 J	0.75 J	0.65 J	0.29 J
Cadmium	1.791	0.68	0.583	mg/kg	**0.88**	**0.71**	***2.4***	***2.3***	**1**	0.35 J
Calcium	4466	--	--	mg/kg	932	637	2950	2650	1460	655
Chromium	66.98	43.4	36.286	mg/kg	27.8	17.7	**66**	**63.2**	32.5	12.1
Hexavalent Compounds	--	--	--	mg/kg	--	*0.59*	--	*0.92*	--	*0.62*
Cobalt	1.4	50	--	mg/kg	*22.2*	*16*	*28*	*26.6*	*5.6 J*	0.45 J
Copper	88.15	18.7	28.012	mg/kg	**33.8**	**30.6**	***105***	***97.9***	**34.8**	**56**
Cyanide	--	0.1	100	mg/kg	0.73 U	0.68 U	1.5 U	1.1 U	0.99 U	0.69 U
Iron	40619	20000	188400	mg/kg	10700	7430	**29900**	**26100**	**22600**	10000
Lead	177.8	30.2	35	mg/kg	**75.7 J**	**64.4 J**	**158 J**	**157 J**	**72.7 J**	**73.9 J**
Magnesium	6451	--	--	mg/kg	1650	1040	4080	3470	3640	1420
Manganese	260.2	460	630	mg/kg	81.1	57.9	174	153	178	65.7
Mercury	2.1	0.13	0.174	mg/kg	**0.24**	**0.15**	**0.45**	**0.39**	**0.35**	**0.15**
Nickel	20.08	15.9	18	mg/kg	***23.9***	**16**	***38.1***	***37***	**16.3**	5.3
Potassium	3616	--	--	mg/kg	1180	787	2240	2020	2320	981
Silver	1.981	0.73	4.5	mg/kg	**0.86 J**	0.64 J	***2.5***	***2.1***	**1.7**	**0.75 J**
Sodium	10961	--	--	mg/kg	2270 J	1620 J	8110 J	6020 J	4500 J	1740 J
Thallium	--	--	--	mg/kg	*0.68 J-*	*0.31 J-*	*1.4 J*	*1.2 J*	*1.3 J*	*0.6 J-*
Vanadium	34.18	--	--	mg/kg	16.1	10.1	*34.2*	32	26.5	12.9
Zinc	272.7	121	98	mg/kg	**160**	**137**	***443***	***423***	**142**	61.4

Table 1.1.1B
Paradise Creek Sediment Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs [2]	Sample Location	PCSD04			PCSD05	
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SEDDUP02	PCSD05-000005	PCSD05-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
Metals									
Aluminum	19638	--	25500	mg/kg	9770	12300 J	12800 J	14700 J	14000 J
Antimony	--	2	3	mg/kg	8.5 U	9 UJ	10.3 UJ	11.2 UJ	10.3 UJ
Arsenic	21.52	7.24	5.9	mg/kg	**11.1**	**12.2 J**	**11.1 J**	***22.1 J***	***21.8 J***
Barium	50.94	--	--	mg/kg	*97.9*	*102 J*	*68 J*	*76.2 J*	*69.7 J*
Beryllium	1.128	--	--	mg/kg	*2.1*	*3*	*1.4*	1.1	1
Cadmium	1.791	0.68	0.583	mg/kg	***2.1***	***2.8***	***1.9***	***3.8***	***2.9***
Calcium	4466	--	--	mg/kg	2460	2960	2490	2640	2350
Chromium	66.98	43.4	36.286	mg/kg	***1110***	***1170 J***	***849 J***	***512 J***	***391 J***
Hexavalent Compounds	--	--	--	mg/kg	--	*0.89*	*0.99*	--	*2.18*
Cobalt	1.4	50	--	mg/kg	***612***	***501***	***404***	***391***	***342***
Copper	88.15	18.7	28.012	mg/kg	***398***	***316***	***211***	***149***	***126***
Cyanide	--	0.1	100	mg/kg	0.96 U	1.1 U	1.1 U	1.4 U	1.2 U
Iron	40619	20000	188400	mg/kg	**27500**	**31900**	**29800**	**32100**	**29200**
Lead	177.8	30.2	35	mg/kg	***269 J***	***281***	***323***	***266***	***226***
Magnesium	6451	--	--	mg/kg	3170	4550	4790	4870	4450
Manganese	260.2	460	630	mg/kg	214	*290*	255	219	193
Mercury	2.1	0.13	0.174	mg/kg	**0.38**	**0.63**	**0.7**	**0.94**	**1.5**
Nickel	20.08	15.9	18	mg/kg	***942***	***871***	***645***	***290***	***212***
Potassium	3616	--	--	mg/kg	1850	--	--	--	--
Silver	1.981	0.73	4.5	mg/kg	***2.5***	***2.9***	***2.4***	***2.9***	***2.5***
Sodium	10961	--	--	mg/kg	4760 J	6220	6870	8600	7660
Thallium	--	--	--	mg/kg	3.5 UJ	3.8 U	4.3 U	4.7 U	4.3 U
Vanadium	34.18	--	--	mg/kg	*55.3*	*34.2*	*35.1*	*39*	*34.3*
Zinc	272.7	121	98	mg/kg	***1480***	***1390***	***733***	***586***	***443***

Table 1.1.1B
Paradise Creek Sediment Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs [2]	Sample Location	PCSD06			PCSD07		
				Field Sample ID	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Duplicate	Normal
Metals										
Aluminum	19638	--	25500	mg/kg	17500	19200	19300	14900	17000	17400
Antimony	--	2	3	mg/kg	12.1 U	12.6 U	11.4 UJ	13.2 U	13.4 UJ	13.3 U
Arsenic	21.52	7.24	5.9	mg/kg	**15.7**	**14.3**	**11.1**	**13.1**	**14.5**	**15.3**
Barium	50.94	--	--	mg/kg	*71.4*	*61.9*	*52.5*	*57.5*	*65.9*	*68.3*
Beryllium	1.128	--	--	mg/kg	*1.2*	*1.2*	1.1	1.1 J	1.1 J	*1.2*
Cadmium	1.791	0.68	0.583	mg/kg	***3.6***	***2.5***	**1.7**	***3.7***	***3.9***	***4.2***
Calcium	4466	--	--	mg/kg	*33400*	3120	2960	2900	2940	2860
Chromium	66.98	43.4	36.286	mg/kg	***200***	***187***	***101***	***128***	***136***	***175***
Hexavalent Compounds	--	--	--	mg/kg	--	*1.14*	*1.1*	--	--	*1.21*
Cobalt	1.4	50	--	mg/kg	***141***	***160***	***71.3***	***62.9***	***66.8***	***97.9***
Copper	88.15	18.7	28.012	mg/kg	***169***	***98***	**54.2**	***158***	***174***	***173***
Cyanide	--	0.1	100	mg/kg	1.3 U	1.4 U	1.3 U	1.5 U	1.5 U	1.4 U
Iron	40619	20000	188400	mg/kg	**37300**	**39200**	**35000**	**35500**	**38100**	**38000**
Lead	177.8	30.2	35	mg/kg	***220 J***	**145 J**	**87.9**	***240 J***	***268***	***296 J***
Magnesium	6451	--	--	mg/kg	5910	*6940*	*6490*	5180	5530	5570
Manganese	260.2	460	630	mg/kg	*283*	*330*	*302*	231	252	259
Mercury	2.1	0.13	0.174	mg/kg	**0.93**	**0.71**	**0.44**	**0.66**	**0.79**	**0.83**
Nickel	20.08	15.9	18	mg/kg	***137***	***145***	***68.5***	***71.1***	***77.3***	***97.8***
Potassium	3616	--	--	mg/kg	*3870*	*4350*	*4040*	3150	3480	*3740*
Silver	1.981	0.73	4.5	mg/kg	***3.2***	***3.2***	***2.7***	***3***	***3.3***	***3.3***
Sodium	10961	--	--	mg/kg	9660 J	9670 J	8620	9390 J	9730	8660 J
Thallium	--	--	--	mg/kg	*1.4 J*	*1.4 J*	*1.5 J*	*1.7 J*	*1.8 J*	*1.9 J*
Vanadium	34.18	--	--	mg/kg	*51.2*	*49.9*	*45.1*	*47.5*	*51.5*	*55.6*
Zinc	272.7	121	98	mg/kg	***539***	***358***	**215**	***605***	***642***	***684***

Table 1.1.1B
Paradise Creek Sediment Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs [2]	Sample Location	PCSD08		PCSD09		PCSD10	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Metals										
Aluminum	19638	--	25500	mg/kg	15100	18100	13100	13900	17700	*20000*
Antimony	--	2	3	mg/kg	13.4 UJ	11.6 UJ	13.4 UJ	12.3 UJ	9.2 UJ	10.2 UJ
Arsenic	21.52	7.24	5.9	mg/kg	**12.2**	**14.6**	**13.5**	**14.5**	**11.1**	**12.8**
Barium	50.94	--	--	mg/kg	*59.8*	*57.9*	*56.4*	*59.6*	46.5	*51.1*
Beryllium	1.128	--	--	mg/kg	1 J	1.1	0.94 J	0.99 J	1	*1.2*
Cadmium	1.791	0.68	0.583	mg/kg	***3.7***	***3.2***	***3.5***	***3.6***	**1.5**	**1.6**
Calcium	4466	--	--	mg/kg	3350	2740	4160	3400	*6050*	*7650*
Chromium	66.98	43.4	36.286	mg/kg	***116***	***148***	***147***	***178***	43.4	**50.1**
Hexavalent Compounds	--	--	--	mg/kg	--	*1.16*	--	*1.14*	--	*0.88*
Cobalt	1.4	50	--	mg/kg	*48.1*	***86***	***67.5***	***86.7***	*7.1 J*	*7.5 J*
Copper	88.15	18.7	28.012	mg/kg	***169***	***114***	***159***	***172***	**56.8**	**44.8**
Cyanide	--	0.1	100	mg/kg	1.5 U	1.3 U	1.4 U	1.4 U	1.1 U	***1 J***
Iron	40619	20000	188400	mg/kg	**36900**	**37200**	**33100**	**35000**	**33800**	**39300**
Lead	177.8	30.2	35	mg/kg	***212***	***185***	***235***	***258***	**92**	**60.4**
Magnesium	6451	--	--	mg/kg	5400	5920	4690	4980	5560	*6930*
Manganese	260.2	460	630	mg/kg	238	*281*	206	228	251	*345*
Mercury	2.1	0.13	0.174	mg/kg	**0.82**	**0.62**	**0.6**	**0.63**	**0.51**	**0.69**
Nickel	20.08	15.9	18	mg/kg	***66.6***	***97.4***	***86.3***	***115***	***28.5***	***30.6***
Potassium	3616	--	--	mg/kg	3180	*3950*	2740	3010	3410	*4180*
Silver	1.981	0.73	4.5	mg/kg	***3.1***	***3***	***2.8***	***2.9***	***2.5***	***3***
Sodium	10961	--	--	mg/kg	*11600*	8740	10300	9940	7060	8300
Thallium	--	--	--	mg/kg	*1.5 J*	*1.6 J*	*1.4 J*	*1.6 J*	*1.5 J*	*1.8 J*
Vanadium	34.18	--	--	mg/kg	*42.2*	*52.7*	*44.7*	*46.6*	*42.3*	*49.1*
Zinc	272.7	121	98	mg/kg	***578***	***441***	***595***	***606***	***296***	**209**

Table 1.1.1B
Paradise Creek Sediment Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs [2]	Sample Location	PCSD11		PCSD12	
				Field Sample ID	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
Metals								
Aluminum	19638	--	25500	mg/kg	13900	13300	13100	17800
Antimony	--	2	3	mg/kg	12.5 UJ	11.7 UJ	10.1 UJ	10.1 UJ
Arsenic	21.52	7.24	5.9	mg/kg	**11.1**	**11.4**	**10.4**	**13**
Barium	50.94	--	--	mg/kg	*53.8*	50.8	39.4	40.3
Beryllium	1.128	--	--	mg/kg	1 J	0.97 J	0.79 J	0.88
Cadmium	1.791	0.68	0.583	mg/kg	***2.9***	***2.9***	**1.7**	**1.4**
Calcium	4466	--	--	mg/kg	3040	3840	2740	2070
Chromium	66.98	43.4	36.286	mg/kg	***89.8***	***82.9***	**56.5**	38.4
Hexavalent Compounds	--	--	--	mg/kg	--	*1.18*	--	*0.93*
Cobalt	1.4	50	--	mg/kg	*33.7*	*30.4*	*20.3*	*4.2 J*
Copper	88.15	18.7	28.012	mg/kg	***146***	***139***	**82.7**	**43.4**
Cyanide	--	0.1	100	mg/kg	1.4 U	1.3 U	1 U	1.1 U
Iron	40619	20000	188400	mg/kg	**34600**	**32600**	**29000**	**33700**
Lead	177.8	30.2	35	mg/kg	**163**	**167**	**96.6**	**82.4**
Magnesium	6451	--	--	mg/kg	5230	4620	4300	5600
Manganese	260.2	460	630	mg/kg	205	188	192	252
Mercury	2.1	0.13	0.174	mg/kg	**0.76**	**0.6**	**0.67**	**0.47**
Nickel	20.08	15.9	18	mg/kg	***48.8***	***45.4***	***30.9***	**19.9**
Potassium	3616	--	--	mg/kg	2850	2570	2720	3520
Silver	1.981	0.73	4.5	mg/kg	***2.8***	***2.7***	***2.3***	***2.5***
Sodium	10961	--	--	mg/kg	*11000*	8850	7120	8050
Thallium	--	--	--	mg/kg	*1.9 J*	*1.5 J*	*1.3 J*	*2 J*
Vanadium	34.18	--	--	mg/kg	*39.4*	*38.4*	32.8	*37.7*
Zinc	272.7	121	98	mg/kg	***512***	***475***	**265**	**161**

Table 1.1.1B
Paradise Creek Sediment Metals Ecological Risk Screening

(1) More conservative of the freshwater or marine benchmark provided
(2) The lowest of the freshwater or marine SQuiRT value provided
-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Region 3 Biological Technical Assistance Group
ft = feet
mg/kg = milligrams per kilogram
NOAA = National Oceanic and Atmospheric Administration
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
SQuiRTS = Screening Quick Reference Tables
J = positive detect; value estimated
J- = positive detect; value estimated and biased low
UJ = not detected; the value shown the estimated reporting limit
U = not detected; value shown equals the reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD01		PCSD02		PCSD03		PCSD04		
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
PCB Aroclors												
Aroclor-1248	--	0.749	µg/kg	54 U	52 U	97 U	75 U	58 U	64 U	67 U	***520 J***	73 U
Aroclor-1260	--	0.749	µg/kg	***15 J***	52 U	***44 J***	***27 J***	***49 J***	64 U	67 U	***150 J***	***76 J***
Aroclor-1268	--	0.749	µg/kg	54 U	52 U	***44 J***	75 U	58 U	64 U	67 U	72 U	73 U
Total Aroclor	--	0.749	µg/kg	54 U	52 U	97 U	75 U	***49 J***	64 U	67 U	***670 J***	***76 J***
PCB Calculated Values												
Bird TEQ (Dioxin Like PCBs)	8.297516	--	ng/kg	--	--	*22*	--	--	--	*443*	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	ng/kg	--	--	*0.337*	--	--	--	*6.09*	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	ng/kg	--	--	*5.29*	--	--	--	*96.2*	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	ng/kg	--	--	*5.29*	--	--	--	*96.2*	--	--
High Risk PCB Congeners	60521.1	--	ng/kg	--	--	*143000*	--	--	--	*2.25E+06*	--	--
Sum of All PCB Congeners	65773.9	--	ng/kg	--	--	*151000*	--	--	--	*2.34E+06*	--	--
PCB Congeners												
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	34	ng/kg	--	--	***927***	--	--	--	***3760***	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	34	ng/kg	--	--	***1180***	--	--	--	***15100***	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	34	ng/kg	--	--	***115***	--	--	--	***1160***	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	34	ng/kg	--	--	***638***	--	--	--	***8620***	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	34	ng/kg	--	--	***379***	--	--	--	***6510***	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	34	ng/kg	--	--	***2360***	--	--	--	***37500***	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	34	ng/kg	--	--	***12400***	--	--	--	***154000***	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	34	ng/kg	--	--	***392***	--	--	--	***1880***	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	34	ng/kg	--	--	***398***	--	--	--	***6310***	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	34	ng/kg	--	--	***183***	--	--	--	***4720***	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***1440***	--	--	--	***20500***	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***103***	--	--	--	***3570***	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	***2330***	--	--	--	***35900***	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***594***	--	--	--	***7640***	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	***294***	--	--	--	***4590***	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***3150***	--	--	--	***47700***	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	34	ng/kg	--	--	***106***	--	--	--	***4380***	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	34	ng/kg	--	--	***554***	--	--	--	***9370***	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	34	ng/kg	--	--	***401***	--	--	--	***2710***	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD01		PCSD02		PCSD03		PCSD04		
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***567***	--	--	--	***6920***	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***150***	--	--	--	***4590***	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	***1060***	--	--	--	***11800***	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	34	ng/kg	--	--	***383***	--	--	--	***7010***	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***364***	--	--	--	***5670***	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***998***	--	--	--	***16800***	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	34	ng/kg	--	--	***1360***	--	--	--	***28300***	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	34	ng/kg	--	--	***984***	--	--	--	***10400***	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***272***	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***725***	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	34	ng/kg	--	--	***420***	--	--	--	***6980***	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***59.9***	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***3900***	--	--	--	***44700***	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***1590***	--	--	--	***25400***	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***1370***	--	--	--	***16700***	--	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***562***	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***1810***	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	34	ng/kg	--	--	***369***	--	--	--	***5980***	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***39.5***	--	--	--	***1140***	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***89.9***	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***48.6***	--	--	--	***1130***	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***79.6***	--	--	--	***1920***	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***664***	--	--	--	***5260***	--	--
2,2',3,4-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***101***	--	--	--	***2770***	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***1220***	--	--	--	***19900***	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***40.3***	--	--	--	***4760***	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	34	ng/kg	--	--	***4480***	--	--	--	***86500***	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***95.4***	--	--	--	***3900***	--	--
2,2',3,5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***150***	--	--	--	***2910***	--	--
2,2',3,6,6'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***49.1***	--	--	--	***2490***	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***170***	--	--	--	***2940***	--	--
2,2',3-Trichlorobiphenyl	--	34	ng/kg	--	--	***193***	--	--	--	***4670***	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***146***	--	--	--	***4520***	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***2980***	--	--	--	***59400***	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***285***	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD01		PCSD02		PCSD03		PCSD04		
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
2,2',4,5',6-Pentachlorobiphenyl	--	34	ng/kg	--	--	***90.6***	--	--	--	***2660***	--	--
2,2',4,5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***334***	--	--	--	***2750***	--	--
2,2',4,6,6'-Pentachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***3400***	--	--
2,2',4-Trichlorobiphenyl	--	34	ng/kg	--	--	***376***	--	--	--	***3720***	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***3190***	--	--	--	***58200***	--	--
2,2',6,6'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***48.5***	--	--	--	***3200***	--	--
2,2',6-Trichlorobiphenyl	--	34	ng/kg	--	--	***122***	--	--	--	***3400***	--	--
2,2'-Dichlorobiphenyl	--	34	ng/kg	--	--	***144***	--	--	--	***1390***	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	34	ng/kg	--	--	***61.2***	--	--	--	***2100***	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	34	ng/kg	--	--	***116***	--	--	--	***4440***	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***422***	--	--	--	***7180***	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***86.4***	--	--	--	***3490***	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	34	ng/kg	--	--	***961***	--	--	--	***13600***	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***2900***	--	--	--	***40000 J***	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***42.8***	--	--	--	***1250***	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	34	ng/kg	--	--	***763***	--	--	--	***8630***	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***49.7***	--	--	--	***1910***	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***417***	--	--	--	***5740 J***	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***952***	--	--	--	***8890***	--	--
2,3,3',4-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***41.8***	--	--	--	***1630***	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***200***	--	--
2,3,3',5,5'-Pentachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***114***	--	--
2,3,3',5,6-Pentachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***1900***	--	--
2,3,3',5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***638***	--	--
2,3,3',5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***331***	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***471***	--	--	--	***6450***	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***102***	--	--	--	***5210***	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***89.7***	--	--	--	***3340***	--	--
2,3',4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***6810***	--	--	--	***101000 J***	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***444***	--	--	--	***2980***	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***2150***	--	--	--	***23900***	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***992***	--	--
2,3',4,5',6-Pentachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***491***	--	--
2,3',4,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***2540***	--	--
2,3',4,5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***58.9***	--	--	--	***2740***	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD01		PCSD02		PCSD03		PCSD04		
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
2,3,4',5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***69.2***	--	--	--	***1990***	--	--
2,3,4',6-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***928***	--	--	--	***8380***	--	--
2,3',4-Trichlorobiphenyl	--	34	ng/kg	--	--	***160***	--	--	--	***2980***	--	--
2,3,4'-Trichlorobiphenyl	--	34	ng/kg	--	--	***478***	--	--	--	***2290***	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***40.6***	--	--	--	***2770***	--	--
2,3',5',6-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***99.9***	--	--	--	***4840***	--	--
2',3,5-Trichlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***210***	--	--
2,3',6-Trichlorobiphenyl	--	34	ng/kg	--	--	***85.2***	--	--	--	***1680***	--	--
2,3'-Dichlorobiphenyl	--	34	ng/kg	--	--	***81.6***	--	--	--	***814***	--	--
2,4',5-Trichlorobiphenyl	--	34	ng/kg	--	--	***1080***	--	--	--	***6110***	--	--
2,4',6-Trichlorobiphenyl	--	34	ng/kg	--	--	***367***	--	--	--	***9650***	--	--
2,4'-Dichlorobiphenyl	--	34	ng/kg	--	--	***278***	--	--	--	***2700***	--	--
2,4-Dichlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***133***	--	--
2,5-Dichlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***211***	--	--
2,6-Dichlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***121***	--	--
2-Monochlorobiphenyl	--	34	ng/kg	--	--	***45.5***	--	--	--	***254***	--	--
3 -Monochlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***95.7***	--	--
3,3',4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***49***	--	--	--	***901***	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***332***	--	--	--	***6900***	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***40.2***	--	--	--	***377***	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***44.8***	--	--	--	***4890***	--	--
3,3',4,5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***94.6***	--	--
3,3',4-Trichlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***2780***	--	--
3,3',5,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***156***	--	--
3,3',5-Trichlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***915***	--	--
3,3'-Dichlorobiphenyl	--	34	ng/kg	--	--	***285***	--	--	--	***969***	--	--
3,4,4',5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
3,4,4'-Trichlorobiphenyl	--	34	ng/kg	--	--	***621***	--	--	--	***4910***	--	--
3,4,5-Trichlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***47.7***	--	--
3,4',5-Trichlorobiphenyl	--	34	ng/kg	--	--	38 U	--	--	--	***690***	--	--
4,4'-Dichlorobiphenyl	--	34	ng/kg	--	--	***505***	--	--	--	***4960***	--	--
4-Monochlorobiphenyl	--	34	ng/kg	--	--	***63***	--	--	--	***193***	--	--
BZ#139 & BZ#140	--	34	ng/kg	--	--	***170***	--	--	--	***5800***	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD01		PCSD02		PCSD03		PCSD04		
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
BZ#153 & BZ#168	--	34	ng/kg	--	--	***9550***	--	--	--	***132000***	--	--
BZ#156 & BZ#157	--	34	ng/kg	--	--	***1270***	--	--	--	***19100***	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	34	ng/kg	--	--	***2960***	--	--	--	***68900***	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	34	ng/kg	--	--	***227***	--	--	--	***5610***	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	34	ng/kg	--	--	***3850***	--	--	--	***61200***	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	34	ng/kg	--	--	***1080***	--	--	--	***15000***	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	34	ng/kg	--	--	***6990***	--	--	--	***123000***	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	34	ng/kg	--	--	***655***	--	--	--	***29800***	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	34	ng/kg	--	--	***173***	--	--	--	***8600***	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	34	ng/kg	--	--	***2000***	--	--	--	***30900***	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	34	ng/kg	--	--	***446***	--	--	--	***27700***	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	34	ng/kg	--	--	***600***	--	--	--	***3830***	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	34	ng/kg	--	--	***1810***	--	--	--	***12300***	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	34	ng/kg		--	***564***	--	--	--	***10000***	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	34	ng/kg	--	--	***256***	--	--	--	***6040***	--	--
Decachlorobiphenyl	--	34	ng/kg	--	--	***892***	--	--	--	***1280***	--	--
Dichlorobiphenyl: 3,4/ 3,4'	--	34	ng/kg	--	--	***80.4***	--	--	--	***1310***	--	--
PCB108 & 0124	--	34	ng/kg	--	--	***213***	--	--	--	***8580***	--	--
PCB110 & 115	--	34	ng/kg	--	--	***8810***	--	--	--	***122000 J***	--	--
PCB128 & 166	--	34	ng/kg	--	--	***1650***	--	--	--	***20600***	--	--
PCB135 & 151	--	34	ng/kg	--	--	***3110***	--	--	--	***43600***	--	--
PCB147 & 149	--	34	ng/kg	--	--	***7890***	--	--	--	***113000***	--	--
PCB171 & 173	--	34	ng/kg	--	--	***737***	--	--	--	***12200***	--	--
PCB180 & 193	--	34	ng/kg	--	--	***5900***	--	--	--	***88900***	--	--
PCB183 & 185	--	34	ng/kg	--	--	***1860***	--	--	--	***28500***	--	--
PCB197 & 200	--	34	ng/kg	--	--	***212***	--	--	--	***6440***	--	--
PCB198 & 199	--	34	ng/kg	--	--	***1560***	--	--	--	***15800***	--	--
PCB-40/PCB-71	--	34	ng/kg	--	--	***1110***	--	--	--	***41800***	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD01		PCSD02		PCSD03		PCSD04		
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
PCB-86/87/97/108/119/125	--	34	ng/kg	--	--	***4340***	--	--	--	***75500***	--	--
PCB-98/PCB-102	--	34	ng/kg	--	--	***232***	--	--	--	***10400***	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	34	ng/kg	--	--	***1060***	--	--	--	***14300***	--	--

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

-- = no screening value/not sampled
bgs = below ground surface
PRG = preliminary remedial goal
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
PCB = polychlorinated biphenyls
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
ft = feet
J = positive detect; value estimated
U = not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated PRG for Peck Iron and Metal are **Bolded**

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD05		PCSD06			PCSD07			PCSD08	
			Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal	Normal	Normal
PCB Aroclors													
Aroclor-1248	--	0.749	µg/kg	89 U	82 U	87 U	96 U	91 U	110 U	100 U	100 U	94 U	96 U
Aroclor-1260	--	0.749	µg/kg	***88 J***	***87 J***	***120 J***	***110 J***	91 U	***100 J***	***83 J***	***110 J***	***100 J***	***82 J***
Aroclor-1268	--	0.749	µg/kg	89 U	82 U	87 U	96 U	91 U	110 U	100 U	100 U	94 U	96 U
Total Aroclor	--	0.749	µg/kg	***88 J***	***87 J***	***120 J***	***110 J***	91 U	***100 J***	***83 J***	***110 J***	***100 J***	***82 J***
PCB Calculated Values													
Bird TEQ (Dioxin Like PCBs)	8.297516	--	ng/kg	--	--	*73.8*	--	--	*53*	*62.9*	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	ng/kg	--	--	*1.14*	--	--	*0.804*	*0.92*	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	ng/kg	--	--	*17.3*	--	--	*12*	*13.7*	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	ng/kg	--	--	*17.3*	--	--	*12*	*13.7*	--	--	--
High Risk PCB Congeners	60521.1	--	ng/kg	--	--	*548000*	--	--	*485000*	*424000*	--	--	--
Sum of All PCB Congeners	65773.9	--	ng/kg	--	--	*572000*	--	--	*510000*	*446000*	--	--	--
PCB Congeners													
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	34	ng/kg	--	--	***2630***	--	--	***2510***	***2220***	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	34	ng/kg	--	--	***5050***	--	--	***4100***	***3950***	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	34	ng/kg	--	--	***378***	--	--	***323***	***299***	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	34	ng/kg	--	--	***2890***	--	--	***2350***	***2090***	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	34	ng/kg	--	--	***1760***	--	--	***1400***	***1250***	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	34	ng/kg	--	--	***10500***	--	--	***8890***	***7860***	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	34	ng/kg	--	--	***49100***	--	--	***44000***	***35200***	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	34	ng/kg	--	--	***976***	--	--	***830***	***818***	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	34	ng/kg	--	--	***1870***	--	--	***1470***	***1260***	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	34	ng/kg	--	--	***850***	--	--	***656***	***533***	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***6660***	--	--	***5380***	***4300***	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***502***	--	--	***429***	***322***	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	***11600***	--	--	***9330***	***7200***	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***2420***	--	--	***1860***	***1580***	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	***1450***	--	--	***1270***	***922***	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***14500***	--	--	***12200***	***9130***	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	34	ng/kg	--	--	***494***	--	--	***415***	***337***	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	34	ng/kg	--	--	***2240***	--	--	***1800***	***1780***	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	34	ng/kg	--	--	***1450***	--	--	***1140***	***1100***	--	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD05		PCSD06			PCSD07			PCSD08	
			Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal	Normal	Normal
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***2430***	--	--	***2180***	***1680***	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***540***	--	--	***518***	***397***	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	***4900***	--	--	***4440***	***3170***	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	34	ng/kg	--	--	***1930***	--	--	***1680***	***1370***	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***1050***	--	--	***843***	***1080***	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***4720***	--	--	***4620***	***3160***	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	34	ng/kg	--	--	***4940***	--	--	***4230***	***4330***	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	34	ng/kg	--	--	***3860***	--	--	***3270***	***3050***	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	***77.4***	--	--	***107***	***85***	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***77.6***	--	--	***75.6***	***69***	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	34	ng/kg	--	--	***1540***	--	--	***1270***	***1300***	--	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***16000***	--	--	***14700***	***11300***	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***8620***	--	--	***6960***	***5040***	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***5540***	--	--	***5020***	***4220***	--	--	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	***60.3***	--	--	***115***	***109***	--	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***64.1***	--	--	***101***	***83.7***	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	34	ng/kg	--	--	***1780***	--	--	***1610***	***1220***	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***133***	--	--	***129***	***96.4***	--	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***98.6***	--	--	***184***	***133***	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***209***	--	--	***292***	***257***	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***1610***	--	--	***1800***	***1670***	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***440***	--	--	***353***	***331***	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***4440***	--	--	***4030***	***3950***	--	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***58.4***	--	--	***138***	***94.6***	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	34	ng/kg	--	--	***16800***	--	--	***15700***	***14600***	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***139***	--	--	***249***	***209***	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***371***	--	--	***431***	***335***	--	--	--
2,2',3,6,6'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***89.2***	--	--	***128***	***116***	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***248***	--	--	***466***	***323***	--	--	--
2,2',3-Trichlorobiphenyl	--	34	ng/kg	--	--	***677***	--	--	***686***	***584***	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***379***	--	--	***395***	***347***	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***10100***	--	--	***8640***	***8870***	--	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD05		PCSD06			PCSD07			PCSD08	
			Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal	Normal	Normal
2,2',4,5',6-Pentachlorobiphenyl	--	34	ng/kg	--	--	***178***	--	--	***221***	***205***	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***999***	--	--	***989***	***899***	--	--	--
2,2',4,6,6'-Pentachlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
2,2',4-Trichlorobiphenyl	--	34	ng/kg	--	--	***967***	--	--	***1070***	***943***	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***9690***	--	--	***9840***	***9560***	--	--	--
2,2',6,6'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***37.4***	--	--	***91.2***	42.7 U	--	--	--
2,2',6-Trichlorobiphenyl	--	34	ng/kg	--	--	***217***	--	--	***273***	***233***	--	--	--
2,2'-Dichlorobiphenyl	--	34	ng/kg	--	--	***347***	--	--	***289***	***335***	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	34	ng/kg	--	--	***254***	--	--	***227***	***201***	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	34	ng/kg	--	--	***510***	--	--	***462***	***385***	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***1820***	--	--	***1590***	***1490***	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	34	ng/kg	--	--	***379***	--	--	***347***	***296***	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	34	ng/kg	--	--	***4050***	--	--	***3580***	***2890***	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***10800***	--	--	***8890***	***9060***	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***180***	--	--	***111***	***112***	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	34	ng/kg	--	--	***3260***	--	--	***2870***	***2030***	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***196***	--	--	***147***	***166***	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***1500***	--	--	***1150***	***1250***	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***3250***	--	--	***2690***	***2650***	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***273***	--	--	***276***	***235***	--	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
2,3,3',5,5'-Pentachlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
2,3,3',5,6-Pentachlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
2,3,3',5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
2,3,3',5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	***1880***	--	--	***1550***	***1510***	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***467***	--	--	***331***	***377***	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***347***	--	--	***294***	***291***	--	--	--
2,3',4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***25200***	--	--	***20500***	***21000***	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***1640***	--	--	***1290***	***1310***	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***6430***	--	--	***5350***	***5520***	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***60.3***	--	--	***56.5***	***56.3***	--	--	--
2,3',4,5',6-Pentachlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
2,3',4,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***66***	--	--	***68.5***	***60.9***	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***196***	--	--	***169***	***167***	--	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD05		PCSD06			PCSD07			PCSD08	
			Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal	Normal	Normal
2,3,4',5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***219***	--	--	***193***	***196***	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***2820***	--	--	***2650***	***2500***	--	--	--
2,3',4-Trichlorobiphenyl	--	34	ng/kg	--	--	***354***	--	--	***567***	***340***	--	--	--
2,3,4'-Trichlorobiphenyl	--	34	ng/kg	--	--	***1610***	--	--	***1650***	***1380***	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***86.4***	--	--	***95.7***	***79.6***	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***235***	--	--	***288***	***229***	--	--	--
2',3,5-Trichlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
2,3',6-Trichlorobiphenyl	--	34	ng/kg	--	--	***178***	--	--	***214***	***189***	--	--	--
2,3'-Dichlorobiphenyl	--	34	ng/kg	--	--	***191***	--	--	***203***	***192***	--	--	--
2,4',5-Trichlorobiphenyl	--	34	ng/kg	--	--	***3490***	--	--	***3420***	***3090***	--	--	--
2,4',6-Trichlorobiphenyl	--	34	ng/kg	--	--	***770***	--	--	***1290***	***786***	--	--	--
2,4'-Dichlorobiphenyl	--	34	ng/kg	--	--	***919***	--	--	***798***	***829***	--	--	--
2,4-Dichlorobiphenyl	--	34	ng/kg	--	--	***48.5***	--	--	41.5 U	***42.7***	--	--	--
2,5-Dichlorobiphenyl	--	34	ng/kg	--	--	***53***	--	--	***51.5***	***52.7***	--	--	--
2,6-Dichlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
2-Monochlorobiphenyl	--	34	ng/kg	--	--	***151***	--	--	***128***	***145***	--	--	--
3 -Monochlorobiphenyl	--	34	ng/kg	--	--	***45.8***	--	--	***41.7***	***46.3***	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	***158***	--	--	***108***	***125***	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***1020***	--	--	***812***	***887***	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	34	ng/kg	--	--	***81.3***	--	--	***110***	***116***	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***151***	--	--	***121***	***111***	--	--	--
3,3',4,5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
3,3',4-Trichlorobiphenyl	--	34	ng/kg	--	--	***129***	--	--	***116***	***106***	--	--	--
3,3',5,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
3,3',5-Trichlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
3,3'-Dichlorobiphenyl	--	34	ng/kg	--	--	***174***	--	--	***221***	***184***	--	--	--
3,4,4',5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	***49.9***	--	--	41.5 U	***44.3***	--	--	--
3,4,4'-Trichlorobiphenyl	--	34	ng/kg	--	--	***1980***	--	--	***1940***	***1930***	--	--	--
3,4,5-Trichlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
3,4',5-Trichlorobiphenyl	--	34	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--	--	--
4,4'-Dichlorobiphenyl	--	34	ng/kg	--	--	***1810***	--	--	***1630***	***1540***	--	--	--
4-Monochlorobiphenyl	--	34	ng/kg	--	--	***194***	--	--	***162***	***194***	--	--	--
BZ#139 & BZ#140	--	34	ng/kg	--	--	***614***	--	--	***620***	***531***	--	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD05		PCSD06			PCSD07			PCSD08	
			Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal	Normal	Normal
BZ#153 & BZ#168	--	34	ng/kg	--	--	***39200***	--	--	***35200***	***27300***	--	--	--
BZ#156 & BZ#157	--	34	ng/kg	--	--	***5590***	--	--	***4450***	***4300***	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	34	ng/kg	--	--	***7240***	--	--	***7430***	***6850***	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	34	ng/kg	--	--	***536***	--	--	***563***	***533***	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	34	ng/kg	--	--	***14200***	--	--	***11500***	***11600***	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	34	ng/kg	--	--	***3700***	--	--	***3330***	***3390***	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	34	ng/kg	--	--	***26200***	--	--	***23000***	***21900***	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	34	ng/kg	--	--	***942***	--	--	***1470***	***1000***	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	34	ng/kg	--	--	***282***	--	--	***313***	***292***	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	34	ng/kg	--	--	***4530***	--	--	***5250***	***4660***	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	34	ng/kg	--	--	***635***	--	--	***1250***	***809***	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	34	ng/kg	--	--	***1780***	--	--	***1940***	***1650***	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	34	ng/kg	--	--	***5240***	--	--	***5370***	***4900***	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	34	ng/kg	--	--	***2060***	--	--	***1760***	***1750***	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	34	ng/kg	--	--	***672***	--	--	***1250***	***652***	--	--	--
Decachlorobiphenyl	--	34	ng/kg	--	--	***1840***	--	--	***1640***	***1510***	--	--	--
Dichlorobiphenyl: 3,4/ 3,4’	--	34	ng/kg	--	--	***195***	--	--	***199***	***179***	--	--	--
PCB108 & 0124	--	34	ng/kg	--	--	***868***	--	--	***659***	***744***	--	--	--
PCB110 & 115	--	34	ng/kg	--	--	***30700***	--	--	***26200***	***25700***	--	--	--
PCB128 & 166	--	34	ng/kg	--	--	***6220***	--	--	***4950***	***4430***	--	--	--
PCB135 & 151	--	34	ng/kg	--	--	***14100***	--	--	***13500***	***9800***	--	--	--
PCB147 & 149	--	34	ng/kg	--	--	***33200***	--	--	***31800***	***24000***	--	--	--
PCB171 & 173	--	34	ng/kg	--	--	***3440***	--	--	***3080***	***2390***	--	--	--
PCB180 & 193	--	34	ng/kg	--	--	***25900***	--	--	***22700***	***19800***	--	--	--
PCB183 & 185	--	34	ng/kg	--	--	***8630***	--	--	***7900***	***5930***	--	--	--
PCB197 & 200	--	34	ng/kg	--	--	***944***	--	--	***758***	***597***	--	--	--
PCB198 & 199	--	34	ng/kg	--	--	***6590***	--	--	***5080***	***4610***	--	--	--
PCB-40/PCB-71	--	34	ng/kg	--	--	***2640***	--	--	***2730***	***2620***	--	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD05		PCSD06			PCSD07			PCSD08	
			Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal	Normal	Normal
PCB-86/87/97/108/119/125	--	34	ng/kg	--	--	***16200***	--	--	***13200***	***13700***	--	--	--
PCB-98/PCB-102	--	34	ng/kg	--	--	***608***	--	--	***607***	***595***	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	34	ng/kg	--	--	***2930***	--	--	***3280***	***3150***	--	--	--

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

-- = no screening value/not sampled
bgs = below ground surface
PRG = preliminary remedial goal
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
PCB = polychlorinated biphenyls
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
ft = feet
J = positive detect; value estimated
U = not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated PRG for Peck Iron and Metal are **Bolded**

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD09		PCSD10		PCSD11		PCSD12	
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
PCB Aroclors											
Aroclor-1248	--	0.749	µg/kg	100 U	86 U	70 U	75 U	93 U	87 U	78 U	74 U
Aroclor-1260	--	0.749	µg/kg	***140 J***	***120 J***	***35 J***	***34 J***	***69 J***	***100***	***67 J***	74 U
Aroclor-1268	--	0.749	µg/kg	100 U	***120 J***	70 U	75 U	***69 J***	87 U	78 U	74 U
Total Aroclor	--	0.749	µg/kg	***140 J***	***240 J***	***35 J***	***34 J***	***138 J***	***100***	***67 J***	74 U
PCB Calculated Values											
Bird TEQ (Dioxin Like PCBs)	8.297516	--	ng/kg	--	--	--	--	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	ng/kg	--	--	--	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	ng/kg	--	--	--	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	ng/kg	--	--	--	--	--	--	--	--
High Risk PCB Congeners	60521.1	--	ng/kg	--	--	--	--	--	--	--	--
Sum of All PCB Congeners	65773.9	--	ng/kg	--	--	--	--	--	--	--	--
PCB Congeners											
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD09		PCSD10		PCSD11		PCSD12	
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,6,6'-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',3-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD09		PCSD10		PCSD11		PCSD12	
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
2,2',4,5',6-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',4,6,6'-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',4-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',6,6'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2',6-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,2'-Dichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',5,5'-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',5,6-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,3',5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3',4,5',6-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3',4,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD09		PCSD10		PCSD11		PCSD12	
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
2,3,4',5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3',4-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2',3,5-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3',6-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,3'-Dichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,4',5-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,4',6-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,4'-Dichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,4-Dichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,5-Dichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2,6-Dichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
2-Monochlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3 -Monochlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,3',4,5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,3',4-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,3',5,5'-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,3',5-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,3'-Dichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,4,4',5-Tetrachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,4,5-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
3,4',5-Trichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
4,4'-Dichlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
4-Monochlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
BZ#139 & BZ#140	--	34	ng/kg	--	--	--	--	--	--	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD09		PCSD10		PCSD11		PCSD12	
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
BZ#153 & BZ#168	--	34	ng/kg	--	--	--	--	--	--	--	--
BZ#156 & BZ#157	--	34	ng/kg	--	--	--	--	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	34	ng/kg	--	--	--	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	34	ng/kg	--	--	--	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	34	ng/kg	--	--	--	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	34	ng/kg	--	--	--	--	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	34	ng/kg	--	--	--	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	34	ng/kg	--	--	--	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	34	ng/kg	--	--	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	34	ng/kg	--	--	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	34	ng/kg	--	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	34	ng/kg	--	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	34	ng/kg	--	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	34	ng/kg	--	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	34	ng/kg	--	--	--	--	--	--	--	--
Decachlorobiphenyl	--	34	ng/kg	--	--	--	--	--	--	--	--
Dichlorobiphenyl: 3,4/ 3,4'	--	34	ng/kg	--	--	--	--	--	--	--	--
PCB108 & 0124	--	34	ng/kg	--	--	--	--	--	--	--	--
PCB110 & 115	--	34	ng/kg	--	--	--	--	--	--	--	--
PCB128 & 166	--	34	ng/kg	--	--	--	--	--	--	--	--
PCB135 & 151	--	34	ng/kg	--	--	--	--	--	--	--	--
PCB147 & 149	--	34	ng/kg	--	--	--	--	--	--	--	--
PCB171 & 173	--	34	ng/kg	--	--	--	--	--	--	--	--
PCB180 & 193	--	34	ng/kg	--	--	--	--	--	--	--	--
PCB183 & 185	--	34	ng/kg	--	--	--	--	--	--	--	--
PCB197 & 200	--	34	ng/kg	--	--	--	--	--	--	--	--
PCB198 & 199	--	34	ng/kg	--	--	--	--	--	--	--	--
PCB-40/PCB-71	--	34	ng/kg	--	--	--	--	--	--	--	--

Table 1.1.2A
Paradise Creek Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD09		PCSD10		PCSD11		PCSD12	
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
PCB-86/87/97/108/119/125	--	34	ng/kg	--	--	--	--	--	--	--	--
PCB-98/PCB-102	--	34	ng/kg	--	--	--	--	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	34	ng/kg	--	--	--	--	--	--	--	--

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

-- = no screening value/not sampled
bgs = below ground surface
PRG = preliminary remedial goal
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
PCB = polychlorinated biphenyls
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
ft = feet
J = positive detect; value estimated
U = not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated PRG for Peck Iron and Metal are **Bolded**

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
PCB Arolors										
AROCLOR-1248	--	--	26	µg/kg	54 U	52 U	97 U	75 U	58 U	64 U
AROCLOR-1260	--	--	26	µg/kg	*15 J*	52 U	*44 J*	*27 J*	*49 J*	64 U
AROCLOR-1268	--	--	26	µg/kg	54 U	52 U	*44 J*	75 U	58 U	64 U
Total Aroclor	--	--	26	µg/kg	54 U	52 U	97 U	75 U	*49 J*	64 U
PCB Calculated Values										
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	*22*	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--	ng/kg	--	--	*0.337*	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	*5.29*	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	*5.29*	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	*143000*	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	*151000*	--	--	--
PCB Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	--	--	ng/kg	--	--	*927*	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	--	--	ng/kg	--	--	*1180*	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	--	--	ng/kg	--	--	*115*	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	--	--	ng/kg	--	--	*638*	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	--	--	ng/kg	--	--	*379*	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	*2360*	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	--	--	ng/kg	--	--	*12400*	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	--	--	ng/kg	--	--	*392*	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	*398*	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	--	--	ng/kg	--	--	*183*	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	*1440*	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	*103*	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	*2330*	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*594*	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	*294*	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*3150*	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*106*	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*554*	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	--	--	ng/kg	--	--	*401*	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	*567*	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*150*	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	*1060*	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*383*	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*364*	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*998*	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*1360*	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	--	--	ng/kg	--	--	*984*	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*420*	--	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	*3900*	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*1590*	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*1370*	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
2,2',3,4',5,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*369*	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*39.5*	--	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*48.6*	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*79.6*	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*664*	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*101*	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*1220*	--	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*40.3*	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*4480*	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*95.4*	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*150*	--	--	--
2,2',3,6,6'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*49.1*	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*170*	--	--	--
2,2',3-Trichlorobiphenyl	--	--	--	ng/kg	--	--	*193*	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*146*	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*2980*	--	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*90.6*	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*334*	--	--	--
2,2',4,6,6'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,2',4-Trichlorobiphenyl	--	--	--	ng/kg	--	--	*376*	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
2,2',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*3190*	--	--	--
2,2',6,6'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*48.5*	--	--	--
2,2',6-Trichlorobiphenyl	--	--	--	ng/kg	--	--	*122*	--	--	--
2,2'-Dichlorobiphenyl	--	--	--	ng/kg	--	--	*144*	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	--	--	ng/kg	--	--	*61.2*	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	*116*	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	*422*	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	*86.4*	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*961*	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*2900*	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*42.8*	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*763*	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*49.7*	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*417*	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*952*	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*41.8*	--	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,3,3',5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,3,3',5,6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,3,3',5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,3,3',5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	*471*	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*102*	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*89.7*	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
2,3',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*6810*	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*444*	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*2150*	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,3',4,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,3',4,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*58.9*	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*69.2*	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*928*	--	--	--
2,3',4-Trichlorobiphenyl	--	--	--	ng/kg	--	--	*160*	--	--	--
2,3,4'-Trichlorobiphenyl	--	--	--	ng/kg	--	--	*478*	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*40.6*	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*99.9*	--	--	--
2',3,5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,3',6-Trichlorobiphenyl	--	--	--	ng/kg	--	--	*85.2*	--	--	--
2,3'-Dichlorobiphenyl	--	--	--	ng/kg	--	--	*81.6*	--	--	--
2,4',5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	*1080*	--	--	--
2,4',6-Trichlorobiphenyl	--	--	--	ng/kg	--	--	*367*	--	--	--
2,4'-Dichlorobiphenyl	--	--	--	ng/kg	--	--	*278*	--	--	--
2,4-Dichlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,5-Dichlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2,6-Dichlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
2-Monochlorobiphenyl	--	--	--	ng/kg	--	--	*45.5*	--	--	--
3 -Monochlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
3,3',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*49*	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*332*	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	*40.2*	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	*44.8*	--	--	--
3,3',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
3,3',4-Trichlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
3,3',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
3,3',5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
3,3'-Dichlorobiphenyl	--	--	--	ng/kg	--	--	*285*	--	--	--
3,4,4',5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
3,4,4'-Trichlorobiphenyl	--	--	--	ng/kg	--	--	*621*	--	--	--
3,4,5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
3,4',5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	38 U	--	--	--
4,4'-DICHLOROBIPHENYL	--	--	--	ng/kg	--	--	*505*	--	--	--
4-Monochlorobiphenyl	--	--	--	ng/kg	--	--	*63*	--	--	--
BZ#139 & BZ#140	--	--	--	ng/kg	--	--	*170*	--	--	--
BZ#153 & BZ#168	--	--	--	ng/kg	--	--	*9550*	--	--	--
BZ#156 & BZ#157	--	--	--	ng/kg	--	--	*1270*	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	--	--	ng/kg	--	--	*2960*	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	--	--	ng/kg	--	--	*227*	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	--	--	ng/kg	--	--	*3850*	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	--	--	ng/kg	--	--	*1080*	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Co-elute: PCB#90, PCB#101, and PCB#113	--	--	--	ng/kg	--	--	*6990*	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	--	--	ng/kg	--	--	*655*	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	--	--	ng/kg	--	--	*173*	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	--	--	ng/kg	--	--	*2000*	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	--	--	ng/kg	--	--	*446*	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	--	--	ng/kg	--	--	*600*	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	--	--	ng/kg	--	--	*1810*	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	--	--	ng/kg	--	--	*564*	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	--	--	ng/kg	--	--	*256*	--	--	--
DECACHLOROBIPHENYL	--	--	--	ng/kg	--	--	*892*	--	--	--
DICHLOROBIPHENYL: 3,4/ 3,4'	--	--	--	ng/kg	--	--	*80.4*	--	--	--
PCB108 & 0124	--	--	--	ng/kg	--	--	*213*	--	--	--
PCB110 & 115	--	--	--	ng/kg	--	--	*8810*	--	--	--
PCB128 & 166	--	--	--	ng/kg	--	--	*1650*	--	--	--
PCB135 & 151	--	--	--	ng/kg	--	--	*3110*	--	--	--
PCB147 & 149	--	--	--	ng/kg	--	--	*7890*	--	--	--
PCB171 & 173	--	--	--	ng/kg	--	--	*737*	--	--	--
PCB180 & 193	--	--	--	ng/kg	--	--	*5900*	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
PCB183 & 185	--	--	--	ng/kg	--	--	*1860*	--	--	--
PCB197 & 200	--	--	--	ng/kg	--	--	*212*	--	--	--
PCB198 & 199	--	--	--	ng/kg	--	--	*1560*	--	--	--
PCB-40/PCB-71	--	--	--	ng/kg	--	--	*1110*	--	--	--
PCB-86/87/97/108/119/125	--	--	--	ng/kg	--	--	*4340*	--	--	--
PCB-98/PCB-102	--	--	--	ng/kg	--	--	*232*	--	--	--
PENTACHLOROBIPHENYL:2,2',3,4,6/2,2'3,4',6	--	--	--	ng/kg	--	--	*1060*	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD04			PCSD05	
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SED-DUP02	PCSD05-000005	PCSD05-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
PCB Arolors									
AROCLOR-1248	--	--	26	µg/kg	67 U	*520 J*	73 U	89 U	82 U
AROCLOR-1260	--	--	26	µg/kg	67 U	*150 J*	*76 J*	*88 J*	*87 J*
AROCLOR-1268	--	--	26	µg/kg	67 U	72 U	73 U	89 U	82 U
Total Aroclor	--	--	26	µg/kg	67 U	*670 J*	*76 J*	*88 J*	*87 J*
PCB Calculated Values									
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	*443*	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--	ng/kg	*6.09*	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	*96.2*	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	*96.2*	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	*2250000*	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	*2340000*	--	--	--	--
PCB Congeners									
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	--	--	ng/kg	*3760*	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	--	--	ng/kg	*15100*	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	--	--	ng/kg	*1160*	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	--	--	ng/kg	*8620*	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	--	--	ng/kg	*6510*	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	--	--	ng/kg	*37500*	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	--	--	ng/kg	*154000*	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	--	--	ng/kg	*1880*	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	--	--	ng/kg	*6310*	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	--	--	ng/kg	*4720*	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD04			PCSD05	
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SED-DUP02	PCSD05-000005	PCSD05-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	*20500*	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	*3570*	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	--	--	ng/kg	*35900*	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	--	--	ng/kg	*7640*	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	*4590*	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*47700*	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	--	--	ng/kg	*4380*	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	--	--	ng/kg	*9370*	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	--	--	ng/kg	*2710*	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	*6920*	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	*4590*	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	*11800*	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	--	--	ng/kg	*7010*	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	--	--	ng/kg	*5670*	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*16800*	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	--	--	ng/kg	*28300*	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	--	--	ng/kg	*10400*	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	--	--	ng/kg	*272*	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	*725*	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	--	--	ng/kg	*6980*	--	--	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	*59.9*	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	*44700*	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	*25400*	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	*16700*	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD04			PCSD05	
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SED-DUP02	PCSD05-000005	PCSD05-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
2,2',3,4',5,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	*562*	--	--	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*1810*	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	--	--	ng/kg	*5980*	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*1140*	--	--	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*89.9*	--	--	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*1130*	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	--	--	ng/kg	*1920*	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	*5260*	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	--	--	ng/kg	*2770*	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	*19900*	--	--	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*4760*	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	*86500*	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	--	--	ng/kg	*3900*	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	--	--	ng/kg	*2910*	--	--	--	--
2,2',3,6,6'-Pentachlorobiphenyl	--	--	--	ng/kg	*2490*	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	--	--	ng/kg	*2940*	--	--	--	--
2,2',3-Trichlorobiphenyl	--	--	--	ng/kg	*4670*	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*4520*	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	*59400*	--	--	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*285*	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	*2660*	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	*2750*	--	--	--	--
2,2',4,6,6'-Pentachlorobiphenyl	--	--	--	ng/kg	*3400*	--	--	--	--
2,2',4-Trichlorobiphenyl	--	--	--	ng/kg	*3720*	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD04			PCSD05	
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SED-DUP02	PCSD05-000005	PCSD05-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
2,2',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	*58200*	--	--	--	--
2,2',6,6'-Tetrachlorobiphenyl	--	--	--	ng/kg	*3200*	--	--	--	--
2,2',6-Trichlorobiphenyl	--	--	--	ng/kg	*3400*	--	--	--	--
2,2'-Dichlorobiphenyl	--	--	--	ng/kg	*1390*	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	--	--	ng/kg	*2100*	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	--	--	ng/kg	*4440*	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	*7180*	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	--	--	ng/kg	*3490*	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	--	--	ng/kg	*13600*	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	--	--	ng/kg	*40000 J*	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	*1250*	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	--	--	ng/kg	*8630*	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	--	--	ng/kg	*1910*	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	--	--	ng/kg	*5740 J*	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	--	--	ng/kg	*8890*	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	--	--	ng/kg	*1630*	--	--	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	--	--	--	ng/kg	*200*	--	--	--	--
2,3,3',5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	*114*	--	--	--	--
2,3,3',5,6-Pentachlorobiphenyl	--	--	--	ng/kg	*1900*	--	--	--	--
2,3,3',5'-Tetrachlorobiphenyl	--	--	--	ng/kg	*638*	--	--	--	--
2,3,3',5-Tetrachlorobiphenyl	--	--	--	ng/kg	*331*	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	*6450*	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	*5210*	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	*3340*	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD04			PCSD05	
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SED-DUP02	PCSD05-000005	PCSD05-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
2,3',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	*101000 J*	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	*2980*	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	*23900*	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	*992*	--	--	--	--
2,3',4,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	*491*	--	--	--	--
2,3',4,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	*2540*	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	*2740*	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	--	--	ng/kg	*1990*	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	--	--	ng/kg	*8380*	--	--	--	--
2,3',4-Trichlorobiphenyl	--	--	--	ng/kg	*2980*	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	--	--	ng/kg	*2290*	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	*2770*	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	--	--	ng/kg	*4840*	--	--	--	--
2',3,5-Trichlorobiphenyl	--	--	--	ng/kg	*210*	--	--	--	--
2,3',6-Trichlorobiphenyl	--	--	--	ng/kg	*1680*	--	--	--	--
2,3'-Dichlorobiphenyl	--	--	--	ng/kg	*814*	--	--	--	--
2,4',5-Trichlorobiphenyl	--	--	--	ng/kg	*6110*	--	--	--	--
2,4',6-Trichlorobiphenyl	--	--	--	ng/kg	*9650*	--	--	--	--
2,4'-Dichlorobiphenyl	--	--	--	ng/kg	*2700*	--	--	--	--
2,4-Dichlorobiphenyl	--	--	--	ng/kg	*133*	--	--	--	--
2,5-Dichlorobiphenyl	--	--	--	ng/kg	*211*	--	--	--	--
2,6-Dichlorobiphenyl	--	--	--	ng/kg	*121*	--	--	--	--
2-Monochlorobiphenyl	--	--	--	ng/kg	*254*	--	--	--	--
3 -Monochlorobiphenyl	--	--	--	ng/kg	*95.7*	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD04			PCSD05	
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SED-DUP02	PCSD05-000005	PCSD05-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
3,3',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	*901*	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	*6900*	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	*377*	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	*4890*	--	--	--	--
3,3',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	*94.6*	--	--	--	--
3,3',4-Trichlorobiphenyl	--	--	--	ng/kg	*2780*	--	--	--	--
3,3',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	*156*	--	--	--	--
3,3',5-Trichlorobiphenyl	--	--	--	ng/kg	*915*	--	--	--	--
3,3'-Dichlorobiphenyl	--	--	--	ng/kg	*969*	--	--	--	--
3,4,4',5-Tetrachlorobiphenyl	--	--	--	ng/kg	26.4 U	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	--	--	ng/kg	*4910*	--	--	--	--
3,4,5-Trichlorobiphenyl	--	--	--	ng/kg	*47.7*	--	--	--	--
3,4',5-Trichlorobiphenyl	--	--	--	ng/kg	*690*	--	--	--	--
4,4'-DICHLOROBIPHENYL	--	--	--	ng/kg	*4960*	--	--	--	--
4-Monochlorobiphenyl	--	--	--	ng/kg	*193*	--	--	--	--
BZ#139 & BZ#140	--	--	--	ng/kg	*5800*	--	--	--	--
BZ#153 & BZ#168	--	--	--	ng/kg	*132000*	--	--	--	--
BZ#156 & BZ#157	--	--	--	ng/kg	*19100*	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	--	--	ng/kg	*68900*	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	--	--	ng/kg	*5610*	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	--	--	ng/kg	*61200*	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	--	--	ng/kg	*15000*	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD04			PCSD05	
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SED-DUP02	PCSD05-000005	PCSD05-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
Co-elute: PCB#90, PCB#101, and PCB#113	--	--	--	ng/kg	*123000*	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	--	--	ng/kg	*29800*	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	--	--	ng/kg	*8600*	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	--	--	ng/kg	*30900*	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	--	--	ng/kg	*27700*	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	--	--	ng/kg	*3830*	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	--	--	ng/kg	*12300*	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	--	--	ng/kg	*10000*	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	--	--	ng/kg	*6040*	--	--	--	--
DECACHLOROBIPHENYL	--	--	--	ng/kg	*1280*	--	--	--	--
DICHLOROBIPHENYL: 3,4/ 3,4'	--	--	--	ng/kg	*1310*	--	--	--	--
PCB108 & 0124	--	--	--	ng/kg	*8580*	--	--	--	--
PCB110 & 115	--	--	--	ng/kg	*122000 J*	--	--	--	--
PCB128 & 166	--	--	--	ng/kg	*20600*	--	--	--	--
PCB135 & 151	--	--	--	ng/kg	*43600*	--	--	--	--
PCB147 & 149	--	--	--	ng/kg	*113000*	--	--	--	--
PCB171 & 173	--	--	--	ng/kg	*12200*	--	--	--	--
PCB180 & 193	--	--	--	ng/kg	*88900*	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD04			PCSD05	
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SED-DUP02	PCSD05-000005	PCSD05-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
PCB183 & 185	--	--	--	ng/kg	*28500*	--	--	--	--
PCB197 & 200	--	--	--	ng/kg	*6440*	--	--	--	--
PCB198 & 199	--	--	--	ng/kg	*15800*	--	--	--	--
PCB-40/PCB-71	--	--	--	ng/kg	*41800*	--	--	--	--
PCB-86/87/97/108/119/125	--	--	--	ng/kg	*75500*	--	--	--	--
PCB-98/PCB-102	--	--	--	ng/kg	*10400*	--	--	--	--
PENTACHLOROBIPHENYL:2,2',3,4,6/2,2'3,4',6	--	--	--	ng/kg	*14300*	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD06			PCSD07		
				Field Sample ID	PCSD06-000005	PCSD06-005020	FE05SED-DUP03	PCSD07-000005	FE05SED-DUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Duplicate	Normal
PCB Arolors										
AROCLOR-1248	--	--	26	µg/kg	87 U	96 U	91 U	110 U	100 U	100 U
AROCLOR-1260	--	--	26	µg/kg	*120 J*	*110 J*	91 U	*100 J*	*83 J*	*110 J*
AROCLOR-1268	--	--	26	µg/kg	87 U	96 U	91 U	110 U	100 U	100 U
Total Aroclor	--	--	26	µg/kg	*120 J*	*110 J*	91 U	*100 J*	100 U	*110 J*
PCB Calculated Values										
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	*73.8*	--	--	*53*	*62.9*	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--	ng/kg	*1.14*	--	--	*0.804*	*0.92*	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	*17.3*	--	--	*12*	*13.7*	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	*17.3*	--	--	*12*	*13.7*	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	*548000*	--	--	*485000*	*424000*	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	*572000*	--	--	*510000*	*446000*	--
PCB Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	--	--	ng/kg	*2630*	--	--	*2510*	*2220*	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	--	--	ng/kg	*5050*	--	--	*4100*	*3950*	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	--	--	ng/kg	*378*	--	--	*323*	*299*	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	--	--	ng/kg	*2890*	--	--	*2350*	*2090*	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	--	--	ng/kg	*1760*	--	--	*1400*	*1250*	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	--	--	ng/kg	*10500*	--	--	*8890*	*7860*	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	--	--	ng/kg	*49100*	--	--	*44000*	*35200*	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	--	--	ng/kg	*976*	--	--	*830*	*818*	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	--	--	ng/kg	*1870*	--	--	*1470*	*1260*	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	--	--	ng/kg	*850*	--	--	*656*	*533*	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD06			PCSD07		
				Field Sample ID	PCSD06-000005	PCSD06-005020	FE05SED-DUP03	PCSD07-000005	FE05SED-DUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Duplicate	Normal
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	*6660*	--	--	*5380*	*4300*	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	*502*	--	--	*429*	*322*	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	--	--	ng/kg	*11600*	--	--	*9330*	*7200*	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	--	--	ng/kg	*2420*	--	--	*1860*	*1580*	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	*1450*	--	--	*1270*	*922*	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*14500*	--	--	*12200*	*9130*	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	--	--	ng/kg	*494*	--	--	*415*	*337*	--
2,2',3,3',4-Pentachlorobiphenyl	--	--	--	ng/kg	*2240*	--	--	*1800*	*1780*	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	--	--	ng/kg	*1450*	--	--	*1140*	*1100*	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	*2430*	--	--	*2180*	*1680*	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	*540*	--	--	*518*	*397*	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	*4900*	--	--	*4440*	*3170*	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	--	--	ng/kg	*1930*	--	--	*1680*	*1370*	--
2,2',3,3',5-Pentachlorobiphenyl	--	--	--	ng/kg	*1050*	--	--	*843*	*1080*	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*4720*	--	--	*4620*	*3160*	--
2,2',3,3',6-Pentachlorobiphenyl	--	--	--	ng/kg	*4940*	--	--	*4230*	*4330*	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	--	--	ng/kg	*3860*	--	--	*3270*	*3050*	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	--	--	ng/kg	*77.4*	--	--	*107*	*85*	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	*77.6*	--	--	*75.6*	*69*	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	--	--	ng/kg	*1540*	--	--	*1270*	*1300*	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	*16000*	--	--	*14700*	*11300*	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	*8620*	--	--	*6960*	*5040*	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	*5540*	--	--	*5020*	*4220*	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD06			PCSD07		
				Field Sample ID	PCSD06-000005	PCSD06-005020	FE05SED-DUP03	PCSD07-000005	FE05SED-DUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Duplicate	Normal
2,2',3,4',5,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	*60.3*	--	--	*115*	*109*	--
2,2',3,4',5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*64.1*	--	--	*101*	*83.7*	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	--	--	ng/kg	*1780*	--	--	*1610*	*1220*	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*133*	--	--	*129*	*96.4*	--
2,2',3,4,6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
2,2',3,4',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*98.6*	--	--	*184*	*133*	--
2,2',3,4,6'-Pentachlorobiphenyl	--	--	--	ng/kg	*209*	--	--	*292*	*257*	--
2,2',3,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	*1610*	--	--	*1800*	*1670*	--
2,2',3,4-Tetrachlorobiphenyl	--	--	--	ng/kg	*440*	--	--	*353*	*331*	--
2,2',3,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	*4440*	--	--	*4030*	*3950*	--
2,2',3,5,6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*58.4*	--	--	*138*	*94.6*	--
2,2',3,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	*16800*	--	--	*15700*	*14600*	--
2,2',3,5,6'-Pentachlorobiphenyl	--	--	--	ng/kg	*139*	--	--	*249*	*209*	--
2,2',3,5-Tetrachlorobiphenyl	--	--	--	ng/kg	*371*	--	--	*431*	*335*	--
2,2',3,6,6'-Pentachlorobiphenyl	--	--	--	ng/kg	*89.2*	--	--	*128*	*116*	--
2,2',3,6'-Tetrachlorobiphenyl	--	--	--	ng/kg	*248*	--	--	*466*	*323*	--
2,2',3-Trichlorobiphenyl	--	--	--	ng/kg	*677*	--	--	*686*	*584*	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	*379*	--	--	*395*	*347*	--
2,2',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	*10100*	--	--	*8640*	*8870*	--
2,2',4,4',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
2,2',4,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	*178*	--	--	*221*	*205*	--
2,2',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	*999*	--	--	*989*	*899*	--
2,2',4,6,6'-Pentachlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
2,2',4-Trichlorobiphenyl	--	--	--	ng/kg	*967*	--	--	*1070*	*943*	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD06			PCSD07		
				Field Sample ID	PCSD06-000005	PCSD06-005020	FE05SED-DUP03	PCSD07-000005	FE05SED-DUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Duplicate	Normal
2,2',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	*9690*	--	--	*9840*	*9560*	--
2,2',6,6'-Tetrachlorobiphenyl	--	--	--	ng/kg	*37.4*	--	--	*91.2*	42.7 U	--
2,2',6-Trichlorobiphenyl	--	--	--	ng/kg	*217*	--	--	*273*	*233*	--
2,2'-Dichlorobiphenyl	--	--	--	ng/kg	*347*	--	--	*289*	*335*	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	--	--	ng/kg	*254*	--	--	*227*	*201*	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	--	--	ng/kg	*510*	--	--	*462*	*385*	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	*1820*	--	--	*1590*	*1490*	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	--	--	ng/kg	*379*	--	--	*347*	*296*	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	--	--	ng/kg	*4050*	--	--	*3580*	*2890*	--
2,3,3',4,4'-Pentachlorobiphenyl	--	--	--	ng/kg	*10800*	--	--	*8890*	*9060*	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	*180*	--	--	*111*	*112*	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	--	--	ng/kg	*3260*	--	--	*2870*	*2030*	--
2',3,3',4,5-Pentachlorobiphenyl	--	--	--	ng/kg	*196*	--	--	*147*	*166*	--
2,3,3',4',5-Pentachlorobiphenyl	--	--	--	ng/kg	*1500*	--	--	*1150*	*1250*	--
2,3,3',4'-Tetrachlorobiphenyl	--	--	--	ng/kg	*3250*	--	--	*2690*	*2650*	--
2,3,3',4-Tetrachlorobiphenyl	--	--	--	ng/kg	*273*	--	--	*276*	*235*	--
2,3,3',5,5',6-Hexachlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
2,3,3',5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
2,3,3',5,6-Pentachlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
2,3,3',5'-Tetrachlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
2,3,3',5-Tetrachlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	*1880*	--	--	*1550*	*1510*	--
2,3,4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	*467*	--	--	*331*	*377*	--
2',3,4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	*347*	--	--	*294*	*291*	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD06			PCSD07		
				Field Sample ID	PCSD06-000005	PCSD06-005020	FE05SED-DUP03	PCSD07-000005	FE05SED-DUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Duplicate	Normal
2,3',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	*25200*	--	--	*20500*	*21000*	--
2,3,4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	*1640*	--	--	*1290*	*1310*	--
2,3',4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	*6430*	--	--	*5350*	*5520*	--
2,3',4,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	*60.3*	--	--	*56.5*	*56.3*	--
2,3',4,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
2,3',4,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	*66*	--	--	*68.5*	*60.9*	--
2,3',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	*196*	--	--	*169*	*167*	--
2,3,4',5-Tetrachlorobiphenyl	--	--	--	ng/kg	*219*	--	--	*193*	*196*	--
2,3,4',6-Tetrachlorobiphenyl	--	--	--	ng/kg	*2820*	--	--	*2650*	*2500*	--
2,3',4-Trichlorobiphenyl	--	--	--	ng/kg	*354*	--	--	*567*	*340*	--
2,3,4'-Trichlorobiphenyl	--	--	--	ng/kg	*1610*	--	--	*1650*	*1380*	--
2,3',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	*86.4*	--	--	*95.7*	*79.6*	--
2,3',5',6-Tetrachlorobiphenyl	--	--	--	ng/kg	*235*	--	--	*288*	*229*	--
2',3,5-Trichlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
2,3',6-Trichlorobiphenyl	--	--	--	ng/kg	*178*	--	--	*214*	*189*	--
2,3'-Dichlorobiphenyl	--	--	--	ng/kg	*191*	--	--	*203*	*192*	--
2,4',5-Trichlorobiphenyl	--	--	--	ng/kg	*3490*	--	--	*3420*	*3090*	--
2,4',6-Trichlorobiphenyl	--	--	--	ng/kg	*770*	--	--	*1290*	*786*	--
2,4'-Dichlorobiphenyl	--	--	--	ng/kg	*919*	--	--	*798*	*829*	--
2,4-Dichlorobiphenyl	--	--	--	ng/kg	*48.5*	--	--	41.5 U	*42.7*	--
2,5-Dichlorobiphenyl	--	--	--	ng/kg	*53*	--	--	*51.5*	*52.7*	--
2,6-Dichlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
2-Monochlorobiphenyl	--	--	--	ng/kg	*151*	--	--	*128*	*145*	--
3 -Monochlorobiphenyl	--	--	--	ng/kg	*45.8*	--	--	*41.7*	*46.3*	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD06			PCSD07		
				Field Sample ID	PCSD06-000005	PCSD06-005020	FE05SED-DUP03	PCSD07-000005	FE05SED-DUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Duplicate	Normal
3,3',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	*158*	--	--	*108*	*125*	--
3,3',4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	*1020*	--	--	*812*	*887*	--
3,3',4,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	*81.3*	--	--	*110*	*116*	--
3,3',4,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	*151*	--	--	*121*	*111*	--
3,3',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
3,3',4-Trichlorobiphenyl	--	--	--	ng/kg	*129*	--	--	*116*	*106*	--
3,3',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
3,3',5-Trichlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
3,3'-Dichlorobiphenyl	--	--	--	ng/kg	*174*	--	--	*221*	*184*	--
3,4,4',5-Tetrachlorobiphenyl	--	--	--	ng/kg	*49.9*	--	--	41.5 U	*44.3*	--
3,4,4'-Trichlorobiphenyl	--	--	--	ng/kg	*1980*	--	--	*1940*	*1930*	--
3,4,5-Trichlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
3,4',5-Trichlorobiphenyl	--	--	--	ng/kg	37.3 U	--	--	41.5 U	42.7 U	--
4,4'-DICHLOROBIPHENYL	--	--	--	ng/kg	*1810*	--	--	*1630*	*1540*	--
4-Monochlorobiphenyl	--	--	--	ng/kg	*194*	--	--	*162*	*194*	--
BZ#139 & BZ#140	--	--	--	ng/kg	*614*	--	--	*620*	*531*	--
BZ#153 & BZ#168	--	--	--	ng/kg	*39200*	--	--	*35200*	*27300*	--
BZ#156 & BZ#157	--	--	--	ng/kg	*5590*	--	--	*4450*	*4300*	--
Co-elute: PCB#44, PCB#47, PCB#65	--	--	--	ng/kg	*7240*	--	--	*7430*	*6850*	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	--	--	ng/kg	*536*	--	--	*563*	*533*	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	--	--	ng/kg	*14200*	--	--	*11500*	*11600*	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	--	--	ng/kg	*3700*	--	--	*3330*	*3390*	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD06			PCSD07		
				Field Sample ID	PCSD06-000005	PCSD06-005020	FE05SED-DUP03	PCSD07-000005	FE05SED-DUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Duplicate	Normal
Co-elute: PCB#90, PCB#101, and PCB#113	--	--	--	ng/kg	*26200*	--	--	*23000*	*21900*	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	--	--	ng/kg	*942*	--	--	*1470*	*1000*	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	--	--	ng/kg	*282*	--	--	*313*	*292*	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	--	--	ng/kg	*4530*	--	--	*5250*	*4660*	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	--	--	ng/kg	*635*	--	--	*1250*	*809*	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	--	--	ng/kg	*1780*	--	--	*1940*	*1650*	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	--	--	ng/kg	*5240*	--	--	*5370*	*4900*	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	--	--	ng/kg	*2060*	--	--	*1760*	*1750*	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	--	--	ng/kg	*672*	--	--	*1250*	*652*	--
DECACHLOROBIPHENYL	--	--	--	ng/kg	*1840*	--	--	*1640*	*1510*	--
DICHLOROBIPHENYL: 3,4/ 3,4'	--	--	--	ng/kg	*195*	--	--	*199*	*179*	--
PCB108 & 0124	--	--	--	ng/kg	*868*	--	--	*659*	*744*	--
PCB110 & 115	--	--	--	ng/kg	*30700*	--	--	*26200*	*25700*	--
PCB128 & 166	--	--	--	ng/kg	*6220*	--	--	*4950*	*4430*	--
PCB135 & 151	--	--	--	ng/kg	*14100*	--	--	*13500*	*9800*	--
PCB147 & 149	--	--	--	ng/kg	*33200*	--	--	*31800*	*24000*	--
PCB171 & 173	--	--	--	ng/kg	*3440*	--	--	*3080*	*2390*	--
PCB180 & 193	--	--	--	ng/kg	*25900*	--	--	*22700*	*19800*	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD06			PCSD07		
				Field Sample ID	PCSD06-000005	PCSD06-005020	FE05SED-DUP03	PCSD07-000005	FE05SED-DUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Duplicate	Normal
PCB183 & 185	--	--	--	ng/kg	*8630*	--	--	*7900*	*5930*	--
PCB197 & 200	--	--	--	ng/kg	*944*	--	--	*758*	*597*	--
PCB198 & 199	--	--	--	ng/kg	*6590*	--	--	*5080*	*4610*	--
PCB-40/PCB-71	--	--	--	ng/kg	*2640*	--	--	*2730*	*2620*	--
PCB-86/87/97/108/119/125	--	--	--	ng/kg	*16200*	--	--	*13200*	*13700*	--
PCB-98/PCB-102	--	--	--	ng/kg	*608*	--	--	*607*	*595*	--
PENTACHLOROBIPHENYL:2,2',3,4,6/2,2'3,4',6	--	--	--	ng/kg	*2930*	--	--	*3280*	*3150*	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD08		PCSD09		PCSD10	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Duplicate	Normal	Normal	Normal	Normal
PCB Arolors										
AROCLOR-1248	--	--	26	µg/kg	94 U	96 U	100 U	86 U	70 U	75 U
AROCLOR-1260	--	--	26	µg/kg	*100 J*	*82 J*	*140 J*	*120 J*	*35 J*	*34 J*
AROCLOR-1268	--	--	26	µg/kg	94 U	96 U	100 U	*120 J*	70 U	75 U
Total Aroclor	--	--	26	µg/kg	*100 J*	*82 J*	*140 J*	86 U	*35 J*	*34 J*
PCB Calculated Values										
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--	ng/kg	--	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--	--	--
PCB Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD08		PCSD09		PCSD10	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Duplicate	Normal	Normal	Normal	Normal
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD08		PCSD09		PCSD10	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Duplicate	Normal	Normal	Normal	Normal
2,2',3,4',5,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,6,6'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',3-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',4,6,6'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',4-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD08		PCSD09		PCSD10	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Duplicate	Normal	Normal	Normal	Normal
2,2',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',6,6'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2',6-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,2'-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',5,6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,3',5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD08		PCSD09		PCSD10	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Duplicate	Normal	Normal	Normal	Normal
2,3',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3',4,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3',4,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3',4-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2',3,5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3',6-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,3'-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,4',5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,4',6-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,4'-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,4-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,5-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2,6-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
2-Monochlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3 -Monochlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD08		PCSD09		PCSD10	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Duplicate	Normal	Normal	Normal	Normal
3,3',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3,3',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3,3',4-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3,3',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3,3',5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3,3'-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3,4,4',5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3,4,5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
3,4',5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
4,4'-DICHLOROBIPHENYL	--	--	--	ng/kg	--	--	--	--	--	--
4-Monochlorobiphenyl	--	--	--	ng/kg	--	--	--	--	--	--
BZ#139 & BZ#140	--	--	--	ng/kg	--	--	--	--	--	--
BZ#153 & BZ#168	--	--	--	ng/kg	--	--	--	--	--	--
BZ#156 & BZ#157	--	--	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	--	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	--	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	--	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	--	--	ng/kg	--	--	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD08		PCSD09		PCSD10	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Duplicate	Normal	Normal	Normal	Normal
Co-elute: PCB#90, PCB#101, and PCB#113	--	--	--	ng/kg	--	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	--	--	ng/kg	--	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	--	--	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	--	--	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	--	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	--	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	--	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	--	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	--	--	ng/kg	--	--	--	--	--	--
DECACHLOROBIPHENYL	--	--	--	ng/kg	--	--	--	--	--	--
DICHLOROBIPHENYL: 3,4/ 3,4'	--	--	--	ng/kg	--	--	--	--	--	--
PCB108 & 0124	--	--	--	ng/kg	--	--	--	--	--	--
PCB110 & 115	--	--	--	ng/kg	--	--	--	--	--	--
PCB128 & 166	--	--	--	ng/kg	--	--	--	--	--	--
PCB135 & 151	--	--	--	ng/kg	--	--	--	--	--	--
PCB147 & 149	--	--	--	ng/kg	--	--	--	--	--	--
PCB171 & 173	--	--	--	ng/kg	--	--	--	--	--	--
PCB180 & 193	--	--	--	ng/kg	--	--	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD08		PCSD09		PCSD10	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Duplicate	Normal	Normal	Normal	Normal
PCB183 & 185	--	--	--	ng/kg	--	--	--	--	--	--
PCB197 & 200	--	--	--	ng/kg	--	--	--	--	--	--
PCB198 & 199	--	--	--	ng/kg	--	--	--	--	--	--
PCB-40/PCB-71	--	--	--	ng/kg	--	--	--	--	--	--
PCB-86/87/97/108/119/125	--	--	--	ng/kg	--	--	--	--	--	--
PCB-98/PCB-102	--	--	--	ng/kg	--	--	--	--	--	--
PENTACHLOROBIPHENYL:2,2',3,4,6/2,2'3,4',6	--	--	--	ng/kg	--	--	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD11		PCSD12	
				Field Sample ID	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
PCB Arolors								
AROCLOR-1248	--	--	26	µg/kg	93 U	87 U	78 U	74 U
AROCLOR-1260	--	--	26	µg/kg	*69 J*	*100*	*67 J*	74 U
AROCLOR-1268	--	--	26	µg/kg	*69 J*	87 U	78 U	74 U
Total Aroclor	--	--	26	µg/kg	93 U	100 U	*67 J*	74 U
PCB Calculated Values								
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--	ng/kg	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--
PCB Congeners								
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD11		PCSD12	
				Field Sample ID	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD11		PCSD12	
				Field Sample ID	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
2,2',3,4',5,6,6'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,6,6'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',3-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',4,6,6'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',4-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD11		PCSD12	
				Field Sample ID	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
2,2',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',6,6'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2',6-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,2'-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',5,6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,3',5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD11		PCSD12	
				Field Sample ID	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
2,3',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3',4,5',6-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3',4,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3',4-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2',3,5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3',6-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,3'-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,4',5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,4',6-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,4'-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,4-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,5-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2,6-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
2-Monochlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3 -Monochlorobiphenyl	--	--	--	ng/kg	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD11		PCSD12	
				Field Sample ID	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
3,3',4,4',5-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3,3',4,5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3,3',4-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3,3',5,5'-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3,3',5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3,3'-Dichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3,4,4',5-Tetrachlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3,4,5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
3,4',5-Trichlorobiphenyl	--	--	--	ng/kg	--	--	--	--
4,4'-DICHLOROBIPHENYL	--	--	--	ng/kg	--	--	--	--
4-Monochlorobiphenyl	--	--	--	ng/kg	--	--	--	--
BZ#139 & BZ#140	--	--	--	ng/kg	--	--	--	--
BZ#153 & BZ#168	--	--	--	ng/kg	--	--	--	--
BZ#156 & BZ#157	--	--	--	ng/kg	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	--	--	ng/kg	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	--	--	ng/kg	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	--	--	ng/kg	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	--	--	ng/kg	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD11		PCSD12	
				Field Sample ID	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Co-elute: PCB#90, PCB#101, and PCB#113	--	--	--	ng/kg	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	--	--	ng/kg	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	--	--	ng/kg	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	--	--	ng/kg	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	--	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	--	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	--	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	--	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	--	--	ng/kg	--	--	--	--
DECACHLOROBIPHENYL	--	--	--	ng/kg	--	--	--	--
DICHLOROBIPHENYL: 3,4/ 3,4’	--	--	--	ng/kg	--	--	--	--
PCB108 & 0124	--	--	--	ng/kg	--	--	--	--
PCB110 & 115	--	--	--	ng/kg	--	--	--	--
PCB128 & 166	--	--	--	ng/kg	--	--	--	--
PCB135 & 151	--	--	--	ng/kg	--	--	--	--
PCB147 & 149	--	--	--	ng/kg	--	--	--	--
PCB171 & 173	--	--	--	ng/kg	--	--	--	--
PCB180 & 193	--	--	--	ng/kg	--	--	--	--

Table 1.1.2B
Paradise Creek Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks (1)	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD11		PCSD12	
				Field Sample ID	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
PCB183 & 185	--	--	--	ng/kg	--	--	--	--
PCB197 & 200	--	--	--	ng/kg	--	--	--	--
PCB198 & 199	--	--	--	ng/kg	--	--	--	--
PCB-40/PCB-71	--	--	--	ng/kg	--	--	--	--
PCB-86/87/97/108/119/125	--	--	--	ng/kg	--	--	--	--
PCB-98/PCB-102	--	--	--	ng/kg	--	--	--	--
PENTACHLOROBIPHENYL:2,2',3,4,6/2,2'3,4',6	--	--	--	ng/kg	--	--	--	--

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Region 3 Biological Technical Assistance Group
ft = feet
ng/kg = nanograms per kilogram
µg/kg = micrograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
PCBs = polychlorinated biphenyls
USEPA = U.S. Environmental Protection Agency
SQuiRTS = Screening Quick Reference Tables
TEQ = Toxic Equivalent
UTL = upper tolerance limit
J = indicates an estimated value
U = not detected; value presented equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

Table 1.1.3A
Paradise Creek Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	Sample Location	PCSD01		PCSD02		PCSD03	
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values									
Bird TEQ (Dioxins)	32.19	4.5	ng/kg	--	**5.34**	--	**10.1**	--	1.13
Fish TEQ (Dioxins)	20.52	4.5	ng/kg	--	3.34	--	**6.46**	--	0.819
Calculated Dioxin/Furan TEQs									
Bird TEQ (Dioxins)	32.19	4.5	ng/kg	--	2.55	--	**6.26**	--	0.577
Fish TEQ (Dioxins)	20.52	4.5	ng/kg	--	1.86	--	4.64	--	0.342
Human TEQ (Dioxins)	23.25	4.5	ng/kg	--	2.39	--	**5.91**	--	0.607
Mammal TEQ (Dioxins)	23.25	4.5	ng/kg	--	2.39	--	**5.91**	--	0.607
PCDD/PCDF									
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	ng/kg	--	***11.9***	--	***24.9***	--	0.134 U
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	ng/kg	--	***43.6***	--	***102***	--	***18***
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	1.15	ng/kg	--	*0.945 J*	--	***2 J***	--	0.198 U
1,2,3,4,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***1.38 J***	--	***2.85 J***	--	***0.131 J***
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***0.756 J***	--	***1.79 J***	--	***0.385 J***
1,2,3,6,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***1.5 J***	--	***3.13 J***	--	***0.162 J***
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***1.84 J***	--	***4.23 J***	--	***0.683 J***
1,2,3,7,8,9-Hexachlorodibenzofuran	--	0.115	ng/kg	--	0.336 U	--	***0.61 J***	--	0.144 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***1.46 J***	--	***3.82 J***	--	***1.02 J***
1,2,3,7,8-Pentachlorodibenzofuran	--	0.384	ng/kg	--	0.271 U	--	0.141 U	--	0.125 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	ng/kg	--	***0.646 J***	--	***1.62 J***	--	0.225 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***2.49 J***	--	***4.3 J***	--	***0.246 J***
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	ng/kg	--	0.28 U	--	0.143 U	--	0.128 U
2,3,7,8-TCDD	--	0.0115	ng/kg	--	0.219 U	--	***0.359 J***	--	0.16 U
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	ng/kg	--	***0.949***	--	***2.19***	--	***0.333 J***
Hexachlorodibenzofuran	--	--	ng/kg	--	*33.8 J*	--	*56.7 J*	--	*2.53 J*
Hexachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*34 J*	--	*67.8*	--	*21.7 J*
Octachlorodibenzofuran	--	38.4	ng/kg	--	*20.1*	--	***42.7***	--	*1.74 J*
Octachlorodibenzo-P-Dioxin	--	38.4	ng/kg	--	***466***	--	***1110***	--	***436***
Pentachloro Dibenzofuran	--	--	ng/kg	--	*38.7 J*	--	*56.1 J*	--	0.071 U
Pentachlorodibenso-P-Dioxin	--	--	ng/kg	--	*7.21 J*	--	*18*	--	*3.79 J*
TEQ Who2005 Nd=0	--	--	ng/kg	--	*2.39*	--	*5.91*	--	*0.608*
Tetrachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*3.86*	--	*9.38 J*	--	*1.42 J*
Total Heptachlorodibenzofuran	--	--	ng/kg	--	*29.2 J*	--	*61.4*	--	0.134 U
Total Heptachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*136*	--	*297*	--	*61.8*
Total TCDF	--	--	ng/kg	--	*21.6 J*	--	*39 J*	--	*2.26 J*

Table 1.1.3A
Paradise Creek Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	Sample Location	PCSD04			PCSD05	
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Duplicate	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values								
Bird TEQ (Dioxins)	32.19	4.5	ng/kg	--	***35.2***	**27.3**	--	**24.8**
Fish TEQ (Dioxins)	20.52	4.5	ng/kg	--	***24.4***	**16.8**	--	**14.6**
Calculated Dioxin/Furan TEQs								
Bird TEQ (Dioxins)	32.19	4.5	ng/kg	--	***35.6***	**27**	--	**24.4**
Fish TEQ (Dioxins)	20.52	4.5	ng/kg	--	***24.5***	**16.6**	--	**14.1**
Human TEQ (Dioxins)	23.25	4.5	ng/kg	--	***23.6***	**16.6**	--	**13.8**
Mammal TEQ (Dioxins)	23.25	4.5	ng/kg	--	***23.6***	**16.6**	--	**13.8**
PCDD/PCDF								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	ng/kg	--	***54.6***	***54.6***	--	***60***
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	ng/kg	--	***240***	***178***	--	***188***
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	1.15	ng/kg	--	***3.99 J***	***4.18 J***	--	***3.5 J***
1,2,3,4,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***10.5***	***7.7***	--	***4.82 J***
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***10.2***	***3.95 J***	--	***2.47 J***
1,2,3,6,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***10.1***	***9.06***	--	***4.84***
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***15.4***	***8.22***	--	***8.01***
1,2,3,7,8,9-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***1.92 J***	***1.94 J***	--	***1.35 J***
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***15.1***	***7.46***	--	***6.59***
1,2,3,7,8-Pentachlorodibenzofuran	--	0.384	ng/kg	--	***5.06***	0.913 U	--	0.269 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	ng/kg	--	***6.7***	***3.64 J***	--	***1.85 J***
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***14.2***	***15.4***	--	***9.25***
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	ng/kg	--	***11.9***	***10.7***	--	***15.1***
2,3,7,8-TCDD	--	0.0115	ng/kg	--	***1.04***	***0.818 J***	--	0.518 U
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	ng/kg	--	***8.55***	***6.5***	--	***3.51***
Hexachlorodibenzofuran	--	--	ng/kg	--	*232*	*246 J*	--	*158 J*
Hexachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*201*	*134*	--	*136 J*
Octachlorodibenzofuran	--	38.4	ng/kg	--	***59.7***	***54.8***	--	***129***
Octachlorodibenzo-P-Dioxin	--	38.4	ng/kg	--	***1820***	***1750***	--	***2610***
Pentachloro Dibenzofuran	--	--	ng/kg	--	*194 J*	*153 J*	--	*141 J*
Pentachlorodibenso-P-Dioxin	--	--	ng/kg	--	*77.6 J*	*31.2 J*	--	*22 J*
TEQ Who2005 Nd=0	--	--	ng/kg	--	*23.6*	*16.6*	--	*13.8*
Tetrachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*43.9*	*29.2 J*	--	*17.2*
Total Heptachlorodibenzofuran	--	--	ng/kg	--	*117*	*120*	--	*160*
Total Heptachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*546*	*504*	--	*627*
Total TCDF	--	--	ng/kg	--	*145*	*99.8 J*	--	*96.4 J*

Table 1.1.3A
Paradise Creek Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	Sample Location	PCSD06			PCSD07		
			Date Collected	6/18/2015	6/19/2015	6/19/2015	6/18/2015	6/18/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Duplicate	Normal	Duplicate	Normal
Laboratory Provided Dioxin/Furan TEQ Values									
Bird TEQ (Dioxins)	32.19	4.5	ng/kg	--	**30.1**	**8.41**	--	--	***36.9***
Fish TEQ (Dioxins)	20.52	4.5	ng/kg	--	**19.8**	**5.84**	--	--	***26.7***
Calculated Dioxin/Furan TEQs									
Bird TEQ (Dioxins)	32.19	4.5	ng/kg	--	**26.7**	**6.01**	--	--	***37.4***
Fish TEQ (Dioxins)	20.52	4.5	ng/kg	--	**16.1**	3.42	--	--	***26.6***
Human TEQ (Dioxins)	23.25	4.5	ng/kg	--	**18.6**	**4.61**	--	--	***29.9***
Mammal TEQ (Dioxins)	23.25	4.5	ng/kg	--	**18.6**	**4.61**	--	--	***29.9***
PCDD/PCDF									
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	ng/kg	--	***103***	***23***	--	--	***118***
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	ng/kg	--	***408***	***134***	--	--	***519***
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	1.15	ng/kg	--	***5.97***	0.22 U	--	--	***7.91***
1,2,3,4,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***8.46***	0.156 U	--	--	***11.2***
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***4.57 J***	***1.74 J***	--	--	***8.34***
1,2,3,6,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***10.9***	0.146 U	--	--	***12.9***
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***13.6***	***4.18 J***	--	--	***20.3***
1,2,3,7,8,9-Hexachlorodibenzofuran	--	0.115	ng/kg	--	0.296 U	0.167 U	--	--	0.338 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***11.2***	***4.75 J***	--	--	***17.2***
1,2,3,7,8-Pentachlorodibenzofuran	--	0.384	ng/kg	--	0.119 U	0.106 U	--	--	***5.61***
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	ng/kg	--	0.121 U	0.158 U	--	--	***7.57***
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***22.1***	0.155 U	--	--	***18.1***
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	ng/kg	--	***13.3***	***3.13 J***	--	--	***12.6***
2,3,7,8-TCDD	--	0.0115	ng/kg	--	***0.632 J***	***0.245 J***	--	--	***1.04***
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	ng/kg	--	***5.21***	***1.45***	--	--	***6.85***
Hexachlorodibenzofuran	--	--	ng/kg	--	*376*	*67.8 J*	--	--	*287*
Hexachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*244*	*131*	--	--	*289*
Octachlorodibenzofuran	--	38.4	ng/kg	--	***158***	*32.5*	--	--	***196***
Octachlorodibenzo-P-Dioxin	--	38.4	ng/kg	--	***4010***	***2110***	--	--	***4610***
Pentachloro Dibenzofuran	--	--	ng/kg	--	*276 J*	*59.9 J*	--	--	*215 J*
Pentachlorodibenso-P-Dioxin	--	--	ng/kg	--	*49.7*	*23.9 J*	--	--	*79.8 J*
TEQ Who2005 Nd=0	--	--	ng/kg	--	*18.6*	*4.61*	--	--	*29.9*
Tetrachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*35.4*	*16.7 J*	--	--	*45.2 J*
Total Heptachlorodibenzofuran	--	--	ng/kg	--	*259*	*54.9*	--	--	*296*
Total Heptachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*1180*	*448*	--	--	*1330*
Total TCDF	--	--	ng/kg	--	*114 J*	*29.7 J*	--	--	*134 J*

Table 1.1.3A
Paradise Creek Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	Sample Location	PCSD08		PCSD09		PCSD10	
			Date Collected	6/18/2015	6/19/2015	6/18/2015	6/19/2015	6/18/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values									
Bird TEQ (Dioxins)	32.19	4.5	ng/kg	--	**25.6**	--	***34.6***	--	4.09
Fish TEQ (Dioxins)	20.52	4.5	ng/kg	--	**17.9**	--	***22.9***	--	2.8
Calculated Dioxin/Furan TEQs									
Bird TEQ (Dioxins)	32.19	4.5	ng/kg	--	**20.8**	--	***34.4***	--	2.97
Fish TEQ (Dioxins)	20.52	4.5	ng/kg	--	**13.4**	--	***22.7***	--	1.72
Human TEQ (Dioxins)	23.25	4.5	ng/kg	--	**16.7**	--	***25***	--	2.2
Mammal TEQ (Dioxins)	23.25	4.5	ng/kg	--	**16.7**	--	***25***	--	2.2
PCDD/PCDF									
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	ng/kg	--	***82.7***	--	***94.8***	--	***6.32***
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	ng/kg	--	***420***	--	***421***	--	***54.8***
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	1.15	ng/kg	--	***5.79***	--	***6.5***	--	0.115 U
1,2,3,4,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***7.57***	--	***10.3***	--	0.12 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***5.56***	--	***6.39***	--	***1.05 J***
1,2,3,6,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***9.3***	--	***11.6***	--	0.119 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***15.3***	--	***16.4***	--	***1.97 J***
1,2,3,7,8,9-Hexachlorodibenzofuran	--	0.115	ng/kg	--	0.328 UJ	--	0.353 UJ	--	0.337 UJ
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***12.6***	--	***13.4***	--	***2.65 J***
1,2,3,7,8-Pentachlorodibenzofuran	--	0.384	ng/kg	--	0.105 U	--	***5.42***	--	0.104 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	ng/kg	--	0.187 U	--	***5.2***	--	0.122 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***14.3***	--	***16.7***	--	0.13 U
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	ng/kg	--	***9.14***	--	***13.5***	--	***1.41 J***
2,3,7,8-TCDD	--	0.0115	ng/kg	--	***0.694 J***	--	***0.997***	--	***0.174 J***
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	ng/kg	--	***4.39***	--	***6.68***	--	***0.819 J***
Hexachlorodibenzofuran	--	--	ng/kg	--	*228 J*	--	*256 J*	--	*17.6*
Hexachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*242*	--	*239*	--	*70.9*
Octachlorodibenzofuran	--	38.4	ng/kg	--	***140***	--	***151***	--	0.21 U
Octachlorodibenzo-P-Dioxin	--	38.4	ng/kg	--	***4260***	--	***3910***	--	***1140***
Pentachloro Dibenzofuran	--	--	ng/kg	--	*171 J*	--	*220 J*	--	*19.6 J*
Pentachlorodibenso-P-Dioxin	--	--	ng/kg	--	*56.6*	--	*63.2*	--	*13.9 J*
TEQ Who2005 Nd=0	--	--	ng/kg	--	*16.75*	--	*24.99*	--	*2.2*
Tetrachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*33*	--	*34.9*	--	*10.9*
Total Heptachlorodibenzofuran	--	--	ng/kg	--	*217*	--	*234*	--	*14.9*
Total Heptachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*1060*	--	*1160*	--	*193*
Total TCDF	--	--	ng/kg	--	*90.3 J*	--	*138 J*	--	*13.2 J*

Table 1.1.3A
Paradise Creek Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	Sample Location	PCSD11		PCSD12	
			Date Collected	6/18/2015	6/19/2015	6/18/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values							
Bird TEQ (Dioxins)	32.19	4.5	ng/kg	--	**22.6**	--	**5.99**
Fish TEQ (Dioxins)	20.52	4.5	ng/kg	--	**13.3**	--	4.25
Calculated Dioxin/Furan TEQs							
Bird TEQ (Dioxins)	32.19	4.5	ng/kg	--	**19**	--	4.28
Fish TEQ (Dioxins)	20.52	4.5	ng/kg	--	**11.3**	--	2.39
Human TEQ (Dioxins)	23.25	4.5	ng/kg	--	**13.2**	--	3.03
Mammal TEQ (Dioxins)	23.25	4.5	ng/kg	--	**13.2**	--	3.03
PCDD/PCDF							
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	ng/kg	--	***62.9***	--	***17.8***
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	ng/kg	--	***288***	--	***69.1***
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	1.15	ng/kg	--	0.233 U	--	0.175 U
1,2,3,4,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***6.87***	--	0.134 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***4.6 J***	--	***1.45 J***
1,2,3,6,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***8.09***	--	0.126 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***11.6***	--	***2.55 J***
1,2,3,7,8,9-Hexachlorodibenzofuran	--	0.115	ng/kg	--	0.32 U	--	0.207 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	ng/kg	--	***9.58***	--	***3.5 J***
1,2,3,7,8-Pentachlorodibenzofuran	--	0.384	ng/kg	--	0.212 U	--	0.118 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	ng/kg	--	0.204 U	--	0.173 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	ng/kg	--	***10.4***	--	0.15 U
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	ng/kg	--	***8.2***	--	***1.79 J***
2,3,7,8-TCDD	--	0.0115	ng/kg	--	***0.73 J***	--	***0.229 J***
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	ng/kg	--	***4.98***	--	***1.4***
Hexachlorodibenzofuran	--	--	ng/kg	--	*154 J*	--	*28.8 J*
Hexachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*179*	--	*90.8*
Octachlorodibenzofuran	--	38.4	ng/kg	--	***109***	--	*14*
Octachlorodibenzo-P-Dioxin	--	38.4	ng/kg	--	***2940***	--	***1660***
Pentachloro Dibenzofuran	--	--	ng/kg	--	*130 J*	--	*27.7 J*
Pentachlorodibenso-P-Dioxin	--	--	ng/kg	--	*47.1 J*	--	*19.6*
TEQ Who2005 Nd=0	--	--	ng/kg	--	*13.3*	--	*3.02*
Tetrachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*27.4*	--	*14.3 J*
Total Heptachlorodibenzofuran	--	--	ng/kg	--	*158*	--	*28.3*
Total Heptachlorodibenzo-P-Dioxin	--	--	ng/kg	--	*822*	--	*230*
Total TCDF	--	--	ng/kg	--	*91.7 J*	--	*28.9 J*

Table 1.1.3A
Paradise Creek Sediment Dioxins/Furans Human Health Risk Screening

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
ng/kg = nanograms per kilogram
PCDD/PCDF = Polychlorinated dibenzodioxins/Polychlorinated dibenzofurans
TCDF = Tetrachlorodibenzofuran
TCDD = Tetrachlorodibenzodioxin
TEQ = Toxic Equivalent
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
J = positive detect, value estimated
U = not detected; value shown equals reporting limit
UJ = not detected; value shown equals an estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**

Table 1.1.3B
Paradise Creek Sediment Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values										
Bird TEQ (Dioxins)	32.19	--		ng/kg	--	5.34	--	10.1	--	1.13
Fish TEQ (Dioxins)	20.52	--		ng/kg	--	3.34	--	6.46	--	0.819
Calculated Dioxin/Furan TEQs										
Bird TEQ (Dioxins)	32.19	--		ng/kg	--	2.55	--	6.26	--	0.577
Fish TEQ (Dioxins)	20.52	--		ng/kg	--	1.86	--	4.64	--	0.342
Human TEQ (Dioxins)	23.25	--		ng/kg	--	2.39	--	5.91	--	0.607
Mammal TEQ (Dioxins)	23.25	--		ng/kg	--	2.39	--	5.91	--	0.607
Dioxins/Furans										
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	*11.9*	--	*24.9*	--	0.134 U
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*43.6*	--	*102*	--	*18*
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	ng/kg	--	*0.945 J*	--	*2 J*	--	0.198 U
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*1.38 J*	--	*2.85 J*	--	*0.131 J*
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*0.756 J*	--	*1.79 J*	--	*0.385 J*
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*1.5 J*	--	*3.13 J*	--	*0.162 J*
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*1.84 J*	--	*4.23 J*	--	*0.683 J*
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	ng/kg	--	0.336 U	--	*0.61 J*	--	0.144 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*1.46 J*	--	*3.82 J*	--	*1.02 J*
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	0.271 U	--	0.141 U	--	0.125 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*0.646 J*	--	*1.62 J*	--	0.225 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*2.49 J*	--	*4.3 J*	--	*0.246 J*
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	0.28 U	--	0.143 U	--	0.128 U
2,3,7,8-TCDD	--	0.85	--	ng/kg	--	0.219 U	--	0.359 J	--	0.16 U
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	*0.949*	--	*2.19*	--	*0.333 J*
Hexachlorodibenzofuran	--	--	--	ng/kg	--	*33.8 J*	--	*56.7 J*	--	*2.53 J*
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*34 J*	--	*67.8*	--	*21.7 J*
Octachlorodibenzofuran	--	--	--	ng/kg	--	*20.1*	--	*42.7*	--	*1.74 J*
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*466*	--	*1110*	--	*436*
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	*38.7 J*	--	*56.1 J*	--	0.071 U
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	*7.21 J*	--	*18*	--	*3.79 J*
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	*2.39*	--	*5.91*	--	*0.608*
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*3.86*	--	*9.38 J*	--	*1.42 J*
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	*29.2 J*	--	*61.4*	--	0.134 U
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*136*	--	*297*	--	*61.8*
Total TCDF	--	--	--	ng/kg	--	*21.6 J*	--	*39 J*	--	*2.26 J*

Table 1.1.3B
Paradise Creek Sediment Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD04			PCSD05	
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SED-DUP02	PCSD05-000005	PCSD05-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values									
Bird TEQ (Dioxins)	32.19	--		ng/kg	--	*35.2*	27.3	--	24.8
Fish TEQ (Dioxins)	20.52	--		ng/kg	--	*24.4*	16.8	--	14.6
Calculated Dioxin/Furan TEQs									
Bird TEQ (Dioxins)	32.19	--		ng/kg	--	*35.6*	27	--	24.4
Fish TEQ (Dioxins)	20.52	--		ng/kg	--	*24.5*	16.6	--	14.1
Human TEQ (Dioxins)	23.25	--		ng/kg	--	*23.6*	16.6	--	13.8
Mammal TEQ (Dioxins)	23.25	--		ng/kg	--	*23.6*	16.6	--	13.8
Dioxins/Furans									
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	*54.6*	*54.6*	--	*60*
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*240*	*178*	--	*188*
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	ng/kg	--	*3.99 J*	*4.18 J*	--	*3.5 J*
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*10.5*	*7.7*	--	*4.82 J*
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*10.2*	*3.95 J*	--	*2.47 J*
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*10.1*	*9.06*	--	*4.84*
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*15.4*	*8.22*	--	*8.01*
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*1.92 J*	*1.94 J*	--	*1.35 J*
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*15.1*	*7.46*	--	*6.59*
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	*5.06*	0.913 U	--	0.269 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*6.7*	*3.64 J*	--	*1.85 J*
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*14.2*	*15.4*	--	*9.25*
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	*11.9*	*10.7*	--	*15.1*
2,3,7,8-TCDD	--	0.85	--	ng/kg	--	***1.04***	*0.818 J*	--	0.518 U
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	*8.55*	*6.5*	--	*3.51*
Hexachlorodibenzofuran	--	--	--	ng/kg	--	*232*	*246 J*	--	*158 J*
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*201*	*134*	--	*136 J*
Octachlorodibenzofuran	--	--	--	ng/kg	--	*59.7*	*54.8*	--	*129*
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*1820*	*1750*	--	*2610*
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	*194 J*	*153 J*	--	*141 J*
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	*77.6 J*	*31.2 J*	--	*22 J*
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	*23.6*	*16.6*	--	*13.8*
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*43.9*	*29.2 J*	--	*17.2*
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	*117*	*120*	--	*160*
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*546*	*504*	--	*627*
Total TCDF	--	--	--	ng/kg	--	*145*	*99.8 J*	--	*96.4 J*

Table 1.1.3B
Paradise Creek Sediment Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD06			PCSD07		
				Field Sample ID	PCSD06-000005	PCSD06-005020	FE05SED-DUP03	PCSD07-000005	FE05SED-DUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal	Duplicate
Laboratory Provided Dioxin/Furan TEQ Values										
Bird TEQ (Dioxins)	32.19	--		ng/kg	--	30.1	8.41	--	--	*36.9*
Fish TEQ (Dioxins)	20.52	--		ng/kg	--	19.8	5.84	--	--	*26.7*
Calculated Dioxin/Furan TEQs										
Bird TEQ (Dioxins)	32.19	--		ng/kg	--	26.7	6.01	--	--	*37.4*
Fish TEQ (Dioxins)	20.52	--		ng/kg	--	16.1	3.42	--	--	*26.6*
Human TEQ (Dioxins)	23.25	--		ng/kg	--	18.6	4.61	--	--	*29.9*
Mammal TEQ (Dioxins)	23.25	--		ng/kg	--	18.6	4.61	--	--	*29.9*
Dioxins/Furans										
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	*103*	*23*	--	--	*118*
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*408*	*134*	--	--	*519*
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	ng/kg	--	*5.97*	0.22 U	--	--	*7.91*
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*8.46*	0.156 U	--	--	*11.2*
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*4.57 J*	*1.74 J*	--	--	*8.34*
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*10.9*	0.146 U	--	--	*12.9*
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*13.6*	*4.18 J*	--	--	*20.3*
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	ng/kg	--	0.296 U	0.167 U	--	--	0.338 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*11.2*	*4.75 J*	--	--	*17.2*
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	0.119 U	0.106 U	--	--	*5.61*
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	0.121 U	0.158 U	--	--	*7.57*
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*22.1*	0.155 U	--	--	*18.1*
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	*13.3*	*3.13 J*	--	--	*12.6*
2,3,7,8-TCDD	--	0.85	--	ng/kg	--	*0.632 J*	*0.245 J*	--	--	***1.04***
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	*5.21*	*1.45*	--	--	*6.85*
Hexachlorodibenzofuran	--	--	--	ng/kg	--	*376*	*67.8 J*	--	--	*287*
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*244*	*131*	--	--	*289*
Octachlorodibenzofuran	--	--	--	ng/kg	--	*158*	*32.5*	--	--	*196*
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*4010*	*2110*	--	--	*4610*
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	*276 J*	*59.9 J*	--	--	*215 J*
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	*49.7*	*23.9 J*	--	--	*79.8 J*
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	*18.6*	*4.61*	--	--	*29.9*
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*35.4*	*16.7 J*	--	--	*45.2 J*
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	*259*	*54.9*	--	--	*296*
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*1180*	*448*	--	--	*1330*
Total TCDF	--	--	--	ng/kg	--	*114 J*	*29.7 J*	--	--	*134 J*

Table 1.1.3B
Paradise Creek Sediment Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD08		PCSD09		PCSD10	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values										
Bird TEQ (Dioxins)	32.19	--		ng/kg	--	25.6	--	*34.6*	--	4.09
Fish TEQ (Dioxins)	20.52	--		ng/kg	--	17.9	--	*22.9*	--	2.8
Calculated Dioxin/Furan TEQs										
Bird TEQ (Dioxins)	32.19	--		ng/kg	--	20.8	--	*34.4*	--	2.97
Fish TEQ (Dioxins)	20.52	--		ng/kg	--	13.4	--	*22.7*	--	1.72
Human TEQ (Dioxins)	23.25	--		ng/kg	--	16.7	--	*25*	--	2.2
Mammal TEQ (Dioxins)	23.25	--		ng/kg	--	16.7	--	*25*	--	2.2
Dioxins/Furans										
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	*82.7*	--	*94.8*	--	*6.32*
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*420*	--	*421*	--	*54.8*
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	ng/kg	--	*5.79*	--	*6.5*	--	0.115 U
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*7.57*	--	*10.3*	--	0.12 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*5.56*	--	*6.39*	--	*1.05 J*
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*9.3*	--	*11.6*	--	0.119 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*15.3*	--	*16.4*	--	*1.97 J*
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	ng/kg	--	0.328 UJ	--	0.353 UJ	--	0.337 UJ
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*12.6*	--	*13.4*	--	*2.65 J*
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	0.105 U	--	*5.42*	--	0.104 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	0.187 U	--	*5.2*	--	0.122 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*14.3*	--	*16.7*	--	0.13 U
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	*9.14*	--	*13.5*	--	*1.41 J*
2,3,7,8-TCDD	--	0.85	--	ng/kg	--	*0.694 J*	--	***0.997***	--	*0.174 J*
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	*4.39*	--	*6.68*	--	*0.819 J*
Hexachlorodibenzofuran	--	--	--	ng/kg	--	*228 J*	--	*256 J*	--	*17.6*
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*242*	--	*239*	--	*70.9*
Octachlorodibenzofuran	--	--	--	ng/kg	--	*140*	--	*151*	--	0.21 U
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*4260*	--	*3910*	--	*1140*
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	*171 J*	--	*220 J*	--	*19.6 J*
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	*56.6*	--	*63.2*	--	*13.9 J*
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	*16.75*	--	*24.99*	--	*2.2*
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*33*	--	*34.9*	--	*10.9*
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	*217*	--	*234*	--	*14.9*
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*1060*	--	*1160*	--	*193*
Total TCDF	--	--	--	ng/kg	--	*90.3 J*	--	*138 J*	--	*13.2 J*

Table 1.1.3B
Paradise Creek Sediment Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD11		PCSD12	
				Field Sample ID	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values								
Bird TEQ (Dioxins)	32.19	--		ng/kg	--	22.6	--	5.99
Fish TEQ (Dioxins)	20.52	--		ng/kg	--	13.3	--	4.25
Calculated Dioxin/Furan TEQs								
Bird TEQ (Dioxins)	32.19	--		ng/kg	--	19	--	4.28
Fish TEQ (Dioxins)	20.52	--		ng/kg	--	11.3	--	2.39
Human TEQ (Dioxins)	23.25	--		ng/kg	--	13.2	--	3.03
Mammal TEQ (Dioxins)	23.25	--		ng/kg	--	13.2	--	3.03
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	*62.9*	--	*17.8*
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*288*	--	*69.1*
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	ng/kg	--	0.233 U	--	0.175 U
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*6.87*	--	0.134 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*4.6 J*	--	*1.45 J*
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*8.09*	--	0.126 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*11.6*	--	*2.55 J*
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	ng/kg	--	0.32 U	--	0.207 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*9.58*	--	*3.5 J*
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	0.212 U	--	0.118 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	0.204 U	--	0.173 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	*10.4*	--	0.15 U
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	*8.2*	--	*1.79 J*
2,3,7,8-TCDD	--	0.85	--	ng/kg	--	*0.73 J*	--	*0.229 J*
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	*4.98*	--	*1.4*
Hexachlorodibenzofuran	--	--	--	ng/kg	--	*154 J*	--	*28.8 J*
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*179*	--	*90.8*
Octachlorodibenzofuran	--	--	--	ng/kg	--	*109*	--	*14*
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*2940*	--	*1660*
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	*130 J*	--	*27.7 J*
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	*47.1 J*	--	*19.6*
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	*13.3*	--	*3.02*
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*27.4*	--	*14.3 J*
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	*158*	--	*28.3*
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	*822*	--	*230*
Total TCDF	--	--	--	ng/kg	--	*91.7 J*	--	*28.9 J*

Table 1.1.3B
Paradise Creek Sediment Dioxins/Furans Ecological Risk Screening

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Region 3 Biological Technical Assistance Group
ft = feet
ng/kg = nanograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
PCDD/PCDF = Polychlorinated dibenzodioxins/Polychlorinated dibenzofurans
UTL = upper tolerance limit
SQuiRTS = Screening Quick Reference Tables
TCDF = Tetrachlorodibenzofuran
TCDD = Tetrachlorodibenzodioxin
TEQ = Toxic Equivalent
USEPA = U.S. Environmental Protection Agency
J = positive detect, value estimated
U = not detected; value shown equals reporting limit
UJ = not detected, value shown equals estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

Table 1.1.4A
Paradise Creek Sediment Pesticides Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD01		PCSD02		PCSD03		PCSD04		
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
			Sample	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
Pesticides												
4,4'-DDD	--	6.24	ug/kg	***6.7***	5.186 U	***12***	7.45 U	5.713 U	6.449 U	6.646 U	7.103 U	7.261 U
4,4'-DDE	--	4.4	ug/kg	5.339 U	5.186 U	9.674 U	7.45 U	***13 J***	6.449 U	6.646 U	7.103 U	7.261 U
4,4'-DDT	--	4.4	ug/kg	5.339 U	5.186 U	***6.3 J***	7.45 U	5.713 U	6.449 U	6.646 U	***7 J***	7.261 U

Table 1.1.4A
Paradise Creek Sediment Pesticides Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD05		PCSD06			PCSD07			PCSD08	
			Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal	Normal	Normal
Pesticides													
4,4'-DDD	--	6.24	ug/kg	8.889 U	8.195 U	8.655 U	9.578 U	9.136 U	10.575 U	10.177 U	10.21 U	9.397 U	9.642 U
4,4'-DDE	--	4.4	ug/kg	8.889 U	***35 J***	8.655 U	9.578 U	9.136 U	***20 J***	10.177 U	***23 J***	***18 J***	***11***
4,4'-DDT	--	4.4	ug/kg	8.889 U	8.195 U	8.655 U	9.578 U	9.136 U	10.575 U	10.177 U	10.21 U	***12 J***	9.642 U

Table 1.1.4A
Paradise Creek Sediment Pesticides Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	Sample Location	PCSD09		PCSD10		PCSD11		PCSD12	
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Pesticides											
4,4'-DDD	--	6.24	ug/kg	***20 J***	***9.9 J***	6.929 U	7.475 U	9.335 U	8.655 U	7.779 U	7.475 U
4,4'-DDE	--	4.4	ug/kg	***29 J***	***18***	6.929 U	7.475 U	9.335 U	8.655 U	7.779 U	7.475 U
4,4'-DDT	--	4.4	ug/kg	***15 J***	***8.2 J***	6.929 U	7.475 U	9.335 U	8.655 U	7.779 U	7.475 U

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

-- = no screening value/not sampled
bgs = below ground surface
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
ft = feet
µg/kg = micrograms per kilogram
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
NOAA = National Oceanic and Atmospheric Administration
SQuiRTs = Screening Quick Reference Tables
J = positive detect; value estimated
U = not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the USEPA Region 3 November 2015 Resident Soil RSLs are Underlined
Results exceeding the NOAA SQuiRT sediment screening values are Underlined

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Table 1.1.4B
Paradise Creek Sediment Pesticides Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Pesticides										
4,4'-DDD	--	1.22	3.54	µg/kg	***6.7***	5.186 U	***12***	7.45 U	5.713 U	6.449 U
4,4'-DDE	--	2.07	1.42	µg/kg	5.339 U	5.186 U	9.674 U	7.45 U	***13 J***	6.449 U
4,4'-DDT	--	1.19	50	µg/kg	5.339 U	5.186 U	***6.3 J***	7.45 U	5.713 U	6.449 U

Table 1.1.4B
Paradise Creek Sediment Pesticides Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD04			PCSD05	
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SED-DUP02	PCSD05-000005	PCSD05-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
Pesticides									
4,4'-DDD	--	1.22	3.54	µg/kg	6.646 U	7.103 U	7.261 U	8.889 U	8.195 U
4,4'-DDE	--	2.07	1.42	µg/kg	6.646 U	7.103 U	7.261 U	8.889 U	***35 J***
4,4'-DDT	--	1.19	50	µg/kg	6.646 U	***7 J***	7.261 U	8.889 U	8.195 U

Table 1.1.4B
Paradise Creek Sediment Pesticides Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD06			PCSD07		
				Field Sample ID	PCSD06-000005	PCSD06-005020	FE05SED-DUP03	PCSD07-000005	FE05SED-DUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Duplicate	Normal
Pesticides										
4,4'-DDD	--	1.22	3.54	µg/kg	8.655 U	9.578 U	9.136 U	10.575 U	10.177 U	10.21 U
4,4'-DDE	--	2.07	1.42	µg/kg	8.655 U	9.578 U	9.136 U	***20 J***	10.177 U	***23 J***
4,4'-DDT	--	1.19	50	µg/kg	8.655 U	9.578 U	9.136 U	10.575 U	10.177 U	10.21 U

Table 1.1.4B
Paradise Creek Sediment Pesticides Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD08		PCSD09		PCSD10	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Pesticides										
4,4'-DDD	--	1.22	3.54	µg/kg	9.397 U	9.642 U	***20 J***	***9.9 J***	6.929 U	7.475 U
4,4'-DDE	--	2.07	1.42	µg/kg	***18 J***	***11***	***29 J***	***18***	6.929 U	7.475 U
4,4'-DDT	--	1.19	50	µg/kg	***12 J***	9.642 U	***15 J***	***8.2 J***	6.929 U	7.475 U

Table 1.1.4B
Paradise Creek Sediment Pesticides Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD11		PCSD12	
				Field Sample ID	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Pesticides								
4,4'-DDD	--	1.22	3.54	µg/kg	9.335 U	8.655 U	7.779 U	7.475 U
4,4'-DDE	--	2.07	1.42	µg/kg	9.335 U	8.655 U	7.779 U	7.475 U
4,4'-DDT	--	1.19	50	µg/kg	9.335 U	8.655 U	7.779 U	7.475 U

Table 1.1.4B
Paradise Creek Sediment Pesticides Ecological Risk Screening

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Region 3 Biological Technical Assistance Group
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
ft = feet
µg/kg = micrograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
PCDD/PCDF = Polychlorinated dibenzodioxins/Polychlorinated dibenzofurans
UTL = upper tolerance limit
SQuiRTS = Screening Quick Reference Tables
USEPA = U.S. Environmental Protection Agency
J = indicates an estimated value
U = not detected; value presented equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

Table 1.1.5A
Paradise Creek Sediment SVOCs and VOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated)	Sample Location	PCSD01		PCSD02		PCSD03	
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Semivolatiles									
Anthracene	--	167000	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U
Benzo[a]Anthracene	580	2.05	µg/kg	280 U	270 U	500 U	**270 J**	300 U	330 U
Benzo[a]Pyrene	980	0.205	µg/kg	**180 J**	270 U	**350 J**	**310 J**	300 U	330 U
Benzo[b]Fluoranthene	2203	2.05	µg/kg	**200 J**	270 U	**450 J**	**390**	300 U	330 U
Benzo[g,h,i]Perylene	680	16700	µg/kg	280 U	270 U	320 J	250 J	300 U	330 U
Benzo[k]Fluoranthene	1499	20.5	µg/kg	**190 J**	270 U	**410 J**	**310 J**	300 U	330 U
Benzyl Butyl Phthalate	--	788	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U
Bis(2-Ethylhexyl) phthalate	750	107	µg/kg	**180 J**	270 U	**350 J**	**440**	300 U	330 U
Caprolactam	--	278000	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U
Chrysene	790	205	µg/kg	280 U	270 U	**320 J**	**350 J**	300 U	330 U
Di-N-Butyl Phthalate	--	55600	µg/kg	280 U	270 U	*550*	380 U	300 U	330 U
Fluoranthene	1100	22200	µg/kg	320 J	520 U	680 J	740	580 U	640 U
Indeno[1,2,3-Cd]Pyrene	560	2.05	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U
Phenanthrene	540	16700	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U
Pyrene	1821	16700	µg/kg	230 J	270 U	410 J	450	300 U	330 U
Volatiles									
Methyl Acetate	--	--	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U
Methylene Chloride	--	--	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U

Table 1.1.5A
Paradise Creek Sediment SVOCs and VOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated)	Sample Location	PCSD04			PCSD05	
			Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Duplicate	Normal	Normal
Semivolatiles								
Anthracene	--	167000	µg/kg	*570*	370 U	380 U	*320 J*	420 U
Benzo[a]Anthracene	580	2.05	µg/kg	***1500***	**560**	**450**	**520**	**450**
Benzo[a]Pyrene	980	0.205	µg/kg	***1100***	**820**	**590**	**290 J**	**400 J**
Benzo[b]Fluoranthene	2203	2.05	µg/kg	**940**	**1200**	**880**	**320 J**	**420 J**
Benzo[g,h,i]Perylene	680	16700	µg/kg	630	420	390	460 U	420 U
Benzo[k]Fluoranthene	1499	20.5	µg/kg	**860**	**870**	**540**	**350 J**	**350 J**
Benzyl Butyl Phthalate	--	788	µg/kg	340 U	370 U	380 U	460 U	*330 J*
Bis(2-Ethylhexyl) phthalate	750	107	µg/kg	340 U	**240 J**	***1300***	460 U	420 U
Caprolactam	--	278000	µg/kg	670 U	710 U	730 U	890 U	810 U
Chrysene	790	205	µg/kg	***1400***	***860***	**570**	**520**	**520**
Di-N-Butyl Phthalate	--	55600	µg/kg	*1600*	370 U	380 U	460 U	*420*
Fluoranthene	1100	22200	µg/kg	*4000*	520 J	1100	*2000*	1000 U
Indeno[1,2,3-Cd]Pyrene	560	2.05	µg/kg	**550**	**420**	**350 J**	460 U	420 U
Phenanthrene	540	16700	µg/kg	*3200*	370 U	470	450 J	420 U
Pyrene	1821	16700	µg/kg	*3300*	400	1000	980	750
Volatiles								
Methyl Acetate	--	--	µg/kg	9.6 U	10 U	10 U	12 U	12 U
Methylene Chloride	--	--	µg/kg	9.6 U	10 U	10 U	12 U	12 U

Table 1.1.5A
Paradise Creek Sediment SVOCs and VOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated)	Sample Location	PCSD06			PCSD07		
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Duplicate	Normal	Duplicate	Normal
Semivolatiles									
Anthracene	--	167000	µg/kg	440 U	500 U	470 U	540 U	530 U	530 U
Benzo[a]Anthracene	580	2.05	µg/kg	**360 J**	500 U	470 U	540 U	**430 J**	530 U
Benzo[a]Pyrene	980	0.205	µg/kg	**400 J**	**400 J**	470 U	**370 J**	**510 J**	530 U
Benzo[b]Fluoranthene	2203	2.05	µg/kg	**480**	**520**	470 U	**510 J**	**660**	530 U
Benzo[g,h,i]Perylene	680	16700	µg/kg	380 J	330 J	470 U	390 J	490 J	530 U
Benzo[k]Fluoranthene	1499	20.5	µg/kg	**440 J**	**430 J**	470 U	**440 J**	**530**	530 U
Benzyl Butyl Phthalate	--	788	µg/kg	440 U	500 U	470 U	540 U	530 U	*280 J*
Bis(2-Ethylhexyl) phthalate	750	107	µg/kg	**390 J**	**360 J**	470 U	**600**	***1200***	**370 J**
Caprolactam	--	278000	µg/kg	860 U	970 U	910 U	1100 U	1000 U	1000 U
Chrysene	790	205	µg/kg	**360 J**	500 U	470 U	**370 J**	**500 J**	530 U
Di-N-Butyl Phthalate	--	55600	µg/kg	440 U	500 U	470 U	540 U	530 U	530 U
Fluoranthene	1100	22200	µg/kg	790 J	550 J	910 U	760 J	1000	390 J
Indeno[1,2,3-Cd]Pyrene	560	2.05	µg/kg	**300 J**	500 U	470 U	**340 J**	**440 J**	530 U
Phenanthrene	540	16700	µg/kg	310 J	500 U	470 U	540 U	400 J	530 U
Pyrene	1821	16700	µg/kg	640	640	470 U	580	700 J	530 U
Volatiles									
Methyl Acetate	--	--	µg/kg	12 U	14 U	--	*32*	14 U	15 U
Methylene Chloride	--	--	µg/kg	12 U	14 U	--	15 U	14 U	15 U

Table 1.1.5A
Paradise Creek Sediment SVOCs and VOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated)	Sample Location	PCSD08		PCSD09		PCSD10	
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Semivolatiles									
Anthracene	--	167000	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U
Benzo[a]Anthracene	580	2.05	µg/kg	480 U	500 U	**420 J**	450 U	360 U	380 U
Benzo[a]Pyrene	980	0.205	µg/kg	480 U	500 U	**460 J**	**340 J**	360 U	380 U
Benzo[b]Fluoranthene	2203	2.05	µg/kg	480 U	500 U	**550**	**440 J**	360 U	380 U
Benzo[g,h,i]Perylene	680	16700	µg/kg	480 U	500 U	460 J	330 J	360 U	380 U
Benzo[k]Fluoranthene	1499	20.5	µg/kg	480 U	500 U	**500 J**	**320 J**	360 U	380 U
Benzyl Butyl Phthalate	--	788	µg/kg	*270 J*	500 U	*280 J*	450 U	360 U	380 U
Bis(2-Ethylhexyl) phthalate	750	107	µg/kg	480 U	**260 J**	**450 J**	***790 J***	360 U	380 U
Caprolactam	--	278000	µg/kg	930 U	970 U	1000 U	870 UJ	700 U	740 U
Chrysene	790	205	µg/kg	480 U	500 U	**510 J**	**340 J**	360 U	380 U
Di-N-Butyl Phthalate	--	55600	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U
Fluoranthene	1100	22200	µg/kg	930 U	970 U	760 J	620 J	300 J	280 J
Indeno[1,2,3-Cd]Pyrene	560	2.05	µg/kg	480 U	500 U	**340 J**	450 U	360 U	380 U
Phenanthrene	540	16700	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U
Pyrene	1821	16700	µg/kg	480 U	500 U	700	460	250 J	380 U
Volatiles									
Methyl Acetate	--	--	µg/kg	*130*	13 U	*46*	*24*	10 U	11 U
Methylene Chloride	--	--	µg/kg	13 U	13 U	14 U	13 U	10 U	*12*

Table 1.1.5A
Paradise Creek Sediment SVOCs and VOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated)	Sample Location	PCSD11		PCSD12	
			Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
			Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
			Sample Type	Normal	Normal	Normal	Normal
Semivolatiles							
Anthracene	--	167000	µg/kg	480 U	440 U	400 U	380 U
Benzo[a]Anthracene	580	2.05	µg/kg	**370 J**	**380 J**	400 U	380 U
Benzo[a]Pyrene	980	0.205	µg/kg	**520**	**470**	**280 J**	380 U
Benzo[b]Fluoranthene	2203	2.05	µg/kg	**680**	**610**	**340 J**	380 U
Benzo[g,h,i]Perylene	680	16700	µg/kg	520	440 J	260 NJ	380 U
Benzo[k]Fluoranthene	1499	20.5	µg/kg	**470 J**	**500**	**310 J**	380 U
Benzyl Butyl Phthalate	--	788	µg/kg	480 U	440 U	400 U	380 U
Bis(2-Ethylhexyl) phthalate	750	107	µg/kg	**510**	**530**	**260 J**	380 U
Caprolactam	--	278000	µg/kg	940 U	*480 J*	780 U	740 U
Chrysene	790	205	µg/kg	**520**	**490**	**270 J**	380 U
Di-N-Butyl Phthalate	--	55600	µg/kg	480 U	440 U	400 U	380 U
Fluoranthene	1100	22200	µg/kg	910 J	840 J	420 J	740 U
Indeno[1,2,3-Cd]Pyrene	560	2.05	µg/kg	**430 J**	**380 J**	400 U	380 U
Phenanthrene	540	16700	µg/kg	480 U	440 U	400 U	380 U
Pyrene	1821	16700	µg/kg	660	620	370 J	380 U
Volatiles							
Methyl Acetate	--	--	µg/kg	13 U	13 U	11 U	*27*
Methylene Chloride	--	--	µg/kg	13 U	13 U	11 U	11 U

Table 1.1.5A
Paradise Creek Sediment SVOCs and VOCs Human Health Risk Screening

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
µg/kg = micrograms per kilogram
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
J = positive detect; value estimated
U = not detected; value shown equals reporting limit
UJ = not detected; value shown equals an estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**

Table 1.1.5B
Paradise Creek Sediment SVOCs and VOCs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds										
Anthracene	--	46.9	260	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U
Benzo[a]anthracene	580	74.8	31.7	µg/kg	280 U	270 U	500 U	**270 J**	300 U	330 U
Benzo[a]pyrene	980	88.8	31.9	µg/kg	**180 J**	270 U	**350 J**	**310 J**	300 U	330 U
Benzo[BB]fluoranthene	2203	--	--	µg/kg	200 J	270 U	450 J	390	300 U	330 U
Benzo[g,h,i]perylene	680	--	300	µg/kg	280 U	270 U	320 J	250 J	300 U	330 U
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	190 J	270 U	**410 J**	**310 J**	300 U	330 U
Benzyl Butyl Phthalate	--	10900	--	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U
Bis(2-Ethylhexyl) Phthalate	750	180	750	µg/kg	180 J	270 U	**350 J**	**440**	300 U	330 U
Caprolactam	--	--	--	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U
Chrysene	790	108	57.1	µg/kg	280 U	270 U	**320 J**	**350 J**	300 U	330 U
Di-N-Butyl Phthalate	--	1160	110	µg/kg	280 U	270 U	*550*	380 U	300 U	330 U
Fluoranthene	1100	113	111	µg/kg	**320 J**	520 U	**680 J**	**740**	580 U	640 U
Indeno[1,2,3-Cd]Pyrene	560	17	330	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U
Phenanthrene	540	--	41.9	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U
Pyrene	1821	153	53	µg/kg	**230 J**	270 U	**410 J**	**450**	300 U	330 U
Volatile Organic Compounds										
Methyl Acetate	--	--	--	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U

Table 1.1.5B
Paradise Creek Sediment SVOCs and VOCs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD04			PCSD05	
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SED-DUP02	PCSD05-000005	PCSD05-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
Semivolatile Organic Compounds									
Anthracene	--	46.9	260	µg/kg	***570***	370 U	380 U	***320 J***	420 U
Benzo[a]anthracene	580	74.8	31.7	µg/kg	***1500***	**560**	**450**	**520**	**450**
Benzo[a]pyrene	980	88.8	31.9	µg/kg	***1100***	**820**	**590**	**290 J**	**400 J**
Benzo[BB]fluoranthene	2203	--	--	µg/kg	940	1200	880	320 J	420 J
Benzo[g,h,i]perylene	680	--	300	µg/kg	630	420	390	460 U	420 U
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	**860**	**870**	**540**	**350 J**	**350 J**
Benzyl Butyl Phthalate	--	10900	--	µg/kg	340 U	370 U	380 U	460 U	*330 J*
Bis(2-Ethylhexyl) Phthalate	750	180	750	µg/kg	340 U	**240 J**	***1300***	460 U	420 U
Caprolactam	--	--	--	µg/kg	670 U	710 U	730 U	890 U	810 U
Chrysene	790	108	57.1	µg/kg	***1400***	***860***	**570**	**520**	**520**
Di-N-Butyl Phthalate	--	1160	110	µg/kg	***1600***	370 U	380 U	460 U	*420*
Fluoranthene	1100	113	111	µg/kg	***4000***	**520 J**	**1100**	***2000***	1000 U
Indeno[1,2,3-Cd]Pyrene	560	17	330	µg/kg	**550**	**420**	**350 J**	460 U	420 U
Phenanthrene	540	--	41.9	µg/kg	*3200*	370 U	470	450 J	420 U
Pyrene	1821	153	53	µg/kg	***3300***	**400**	**1000**	**980**	**750**
Volatile Organic Compounds									
Methyl Acetate	--	--	--	µg/kg	9.6 U	10 U	10 U	12 U	12 U

Table 1.1.5B
Paradise Creek Sediment SVOCs and VOCs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD06			PCSD07		
				Field Sample ID	PCSD06-000005	PCSD06-005020	FE05SED-DUP03	PCSD07-000005	FE05SED-DUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Duplicate	Normal
Semivolatile Organic Compounds										
Anthracene	--	46.9	260	µg/kg	440 U	500 U	470 U	540 U	530 U	530 U
Benzo[a]anthracene	580	74.8	31.7	µg/kg	**360 J**	500 U	470 U	540 U	**430 J**	530 U
Benzo[a]pyrene	980	88.8	31.9	µg/kg	**400 J**	**400 J**	470 U	**370 J**	**510 J**	530 U
Benzo[BB]fluoranthene	2203	--	--	µg/kg	480	520	470 U	510 J	660	530 U
Benzo[g,h,i]perylene	680	--	300	µg/kg	380 J	330 J	470 U	390 J	490 J	530 U
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	**440 J**	**430 J**	470 U	**440 J**	**530**	530 U
Benzyl Butyl Phthalate	--	10900	--	µg/kg	440 U	500 U	470 U	540 U	530 U	*280 J*
Bis(2-Ethylhexyl) Phthalate	750	180	750	µg/kg	**390 J**	**360 J**	470 U	**600**	***1200***	**370 J**
Caprolactam	--	--	--	µg/kg	860 U	970 U	910 U	1100 U	1000 U	1000 U
Chrysene	790	108	57.1	µg/kg	**360 J**	500 U	470 U	**370 J**	**500 J**	530 U
Di-N-Butyl Phthalate	--	1160	110	µg/kg	440 U	500 U	470 U	540 U	530 U	530 U
Fluoranthene	1100	113	111	µg/kg	**790 J**	**550 J**	910 U	**760 J**	**1000**	**390 J**
Indeno[1,2,3-Cd]Pyrene	560	17	330	µg/kg	**300 J**	500 U	470 U	**340 J**	**440 J**	530 U
Phenanthrene	540	--	41.9	µg/kg	310 J	500 U	470 U	540 U	400 J	530 U
Pyrene	1821	153	53	µg/kg	**640**	**640**	470 U	**580**	**700 J**	530 U
Volatile Organic Compounds										
Methyl Acetate	--	--	--	µg/kg	12 U	14 U	--	*32*	14 U	15 U

Table 1.1.5B
Paradise Creek Sediment SVOCs and VOCs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD08		PCSD09		PCSD10	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds										
Anthracene	--	46.9	260	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U
Benzo[a]anthracene	580	74.8	31.7	µg/kg	480 U	500 U	**420 J**	450 U	360 U	380 U
Benzo[a]pyrene	980	88.8	31.9	µg/kg	480 U	500 U	**460 J**	**340 J**	360 U	380 U
Benzo[BB]fluoranthene	2203	--	--	µg/kg	480 U	500 U	550	440 J	360 U	380 U
Benzo[g,h,i]perylene	680	--	300	µg/kg	480 U	500 U	460 J	330 J	360 U	380 U
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	480 U	500 U	**500 J**	**320 J**	360 U	380 U
Benzyl Butyl Phthalate	--	10900	--	µg/kg	*270 J*	500 U	*280 J*	450 U	360 U	380 U
Bis(2-Ethylhexyl) Phthalate	750	180	750	µg/kg	480 U	**260 J**	**450 J**	***790 J***	360 U	380 U
Caprolactam	--	--	--	µg/kg	930 U	970 U	1000 U	870 UJ	700 U	740 U
Chrysene	790	108	57.1	µg/kg	480 U	500 U	**510 J**	**340 J**	360 U	380 U
Di-N-Butyl Phthalate	--	1160	110	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U
Fluoranthene	1100	113	111	µg/kg	930 U	970 U	**760 J**	**620 J**	**300 J**	**280 J**
Indeno[1,2,3-Cd]Pyrene	560	17	330	µg/kg	480 U	500 U	**340 J**	450 U	360 U	380 U
Phenanthrene	540	--	41.9	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U
Pyrene	1821	153	53	µg/kg	480 U	500 U	**700**	**460**	**250 J**	380 U
Volatile Organic Compounds										
Methyl Acetate	--	--	--	µg/kg	*130*	13 U	*46*	*24*	10 U	11 U

Table 1.1.5B
Paradise Creek Sediment SVOCs and VOCs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD11		PCSD12	
				Field Sample ID	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds								
Anthracene	--	46.9	260	µg/kg	480 U	440 U	400 U	380 U
Benzo[a]anthracene	580	74.8	31.7	µg/kg	**370 J**	**380 J**	400 U	380 U
Benzo[a]pyrene	980	88.8	31.9	µg/kg	**520**	**470**	**280 J**	380 U
Benzo[BB]fluoranthene	2203	--	--	µg/kg	680	610	340 J	380 U
Benzo[g,h,i]perylene	680	--	300	µg/kg	520	440 J	260 NJ	380 U
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	**470 J**	**500**	**310 J**	380 U
Benzyl Butyl Phthalate	--	10900	--	µg/kg	480 U	440 U	400 U	380 U
Bis(2-Ethylhexyl) Phthalate	750	180	750	µg/kg	**510**	**530**	**260 J**	380 U
Caprolactam	--	--	--	µg/kg	940 U	*480 J*	780 U	740 U
Chrysene	790	108	57.1	µg/kg	**520**	**490**	**270 J**	380 U
Di-N-Butyl Phthalate	--	1160	110	µg/kg	480 U	440 U	400 U	380 U
Fluoranthene	1100	113	111	µg/kg	**910 J**	**840 J**	**420 J**	740 U
Indeno[1,2,3-Cd]Pyrene	560	17	330	µg/kg	**430 J**	**380 J**	400 U	380 U
Phenanthrene	540	--	41.9	µg/kg	480 U	440 U	400 U	380 U
Pyrene	1821	153	53	µg/kg	**660**	**620**	**370 J**	380 U
Volatile Organic Compounds								
Methyl Acetate	--	--	--	µg/kg	13 U	13 U	11 U	*27*

Table 1.1.5B
Paradise Creek Sediment SVOCs and VOCs Ecological Risk Screening

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Region 3 Biological Technical Assistance Group
ft = feet
µg/kg = micrograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
USEPA = U.S. Environmental Protection Agency
SQuiRTS = Screening Quick Reference Tables
J = indicates an estimated value
U = not detected; value presented equals reporting limit
NJ = Tentatively identified compound

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

Table 1.1.6A
Paradise Creek Sediment Isotopic Human Health Risk Screening

Analyte Name	Background - Elizabeth River Sediment UTLs	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Sample Location	PCSD01		PCSD02		PCSD03	
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Gamma Spectroscopy										
Bismuth-212	--	3,210,000	--	pci/g	*0.531 J*	*0.439 J*	*0.97 J*	*0.712 J*	*0.845 J*	*0.668 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.341 J*	*0.295 J*	*0.561 J*	*0.448 J*	*0.416 J*	*0.372 J*
Cesium-137	--	5.34	0.0098	pci/g	*0.0582*	*0.0477*	*0.114*	*0.101*	*0.0154*	--
Lead-212	--	310,000	0.0185	pci/g	*0.384 J*	*0.375 J*	*0.725 J*	*0.596 J*	*0.614 J*	*0.519 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.351 J*	*0.342 J*	*0.671 J*	*0.511 J*	*0.493 J*	*0.429 J*
Potassium-40	--	11.5	0.0000118	pci/g	*7.03*	*6.43*	***13***	*10.7*	*10.1*	*7.84*
Radium-228	0.462	4.58	0.00513	pci/g	0.428	0.394	*0.752*	*0.642*	*0.665*	*0.602*
Thallium-208	--	1,790,000	--	pci/g	*0.139 J*	*0.118 J*	*0.227 J*	*0.187 J*	*0.217 J*	*0.176 J*
Uranium-235	--	13.5	0.0375	pci/g	--	--	*0.143 J*	*0.0667 J*	--	--
Strontium 90										
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	--	--	--	--	--	--

Table 1.1.6A
Paradise Creek Sediment Isotopic Human Health Risk Screening

Analyte Name	Background - Elizabeth River Sediment UTLs	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Sample Location	PCSD04			PCSD05	
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
Gamma Spectroscopy									
Bismuth-212	--	3,210,000	--	pci/g	*0.881 J*	*0.982 J*	*1.07 J*	*1.21 J*	*1.29 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.908 J*	*0.846 J*	*0.965 J*	*0.764 J*	*0.8 J*
Cesium-137	--	5.34	0.0098	pci/g	*0.0639*	*0.0509*	*0.0521*	*0.467*	*0.404*
Lead-212	--	310,000	0.0185	pci/g	*0.729 J*	*0.819 J*	*0.892 J*	*1.07 J*	*1.14 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.991 J*	*0.979 J*	***1.11 J***	*0.847 J*	*0.884 J*
Potassium-40	--	11.5	0.0000118	pci/g	*9.78*	*11.5*	***12.4***	***15.5***	***14.5***
Radium-228	0.462	4.58	0.00513	pci/g	*0.843*	*0.922*	*0.983*	*1.1*	*1.11*
Thallium-208	--	1,790,000	--	pci/g	*0.244 J*	*0.264 J*	*0.312 J*	*0.322 J*	*0.366 J*
Uranium-235	--	13.5	0.0375	pci/g	*0.144 J*	--	*0.1 J*	*0.0809 J*	*0.0939 J*
Strontium 90									
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	--	--	--	--	--

Table 1.1.6A
Paradise Creek Sediment Isotopic Human Health Risk Screening

Analyte Name	Background - Elizabeth River Sediment UTLs	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Sample Location	PCSD06			PCSD07			PCSD08	
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Duplicate	Normal	Normal	Normal
Gamma Spectroscopy												
Bismuth-212	--	3,210,000	--	pci/g	*1.19 J*	*1.51 J*	*1.41 J*	*1.32 J*	*1.13 J*	*1.26 J*	*1.13 J*	*1.58 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.718 J*	*0.727 J*	*0.75 J*	*0.756 J*	*0.679 J*	*0.765 J*	*0.733 J*	*0.802 J*
Cesium-137	--	5.34	0.0098	pci/g	*0.151*	*0.129*	*0.108*	*0.189*	*0.2*	*0.241*	*0.155*	*0.13*
Lead-212	--	310,000	0.0185	pci/g	*1.03 J*	*1.26 J*	*1.15 J*	*0.97 J*	*0.939 J*	*1.05 J*	*1 J*	*1.23 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.86 J*	*0.84 J*	*0.81 J*	*0.851 J*	*0.827 J*	*0.857 J*	*0.837 J*	*0.973 J*
Potassium-40	--	11.5	0.0000118	pci/g	***17.3***	***18.3***	***17.8***	***15.6***	***15.7***	***15.4***	***15.1***	***18.8***
Radium-228	0.462	4.58	0.00513	pci/g	*1.29*	*1.3*	*1.26*	*1.09*	*1.11*	*1.22*	*1.2*	*1.38*
Thallium-208	--	1,790,000	--	pci/g	*0.363 J*	*0.404 J*	*0.397 J*	*0.361 J*	*0.336 J*	*0.349 J*	*0.351 J*	*0.414 J*
Uranium-235	--	13.5	0.0375	pci/g	--	*0.0995 J*	*0.131 J*	*0.139 J*	--	*0.101 J*	*0.164 J*	--
Strontium 90												
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	--	--	--	--	--	--	--	--

Table 1.1.6A
Paradise Creek Sediment Isotopic Human Health Risk Screening

Analyte Name	Background - Elizabeth River Sediment UTLs	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Sample Location	PCSD09		PCSD10		PCSD11		PCSD12	
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
Gamma Spectroscopy												
Bismuth-212	--	3,210,000	--	pci/g	*1.11 J*	*1.12 J*	*0.956 J*	*1.54 J*	*1.01 J*	*0.977 J*	*1.13 J*	*1.39 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.621 J*	*0.727 J*	*0.592 J*	*0.758 J*	*0.581 J*	*0.621 J*	*0.594 J*	*0.618 J*
Cesium-137	--	5.34	0.0098	pci/g	*0.144*	*0.187*	*0.0524*	*0.0214*	*0.14*	*0.131*	*0.0672*	--
Lead-212	--	310,000	0.0185	pci/g	*0.923 J*	*0.969 J*	*0.78 J*	*1.2 J*	*0.739 J*	*0.773 J*	*0.938 J*	*1.06 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.739 J*	*0.848 J*	*0.696 J*	*0.878 J*	*0.714 J*	*0.696 J*	*0.749 J*	*0.771 J*
Potassium-40	--	11.5	0.0000118	pci/g	***14.1***	***15.3***	***12.3***	***16.8***	***14.1***	***13.1***	***14.7***	***16.6***
Radium-228	0.462	4.58	0.00513	pci/g	*0.934*	*1.05*	*0.838*	*1.26*	*0.778*	*0.863*	*0.987*	*1.17*
Thallium-208	--	1,790,000	--	pci/g	*0.292 J*	*0.315 J*	*0.252 J*	*0.394 J*	*0.253 J*	*0.242 J*	*0.286 J*	*0.36 J*
Uranium-235	--	13.5	0.0375	pci/g	--	*0.1 J*	*0.141 J*	--	--	--	--	--
Strontium 90												
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	--	--	*0.481*	--	--	--	--	--

(1) Obtained from the USEPA Radionuclide PRG Calculator, http://epa-prgs.ornl.gov/radionuclides

(2) Sediment PRG concentrations protective of the fish, crab, and oyster consumption exposure pathways were calculated using the following equation: Tissue PRG / BCF * Kd = Sediment PRG

(3) Unvalidated data provided

(4) Radium 226 value provided

-- = no screening value/not detected
bgs = below ground surface
ft = feet
pci/g = picocuries per gram
PRG = preliminary remedial goal
NJ = Tentatively identified compound
J = indicates an estimated value

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding calculated sediment PRGs for direct contact are **Bolded**
Results exceeding calculated sediment PRGs protective of fish, crab and oyster consumption (lowest PRG shown) are Underlined

Table 1.1.6B
Paradise Creek Sediment Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD01		PCSD02		PCSD03	
				Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Gamma Spectrometry										
Bismuth-212	--	1400	--	pci/g	*0.531 J*	*0.439 J*	*0.97 J*	*0.712 J*	*0.845 J*	*0.668 J*
Bismuth-214	--	1400	--	pci/g	*0.341 J*	*0.295 J*	*0.561 J*	*0.448 J*	*0.416 J*	*0.372 J*
Cesium-137	--	1400	--	pci/g	*0.0582*	*0.0477*	*0.114*	*0.101*	*0.0154*	--
Lead-212	--	1400	--	pci/g	*0.384 J*	*0.375 J*	*0.725 J*	*0.596 J*	*0.614 J*	*0.519 J*
Lead-214	--	1400	--	pci/g	*0.351 J*	*0.342 J*	*0.671 J*	*0.511 J*	*0.493 J*	*0.429 J*
Potassium-40	--	1400	--	pci/g	*7.03*	*6.43*	*13*	*10.7*	*10.1*	*7.84*
Radium-228	0.462	1400	--	pci/g	0.428	0.394	*0.752*	*0.642*	*0.665*	*0.602*
Thallium-208	--	1400	--	pci/g	*0.139 J*	*0.118 J*	*0.227 J*	*0.187 J*	*0.217 J*	*0.176 J*
Uranium-235	--	1400	--	pci/g	--	--	*0.143 J*	*0.0667 J*	--	--
Strontium 90										
Strontium-90 [1]	-- [2]	3400		pci/g	--	--	--	--	--	--

Table 1.1.6B
Paradise Creek Sediment Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD04			PCSD05		
				Field Sample ID	PCSD04-000005	PCSD04-005020	FE05SED-DUP02	PCSD05-000005	PCSD05-005020	PCSD06-000005
				Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal	Normal
Gamma Spectrometry										
Bismuth-212	--	1400	--	pci/g	*0.881 J*	*0.982 J*	*1.07 J*	*1.21 J*	*1.29 J*	*1.19 J*
Bismuth-214	--	1400	--	pci/g	*0.908 J*	*0.846 J*	*0.965 J*	*0.764 J*	*0.8 J*	*0.718 J*
Cesium-137	--	1400	--	pci/g	*0.0639*	*0.0509*	*0.0521*	*0.467*	*0.404*	*0.151*
Lead-212	--	1400	--	pci/g	*0.729 J*	*0.819 J*	*0.892 J*	*1.07 J*	*1.14 J*	*1.03 J*
Lead-214	--	1400	--	pci/g	*0.991 J*	*0.979 J*	*1.11 J*	*0.847 J*	*0.884 J*	*0.86 J*
Potassium-40	--	1400	--	pci/g	*9.78*	*11.5*	*12.4*	*15.5*	*14.5*	*17.3*
Radium-228	0.462	1400	--	pci/g	*0.843*	*0.922*	*0.983*	*1.1*	*1.11*	*1.29*
Thallium-208	--	1400	--	pci/g	*0.244 J*	*0.264 J*	*0.312 J*	*0.322 J*	*0.366 J*	*0.363 J*
Uranium-235	--	1400	--	pci/g	*0.144 J*	--	*0.1 J*	*0.0809 J*	*0.0939 J*	--
Strontium 90										
Strontium-90 [1]	-- [2]	3400		pci/g	--	--	--	--	--	--

Table 1.1.6B
Paradise Creek Sediment Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD06		PCSD07		
				Field Sample ID	PCSD06-005020	FE05SED-DUP03	PCSD07-000005	FE05SED-DUP01	PCSD07-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Duplicate	Normal	Duplicate	Normal
Gamma Spectrometry									
Bismuth-212	--	1400	--	pci/g	*1.51 J*	*1.41 J*	*1.32 J*	*1.13 J*	*1.26 J*
Bismuth-214	--	1400	--	pci/g	*0.727 J*	*0.75 J*	*0.756 J*	*0.679 J*	*0.765 J*
Cesium-137	--	1400	--	pci/g	*0.129*	*0.108*	*0.189*	*0.2*	*0.241*
Lead-212	--	1400	--	pci/g	*1.26 J*	*1.15 J*	*0.97 J*	*0.939 J*	*1.05 J*
Lead-214	--	1400	--	pci/g	*0.84 J*	*0.81 J*	*0.851 J*	*0.827 J*	*0.857 J*
Potassium-40	--	1400	--	pci/g	*18.3*	*17.8*	*15.6*	*15.7*	*15.4*
Radium-228	0.462	1400	--	pci/g	*1.3*	*1.26*	*1.09*	*1.11*	*1.22*
Thallium-208	--	1400	--	pci/g	*0.404 J*	*0.397 J*	*0.361 J*	*0.336 J*	*0.349 J*
Uranium-235	--	1400	--	pci/g	*0.0995 J*	*0.131 J*	*0.139 J*	--	*0.101 J*
Strontium 90									
Strontium-90 [1]	-- [2]	3400		pci/g	--	--	--	--	--

Table 1.1.6B
Paradise Creek Sediment Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD08		PCSD09	
				Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Gamma Spectrometry								
Bismuth-212	--	1400	--	pci/g	*1.13 J*	*1.58 J*	*1.11 J*	*1.12 J*
Bismuth-214	--	1400	--	pci/g	*0.733 J*	*0.802 J*	*0.621 J*	*0.727 J*
Cesium-137	--	1400	--	pci/g	*0.155*	*0.13*	*0.144*	*0.187*
Lead-212	--	1400	--	pci/g	*1 J*	*1.23 J*	*0.923 J*	*0.969 J*
Lead-214	--	1400	--	pci/g	*0.837 J*	*0.973 J*	*0.739 J*	*0.848 J*
Potassium-40	--	1400	--	pci/g	*15.1*	*18.8*	*14.1*	*15.3*
Radium-228	0.462	1400	--	pci/g	*1.2*	*1.38*	*0.934*	*1.05*
Thallium-208	--	1400	--	pci/g	*0.351 J*	*0.414 J*	*0.292 J*	*0.315 J*
Uranium-235	--	1400	--	pci/g	*0.164 J*	--	--	*0.1 J*
Strontium 90								
Strontium-90 [1]	-- [2]	3400		pci/g	--	--	--	--

Table 1.1.6B
Paradise Creek Sediment Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	NOAA SQuiRTs, Freshwater and Marine Sediment	Location ID	PCSD10		PCSD11		PCSD12	
				Field Sample ID	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020	PCSD12-000005	PCSD12-005020
				Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Gamma Spectrometry										
Bismuth-212	--	1400	--	pci/g	*0.956 J*	*1.54 J*	*1.01 J*	*0.977 J*	*1.13 J*	*1.39 J*
Bismuth-214	--	1400	--	pci/g	*0.592 J*	*0.758 J*	*0.581 J*	*0.621 J*	*0.594 J*	*0.618 J*
Cesium-137	--	1400	--	pci/g	*0.0524*	*0.0214*	*0.14*	*0.131*	*0.0672*	--
Lead-212	--	1400	--	pci/g	*0.78 J*	*1.2 J*	*0.739 J*	*0.773 J*	*0.938 J*	*1.06 J*
Lead-214	--	1400	--	pci/g	*0.696 J*	*0.878 J*	*0.714 J*	*0.696 J*	*0.749 J*	*0.771 J*
Potassium-40	--	1400	--	pci/g	*12.3*	*16.8*	*14.1*	*13.1*	*14.7*	*16.6*
Radium-228	0.462	1400	--	pci/g	*0.838*	*1.26*	*0.778*	*0.863*	*0.987*	*1.17*
Thallium-208	--	1400	--	pci/g	*0.252 J*	*0.394 J*	*0.253 J*	*0.242 J*	*0.286 J*	*0.36 J*
Uranium-235	--	1400	--	pci/g	*0.141 J*	--	--	--	--	--
Strontium 90										
Strontium-90 [1]	-- [2]	3400		pci/g	*0.481*	--	--	--	--	--

Table 1.1.6B
Paradise Creek Sediment Isotopic Ecological Risk Screening

(1) More conservative of the freshwater or marine benchmark provided

(2) Positive and non detect data currently unvalidated

-- = no screening value/not detected
bgs = below ground surface
ft = feet
pci/g = picocuries per gram
PRG = preliminary remedial goal
J = indicates an estimated value

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**

Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

Table 1.1.7
Paradise Creek Sediment Miscellaneous Chemistry

Sample Location	Field Sample ID	Sample Depth (bgs)	Date Collected	Grain Size				Solids, Total	PH	Total Organic Carbon
				Clay	SAND	SILT	Description			
				% by wt	% by wt	% by wt		% by wt	su	mg/kg
PCSD01	PCSD01-000005	0-0.5 ft	6/18/2015	--	--	--	--	--	7.78	--
	PCSD01-005020	0.5-2 ft	6/18/2015	8	80.1	11.9	clayey Silty Sands	67.5	7.04	13000
PCSD02	PCSD02-000005	0-0.5 ft	6/18/2015	--	--	--	--	--	7.24	--
	PCSD02-005020	0.5-2 ft	6/18/2015	14.9	41.9	43.2	Silts and Clays	42.3	7.8	--
PCSD03	PCSD03-000005	0-0.5 ft	6/18/2015	--	--	--	--	--	7.79	--
	PCSD03-005020	0.5-2 ft	6/18/2015	21.2	51.8	27.1	clayey Silty Sands	62.7	7.24	17000
PCSD04	PCSD04-000005	0-0.5 ft	6/18/2015	--	--	--	--	--	7.94	--
	PCSD04-005020	0.5-2 ft	6/18/2015	33.7	41.8	24.5	Silts and Clays	43.4	7.76	--
	FE05SEDUP02	0.5-2 ft	6/18/2015	--	--	--	--	43.3	7.97	--
PCSD05	PCSD05-005020	0-0.5 ft	6/18/2015	--	--	--	--	--	8.06	--
	PCSD05-005020	0.5-2 ft	6/18/2015	34.9	25.7	39.4	Silts and Clays	38.6	7.83 H	65000
PCSD06	PCSD06-000005	0-0.5 ft	6/19/2015	--	--	--		--	--	--
	PCSD06-005020	0.5-2 ft	6/19/2015	51	7.8	41.2	Silts and Clays	34.5	--	--
	FE05SEDDUP03	0.5-2 ft	6/19/2015	--	--	--	--	35.8	--	--
PCSD07	PCSD07-000005	0-0.5 ft	6/19/2015	--	--	--	--	--	--	--
	FE05SEDDUP01	0-0.5 ft	6/19/2015	--	--	--	--	--	--	--
	PCSD07-005020	0.5-2 ft	6/19/2015	28.8	14.2	57	Silts and Clays	32.8	--	--
PCSD08	PCSD08-000005	0-0.5 ft	6/19/2015	--	--	--	--	--	--	--
	PCSD08-005020	0.5-2 ft	6/19/2015	42.7	9.1	48.2	Silts and Clays	34.5	--	--
PCSD09	PCSD09-000005	0-0.5 ft	6/19/2015	--	--	--	--	--	--	--
	PCSD09-005020	0.5-2 ft	6/19/2015	30.8	29	40.2	Silts and Clays	34.7	--	--
PCSD10	PCSD10-000005	0-0.5 ft	6/19/2015	--	--	--	--	--	--	--
	PCSD10-005020	0.5-2 ft	6/19/2015	38.3	22.6	39.1	Silts and Clays	45.2	--	--
PCSD11	PCSD11-000005	0-0.5 ft	6/19/2015	--	--	--	--	--	--	--
	PCSD11-005020	0.5-2 ft	6/19/2015	27.6	23.6	48.8	Silts and Clays	33.1	--	--
PCSD12	PCSD12-000005	0-0.5 ft	6/19/2015	--	--	--	--	--	7.69 H	--
	PCSD12-005020	0.5-2 ft	6/19/2015	48.7	12	39.3	Silts and Clays	42.6	--	--

ID = identification
% by wt = percent by weight
su = standard unit
mg/kg = milligrams per kilogram

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Title 1.2.1A
Paradise Creek Tidal Wetland Sediment Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Sample Location	PCWLSD01		PCWLSD02		PCWLSD03	
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Metals										
Aluminum	19638	556	7700	mg/kg	**17700 J**	***21800 J***	***25600***	**19400**	**19400 J**	**15300 J**
Antimony	--	0.222	3.1	mg/kg	***0.96 J-***	***0.79 J-***	13.9 U	10.6 U	13.9 UJ	15.1 UJ
Arsenic	21.52	0.000998	0.68	mg/kg	**18.7 J**	**16.9 J**	**9.8**	**7.8**	**17.1 J**	**18.7 J**
Barium	50.94	111	1500	mg/kg	43.1 J	47.1 J	*68.7*	43.1	*52.3 J*	46.1 J
Beryllium	1.128	1.11	16	mg/kg	1.1	***1.3***	1.1 J	0.91	***1.3***	1.1 J
Cadmium	1.791	0.556	7.1	mg/kg	***2.6***	***2.3***	**0.8 J**	**0.88 J**	***1.8***	***2***
Calcium	4466	--	--	mg/kg	2720	2490	2150	1880	2340	2310
Chromium	66.98	0.00299	0.3 [3]	mg/kg	***112 J***	***100 J***	**60**	**34.4**	***126 J***	***240 J***
Chromium	--	0.00299	0.3	mg/kg	--	--	--	--	--	--
Cobalt	1.4	0.167	2.3	mg/kg	***69***	***87***	***53.9***	***2.9 J***	***62.5***	***191***
Copper	88.15	22.2	310	mg/kg	***116***	**79.2**	**47.4**	15.7	***102***	***128***
Cyanide	--	0.334	7.8	mg/kg	0.49 U	0.49 U	1.5 U	1.2 U	1.5 U	1.5 U
Iron	40619	389	5500	mg/kg	**36300**	**38100**	**28900**	**29800**	**40200**	**37000**
Lead	177.8	400	400	mg/kg	*256*	148	69.5 J	*278 J*	*198*	*235*
Magnesium	6451	--	--	mg/kg	5740	*6650*	*7820*	5830	*6600*	5240
Manganese	260.2	77.9	180	mg/kg	**217**	***279***	**200**	**215**	***329***	***298***
Mercury	2.1	0.78	1.1	mg/kg	**0.92**	**1.2**	0.78	0.073 J	0.71	0.78
Nickel	20.08	11.1	150	mg/kg	***70.9***	***84***	***55.6***	**18.3**	***58.5***	***130***
Potassium	3616	--	--	mg/kg	--	--	*5710*	*3850*	--	--
Silver	1.981	2.78	39	mg/kg	***3***	***3.1***	*2.2 J*	*2.2*	***3.1***	***3***
Sodium	10961	--		mg/kg	*14400*	*11200*	*11700 J*	9370 J	*11200*	*11600*
Thallium	--	0.00556	0.078	mg/kg	***1.6 J***	***1.3 J***	5.8 U	4.4 U	***2.2 J***	***1.6 J***
Vanadium	34.18	2.8	39	mg/kg	***63***	***55.9***	***58.6***	***41.7***	***59.9***	***56.4***
Zinc	272.7	167	2300	mg/kg	***388***	**266**	105	71.8	**269**	***318***

Title 1.2.1A
Paradise Creek Tidal Wetland Sediment Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Sample Location	PCWLSD04		PCWLSD05		PCWLSD06	
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Metals										
Aluminum	19638	556	7700	mg/kg	***21100***	**19100**	**18900**	**2900**	***19900 J***	**19300 J**
Antimony	--	0.222	3.1	mg/kg	12.8 U	12.3 U	10.3 U	7.2 U	13.7 UJ	13.4 UJ
Arsenic	21.52	0.000998	0.68	mg/kg	**15.4**	**12.2**	**10.1**	**2.7**	**13.5 J**	**8.9 J**
Barium	50.94	111	1500	mg/kg	*58.5*	46.3	42	11.9 J	46.1 J	43.9 J
Beryllium	1.128	1.11	16	mg/kg	1.1 J	***1.2***	0.98	0.2 J	***1.2***	1.1 J
Cadmium	1.791	0.556	7.1	mg/kg	**1.3**	**1.3**	**1.1**	0.18 J-	**1.2**	**1.1 J**
Calcium	4466	--	--	mg/kg	2230	2270	2370	800	2030	2060
Chromium	66.98	0.00299	0.3 [3]	mg/kg	**56.3**	**39.2**	**37.4**	**10.2**	**50.3 J**	**39.9 J**
Chromium	--	0.00299	0.3	mg/kg	--	***1.17***	--	--	***1.24***	***1.38***
Cobalt	1.4	0.167	2.3	mg/kg	***34.2***	***5.4 J***	***2.3 J***	***14.3***	***16.7***	***6.1 J***
Copper	88.15	22.2	310	mg/kg	**45.7**	**26.3**	**26.4**	9	**42.8**	**33.2**
Cyanide	--	0.334	7.8	mg/kg	1.5 U	1.4 U	1.2 U	0.83 U	1.6 U	1.5 U
Iron	40619	389	5500	mg/kg	**34900**	**35900**	**32900**	**4930**	**34900**	**29500**
Lead	177.8	400	400	mg/kg	76.8 J	53.5 J	54 J	19.2 J	83.7	89.4
Magnesium	6451	--	--	mg/kg	*7310*	6390	*6480*	1340	*7050*	6380
Manganese	260.2	77.9	180	mg/kg	**201**	**237**	***278***	26.8	**250**	**196**
Mercury	2.1	0.78	1.1	mg/kg	**1.3**	0.35	0.3	0.064 J	0.62	0.13 J
Nickel	20.08	11.1	150	mg/kg	***41***	***24.5***	**19.7**	**15.2**	***31.4***	***22.8***
Potassium	3616	--	--	mg/kg	*4770*	*3880*	*3860*	660	--	--
Silver	1.981	2.78	39	mg/kg	*2.7*	*2.7*	*2.4*	0.41 J	*2.5*	*2.1 J*
Sodium	10961	--		mg/kg	*12700 J*	*11100 J*	8880 J	3990 J	*13000*	*12800*
Thallium	--	0.00556	0.078	mg/kg	5.3 U	5.1 U	4.3 U	3 U	***1.9 J***	***1.5 J***
Vanadium	34.18	2.8	39	mg/kg	***52.6***	***42.8***	***38.9***	**11**	***47.1***	***44.3***
Zinc	272.7	167	2300	mg/kg	**179**	**169**	129	63	135	129

Title 1.2.1A
Paradise Creek Tidal Wetland Sediment Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Sample Location	PCWLSD07		PCWLSD08		
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Duplicate
Metals									
Aluminum	19638	556	7700	mg/kg	**13200 J**	**16400 J**	**13500**	**13700**	**17400**
Antimony	--	0.222	3.1	mg/kg	10.2 UJ	10.2 UJ	11.4 UJ	12.5 UJ	***1.6 J-***
Arsenic	21.52	0.000998	0.68	mg/kg	**10.3 J**	**7.2 J**	**17.5**	**15.9**	**13.3**
Barium	50.94	111	1500	mg/kg	37.1 J	39 J	*92.9*	*71.7*	*69.9*
Beryllium	1.128	1.11	16	mg/kg	0.7 J	0.87	1	***1.2***	1.1
Cadmium	1.791	0.556	7.1	mg/kg	**0.77 J**	**1.1**	***2.1***	***2.3***	***2.9***
Calcium	4466	--	--	mg/kg	1660	1590	2460	3010	3000
Chromium	66.98	0.00299	0.3 [3]	mg/kg	**28.6 J**	**31.3 J**	***79.5***	***74.3***	**55.5**
Chromium	--	0.00299	0.3	mg/kg	--	--	--	--	--
Cobalt	1.4	0.167	2.3	mg/kg	***1.8 J***	***3 J***	***55.8***	***56.2***	***37***
Copper	88.15	22.2	310	mg/kg	19.6	19.6	***119***	***132***	***88.2***
Cyanide	--	0.334	7.8	mg/kg	1.2 U	1 U	1.3 U	1.3 U	*0.33 J*
Iron	40619	389	5500	mg/kg	**25900**	**30200**	**36800**	**40600**	***61800***
Lead	177.8	400	400	mg/kg	41.2	36.9	*209*	*221*	131
Magnesium	6451	--	--	mg/kg	4540	5130	4580	4770	5530
Manganese	260.2	77.9	180	mg/kg	**142**	**191**	**181**	**227**	***381***
Mercury	2.1	0.78	1.1	mg/kg	0.2 J	0.25	***2.5***	***5.4***	***3.1***
Nickel	20.08	11.1	150	mg/kg	**13.7**	**17.6**	***58***	***65.3***	***54.4***
Potassium	3616	--	--	mg/kg	--	--	2760	3020	*3810*
Silver	1.981	2.78	39	mg/kg	1.9	*2.1*	***2.9***	***3.1***	***4.5***
Sodium	10961	--		mg/kg	9030	7940	10500	9480	8180
Thallium	--	0.00556	0.078	mg/kg	***1.7 J***	***1.2 J***	***1.3 J***	***1.5 J***	***2.5 J***
Vanadium	34.18	2.8	39	mg/kg	***34.8***	**33.4**	***41.5***	***42.4***	***44.1***
Zinc	272.7	167	2300	mg/kg	59	89.2	***290***	**242**	**179**

Title 1.2.1A
Paradise Creek Tidal Wetland Sediment Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Sample Location	PCWLSD09		PCWLSD10	
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Metals								
Aluminum	19638	556	7700	mg/kg	**19200 J**	**19400 J**	**11800 J**	**10000 J**
Antimony	--	0.222	3.1	mg/kg	***0.72 J-***	12.6 UJ	***0.74 J-***	***0.68 J-***
Arsenic	21.52	0.000998	0.68	mg/kg	**11.9 J**	**12 J**	**10.5 J**	**8.8 J**
Barium	50.94	111	1500	mg/kg	37.4 J	41.4 J	37.9 J	31.6 J
Beryllium	1.128	1.11	16	mg/kg	0.95	1 J	***1.2***	1.1
Cadmium	1.791	0.556	7.1	mg/kg	**1.6**	**1.2**	***2.8***	***2.3***
Calcium	4466	--	--	mg/kg	2340	2340	1820	1620
Chromium	66.98	0.00299	0.3 [3]	mg/kg	**34.5 J**	**35.7 J**	**28 J**	**24.8 J**
Chromium	--	0.00299	0.3	mg/kg	***1.39***	***1.23***	--	--
Cobalt	1.4	0.167	2.3	mg/kg	***7.6***	***2.9 J***	***21.8***	***21.3***
Copper	88.15	22.2	310	mg/kg	**48.8**	**46.6**	**46.7**	**39**
Cyanide	--	0.334	7.8	mg/kg	0.48 U	1.4 U	0.49 U	0.49 U
Iron	40619	389	5500	mg/kg	**29300**	**32200**	**27100**	**24000**
Lead	177.8	400	400	mg/kg	118	91.1	108	86.6
Magnesium	6451	--	--	mg/kg	5820	6200	3980	3570
Manganese	260.2	77.9	180	mg/kg	**208**	**226**	**259**	**248**
Mercury	2.1	0.78	1.1	mg/kg	0.51	0.6	0.66	0.62
Nickel	20.08	11.1	150	mg/kg	***22.1***	**18.9**	***48***	***43.4***
Potassium	3616	--	--	mg/kg	--	--	--	--
Silver	1.981	2.78	39	mg/kg	*2.3*	*2.4*	*2.1*	1.9
Sodium	10961	--		mg/kg	10900	*11200*	9620	9910
Thallium	--	0.00556	0.078	mg/kg	***1.5 J***	***1.8 J***	***0.37 J***	2.1 U
Vanadium	34.18	2.8	39	mg/kg	***36.9***	***41.3***	**32.3**	**26.8**
Zinc	272.7	167	2300	mg/kg	163	143	***276***	**205**

Title 1.2.1A
Paradise Creek Tidal Wetland Sediment Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Sample Location	PCWLSD11			PCWLSD12	
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
Metals									
Aluminum	19638	556	7700	mg/kg	***19700 J***	***20300 J***	**18500**	**12300 J**	**12500 J**
Antimony	--	0.222	3.1	mg/kg	13.5 UJ	12 UJ	11.9 U	4.7 UJ	8.6 UJ
Arsenic	21.52	0.000998	0.68	mg/kg	**9.8 J**	**10.1 J**	**10.3 J**	**7.9 J**	**6.7 J**
Barium	50.94	111	1500	mg/kg	42.4 J	42.3 J	38.9 J	43.1 J	28.4 J
Beryllium	1.128	1.11	16	mg/kg	***1.2***	1.1	0.93 J	0.71	0.7 J
Cadmium	1.791	0.556	7.1	mg/kg	**1.2**	**1.2**	**0.96 J**	**1.1**	**0.78**
Calcium	4466	--	--	mg/kg	2160	2220	2770	2330	*4970*
Chromium	66.98	0.00299	0.3 [3]	mg/kg	**42.2 J**	**38.3 J**	**35.1**	**27.5 J**	**24.7 J**
Chromium	--	0.00299	0.3	mg/kg	***1.09***	***1.09***	***1.07***	--	--
Cobalt	1.4	0.167	2.3	mg/kg	***7.2 J***	***3.6 J***	***2.9 J***	***7.4***	***1.7 J***
Copper	88.15	22.2	310	mg/kg	**34**	**36.2**	**28.6**	**45.3**	19.7
Cyanide	--	0.334	7.8	mg/kg	1.5 U	1.4 U	1.3 U	0.49 U	1 U
Iron	40619	389	5500	mg/kg	**33300**	**33700**	**36000**	**20600**	**23100**
Lead	177.8	400	400	mg/kg	64.5	87.5	61	*178*	44
Magnesium	6451	--	--	mg/kg	*6950*	*6620*	5940	4150	4210
Manganese	260.2	77.9	180	mg/kg	***274***	***279***	**253**	**146**	**171**
Mercury	2.1	0.78	1.1	mg/kg	0.46	0.25 J	0.29	0.5	0.28
Nickel	20.08	11.1	150	mg/kg	***24***	***20.4***	**19.5**	**18.1**	**13.2**
Potassium	3616	--	--	mg/kg	--	--	3310	--	--
Silver	1.981	2.78	39	mg/kg	*2.3 J*	*2.4*	*2.2*	1.7	1.6
Sodium	10961	--		mg/kg	*11800*	10500	10500	8740	6250
Thallium	--	0.00556	0.078	mg/kg	***1.6 J***	***2.1 J***	***2 J***	***1 J***	***0.98 J***
Vanadium	34.18	2.8	39	mg/kg	***43.9***	***43.3***	***40.6 J***	**27.7**	**26.9**
Zinc	272.7	167	2300	mg/kg	139	130	112	**202**	83.9

Title 1.2.1A
Paradise Creek Tidal Wetland Sediment Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Sample Location	PCWLSD13		PCWLSD14		PCWLSD15	
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Metals										
Aluminum	19638	556	7700	mg/kg	**17600**	**18500**	**12900**	**16200**	**15200**	**11800**
Antimony	--	0.222	3.1	mg/kg	12.5 U	11 U	14.2 U	15.2 U	8.6 UJ	7.4 U
Arsenic	21.52	0.000998	0.68	mg/kg	**11.7 J**	**12.8 J**	**10.6 J**	**12.1 J**	**8**	**8.8**
Barium	50.94	111	1500	mg/kg	38.2 J	38.7	32 J	39.4 J	46	40.3
Beryllium	1.128	1.11	16	mg/kg	1.1 J	1.1	***1.2 J***	***1.3 J***	0.88	0.72
Cadmium	1.791	0.556	7.1	mg/kg	**1.1 J**	**1.1**	**1.7**	**1.7**	**1.2**	**1.1**
Calcium	4466	--	--	mg/kg	2410	2240	2000	2410	1930	1340
Chromium	66.98	0.00299	0.3 [3]	mg/kg	**47.7**	**41**	**60.8**	***74.9***	**37.1**	**27.8**
Chromium	--	0.00299	0.3	mg/kg	--	--	--	--	**0.77**	**0.59**
Cobalt	1.4	0.167	2.3	mg/kg	***15.9***	***6.8 J***	***30.8***	***35.4***	***9.9***	***7.5***
Copper	88.15	22.2	310	mg/kg	**40.9**	**29.1**	***89.7***	**70.5**	**33.2**	**28.7**
Cyanide	--	0.334	7.8	mg/kg	1.4 U	1.3 U	1.6 U	1.6 U	0.98 U	0.84 U
Iron	40619	389	5500	mg/kg	**33800**	**35900**	**25400**	**29900**	**27300**	**22500**
Lead	177.8	400	400	mg/kg	68	53.2	132	131	61.4	59.3 J
Magnesium	6451	--	--	mg/kg	6070	6210	4180	5100	4940	3260
Manganese	260.2	77.9	180	mg/kg	***262***	***281***	**166**	**215**	**250**	**188**
Mercury	2.1	0.78	1.1	mg/kg	0.48	0.52	0.46	**1.5**	0.29	0.49
Nickel	20.08	11.1	150	mg/kg	***31***	***24.7***	***40.4***	***46.3***	***22.7***	**17.3**
Potassium	3616	--	--	mg/kg	3490	*3690*	2100	2870	3120	2230
Silver	1.981	2.78	39	mg/kg	*2.2*	*2.2*	1.6 J	1.9 J	*2*	1.9
Sodium	10961	--		mg/kg	*11000*	9230	*12800*	*11600*	5720	3200 J
Thallium	--	0.00556	0.078	mg/kg	***1.8 J***	***2 J***	***1.3 J***	***1.6 J***	***1.2 J***	***1 J***
Vanadium	34.18	2.8	39	mg/kg	***48.3 J***	***43.4 J***	***53.6 J***	***50.6 J***	***34.3***	**27.4**
Zinc	272.7	167	2300	mg/kg	146	122	***295***	***282***	165	163

Title 1.2.1A
Paradise Creek Tidal Wetland Sediment Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Sample Location	PCWLSD16		PCWLSD17		PCWLSD18	
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Metals										
Aluminum	19638	556	7700	mg/kg	**18100**	***19800***	**10200**	**10300**	**7900**	**9310**
Antimony	--	0.222	3.1	mg/kg	11 U	9.8 UJ	8.3 UJ	6.9 UJ	8.5 U	9.5 UJ
Arsenic	21.52	0.000998	0.68	mg/kg	**7.8**	**8.1**	**8.4**	**7.1**	**6.8**	**7.9**
Barium	50.94	111	1500	mg/kg	*55.5*	42.9	32.9	23.4	19.3 J	23.5 J
Beryllium	1.128	1.11	16	mg/kg	0.64 J	0.92	0.74	0.6	0.49 J	0.63 J
Cadmium	1.791	0.556	7.1	mg/kg	**0.6 J**	**1**	**0.97**	**0.86**	**0.62 J**	**0.71 J**
Calcium	4466	--	--	mg/kg	4270	1990	1250	1410	1040	1200
Chromium	66.98	0.00299	0.3 [3]	mg/kg	**42.4**	**38.2**	**21.2**	**21.9**	**19.7**	**23.4**
Chromium	--	0.00299	0.3	mg/kg	--	--	--	--	--	--
Cobalt	1.4	0.167	2.3	mg/kg	***3.9 J***	***2.3***	***2.5 J***	***2.2 J***	***7.5***	***5.7 J***
Copper	88.15	22.2	310	mg/kg	**44.8**	17.5	**25.8**	19.8	20.2	**24.4**
Cyanide	--	0.334	7.8	mg/kg	1.3 U	1.1 U	0.94 U	0.8 U	0.98 U	1 U
Iron	40619	389	5500	mg/kg	**21000**	**34200**	**24200**	**25200**	**18600**	**21900**
Lead	177.8	400	400	mg/kg	93.5 J	33.2	73	62.5	32.8 J	36.6
Magnesium	6451	--	--	mg/kg	5210	6320	3570	3450	2910	3470
Manganese	260.2	77.9	180	mg/kg	**110**	***261***	**147**	**203**	**166**	**184**
Mercury	2.1	0.78	1.1	mg/kg	0.34	0.13 J	0.58	**0.98**	0.11 J	0.17 J
Nickel	20.08	11.1	150	mg/kg	**17**	***20.3***	**13.3**	**13.5**	**12.5**	**13.9**
Potassium	3616	--	--	mg/kg	*3860*	*4090*	2310	2290	1890	2180
Silver	1.981	2.78	39	mg/kg	1.6 J	*2.4*	1.8	1.9	1.4 J	1.6 J
Sodium	10961	--		mg/kg	*11000 J*	9920	6800	4470	5980 J	6640
Thallium	--	0.00556	0.078	mg/kg	***0.95 J***	***1.7 J***	***1 J***	***1.3 J***	***0.78 J-***	***1.1 J***
Vanadium	34.18	2.8	39	mg/kg	***52.7***	***43.4***	**25.8**	**24.7**	**22.8**	**26.8**
Zinc	272.7	167	2300	mg/kg	118	71.9	136	82.5	76.7	82.9

Title 1.2.1A
Paradise Creek Tidal Wetland Sediment Metals Human Health Risk Screening

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

(2) November 2015 RSLs (cancer risk = 10-6; Hazard Index=0.1)

(3) Hexavalent chromium residential soil RSL used as surrogate

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
mg/kg = milligrams per kilogram
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
J = positive detect, value estimated
J- = positive detect, value estimated and biased low
UJ = not detected; value show equals the estimated reporting limit
U = not detected; value shown equals the reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs ar*Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal ar**Bolded**
Results exceeding EPA Region 3 residential soil RSLs are i<u>Underlined</u>

Table 1.2.1B
Paradise Creek Tidal Wetland Sediment Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Metals										
Aluminum	19638	--	25500	mg/kg	17700 J	*21800 J*	*25600*	19400	19400 J	15300 J
Antimony	--	2	3	mg/kg	*0.96 J-*	*0.79 J-*	13.9 U	10.6 U	13.9 UJ	15.1 UJ
Arsenic	21.52	7.24	5.9	mg/kg	**18.7 J**	**16.9 J**	**9.8**	**7.8**	**17.1 J**	**18.7 J**
Barium	50.94	--	--	mg/kg	43.1 J	47.1 J	*68.7*	43.1	*52.3 J*	46.1 J
Beryllium	1.128	--	--	mg/kg	1.1	*1.3*	1.1 J	0.91	*1.3*	1.1 J
Cadmium	1.791	0.68	0.583	mg/kg	***2.6***	***2.3***	**0.8 J**	**0.88 J**	***1.8***	***2***
Calcium	4466	--	--	mg/kg	2720	2490	2150	1880	2340	2310
Chromium	66.98	43.4	36.286	mg/kg	***112 J***	***100 J***	**60**	34.4	***126 J***	***240 J***
Cobalt	1.4	50	--	mg/kg	***69***	***87***	***53.9***	*2.9 J*	***62.5***	***191***
Copper	88.15	18.7	28.012	mg/kg	***116***	**79.2**	**47.4**	15.7	***102***	***128***
Cyanide	--	0.1	100	mg/kg	0.49 U	0.49 U	1.5 U	1.2 U	1.5 U	1.5 U
Iron	40619	20000	188400	mg/kg	**36300**	**38100**	**28900**	**29800**	**40200**	**37000**
Lead	177.8	30.2	35	mg/kg	***256***	**148**	**69.5 J**	***278 J***	***198***	***235***
Magnesium	6451	--	--	mg/kg	5740	*6650*	*7820*	5830	*6600*	5240
Manganese	260.2	460	630	mg/kg	217	*279*	200	215	*329*	*298*
Mercury	2.1	0.13	0.174	mg/kg	**0.92**	**1.2**	**0.78**	0.073 J	**0.71**	**0.78**
Nickel	20.08	15.9	18	mg/kg	***70.9***	***84***	***55.6***	**18.3**	***58.5***	***130***
Potassium	3616	--	--	mg/kg	--	--	*5710*	*3850*	--	--
Silver	1.981	0.73	4.5	mg/kg	***3***	***3.1***	***2.2 J***	***2.2***	***3.1***	***3***
Sodium	10961	--	--	mg/kg	*14400*	*11200*	*11700 J*	9370 J	*11200*	*11600*
Thallium	--	--	--	mg/kg	*1.6 J*	*1.3 J*	5.8 U	4.4 U	*2.2 J*	*1.6 J*
Vanadium	34.18	--	--	mg/kg	*63*	*55.9*	*58.6*	*41.7*	*59.9*	*56.4*
Zinc	272.7	121	98	mg/kg	***388***	**266**	105	71.8	**269**	***318***

Table 1.2.1B
Paradise Creek Tidal Wetland Sediment Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Metals										
Aluminum	19638	--	25500	mg/kg	*21100*	19100	18900	2900	*19900 J*	19300 J
Antimony	--	2	3	mg/kg	12.8 U	12.3 U	10.3 U	7.2 U	13.7 UJ	13.4 UJ
Arsenic	21.52	7.24	5.9	mg/kg	**15.4**	**12.2**	**10.1**	2.7	**13.5 J**	**8.9 J**
Barium	50.94	--	--	mg/kg	*58.5*	46.3	42	11.9 J	46.1 J	43.9 J
Beryllium	1.128	--	--	mg/kg	1.1 J	*1.2*	0.98	0.2 J	*1.2*	1.1 J
Cadmium	1.791	0.68	0.583	mg/kg	**1.3**	**1.3**	**1.1**	0.18 J-	**1.2**	**1.1 J**
Calcium	4466	--	--	mg/kg	2230	2270	2370	800	2030	2060
Chromium	66.98	43.4	36.286	mg/kg	**56.3**	39.2	37.4	10.2	**50.3 J**	39.9 J
Cobalt	1.4	50	--	mg/kg	*34.2*	*5.4 J*	*2.3 J*	*14.3*	*16.7*	*6.1 J*
Copper	88.15	18.7	28.012	mg/kg	**45.7**	**26.3**	**26.4**	9	**42.8**	**33.2**
Cyanide	--	0.1	100	mg/kg	1.5 U	1.4 U	1.2 U	0.83 U	1.6 U	1.5 U
Iron	40619	20000	188400	mg/kg	**34900**	**35900**	**32900**	4930	**34900**	**29500**
Lead	177.8	30.2	35	mg/kg	**76.8 J**	**53.5 J**	**54 J**	19.2 J	**83.7**	**89.4**
Magnesium	6451	--	--	mg/kg	*7310*	6390	*6480*	1340	*7050*	6380
Manganese	260.2	460	630	mg/kg	201	237	*278*	26.8	250	196
Mercury	2.1	0.13	0.174	mg/kg	**1.3**	**0.35**	**0.3**	0.064 J	**0.62**	0.13 J
Nickel	20.08	15.9	18	mg/kg	***41***	***24.5***	**19.7**	15.2	***31.4***	***22.8***
Potassium	3616	--	--	mg/kg	*4770*	*3880*	*3860*	660	--	--
Silver	1.981	0.73	4.5	mg/kg	***2.7***	***2.7***	***2.4***	0.41 J	***2.5***	***2.1 J***
Sodium	10961	--	--	mg/kg	*12700 J*	*11100 J*	8880 J	3990 J	*13000*	*12800*
Thallium	--	--	--	mg/kg	5.3 U	5.1 U	4.3 U	3 U	*1.9 J*	*1.5 J*
Vanadium	34.18	--	--	mg/kg	*52.6*	*42.8*	*38.9*	*11*	*47.1*	*44.3*
Zinc	272.7	121	98	mg/kg	**179**	**169**	**129**	63	**135**	**129**

Table 1.2.1B
Paradise Creek Tidal Wetland Sediment Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Duplicate
Metals									
Aluminum	19638	--	25500	mg/kg	13200 J	16400 J	13500	13700	17400
Antimony	--	2	3	mg/kg	10.2 UJ	10.2 UJ	11.4 UJ	12.5 UJ	*1.6 J-*
Arsenic	21.52	7.24	5.9	mg/kg	**10.3 J**	7.2 J	**17.5**	**15.9**	**13.3**
Barium	50.94	--	--	mg/kg	37.1 J	39 J	*92.9*	*71.7*	*69.9*
Beryllium	1.128	--	--	mg/kg	0.7 J	0.87	1	*1.2*	1.1
Cadmium	1.791	0.68	0.583	mg/kg	**0.77 J**	**1.1**	***2.1***	***2.3***	***2.9***
Calcium	4466	--	--	mg/kg	1660	1590	2460	3010	3000
Chromium	66.98	43.4	36.286	mg/kg	28.6 J	31.3 J	***79.5***	***74.3***	**55.5**
Cobalt	1.4	50	--	mg/kg	*1.8 J*	*3 J*	***55.8***	***56.2***	*37*
Copper	88.15	18.7	28.012	mg/kg	**19.6**	**19.6**	***119***	***132***	***88.2***
Cyanide	--	0.1	100	mg/kg	1.2 U	1 U	1.3 U	1.3 U	***0.33 J***
Iron	40619	20000	188400	mg/kg	**25900**	**30200**	**36800**	**40600**	***61800***
Lead	177.8	30.2	35	mg/kg	**41.2**	**36.9**	***209***	***221***	**131**
Magnesium	6451	--	--	mg/kg	4540	5130	4580	4770	5530
Manganese	260.2	460	630	mg/kg	142	191	181	227	*381*
Mercury	2.1	0.13	0.174	mg/kg	**0.2 J**	**0.25**	***2.5***	***5.4***	***3.1***
Nickel	20.08	15.9	18	mg/kg	13.7	**17.6**	***58***	***65.3***	***54.4***
Potassium	3616	--	--	mg/kg	--	--	2760	3020	*3810*
Silver	1.981	0.73	4.5	mg/kg	**1.9**	***2.1***	***2.9***	***3.1***	***4.5***
Sodium	10961	--	--	mg/kg	9030	7940	10500	9480	8180
Thallium	--	--	--	mg/kg	*1.7 J*	*1.2 J*	*1.3 J*	*1.5 J*	*2.5 J*
Vanadium	34.18	--	--	mg/kg	*34.8*	*33.4*	*41.5*	*42.4*	*44.1*
Zinc	272.7	121	98	mg/kg	59	89.2	***290***	**242**	**179**

Table 1.2.1B
Paradise Creek Tidal Wetland Sediment Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Metals								
Aluminum	19638	--	25500	mg/kg	19200 J	19400 J	11800 J	10000 J
Antimony	--	2	3	mg/kg	*0.72 J-*	12.6 UJ	*0.74 J-*	*0.68 J-*
Arsenic	21.52	7.24	5.9	mg/kg	**11.9 J**	**12 J**	**10.5 J**	**8.8 J**
Barium	50.94	--	--	mg/kg	37.4 J	41.4 J	37.9 J	31.6 J
Beryllium	1.128	--	--	mg/kg	0.95	1 J	*1.2*	1.1
Cadmium	1.791	0.68	0.583	mg/kg	**1.6**	**1.2**	***2.8***	***2.3***
Calcium	4466	--	--	mg/kg	2340	2340	1820	1620
Chromium	66.98	43.4	36.286	mg/kg	34.5 J	35.7 J	28 J	24.8 J
Cobalt	1.4	50	--	mg/kg	*7.6*	*2.9 J*	*21.8*	*21.3*
Copper	88.15	18.7	28.012	mg/kg	**48.8**	**46.6**	**46.7**	**39**
Cyanide	--	0.1	100	mg/kg	0.48 U	1.4 U	0.49 U	0.49 U
Iron	40619	20000	188400	mg/kg	**29300**	**32200**	**27100**	**24000**
Lead	177.8	30.2	35	mg/kg	**118**	**91.1**	**108**	**86.6**
Magnesium	6451	--	--	mg/kg	5820	6200	3980	3570
Manganese	260.2	460	630	mg/kg	208	226	259	248
Mercury	2.1	0.13	0.174	mg/kg	**0.51**	**0.6**	**0.66**	**0.62**
Nickel	20.08	15.9	18	mg/kg	***22.1***	**18.9**	***48***	***43.4***
Potassium	3616	--	--	mg/kg	--	--	--	--
Silver	1.981	0.73	4.5	mg/kg	***2.3***	***2.4***	***2.1***	**1.9**
Sodium	10961	--	--	mg/kg	10900	*11200*	9620	9910
Thallium	--	--	--	mg/kg	*1.5 J*	*1.8 J*	*0.37 J*	2.1 U
Vanadium	34.18	--	--	mg/kg	*36.9*	*41.3*	*32.3*	*26.8*
Zinc	272.7	121	98	mg/kg	**163**	**143**	***276***	**205**

Table 1.2.1B
Paradise Creek Tidal Wetland Sediment Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
Metals									
Aluminum	19638	--	25500	mg/kg	*19700 J*	*20300 J*	18500	12300 J	12500 J
Antimony	--	2	3	mg/kg	13.5 UJ	12 UJ	11.9 U	4.7 UJ	8.6 UJ
Arsenic	21.52	7.24	5.9	mg/kg	**9.8 J**	**10.1 J**	**10.3 J**	**7.9 J**	6.7 J
Barium	50.94	--	--	mg/kg	42.4 J	42.3 J	38.9 J	43.1 J	28.4 J
Beryllium	1.128	--	--	mg/kg	*1.2*	1.1	0.93 J	0.71	0.7 J
Cadmium	1.791	0.68	0.583	mg/kg	**1.2**	**1.2**	**0.96 J**	**1.1**	**0.78**
Calcium	4466	--	--	mg/kg	2160	2220	2770	2330	*4970*
Chromium	66.98	43.4	36.286	mg/kg	42.2 J	38.3 J	35.1	27.5 J	24.7 J
Cobalt	1.4	50	--	mg/kg	*7.2 J*	*3.6 J*	*2.9 J*	*7.4*	*1.7 J*
Copper	88.15	18.7	28.012	mg/kg	**34**	**36.2**	**28.6**	**45.3**	**19.7**
Cyanide	--	0.1	100	mg/kg	1.5 U	1.4 U	1.3 U	0.49 U	1 U
Iron	40619	20000	188400	mg/kg	**33300**	**33700**	**36000**	**20600**	**23100**
Lead	177.8	30.2	35	mg/kg	**64.5**	**87.5**	**61**	***178***	**44**
Magnesium	6451	--	--	mg/kg	*6950*	*6620*	5940	4150	4210
Manganese	260.2	460	630	mg/kg	*274*	*279*	253	146	171
Mercury	2.1	0.13	0.174	mg/kg	**0.46**	**0.25 J**	**0.29**	**0.5**	**0.28**
Nickel	20.08	15.9	18	mg/kg	***24***	***20.4***	**19.5**	**18.1**	13.2
Potassium	3616	--	--	mg/kg	--	--	3310	--	--
Silver	1.981	0.73	4.5	mg/kg	***2.3 J***	***2.4***	***2.2***	**1.7**	**1.6**
Sodium	10961	--	--	mg/kg	*11800*	10500	10500	8740	6250
Thallium	--	--	--	mg/kg	*1.6 J*	*2.1 J*	*2 J*	*1 J*	*0.98 J*
Vanadium	34.18	--	--	mg/kg	*43.9*	*43.3*	*40.6 J*	*27.7*	*26.9*
Zinc	272.7	121	98	mg/kg	**139**	**130**	112	**202**	83.9

Table 1.2.1B
Paradise Creek Tidal Wetland Sediment Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Metals										
Aluminum	19638	--	25500	mg/kg	17600	18500	12900	16200	15200	11800
Antimony	--	2	3	mg/kg	12.5 U	11 U	14.2 U	15.2 U	8.6 UJ	7.4 U
Arsenic	21.52	7.24	5.9	mg/kg	**11.7 J**	**12.8 J**	**10.6 J**	**12.1 J**	**8**	**8.8**
Barium	50.94	--	--	mg/kg	38.2 J	38.7	32 J	39.4 J	46	40.3
Beryllium	1.128	--	--	mg/kg	1.1 J	1.1	*1.2 J*	*1.3 J*	0.88	0.72
Cadmium	1.791	0.68	0.583	mg/kg	**1.1 J**	**1.1**	**1.7**	**1.7**	**1.2**	**1.1**
Calcium	4466	--	--	mg/kg	2410	2240	2000	2410	1930	1340
Chromium	66.98	43.4	36.286	mg/kg	**47.7**	41	**60.8**	***74.9***	37.1	27.8
Cobalt	1.4	50	--	mg/kg	*15.9*	*6.8 J*	*30.8*	*35.4*	*9.9*	*7.5*
Copper	88.15	18.7	28.012	mg/kg	**40.9**	**29.1**	***89.7***	**70.5**	**33.2**	**28.7**
Cyanide	--	0.1	100	mg/kg	1.4 U	1.3 U	1.6 U	1.6 U	0.98 U	0.84 U
Iron	40619	20000	188400	mg/kg	**33800**	**35900**	**25400**	**29900**	**27300**	**22500**
Lead	177.8	30.2	35	mg/kg	**68**	**53.2**	**132**	**131**	**61.4**	**59.3 J**
Magnesium	6451	--	--	mg/kg	6070	6210	4180	5100	4940	3260
Manganese	260.2	460	630	mg/kg	*262*	*281*	166	215	250	188
Mercury	2.1	0.13	0.174	mg/kg	**0.48**	**0.52**	**0.46**	**1.5**	**0.29**	**0.49**
Nickel	20.08	15.9	18	mg/kg	***31***	***24.7***	***40.4***	***46.3***	***22.7***	**17.3**
Potassium	3616	--	--	mg/kg	3490	*3690*	2100	2870	3120	2230
Silver	1.981	0.73	4.5	mg/kg	***2.2***	***2.2***	**1.6 J**	**1.9 J**	***2***	**1.9**
Sodium	10961	--	--	mg/kg	*11000*	9230	*12800*	*11600*	5720	3200 J
Thallium	--	--	--	mg/kg	*1.8 J*	*2 J*	*1.3 J*	*1.6 J*	*1.2 J*	*1 J*
Vanadium	34.18	--	--	mg/kg	*48.3 J*	*43.4 J*	*53.6 J*	*50.6 J*	*34.3*	*27.4*
Zinc	272.7	121	98	mg/kg	**146**	**122**	***295***	***282***	**165**	**163**

Table 1.2.1B
Paradise Creek Tidal Wetland Sediment Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Metals										
Aluminum	19638	--	25500	mg/kg	18100	*19800*	10200	10300	7900	9310
Antimony	--	2	3	mg/kg	11 U	9.8 UJ	8.3 UJ	6.9 UJ	8.5 U	9.5 UJ
Arsenic	21.52	7.24	5.9	mg/kg	**7.8**	**8.1**	**8.4**	7.1	6.8	**7.9**
Barium	50.94	--	--	mg/kg	*55.5*	42.9	32.9	23.4	19.3 J	23.5 J
Beryllium	1.128	--	--	mg/kg	0.64 J	0.92	0.74	0.6	0.49 J	0.63 J
Cadmium	1.791	0.68	0.583	mg/kg	0.6 J	**1**	**0.97**	**0.86**	0.62 J	**0.71 J**
Calcium	4466	--	--	mg/kg	4270	1990	1250	1410	1040	1200
Chromium	66.98	43.4	36.286	mg/kg	42.4	38.2	21.2	21.9	19.7	23.4
Cobalt	1.4	50	--	mg/kg	*3.9 J*	*2.3*	*2.5 J*	*2.2 J*	*7.5*	*5.7 J*
Copper	88.15	18.7	28.012	mg/kg	**44.8**	17.5	**25.8**	**19.8**	**20.2**	**24.4**
Cyanide	--	0.1	100	mg/kg	1.3 U	1.1 U	0.94 U	0.8 U	0.98 U	1 U
Iron	40619	20000	188400	mg/kg	**21000**	**34200**	**24200**	**25200**	18600	**21900**
Lead	177.8	30.2	35	mg/kg	**93.5 J**	**33.2**	**73**	**62.5**	**32.8 J**	**36.6**
Magnesium	6451	--	--	mg/kg	5210	6320	3570	3450	2910	3470
Manganese	260.2	460	630	mg/kg	110	*261*	147	203	166	184
Mercury	2.1	0.13	0.174	mg/kg	**0.34**	0.13 J	**0.58**	**0.98**	0.11 J	**0.17 J**
Nickel	20.08	15.9	18	mg/kg	**17**	***20.3***	13.3	13.5	12.5	13.9
Potassium	3616	--	--	mg/kg	*3860*	*4090*	2310	2290	1890	2180
Silver	1.981	0.73	4.5	mg/kg	**1.6 J**	***2.4***	**1.8**	**1.9**	**1.4 J**	**1.6 J**
Sodium	10961	--	--	mg/kg	*11000 J*	9920	6800	4470	5980 J	6640
Thallium	--	--	--	mg/kg	*0.95 J*	*1.7 J*	*1 J*	*1.3 J*	*0.78 J-*	*1.1 J*
Vanadium	34.18	--	--	mg/kg	*52.7*	*43.4*	*25.8*	*24.7*	*22.8*	*26.8*
Zinc	272.7	121	98	mg/kg	118	71.9	**136**	82.5	76.7	82.9

Table 1.2.1B
Paradise Creek Tidal Wetland Sediment Metals Ecological Risk Screening

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Region 3 Biological Technical Assistance Group
ft = feet
mg/kg = milligrams per kilogram
NOAA = National Oceanographic and Atmospheric Administration
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
SQuiRTS = Screening Quick Reference Tables
J = positive detect, value estimated
J- = positive detect, value estimated and biased low
UJ = not detected; the value shown equals the estimated reporting limit
U = not detected; value shown equals the reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs ar*Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark ar**Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark ar<u>Underlined</u>

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PCB Aroclors										
Aroclor-1260	--	0.749	240	µg/kg	***49 J***	96 U	150 UJ	110 U	***38 J***	***32 J***
Total Aroclor	--	0.749	120 [3]	µg/kg	***130***	96 U	150 UJ	110 U	130 UJ	96 U
PCB Calculated Values										
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	*28.6*	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	*8.97*	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	*8.97*	--	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	*165000*	--	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	*172000*	--	--	--	--	--
Laboratory Provided TEQs							--	--	--	--
TEQ WHO2005 ND=0 (PCB Congeners)	--	--	--	ng/kg	*9*	--	--	--	--	--
PCB Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	34	--	ng/kg	***1050***	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	34	--	ng/kg	***1820***	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	***174***	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	34	--	ng/kg	***963***	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	34	--	ng/kg	***629***	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	34	--	ng/kg	***3520***	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	34	--	ng/kg	***15600***	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	***407***	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	34	--	ng/kg	***608***	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	***269***	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	***2140***	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	***143***	--	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	***3510***	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	34	--	ng/kg	***852***	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	***370***	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,2',3,3',4,6'-Hexachlorobiphenyl	--	34	--	ng/kg	***3980***	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	34	--	ng/kg	***134***	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	34	--	ng/kg	***732***	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	***585***	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	***815***	--	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	***183***	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	***1320***	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	34	--	ng/kg	***615***	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	34	--	ng/kg	***387***	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	34	--	ng/kg	***983***	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	34	--	ng/kg	***1250***	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	***1400***	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	***37***	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	***36.9***	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	34	--	ng/kg	***544***	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	***4950***	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	***2030***	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	***1640***	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	34	--	ng/kg	***451***	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	***139***	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	34	--	ng/kg	***69.4***	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	***409***	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	34	--	ng/kg	***78.4***	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	***1370***	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	***4150***	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	34	--	ng/kg	***37.7***	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	34	--	ng/kg	***94.6***	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,2',3,6'-Tetrachlorobiphenyl	--	34	--	ng/kg	***70.6***	--	--	--	--	--
2,2',3-Trichlorobiphenyl	--	34	--	ng/kg	***143***	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	***132***	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	34	--	ng/kg	***3210***	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	***51.2***	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	***199***	--	--	--	--	--
2,2',4-Trichlorobiphenyl	--	34	--	ng/kg	***185***	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	***2680***	--	--	--	--	--
2,2',6-Trichlorobiphenyl	--	34	--	ng/kg	***64.2***	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	***85.9***	--	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)	--	34	130000	ng/kg	***172***	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	***586***	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	34	--	ng/kg	***119***	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	34	--	ng/kg	***1180***	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl (PCB 105)	--	34	120000	ng/kg	***3480***	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	***110***	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	***41.5***	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	34	--	ng/kg	***972***	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	34	--	ng/kg	***57.8***	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	34	--	ng/kg	***471***	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	34	--	ng/kg	***900***	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	34	--	ng/kg	***71.7***	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	--	34	120000	ng/kg	***634***	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	--	34	120000	ng/kg	***110***	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl (PCB 123)	--	34	120000	ng/kg	***156***	--	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl (PCB 118)	--	34	120000	ng/kg	***7620***	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	***421***	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,3',4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	***2010***	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	***40.3***	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	***48.6***	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	34	--	ng/kg	***79.7***	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	34	--	ng/kg	***764***	--	--	--	--	--
2,3',4-Trichlorobiphenyl	--	34	--	ng/kg	***104***	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	34	--	ng/kg	***405***	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	***47.4***	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	34	--	ng/kg	***79.2***	--	--	--	--	--
2,3',6-Trichlorobiphenyl	--	34	--	ng/kg	***49.1***	--	--	--	--	--
2,3'-Dichlorobiphenyl	--	34	--	ng/kg	***63.7***	--	--	--	--	--
2,4',5-Trichlorobiphenyl	--	34	--	ng/kg	***875***	--	--	--	--	--
2,4',6-Trichlorobiphenyl	--	34	--	ng/kg	***214***	--	--	--	--	--
2,4'-Dichlorobiphenyl	--	34	--	ng/kg	***269***	--	--	--	--	--
2-Monochlorobiphenyl	--	34	--	ng/kg	***132***	--	--	--	--	--
3 -Monochlorobiphenyl	--	34	--	ng/kg	***58***	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	--	34	370	ng/kg	***85.2***	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	--	34	38000	ng/kg	***390***	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	*32.5*	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	***77.1***	--	--	--	--	--
3,3',4-Trichlorobiphenyl	--	34	--	ng/kg	***46.5***	--	--	--	--	--
3,3'-Dichlorobiphenyl	--	34	--	ng/kg	***331***	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	34	--	ng/kg	***829***	--	--	--	--	--
4,4'-Dichlorobiphenyl	--	34	--	ng/kg	***816***	--	--	--	--	--
4-Monochlorobiphenyl	--	34	--	ng/kg	***152***	--	--	--	--	--
BZ#139 & BZ#140	--	34	--	ng/kg	***183***	--	--	--	--	--
BZ#153 & BZ#168	--	34	--	ng/kg	***11700***	--	--	--	--	--
BZ#156 & BZ#157	--	34	--	ng/kg	***1630***	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Co-elute: PCB#44, PCB#47, PCB#65	--	34	--	ng/kg	***1780***	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	34	--	ng/kg	***164***	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and	--	34	--	ng/kg	***3500***	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	34	--	ng/kg	***1170***	--	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	34	--	ng/kg	***7450***	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	34	--	ng/kg	***245***	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	34	--	ng/kg	***100***	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	34	--	ng/kg	***1130***	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	34	--	ng/kg	***172***	--	--	--	--	--
colute: Trichlorobiphenyls; 2 ,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	34	--	ng/kg	***319***	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	34	--	ng/kg	***1680***	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	34	--	ng/kg	***464***	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	34	--	ng/kg	***191***	--	--	--	--	--
Decachlorobiphenyl	--	34	--	ng/kg	***1500***	--	--	--	--	--
Dichlorobiphenyl: 3,4/ 3,4’	--	34	--	ng/kg	53.4 U	--	--	--	--	--
PCB108 & 0124	--	34	--	ng/kg	***262***	--	--	--	--	--
PCB110 & 115	--	34	--	ng/kg	***10100***	--	--	--	--	--
PCB128 & 166	--	34	--	ng/kg	***2250***	--	--	--	--	--
PCB135 & 151	--	34	--	ng/kg	***3560***	--	--	--	--	--
PCB147 & 149	--	34	--	ng/kg	***9240***	--	--	--	--	--
PCB171 & 173	--	34	--	ng/kg	***1090***	--	--	--	--	--
PCB180 & 193	--	34	--	ng/kg	***8090***	--	--	--	--	--
PCB183 & 185	--	34	--	ng/kg	***2540***	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PCB197 & 200	--	34	--	ng/kg	***313***	--	--	--	--	--
PCB198 & 199	--	34	--	ng/kg	***2340***	--	--	--	--	--
PCB-40/PCB-71	--	34	--	ng/kg	***739***	--	--	--	--	--
PCB-86/87/97/108/119/125	--	34	--	ng/kg	***4810***	--	--	--	--	--
PCB-98/PCB-102	--	34	--	ng/kg	***206***	--	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	34	--	ng/kg	***784***	--	--	--	--	--

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

(2) The lowest of the freshwater or marine SQuiRT value provided

(2) November 2015 RSLs (cancer risk = 10-6; Hazard Index=0.1)

(4) PCB SQuiRT value used as surrogate

(3) Aroclor 1254 residential soil RSL (lowest of the Aroclors) used as surrogate

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
PCB = polychlorinated biphenyls
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
J = positive detect, value estimated
U = not detected; value shown equals the reporting limit
UJ = not detected; value shown equals the estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the USEPA Region 3 November 2015 Resident Soil RSLs are Underlined

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PCB Aroclors										
Aroclor-1260	--	0.749	240	µg/kg	110 U	91 U	54 U	80 U	110 UJ	110 UJ
Total Aroclor	--	0.749	120 [3]	µg/kg	110 U	91 U	54 U	80 U	110 UJ	110 UJ
PCB Calculated Values										
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--	--	--
Laboratory Provided TEQs					--	--				
TEQ WHO2005 ND=0 (PCB Congeners)	--	--	--	ng/kg	--	--	--	--	--	--
PCB Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,2',3,3',4,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,2',3,6'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',3-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,2',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)	--	34	130000	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl (PCB 105)	--	34	120000	ng/kg	--	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	--	34	120000	ng/kg	--	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	--	34	120000	ng/kg	--	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl (PCB 123)	--	34	120000	ng/kg	--	--	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl (PCB 118)	--	34	120000	ng/kg	--	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,3',4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,3'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,4',5-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,4',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2,4'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
2-Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
3 -Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	--	34	370	ng/kg	--	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	--	34	38000	ng/kg	--	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
3,3',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
3,3'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
4,4'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
4-Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
BZ#139 & BZ#140	--	34	--	ng/kg	--	--	--	--	--	--
BZ#153 & BZ#168	--	34	--	ng/kg	--	--	--	--	--	--
BZ#156 & BZ#157	--	34	--	ng/kg	--	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Co-elute: PCB#44, PCB#47, PCB#65	--	34	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	34	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and	--	34	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	34	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	34	--	ng/kg	--	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	34	--	ng/kg	--	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	34	--	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	34	--	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	34	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2 ,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	34	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	34	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	34	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	34	--	ng/kg	--	--	--	--	--	--
Decachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--	--
Dichlorobiphenyl: 3,4/ 3,4’	--	34	--	ng/kg	--	--	--	--	--	--
PCB108 & 0124	--	34	--	ng/kg	--	--	--	--	--	--
PCB110 & 115	--	34	--	ng/kg	--	--	--	--	--	--
PCB128 & 166	--	34	--	ng/kg	--	--	--	--	--	--
PCB135 & 151	--	34	--	ng/kg	--	--	--	--	--	--
PCB147 & 149	--	34	--	ng/kg	--	--	--	--	--	--
PCB171 & 173	--	34	--	ng/kg	--	--	--	--	--	--
PCB180 & 193	--	34	--	ng/kg	--	--	--	--	--	--
PCB183 & 185	--	34	--	ng/kg	--	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PCB197 & 200	--	34	--	ng/kg	--	--	--	--	--	--
PCB198 & 199	--	34	--	ng/kg	--	--	--	--	--	--
PCB-40/PCB-71	--	34	--	ng/kg	--	--	--	--	--	--
PCB-86/87/97/108/119/125	--	34	--	ng/kg	--	--	--	--	--	--
PCB-98/PCB-102	--	34	--	ng/kg	--	--	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	34	--	ng/kg	--	--	--	--	--	--

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

(2) The lowest of the freshwater or marine SQuiRT value provided

(2) November 2015 RSLs (cancer risk = 10-6; Hazard Index=0.1)

(4) PCB SQuiRT value used as surrogate

(3) Aroclor 1254 residential soil RSL (lowest of the Aroclors) used as surrogate

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
PCB = polychlorinated biphenyls
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
J = positive detect, value estimated
U = not detected; value shown equals the reporting limit
UJ = not detected; value shown equals the estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the USEPA Region 3 November 2015 Resident Soil RSLs are Underlined

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
PCB Aroclors									
Aroclor-1260	--	0.749	240	µg/kg	76 U	76 U	***49 J***	79 U	88 U
Total Aroclor	--	0.749	120 [3]	µg/kg	76 U	76 U	***49 J***	79 U	88 U
PCB Calculated Values									
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--	--
Laboratory Provided TEQs									
TEQ WHO2005 ND=0 (PCB Congeners)	--	--	--	ng/kg	--	--	--	--	--
PCB Congeners									
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
2,2',3,3',4,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
2,2',3,6'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',3-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,2',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)	--	34	130000	ng/kg	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl (PCB 105)	--	34	120000	ng/kg	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	--	34	120000	ng/kg	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	--	34	120000	ng/kg	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl (PCB 123)	--	34	120000	ng/kg	--	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl (PCB 118)	--	34	120000	ng/kg	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
2,3',4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,3'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,4',5-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,4',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2,4'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
2-Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
3 -Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	--	34	370	ng/kg	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	--	34	38000	ng/kg	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
3,3',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
3,3'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
4,4'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
4-Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
BZ#139 & BZ#140	--	34	--	ng/kg	--	--	--	--	--
BZ#153 & BZ#168	--	34	--	ng/kg	--	--	--	--	--
BZ#156 & BZ#157	--	34	--	ng/kg	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
Co-elute: PCB#44, PCB#47, PCB#65	--	34	--	ng/kg	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	34	--	ng/kg	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and	--	34	--	ng/kg	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	34	--	ng/kg	--	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	34	--	ng/kg	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	34	--	ng/kg	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	34	--	ng/kg	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	34	--	ng/kg	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	34	--	ng/kg	--	--	--	--	--
colute: Trichlorobiphenyls; 2 ,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	34	--	ng/kg	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	34	--	ng/kg	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	34	--	ng/kg	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	34	--	ng/kg	--	--	--	--	--
Decachlorobiphenyl	--	34	--	ng/kg	--	--	--	--	--
Dichlorobiphenyl: 3,4/ 3,4’	--	34	--	ng/kg	--	--	--	--	--
PCB108 & 0124	--	34	--	ng/kg	--	--	--	--	--
PCB110 & 115	--	34	--	ng/kg	--	--	--	--	--
PCB128 & 166	--	34	--	ng/kg	--	--	--	--	--
PCB135 & 151	--	34	--	ng/kg	--	--	--	--	--
PCB147 & 149	--	34	--	ng/kg	--	--	--	--	--
PCB171 & 173	--	34	--	ng/kg	--	--	--	--	--
PCB180 & 193	--	34	--	ng/kg	--	--	--	--	--
PCB183 & 185	--	34	--	ng/kg	--	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
PCB197 & 200	--	34	--	ng/kg	--	--	--	--	--
PCB198 & 199	--	34	--	ng/kg	--	--	--	--	--
PCB-40/PCB-71	--	34	--	ng/kg	--	--	--	--	--
PCB-86/87/97/108/119/125	--	34	--	ng/kg	--	--	--	--	--
PCB-98/PCB-102	--	34	--	ng/kg	--	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	34	--	ng/kg	--	--	--	--	--

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

(2) The lowest of the freshwater or marine SQuiRT value provided

(2) November 2015 RSLs (cancer risk = 10-6; Hazard Index=0.1)

(4) PCB SQuiRT value used as surrogate

(3) Aroclor 1254 residential soil RSL (lowest of the Aroclors) used as surrogate

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
PCB = polychlorinated biphenyls
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
J = positive detect, value estimated
U = not detected; value shown equals the reporting limit
UJ = not detected; value shown equals the estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the USEPA Region 3 November 2015 Resident Soil RSLs are Underlined

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
PCB Aroclors								
Aroclor-1260	--	0.749	240	µg/kg	160 UJ	100 U	110 U	82 U
Total Aroclor	--	0.749	120 [3]	µg/kg	160 UJ	100 U	110 U	82 U
PCB Calculated Values								
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--
Laboratory Provided TEQs								
TEQ WHO2005 ND=0 (PCB Congeners)	--	--	--	ng/kg	--	--	--	--
PCB Congeners								
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,2',3,3',4,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,2',3,6'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)	--	34	130000	ng/kg	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl (PCB 105)	--	34	120000	ng/kg	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	--	34	120000	ng/kg	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	--	34	120000	ng/kg	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl (PCB 123)	--	34	120000	ng/kg	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl (PCB 118)	--	34	120000	ng/kg	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,3',4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,4',5-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,4',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,4'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2-Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3 -Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	--	34	370	ng/kg	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	--	34	38000	ng/kg	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
4,4'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
4-Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--
BZ#139 & BZ#140	--	34	--	ng/kg	--	--	--	--
BZ#153 & BZ#168	--	34	--	ng/kg	--	--	--	--
BZ#156 & BZ#157	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
Co-elute: PCB#44, PCB#47, PCB#65	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	34	--	ng/kg	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	34	--	ng/kg	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	34	--	ng/kg	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	34	--	ng/kg	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2 ,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	34	--	ng/kg	--	--	--	--
Decachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
Dichlorobiphenyl: 3,4/ 3,4'	--	34	--	ng/kg	--	--	--	--
PCB108 & 0124	--	34	--	ng/kg	--	--	--	--
PCB110 & 115	--	34	--	ng/kg	--	--	--	--
PCB128 & 166	--	34	--	ng/kg	--	--	--	--
PCB135 & 151	--	34	--	ng/kg	--	--	--	--
PCB147 & 149	--	34	--	ng/kg	--	--	--	--
PCB171 & 173	--	34	--	ng/kg	--	--	--	--
PCB180 & 193	--	34	--	ng/kg	--	--	--	--
PCB183 & 185	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	EPA Residential Soil RSLs (2)	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
PCB197 & 200	--	34	--	ng/kg	--	--	--	--
PCB198 & 199	--	34	--	ng/kg	--	--	--	--
PCB-40/PCB-71	--	34	--	ng/kg	--	--	--	--
PCB-86/87/97/108/119/125	--	34	--	ng/kg	--	--	--	--
PCB-98/PCB-102	--	34	--	ng/kg	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	34	--	ng/kg	--	--	--	--

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

(2) The lowest of the freshwater or marine SQuiRT value provided

(2) November 2015 RSLs (cancer risk = 10-6; Hazard Index=0.1)

(4) PCB SQuiRT value used as surrogate

(3) Aroclor 1254 residential soil RSL (lowest of the Aroclors) used as surrogate

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
PCB = polychlorinated biphenyls
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
J = positive detect, value estimated
U = not detected; value shown equals the reporting limit
UJ = not detected; value shown equals the estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the USEPA Region 3 November 2015 Resident Soil RSLs are Underlined

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
PCB Aroclors									
Aroclor-1260	--	0.749	240	µg/kg	84 U	91 U	86 U	110 UJ	76 U
Total Aroclor	--	0.749	120 [3]	µg/kg	84 U	91 U	86 U	110 UJ	76 U
PCB Calculated Values									
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	0.912	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	*0.399*	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	*0.399*	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	3860	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	3930	--	--	--	--
Laboratory Provided TEQs									
TEQ WHO2005 ND=0 (PCB Congeners)	--	--	--	ng/kg	*0.4*	--	--	--	--
PCB Congeners									
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	34	--	ng/kg	***48.8***	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	34	--	ng/kg	***58.8***	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	*9.7*	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	34	--	ng/kg	***41.3***	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	34	--	ng/kg	*16.8*	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	34	--	ng/kg	***65.6***	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	34	--	ng/kg	***316***	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	*23.4*	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	34	--	ng/kg	*19.3*	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	*17.7*	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	***57.9***	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	*5.1*	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	***117***	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	34	--	ng/kg	*18.5*	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	*13.5*	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
2,2',3,3',4,6'-Hexachlorobiphenyl	--	34	--	ng/kg	***89.9***	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	34	--	ng/kg	*15.8*	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	***45.6***	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	*31.5*	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	*5.1*	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	***61***	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	34	--	ng/kg	*13.6*	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	34	--	ng/kg	*7.4*	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	34	--	ng/kg	*23.9*	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	34	--	ng/kg	*28.7*	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	***55.8***	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	34	--	ng/kg	*13.7*	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	***192***	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	***48.5***	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	***38.1***	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	34	--	ng/kg	*9.3*	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	*3.8*	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	*5.5*	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	*26.6*	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	***77.7***	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
2,2',3,6'-Tetrachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,2',3-Trichlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	*4.4*	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	34	--	ng/kg	***66.2***	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,2',4-Trichlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	***46.7***	--	--	--	--
2,2',6-Trichlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)	--	34	130000	ng/kg	*4*	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	*12.4*	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	34	--	ng/kg	*20.9*	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl (PCB 105)	--	34	120000	ng/kg	***70.5***	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	34	--	ng/kg	*20.1*	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	34	--	ng/kg	*13*	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	34	--	ng/kg	*14.7*	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	--	34	120000	ng/kg	*13.6*	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	--	34	120000	ng/kg	3.7 U	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl (PCB 123)	--	34	120000	ng/kg	3.7 U	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl (PCB 118)	--	34	120000	ng/kg	***149***	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	*6.4*	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
2,3',4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	*29.3*	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	34	--	ng/kg	*11.2*	--	--	--	--
2,3',4-Trichlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	34	--	ng/kg	*5.2*	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3',6-Trichlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,3'-Dichlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,4',5-Trichlorobiphenyl	--	34	--	ng/kg	*11*	--	--	--	--
2,4',6-Trichlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2,4'-Dichlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
2-Monochlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
3 -Monochlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	--	34	370	ng/kg	*3.9*	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	--	34	38000	ng/kg	*10.2*	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
3,3',4-Trichlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
3,3'-Dichlorobiphenyl	--	34	--	ng/kg	*17.5*	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	34	--	ng/kg	*11.7*	--	--	--	--
4,4'-Dichlorobiphenyl	--	34	--	ng/kg	*9.5*	--	--	--	--
4-Monochlorobiphenyl	--	34	--	ng/kg	3.7 U	--	--	--	--
BZ#139 & BZ#140	--	34	--	ng/kg	7.4 U	--	--	--	--
BZ#153 & BZ#168	--	34	--	ng/kg	***245***	--	--	--	--
BZ#156 & BZ#157	--	34	--	ng/kg	*33.1*	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
Co-elute: PCB#44, PCB#47, PCB#65	--	34	--	ng/kg	*26*	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	34	--	ng/kg	11.1 U	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and	--	34	--	ng/kg	***62.8***	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	34	--	ng/kg	*25.3*	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	34	--	ng/kg	***132***	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	34	--	ng/kg	7.4 U	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	34	--	ng/kg	7.4 U	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	34	--	ng/kg	*13.3*	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	34	--	ng/kg	7.4 U	--	--	--	--
colute: Trichlorobiphenyls; 2 ,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	34	--	ng/kg	7.4 U	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	34	--	ng/kg	*18.3*	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	34	--	ng/kg	7.4 U	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	34	--	ng/kg	7.4 U	--	--	--	--
Decachlorobiphenyl	--	34	--	ng/kg	***44.1***	--	--	--	--
Dichlorobiphenyl: 3,4/ 3,4'	--	34	--	ng/kg	7.4 U	--	--	--	--
PCB108 & 0124	--	34	--	ng/kg	*7.7*	--	--	--	--
PCB110 & 115	--	34	--	ng/kg	***210***	--	--	--	--
PCB128 & 166	--	34	--	ng/kg	***44.7***	--	--	--	--
PCB135 & 151	--	34	--	ng/kg	***92.4***	--	--	--	--
PCB147 & 149	--	34	--	ng/kg	***225***	--	--	--	--
PCB171 & 173	--	34	--	ng/kg	*23.1*	--	--	--	--
PCB180 & 193	--	34	--	ng/kg	***211***	--	--	--	--
PCB183 & 185	--	34	--	ng/kg	***83***	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
PCB197 & 200	--	34	--	ng/kg	*19*	--	--	--	--
PCB198 & 199	--	34	--	ng/kg	***134***	--	--	--	--
PCB-40/PCB-71	--	34	--	ng/kg	*8.14*	--	--	--	--
PCB-86/87/97/108/119/125	--	34	--	ng/kg	***101***	--	--	--	--
PCB-98/PCB-102	--	34	--	ng/kg	7.4 U	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	34	--	ng/kg	7.4 U	--	--	--	--

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

(2) The lowest of the freshwater or marine SQuiRT value provided

(2) November 2015 RSLs (cancer risk = 10-6; Hazard Index=0.1)

(4) PCB SQuiRT value used as surrogate

(3) Aroclor 1254 residential soil RSL (lowest of the Aroclors) used as surrogate

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
PCB = polychlorinated biphenyls
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
J = positive detect, value estimated
U = not detected; value shown equals the reporting limit
UJ = not detected; value shown equals the estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the USEPA Region 3 November 2015 Resident Soil RSLs are Underlined

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD13		PCWLSD14	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
PCB Aroclors								
Aroclor-1260	--	0.749	240	µg/kg	80 U	78 U	***49 J***	140 U
Total Aroclor	--	0.749	120 [3]	µg/kg	80 U	78 U	***49 J***	140 U
PCB Calculated Values								
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--
Laboratory Provided TEQs								
TEQ WHO2005 ND=0 (PCB Congeners)	--	--	--	ng/kg	--	--	--	--
PCB Congeners								
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD13		PCWLSD14	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,2',3,3',4,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD13		PCWLSD14	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,2',3,6'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)	--	34	130000	ng/kg	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl (PCB 105)	--	34	120000	ng/kg	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	--	34	120000	ng/kg	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	--	34	120000	ng/kg	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl (PCB 123)	--	34	120000	ng/kg	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl (PCB 118)	--	34	120000	ng/kg	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD13		PCWLSD14	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,3',4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,4',5-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,4',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,4'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2-Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3 -Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	--	34	370	ng/kg	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	--	34	38000	ng/kg	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
4,4'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
4-Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--
BZ#139 & BZ#140	--	34	--	ng/kg	--	--	--	--
BZ#153 & BZ#168	--	34	--	ng/kg	--	--	--	--
BZ#156 & BZ#157	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD13		PCWLSD14	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
Co-elute: PCB#44, PCB#47, PCB#65	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	34	--	ng/kg	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	34	--	ng/kg	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	34	--	ng/kg	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	34	--	ng/kg	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2 ,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	34	--	ng/kg	--	--	--	--
Decachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
Dichlorobiphenyl: 3,4/ 3,4’	--	34	--	ng/kg	--	--	--	--
PCB108 & 0124	--	34	--	ng/kg	--	--	--	--
PCB110 & 115	--	34	--	ng/kg	--	--	--	--
PCB128 & 166	--	34	--	ng/kg	--	--	--	--
PCB135 & 151	--	34	--	ng/kg	--	--	--	--
PCB147 & 149	--	34	--	ng/kg	--	--	--	--
PCB171 & 173	--	34	--	ng/kg	--	--	--	--
PCB180 & 193	--	34	--	ng/kg	--	--	--	--
PCB183 & 185	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	EPA Residential Soil RSLs (2)	Location ID	PCWLSD13		PCWLSD14	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
PCB197 & 200	--	34	--	ng/kg	--	--	--	--
PCB198 & 199	--	34	--	ng/kg	--	--	--	--
PCB-40/PCB-71	--	34	--	ng/kg	--	--	--	--
PCB-86/87/97/108/119/125	--	34	--	ng/kg	--	--	--	--
PCB-98/PCB-102	--	34	--	ng/kg	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	34	--	ng/kg	--	--	--	--

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

(2) The lowest of the freshwater or marine SQuiRT value provided

(2) November 2015 RSLs (cancer risk = 10-6; Hazard Index=0.1)

(4) PCB SQuiRT value used as surrogate

(3) Aroclor 1254 residential soil RSL (lowest of the Aroclors) used as surrogate

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
PCB = polychlorinated biphenyls
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
J = positive detect, value estimated
U = not detected; value shown equals the reporting limit
UJ = not detected; value shown equals the estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the USEPA Region 3 November 2015 Resident Soil RSLs are Underlined

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD15		PCWLSD16	
				Sample Location	PCWLSD15-000005	PCWLSD15-005020	PCWLSD16-000005	PCWLSD16-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
PCB Aroclors								
Aroclor-1260	--	0.749	240	µg/kg	64 U	54 U	84 U	79 U
Total Aroclor	--	0.749	120 [3]	µg/kg	64 U	54 U	84 U	79 U
PCB Calculated Values								
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--
Laboratory Provided TEQs								
TEQ WHO2005 ND=0 (PCB Congeners)	--	--	--	ng/kg	--	--	--	--
PCB Congeners								
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD15		PCWLSD16	
				Sample Location	PCWLSD15-000005	PCWLSD15-005020	PCWLSD16-000005	PCWLSD16-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,2',3,3',4,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD15		PCWLSD16	
				Sample Location	PCWLSD15-000005	PCWLSD15-005020	PCWLSD16-000005	PCWLSD16-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,2',3,6'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)	--	34	130000	ng/kg	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl (PCB 105)	--	34	120000	ng/kg	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4'5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	--	34	120000	ng/kg	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	--	34	120000	ng/kg	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl (PCB 123)	--	34	120000	ng/kg	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl (PCB 118)	--	34	120000	ng/kg	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD15		PCWLSD16	
				Sample Location	PCWLSD15-000005	PCWLSD15-005020	PCWLSD16-000005	PCWLSD16-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,3',4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,4',5-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,4',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,4'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2-Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3 -Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	--	34	370	ng/kg	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	--	34	38000	ng/kg	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
4,4'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
4-Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--
BZ#139 & BZ#140	--	34	--	ng/kg	--	--	--	--
BZ#153 & BZ#168	--	34	--	ng/kg	--	--	--	--
BZ#156 & BZ#157	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD15		PCWLSD16	
				Sample Location	PCWLSD15-000005	PCWLSD15-005020	PCWLSD16-000005	PCWLSD16-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
Co-elute: PCB#44, PCB#47, PCB#65	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	34	--	ng/kg	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	34	--	ng/kg	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	34	--	ng/kg	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	34	--	ng/kg	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2 ,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	34	--	ng/kg	--	--	--	--
Decachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
Dichlorobiphenyl: 3,4/ 3,4’	--	34	--	ng/kg	--	--	--	--
PCB108 & 0124	--	34	--	ng/kg	--	--	--	--
PCB110 & 115	--	34	--	ng/kg	--	--	--	--
PCB128 & 166	--	34	--	ng/kg	--	--	--	--
PCB135 & 151	--	34	--	ng/kg	--	--	--	--
PCB147 & 149	--	34	--	ng/kg	--	--	--	--
PCB171 & 173	--	34	--	ng/kg	--	--	--	--
PCB180 & 193	--	34	--	ng/kg	--	--	--	--
PCB183 & 185	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	EPA Residential Soil RSLs (2)	Location ID	PCWLSD15		PCWLSD16	
				Sample Location	PCWLSD15-000005	PCWLSD15-005020	PCWLSD16-000005	PCWLSD16-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
PCB197 & 200	--	34	--	ng/kg	--	--	--	--
PCB198 & 199	--	34	--	ng/kg	--	--	--	--
PCB-40/PCB-71	--	34	--	ng/kg	--	--	--	--
PCB-86/87/97/108/119/125	--	34	--	ng/kg	--	--	--	--
PCB-98/PCB-102	--	34	--	ng/kg	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	34	--	ng/kg	--	--	--	--

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

(2) The lowest of the freshwater or marine SQuiRT value provided

(2) November 2015 RSLs (cancer risk = 10-6; Hazard Index=0.1)

(4) PCB SQuiRT value used as surrogate

(3) Aroclor 1254 residential soil RSL (lowest of the Aroclors) used as surrogate

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
PCB = polychlorinated biphenyls
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
J = positive detect, value estimated
U = not detected; value shown equals the reporting limit
UJ = not detected; value shown equals the estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the USEPA Region 3 November 2015 Resident Soil RSLs are Underlined

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
PCB Aroclors								
Aroclor-1260	--	0.749	240	µg/kg	86 U	74 U	62 U	64 U
Total Aroclor	--	0.749	120 [3]	µg/kg	86 U	74 U	62 U	64 U
PCB Calculated Values								
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--
Laboratory Provided TEQs								
TEQ WHO2005 ND=0 (PCB Congeners)	--	--	--	ng/kg	--	--	--	--
PCB Congeners								
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,2',3,3',4,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,2',3,6'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',3-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,2',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)	--	34	130000	ng/kg	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl (PCB 105)	--	34	120000	ng/kg	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	--	34	120000	ng/kg	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	--	34	120000	ng/kg	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl (PCB 123)	--	34	120000	ng/kg	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl (PCB 118)	--	34	120000	ng/kg	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,3',4,4'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,3'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,4',5-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,4',6-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2,4'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
2-Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3 -Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	--	34	370	ng/kg	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	--	34	38000	ng/kg	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3',4-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,3'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
4,4'-Dichlorobiphenyl	--	34	--	ng/kg	--	--	--	--
4-Monochlorobiphenyl	--	34	--	ng/kg	--	--	--	--
BZ#139 & BZ#140	--	34	--	ng/kg	--	--	--	--
BZ#153 & BZ#168	--	34	--	ng/kg	--	--	--	--
BZ#156 & BZ#157	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
Co-elute: PCB#44, PCB#47, PCB#65	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	34	--	ng/kg	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	34	--	ng/kg	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	34	--	ng/kg	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	34	--	ng/kg	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	34	--	ng/kg	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2 ,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	34	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	34	--	ng/kg	--	--	--	--
Decachlorobiphenyl	--	34	--	ng/kg	--	--	--	--
Dichlorobiphenyl: 3,4/ 3,4’	--	34	--	ng/kg	--	--	--	--
PCB108 & 0124	--	34	--	ng/kg	--	--	--	--
PCB110 & 115	--	34	--	ng/kg	--	--	--	--
PCB128 & 166	--	34	--	ng/kg	--	--	--	--
PCB135 & 151	--	34	--	ng/kg	--	--	--	--
PCB147 & 149	--	34	--	ng/kg	--	--	--	--
PCB171 & 173	--	34	--	ng/kg	--	--	--	--
PCB180 & 193	--	34	--	ng/kg	--	--	--	--
PCB183 & 185	--	34	--	ng/kg	--	--	--	--

Table 1.2.2A
Paradise Creek Tidal Wetland Sediment PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)	EPA Residential Soil RSLs (2)	Location ID	PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
PCB197 & 200	--	34	--	ng/kg	--	--	--	--
PCB198 & 199	--	34	--	ng/kg	--	--	--	--
PCB-40/PCB-71	--	34	--	ng/kg	--	--	--	--
PCB-86/87/97/108/119/125	--	34	--	ng/kg	--	--	--	--
PCB-98/PCB-102	--	34	--	ng/kg	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	34	--	ng/kg	--	--	--	--

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

(2) The lowest of the freshwater or marine SQuiRT value provided

(2) November 2015 RSLs (cancer risk = 10-6; Hazard Index=0.1)

(4) PCB SQuiRT value used as surrogate

(3) Aroclor 1254 residential soil RSL (lowest of the Aroclors) used as surrogate

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
PCB = polychlorinated biphenyls
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
J = positive detect, value estimated
U = not detected; value shown equals the reporting limit
UJ = not detected; value shown equals the estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the USEPA Region 3 November 2015 Resident Soil RSLs are Underlined

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PCB Aroclors										
Aroclor-1260	--	--	26	µg/kg	*49 J*	96 U	150 UJ	110 U	*38 J*	*32 J*
Total Aroclor	--	--	26	µg/kg	*130*	96 U	150 UJ	110 U	130 UJ	96 U
PCB Calculated Values										
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	*28.6*	--	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--	ng/kg	*0.534*	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	*8.97*	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	*8.97*	--	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	*172000*	--	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	*165000*	--	--	--	--	--
PCB Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	59800	--	ng/kg	*1050*	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	59800	--	ng/kg	*1820*	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	*174*	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	59800	--	ng/kg	*963*	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	59800	--	ng/kg	*629*	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	59800	--	ng/kg	*3520*	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	59800	--	ng/kg	*15600*	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	*407*	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	*608*	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	*269*	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	*2140*	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	*143*	--	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	*3510*	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	*852*	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	*370*	--	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	*3980*	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	59800	--	ng/kg	*134*	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	59800	--	ng/kg	*732*	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	*585*	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	*815*	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,2',3,3',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	*183*	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	*1320*	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	59800	--	ng/kg	*615*	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	59800	--	ng/kg	*387*	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	*983*	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	59800	--	ng/kg	*1250*	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	*1400*	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	*37*	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	*36.9*	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	59800	--	ng/kg	*544*	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	*4950*	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	*2030*	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	*1640*	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	*451*	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	*139*	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	*69.4*	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*409*	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	59800	--	ng/kg	*78.4*	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	*1370*	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	*4150*	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	*37.7*	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	*94.6*	--	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*70.6*	--	--	--	--	--
2,2',3-Trichlorobiphenyl	--	59800	--	ng/kg	*143*	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	*132*	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	*3210*	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	*51.2*	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	*199*	--	--	--	--	--
2,2',4-Trichlorobiphenyl	--	59800	--	ng/kg	*185*	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*2680*	--	--	--	--	--
2,2',6-Trichlorobiphenyl	--	59800	--	ng/kg	*64.2*	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	*85.9*	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	*172*	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	*586*	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	*119*	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	59800	--	ng/kg	*1180*	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	59800	--	ng/kg	*3480*	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	*110*	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	*41.5*	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	*972*	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	59800	--	ng/kg	*57.8*	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	*471*	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*900*	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	59800	--	ng/kg	*71.7*	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	*634*	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	*110*	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	*156*	--	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	*7620*	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*421*	--	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*2010*	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	*40.3*	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	*48.6*	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	59800	--	ng/kg	*79.7*	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	*764*	--	--	--	--	--
2,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	*104*	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	59800	--	ng/kg	*405*	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*47.4*	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	*79.2*	--	--	--	--	--
2,3',6-Trichlorobiphenyl	--	59800	--	ng/kg	*49.1*	--	--	--	--	--
2,3'-Dichlorobiphenyl	--	59800	--	ng/kg	*63.7*	--	--	--	--	--
2,4',5-Trichlorobiphenyl	--	59800	--	ng/kg	*875*	--	--	--	--	--
2,4',6-Trichlorobiphenyl	--	59800	--	ng/kg	*214*	--	--	--	--	--
2,4'-Dichlorobiphenyl	--	59800	--	ng/kg	*269*	--	--	--	--	--
2-Monochlorobiphenyl	--	59800	--	ng/kg	*132*	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
3 -Monochlorobiphenyl	--	59800	--	ng/kg	*58*	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	*85.2*	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*390*	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	*32.5*	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*77.1*	--	--	--	--	--
3,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	*46.5*	--	--	--	--	--
3,3'-Dichlorobiphenyl	--	59800	--	ng/kg	*331*	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	59800	--	ng/kg	*829*	--	--	--	--	--
4,4'-Dichlorobiphenyl	--	59800	--	ng/kg	*816*	--	--	--	--	--
4-Monochlorobiphenyl	--	59800	--	ng/kg	*152*	--	--	--	--	--
BZ#139 & BZ#140	--	59800	--	ng/kg	*183*	--	--	--	--	--
BZ#153 & BZ#168	--	59800	--	ng/kg	*11700*	--	--	--	--	--
BZ#156 & BZ#157	--	59800	--	ng/kg	*1630*	--	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	59800	--	ng/kg	*1780*	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	59800	--	ng/kg	*164*	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	59800	--	ng/kg	*3500*	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	59800	--	ng/kg	*1170*	--	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	59800	--	ng/kg	*7450*	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	59800	--	ng/kg	*245*	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	59800	--	ng/kg	*100*	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	59800	--	ng/kg	*1130*	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	59800	--	ng/kg	*172*	--	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	59800	--	ng/kg	*319*	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	59800	--	ng/kg	*1680*	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks (1)	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	59800	--	ng/kg	*464*	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	59800	--	ng/kg	*191*	--	--	--	--	--
Decachlorobiphenyl	--	59800	--	ng/kg	*1500*	--	--	--	--	--
PCB108 & 0124	--	59800	--	ng/kg	*262*	--	--	--	--	--
PCB110 & 115	--	59800	--	ng/kg	*10100*	--	--	--	--	--
PCB128 & 166	--	59800	--	ng/kg	*2250*	--	--	--	--	--
PCB135 & 151	--	59800	--	ng/kg	*3560*	--	--	--	--	--
PCB147 & 149	--	59800	--	ng/kg	*9240*	--	--	--	--	--
PCB171 & 173	--	59800	--	ng/kg	*1090*	--	--	--	--	--
PCB180 & 193	--	59800	--	ng/kg	*8090*	--	--	--	--	--
PCB183 & 185	--	59800	--	ng/kg	*2540*	--	--	--	--	--
PCB197 & 200	--	59800	--	ng/kg	*313*	--	--	--	--	--
PCB198 & 199	--	59800	--	ng/kg	*2340*	--	--	--	--	--
PCB-40/PCB-71	--	59800	--	ng/kg	*739*	--	--	--	--	--
PCB-86/87/97/108/119/125	--	59800	--	ng/kg	*4810*	--	--	--	--	--
PCB-98/PCB-102	--	59800	--	ng/kg	*206*	--	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	59800	--	ng/kg	*784*	--	--	--	--	--

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Reg 3 Biological Technical Assistance Group
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
PCB = polychlorinated biphenyls
USEPA = U.S. Environmental Protection Agency
SQuiRTS = Screening Quick Reference Tables
UTL = upper tolerance limit
J = positive detect, value estimated
U = not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are <u>Underlined</u>

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PCB Aroclors										
Aroclor-1260	--	--	26	µg/kg	110 U	91 U	54 U	80 U	110 UJ	110 UJ
Total Aroclor	--	--	26	µg/kg	110 U	91 U	54 U	80 U	110 UJ	110 UJ
PCB Calculated Values										
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--	ng/kg	--	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--	--	--
PCB Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,2',3,3',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,4',5-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,4',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,4'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2-Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
3 -Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
4,4'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
4-Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
BZ#139 & BZ#140	--	59800	--	ng/kg	--	--	--	--	--	--
BZ#153 & BZ#168	--	59800	--	ng/kg	--	--	--	--	--	--
BZ#156 & BZ#157	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	59800	--	ng/kg	--	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	59800	--	ng/kg	--	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	59800	--	ng/kg	--	--	--	--	--	--
Decachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
PCB108 & 0124	--	59800	--	ng/kg	--	--	--	--	--	--
PCB110 & 115	--	59800	--	ng/kg	--	--	--	--	--	--
PCB128 & 166	--	59800	--	ng/kg	--	--	--	--	--	--
PCB135 & 151	--	59800	--	ng/kg	--	--	--	--	--	--
PCB147 & 149	--	59800	--	ng/kg	--	--	--	--	--	--
PCB171 & 173	--	59800	--	ng/kg	--	--	--	--	--	--
PCB180 & 193	--	59800	--	ng/kg	--	--	--	--	--	--
PCB183 & 185	--	59800	--	ng/kg	--	--	--	--	--	--
PCB197 & 200	--	59800	--	ng/kg	--	--	--	--	--	--
PCB198 & 199	--	59800	--	ng/kg	--	--	--	--	--	--
PCB-40/PCB-71	--	59800	--	ng/kg	--	--	--	--	--	--
PCB-86/87/97/108/119/125	--	59800	--	ng/kg	--	--	--	--	--	--
PCB-98/PCB-102	--	59800	--	ng/kg	--	--	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	59800	--	ng/kg	--	--	--	--	--	--

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Reg 3 Biological Technical Assistance Group
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
PCB = polychlorinated biphenyls
USEPA = U.S. Environmental Protection Agency
SQuiRTS = Screening Quick Reference Tables
UTL = upper tolerance limit
J = positive detect, value estimated
U = not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
PCB Aroclors									
Aroclor-1260	--	--	26	µg/kg	76 U	76 U	*49 J*	79 U	88 U
Total Aroclor	--	--	26	µg/kg	76 U	76 U	*49 J*	79 U	88 U
PCB Calculated Values									
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--	ng/kg	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--	--
PCB Congeners									
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
2,2',3,3',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',3-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,2',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,3'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,4',5-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,4',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2,4'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
2-Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
3 -Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
3,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
3,3'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
4,4'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
4-Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
BZ#139 & BZ#140	--	59800	--	ng/kg	--	--	--	--	--
BZ#153 & BZ#168	--	59800	--	ng/kg	--	--	--	--	--
BZ#156 & BZ#157	--	59800	--	ng/kg	--	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	59800	--	ng/kg	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	59800	--	ng/kg	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	59800	--	ng/kg	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	59800	--	ng/kg	--	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	59800	--	ng/kg	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	59800	--	ng/kg	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	59800	--	ng/kg	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	59800	--	ng/kg	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	59800	--	ng/kg	--	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	59800	--	ng/kg	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	59800	--	ng/kg	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks (1)	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	59800	--	ng/kg	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	59800	--	ng/kg	--	--	--	--	--
Decachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--
PCB108 & 0124	--	59800	--	ng/kg	--	--	--	--	--
PCB110 & 115	--	59800	--	ng/kg	--	--	--	--	--
PCB128 & 166	--	59800	--	ng/kg	--	--	--	--	--
PCB135 & 151	--	59800	--	ng/kg	--	--	--	--	--
PCB147 & 149	--	59800	--	ng/kg	--	--	--	--	--
PCB171 & 173	--	59800	--	ng/kg	--	--	--	--	--
PCB180 & 193	--	59800	--	ng/kg	--	--	--	--	--
PCB183 & 185	--	59800	--	ng/kg	--	--	--	--	--
PCB197 & 200	--	59800	--	ng/kg	--	--	--	--	--
PCB198 & 199	--	59800	--	ng/kg	--	--	--	--	--
PCB-40/PCB-71	--	59800	--	ng/kg	--	--	--	--	--
PCB-86/87/97/108/119/125	--	59800	--	ng/kg	--	--	--	--	--
PCB-98/PCB-102	--	59800	--	ng/kg	--	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	59800	--	ng/kg	--	--	--	--	--

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Reg 3 Biological Technical Assistance Group
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
PCB = polychlorinated biphenyls
USEPA = U.S. Environmental Protection Agency
SQuiRTS = Screening Quick Reference Tables
UTL = upper tolerance limit
J = positive detect, value estimated
U = not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
PCB Aroclors								
Aroclor-1260	--	--	26	µg/kg	160 UJ	100 U	110 U	82 U
Total Aroclor	--	--	26	µg/kg	160 UJ	100 U	110 U	82 U
PCB Calculated Values								
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--	ng/kg	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--
PCB Congeners								
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,2',3,3',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',3-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,2',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,3'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,4',5-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,4',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2,4'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
2-Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
3 -Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
3,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
3,3'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
4,4'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
4-Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
BZ#139 & BZ#140	--	59800	--	ng/kg	--	--	--	--
BZ#153 & BZ#168	--	59800	--	ng/kg	--	--	--	--
BZ#156 & BZ#157	--	59800	--	ng/kg	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	59800	--	ng/kg	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	59800	--	ng/kg	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	59800	--	ng/kg	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	59800	--	ng/kg	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	59800	--	ng/kg	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	59800	--	ng/kg	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	59800	--	ng/kg	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	59800	--	ng/kg	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	59800	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	59800	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	59800	--	ng/kg	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	59800	--	ng/kg	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	59800	--	ng/kg	--	--	--	--
Decachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--
PCB108 & 0124	--	59800	--	ng/kg	--	--	--	--
PCB110 & 115	--	59800	--	ng/kg	--	--	--	--
PCB128 & 166	--	59800	--	ng/kg	--	--	--	--
PCB135 & 151	--	59800	--	ng/kg	--	--	--	--
PCB147 & 149	--	59800	--	ng/kg	--	--	--	--
PCB171 & 173	--	59800	--	ng/kg	--	--	--	--
PCB180 & 193	--	59800	--	ng/kg	--	--	--	--
PCB183 & 185	--	59800	--	ng/kg	--	--	--	--
PCB197 & 200	--	59800	--	ng/kg	--	--	--	--
PCB198 & 199	--	59800	--	ng/kg	--	--	--	--
PCB-40/PCB-71	--	59800	--	ng/kg	--	--	--	--
PCB-86/87/97/108/119/125	--	59800	--	ng/kg	--	--	--	--
PCB-98/PCB-102	--	59800	--	ng/kg	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	59800	--	ng/kg	--	--	--	--

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Reg 3 Biological Technical Assistance Group
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
PCB = polychlorinated biphenyls
USEPA = U.S. Environmental Protection Agency
SQuiRTS = Screening Quick Reference Tables
UTL = upper tolerance limit
J = positive detect, value estimated
U = not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
PCB Aroclors									
Aroclor-1260	--	--	26	µg/kg	84 U	91 U	86 U	110 UJ	76 U
Total Aroclor	--	--	26	µg/kg	84 U	91 U	86 U	110 UJ	76 U
PCB Calculated Values									
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	0.912	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--	ng/kg	0.0219	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	*0.399*	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	*0.399*	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	3930	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	3860	--	--	--	--
PCB Congeners									
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	59800	--	ng/kg	*48.8*	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	59800	--	ng/kg	*58.8*	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	*9.7*	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	59800	--	ng/kg	*41.3*	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	59800	--	ng/kg	*16.8*	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	59800	--	ng/kg	*65.6*	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	59800	--	ng/kg	*316*	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	*23.4*	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	*19.3*	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	*17.7*	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	*57.9*	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	*5.1*	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	*117*	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	*18.5*	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	*13.5*	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	*89.9*	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	59800	--	ng/kg	*15.8*	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	*45.6*	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	*31.5*	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
2,2',3,3',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	*5.1*	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	*61*	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	59800	--	ng/kg	*13.6*	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	59800	--	ng/kg	*7.4*	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	*23.9*	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	59800	--	ng/kg	*28.7*	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	*55.8*	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	59800	--	ng/kg	*13.7*	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	*192*	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	*48.5*	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	*38.1*	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	*9.3*	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	*3.8*	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*5.5*	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	*26.6*	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	*77.7*	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,2',3-Trichlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	*4.4*	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	*66.2*	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,2',4-Trichlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*46.7*	--	--	--	--
2,2',6-Trichlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	*4*	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	*12.4*	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	59800	--	ng/kg	*20.9*	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	59800	--	ng/kg	*70.5*	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	*20.1*	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	*13*	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*14.7*	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	*13.6*	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	*149*	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*6.4*	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*29.3*	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	*11.2*	--	--	--	--
2,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	59800	--	ng/kg	*5.2*	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3',6-Trichlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,3'-Dichlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,4',5-Trichlorobiphenyl	--	59800	--	ng/kg	*11*	--	--	--	--
2,4',6-Trichlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2,4'-Dichlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
2-Monochlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
3 -Monochlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	*3.9*	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	*10.2*	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
3,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
3,3'-Dichlorobiphenyl	--	59800	--	ng/kg	*17.5*	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	59800	--	ng/kg	*11.7*	--	--	--	--
4,4'-Dichlorobiphenyl	--	59800	--	ng/kg	*9.5*	--	--	--	--
4-Monochlorobiphenyl	--	59800	--	ng/kg	3.7 U	--	--	--	--
BZ#139 & BZ#140	--	59800	--	ng/kg	7.4 U	--	--	--	--
BZ#153 & BZ#168	--	59800	--	ng/kg	*245*	--	--	--	--
BZ#156 & BZ#157	--	59800	--	ng/kg	*33.1*	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	59800	--	ng/kg	*26*	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	59800	--	ng/kg	11.1 U	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	59800	--	ng/kg	*62.8*	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	59800	--	ng/kg	*25.3*	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	59800	--	ng/kg	*132*	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	59800	--	ng/kg	7.4 U	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	59800	--	ng/kg	7.4 U	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	59800	--	ng/kg	*13.3*	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	59800	--	ng/kg	7.4 U	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	59800	--	ng/kg	7.4 U	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	59800	--	ng/kg	*18.3*	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	59800	--	ng/kg	7.4 U	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	59800	--	ng/kg	7.4 U	--	--	--	--
Decachlorobiphenyl	--	59800	--	ng/kg	*44.1*	--	--	--	--
PCB108 & 0124	--	59800	--	ng/kg	*7.7*	--	--	--	--
PCB110 & 115	--	59800	--	ng/kg	*210*	--	--	--	--
PCB128 & 166	--	59800	--	ng/kg	*44.7*	--	--	--	--
PCB135 & 151	--	59800	--	ng/kg	*92.4*	--	--	--	--
PCB147 & 149	--	59800	--	ng/kg	*225*	--	--	--	--
PCB171 & 173	--	59800	--	ng/kg	*23.1*	--	--	--	--
PCB180 & 193	--	59800	--	ng/kg	*211*	--	--	--	--
PCB183 & 185	--	59800	--	ng/kg	*83*	--	--	--	--
PCB197 & 200	--	59800	--	ng/kg	*19*	--	--	--	--
PCB198 & 199	--	59800	--	ng/kg	*134*	--	--	--	--
PCB-40/PCB-71	--	59800	--	ng/kg	*8.14*	--	--	--	--
PCB-86/87/97/108/119/125	--	59800	--	ng/kg	*101*	--	--	--	--
PCB-98/PCB-102	--	59800	--	ng/kg	7.4 U	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	59800	--	ng/kg	7.4 U	--	--	--	--

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Reg 3 Biological Technical Assistance Group
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
PCB = polychlorinated biphenyls
USEPA = U.S. Environmental Protection Agency
SQuiRTS = Screening Quick Reference Tables
UTL = upper tolerance limit
J = positive detect, value estimated
U = not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PCB Aroclors										
Aroclor-1260	--	--	26	µg/kg	80 U	78 U	*49 J*	140 U	64 U	54 U
Total Aroclor	--	--	26	µg/kg	80 U	78 U	*49 J*	140 U	64 U	54 U
PCB Calculated Values										
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--	ng/kg	--	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--	--	--
PCB Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,2',3,3',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,4',5-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,4',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,4'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2-Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
3 -Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
4,4'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
4-Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
BZ#139 & BZ#140	--	59800	--	ng/kg	--	--	--	--	--	--
BZ#153 & BZ#168	--	59800	--	ng/kg	--	--	--	--	--	--
BZ#156 & BZ#157	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	59800	--	ng/kg	--	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	59800	--	ng/kg	--	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	59800	--	ng/kg	--	--	--	--	--	--
Decachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
PCB108 & 0124	--	59800	--	ng/kg	--	--	--	--	--	--
PCB110 & 115	--	59800	--	ng/kg	--	--	--	--	--	--
PCB128 & 166	--	59800	--	ng/kg	--	--	--	--	--	--
PCB135 & 151	--	59800	--	ng/kg	--	--	--	--	--	--
PCB147 & 149	--	59800	--	ng/kg	--	--	--	--	--	--
PCB171 & 173	--	59800	--	ng/kg	--	--	--	--	--	--
PCB180 & 193	--	59800	--	ng/kg	--	--	--	--	--	--
PCB183 & 185	--	59800	--	ng/kg	--	--	--	--	--	--
PCB197 & 200	--	59800	--	ng/kg	--	--	--	--	--	--
PCB198 & 199	--	59800	--	ng/kg	--	--	--	--	--	--
PCB-40/PCB-71	--	59800	--	ng/kg	--	--	--	--	--	--
PCB-86/87/97/108/119/125	--	59800	--	ng/kg	--	--	--	--	--	--
PCB-98/PCB-102	--	59800	--	ng/kg	--	--	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	59800	--	ng/kg	--	--	--	--	--	--

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Reg 3 Biological Technical Assistance Group
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
PCB = polychlorinated biphenyls
USEPA = U.S. Environmental Protection Agency
SQuiRTS = Screening Quick Reference Tables
UTL = upper tolerance limit
J = positive detect, value estimated
U = not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
PCB Aroclors										
Aroclor-1260	--	--	26	µg/kg	84 U	79 U	86 U	74 U	62 U	64 U
Total Aroclor	--	--	26	µg/kg	84 U	79 U	86 U	74 U	62 U	64 U
PCB Calculated Values										
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--	ng/kg	--	--	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--	ng/kg	--	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--	ng/kg	--	--	--	--	--	--
Sum of All PCB Congeners	65773.9	--	--	ng/kg	--	--	--	--	--	--
High Risk PCB Congeners	60521.1	--	--	ng/kg	--	--	--	--	--	--
PCB Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,2',3,3',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',3-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,2',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
2,3,3',4,4',5,5'-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,3'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,4',5-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,4',6-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2,4'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
2-Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
3 -Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3',4-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,3'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
4,4'-Dichlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
4-Monochlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
BZ#139 & BZ#140	--	59800	--	ng/kg	--	--	--	--	--	--
BZ#153 & BZ#168	--	59800	--	ng/kg	--	--	--	--	--	--
BZ#156 & BZ#157	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	--	59800	--	ng/kg	--	--	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	59800	--	ng/kg	--	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	59800	--	ng/kg	--	--	--	--	--	--

Table 1.2.2B
Paradise Creek Tidal Wetland Sediment PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks (1)	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	--	59800	--	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	--	59800	--	ng/kg	--	--	--	--	--	--
Decachlorobiphenyl	--	59800	--	ng/kg	--	--	--	--	--	--
PCB108 & 0124	--	59800	--	ng/kg	--	--	--	--	--	--
PCB110 & 115	--	59800	--	ng/kg	--	--	--	--	--	--
PCB128 & 166	--	59800	--	ng/kg	--	--	--	--	--	--
PCB135 & 151	--	59800	--	ng/kg	--	--	--	--	--	--
PCB147 & 149	--	59800	--	ng/kg	--	--	--	--	--	--
PCB171 & 173	--	59800	--	ng/kg	--	--	--	--	--	--
PCB180 & 193	--	59800	--	ng/kg	--	--	--	--	--	--
PCB183 & 185	--	59800	--	ng/kg	--	--	--	--	--	--
PCB197 & 200	--	59800	--	ng/kg	--	--	--	--	--	--
PCB198 & 199	--	59800	--	ng/kg	--	--	--	--	--	--
PCB-40/PCB-71	--	59800	--	ng/kg	--	--	--	--	--	--
PCB-86/87/97/108/119/125	--	59800	--	ng/kg	--	--	--	--	--	--
PCB-98/PCB-102	--	59800	--	ng/kg	--	--	--	--	--	--
Pentachlorobiphenyl:2,2',3,4,6/2,2'3,4',6	--	59800	--	ng/kg	--	--	--	--	--	--

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Reg 3 Biological Technical Assistance Group
ft = feet
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
PCB = polychlorinated biphenyls
USEPA = U.S. Environmental Protection Agency
SQuiRTS = Screening Quick Reference Tables
UTL = upper tolerance limit
J = positive detect, value estimated
U = not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

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Table 1.2.3A
Paradise Creek Tidal Wetland Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD01		PCWLSD02	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values								
Dioxin TEQ for Birds	32.19	4.5	--	ng/kg	--	--	--	--
Dioxin TEQ for Fish	20.52	4.5	--	ng/kg	--	--	--	--
Dioxin/Furan Calculated Values								
Bird TEQ (Dioxins)	32.19	4.5	--	ng/kg	--	--	--	--
Fish TEQ (Dioxins)	20.52	4.5	--	ng/kg	--	--	--	--
Human TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	--	--
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	--	ng/kg	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	--	ng/kg	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	--	ng/kg	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	--	ng/kg	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	--	ng/kg	--	--	--	--
2,3,7,8-TCDD	--	0.0115	4.5	ng/kg	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	--	ng/kg	--	--	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Octachlorodibenzofuran	--	38.4	--	ng/kg	--	--	--	--
Octachlorodibenzo-P-Dioxin	--	38.4	--	ng/kg	--	--	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total TCDF	--	--	--	ng/kg	--	--	--	--

Table 1.2.3A
Paradise Creek Tidal Wetland Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD03		PCWLSD04	
				Sample Location	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values								
Dioxin TEQ for Birds	32.19	4.5	--	ng/kg	--	--	--	--
Dioxin TEQ for Fish	20.52	4.5	--	ng/kg	--	--	--	--
Dioxin/Furan Calculated Values								
Bird TEQ (Dioxins)	32.19	4.5	--	ng/kg	--	--	--	--
Fish TEQ (Dioxins)	20.52	4.5	--	ng/kg	--	--	--	--
Human TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	--	--
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	--	ng/kg	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	--	ng/kg	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	--	ng/kg	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	--	ng/kg	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	--	ng/kg	--	--	--	--
2,3,7,8-TCDD	--	0.0115	4.5	ng/kg	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	--	ng/kg	--	--	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Octachlorodibenzofuran	--	38.4	--	ng/kg	--	--	--	--
Octachlorodibenzo-P-Dioxin	--	38.4	--	ng/kg	--	--	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total TCDF	--	--	--	ng/kg	--	--	--	--

Table 1.2.3A
Paradise Creek Tidal Wetland Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values								
Dioxin TEQ for Birds	32.19	4.5	--	ng/kg	--	--	**6.33**	2.51
Dioxin TEQ for Fish	20.52	4.5	--	ng/kg	--	--	3.28	1.78
Dioxin/Furan Calculated Values								
Bird TEQ (Dioxins)	32.19	4.5	--	ng/kg	--	--	**5.08**	1.75
Fish TEQ (Dioxins)	20.52	4.5	--	ng/kg	--	--	2.09	1.06
Human TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	2.53	1.85
Mammal TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	2.53	1.85
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	--	ng/kg	--	--	***9.21***	0.0573 U
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	--	ng/kg	--	--	***59.7***	***56.4***
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	***0.93 J***	***0.85 J***
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	***2.42 J***	***1.71 J***
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	***2.26 J***	***2.79 J***
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	--	ng/kg	--	--	0.0917 U	0.0821 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	--	ng/kg	--	--	0.0836 U	0.0608 U
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	--	ng/kg	--	--	***2.01 J***	***0.429 J***
2,3,7,8-TCDD	--	0.0115	4.5	ng/kg	--	--	***0.228 J***	***0.146 J***
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	--	ng/kg	--	--	***2.32***	***0.644 J***
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	*21.8*	0.0546 U
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*52.2*	*80.8*
Octachlorodibenzofuran	--	38.4	--	ng/kg	--	--	0.2 U	0.207 U
Octachlorodibenzo-P-Dioxin	--	38.4	--	ng/kg	--	--	***735***	***1370***
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	*25.4 J*	*5.49*
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	*13*	*13.4*
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	*2.83*	*1.86*
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*10.3*	*9.29*
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	*17.8*	0.0573 U
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*162*	*184*
Total TCDF	--	--	--	ng/kg	--	--	*31.3 J*	*8.49*

Table 1.2.3A
Paradise Creek Tidal Wetland Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD07	
				Sample Location	PCWLSD07-000005	PCWLSD07-005020
				Date Collected	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values						
Dioxin TEQ for Birds	32.19	4.5	--	ng/kg	--	--
Dioxin TEQ for Fish	20.52	4.5	--	ng/kg	--	--
Dioxin/Furan Calculated Values						
Bird TEQ (Dioxins)	32.19	4.5	--	ng/kg	--	--
Fish TEQ (Dioxins)	20.52	4.5	--	ng/kg	--	--
Human TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--
Mammal TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--
Dioxins/Furans						
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	--	ng/kg	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	--	ng/kg	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	--	ng/kg	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	--	ng/kg	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	--	ng/kg	--	--
2,3,7,8-TCDD	--	0.0115	4.5	ng/kg	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	--	ng/kg	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Octachlorodibenzofuran	--	38.4	--	ng/kg	--	--
Octachlorodibenzo-P-Dioxin	--	38.4	--	ng/kg	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Total TCDF	--	--	--	ng/kg	--	--

Table 1.2.3A
Paradise Creek Tidal Wetland Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD08		
				Sample Location	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate
Laboratory Provided Dioxin/Furan TEQ Values							
Dioxin TEQ for Birds	32.19	4.5	--	ng/kg	--	--	--
Dioxin TEQ for Fish	20.52	4.5	--	ng/kg	--	--	--
Dioxin/Furan Calculated Values							
Bird TEQ (Dioxins)	32.19	4.5	--	ng/kg	--	--	--
Fish TEQ (Dioxins)	20.52	4.5	--	ng/kg	--	--	--
Human TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	--
Mammal TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	--
Dioxins/Furans							
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	--	ng/kg	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	--	ng/kg	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	--	ng/kg	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	--	ng/kg	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	--	ng/kg	--	--	--
2,3,7,8-TCDD	--	0.0115	4.5	ng/kg	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	--	ng/kg	--	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--
Octachlorodibenzofuran	--	38.4	--	ng/kg	--	--	--
Octachlorodibenzo-P-Dioxin	--	38.4	--	ng/kg	--	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--
Total TCDF	--	--	--	ng/kg	--	--	--

Table 1.2.3A
Paradise Creek Tidal Wetland Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values								
Dioxin TEQ for Birds	32.19	4.5	--	ng/kg	**27.4**	2.67	--	--
Dioxin TEQ for Fish	20.52	4.5	--	ng/kg	**16.6**	2.17	--	--
Dioxin/Furan Calculated Values								
Bird TEQ (Dioxins)	32.19	4.5	--	ng/kg	**26.3**	1.75	--	--
Fish TEQ (Dioxins)	20.52	4.5	--	ng/kg	**15.7**	1.29	--	--
Human TEQ (Dioxins)	23.25	4.5	--	ng/kg	**17.5**	2.08	--	--
Mammal TEQ (Dioxins)	23.25	4.5	--	ng/kg	**17.5**	2.08	--	--
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	--	ng/kg	***16.8***	0.111 U	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	--	ng/kg	***263***	***60.3***	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	***4.8 J***	***1.17 J***	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	***9.31***	***2.03 J***	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	***12***	***3.25 J***	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	--	ng/kg	***4.98***	0.185 U	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	--	ng/kg	***5.04***	0.125 U	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	--	ng/kg	***11.3***	***0.393 J***	--	--
2,3,7,8-TCDD	--	0.0115	4.5	ng/kg	***0.602 J***	***0.219 J***	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	--	ng/kg	***6.28***	***0.526 J***	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	*65.7 J*	0.114 U	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*339*	*90.4*	--	--
Octachlorodibenzofuran	--	38.4	--	ng/kg	*23.2*	0.291 U	--	--
Octachlorodibenzo-P-Dioxin	--	38.4	--	ng/kg	***6520***	***1470***	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	*143 J*	*5.68*	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	*65.8 J*	*14.4*	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	*17.33*	*2.1*	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*69.8*	*8.31*	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	*22.8*	0.111 U	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*896*	*207*	--	--
Total TCDF	--	--	--	ng/kg	*182 J*	*10.1*	--	--

Table 1.2.3A
Paradise Creek Tidal Wetland Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD11		
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SED-DUP09
				Date Collected	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate
Laboratory Provided Dioxin/Furan TEQ Values							
Dioxin TEQ for Birds	32.19	4.5	--	ng/kg	1.9	1.87	2.99
Dioxin TEQ for Fish	20.52	4.5	--	ng/kg	1.3	1.34	2.53
Dioxin/Furan Calculated Values							
Bird TEQ (Dioxins)	32.19	4.5	--	ng/kg	1.27	1.18	1.89
Fish TEQ (Dioxins)	20.52	4.5	--	ng/kg	0.693	0.687	1.47
Human TEQ (Dioxins)	23.25	4.5	--	ng/kg	1.2	1.31	2.68
Mammal TEQ (Dioxins)	23.25	4.5	--	ng/kg	1.2	1.31	2.68
Dioxins/Furans							
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	--	ng/kg	0.0707 U	0.0703 U	0.0572 U
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	--	ng/kg	***37.8***	***42.4***	***86.2***
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	***0.625 J***	***0.699 J***	***1.5 J***
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	***1.04 J***	***1.35 J***	***2.71 J***
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	***1.94 J***	***2.31 J***	***4.47 J***
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	--	ng/kg	0.0977 U	0.0727 U	0.0769 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	--	ng/kg	0.0711 U	0.0733 U	0.0655 U
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	--	ng/kg	***0.379 J***	***0.252 J***	***0.332 J***
2,3,7,8-TCDD	--	0.0115	4.5	ng/kg	0.0793 U	0.0884 U	***0.153 J***
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	--	ng/kg	***0.516 J***	***0.504 J***	***0.555 J***
Hexachlorodibenzofuran	--	--	--	ng/kg	0.0668 U	0.0682 U	0.0562 U
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*58.4*	*59.7*	*116*
Octachlorodibenzofuran	--	38.4	--	ng/kg	0.225 U	0.186 U	0.286 U
Octachlorodibenzo-P-Dioxin	--	38.4	--	ng/kg	***973***	***1070***	***2130***
Pentachloro Dibenzofuran	--	--	--	ng/kg	*5.5*	0.029 U	0.0307 U
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	*11.2*	*10.4*	*19.2*
TEQ Who2005 Nd=0	--	--	--	ng/kg	*1.15*	*1.31*	*2.68*
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*8.47*	*5.83*	*10.8*
Total Heptachlorodibenzofuran	--	--	--	ng/kg	0.0707 U	0.0703 U	0.0572 U
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*137*	*149*	*299*
Total TCDF	--	--	--	ng/kg	*7.97*	*6.39*	*9.56*

Table 1.2.3A
Paradise Creek Tidal Wetland Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD12		PCWLSD13	
				Sample Location	PCWLSD12-000005	PCWLSD12-005020	PCWLSD13-000005	PCWLSD13-005020
				Date Collected	6/22/2015	6/22/2015	6/23/2015	6/23/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values								
Dioxin TEQ for Birds	32.19	4.5	--	ng/kg	--	--	--	--
Dioxin TEQ for Fish	20.52	4.5	--	ng/kg	--	--	--	--
Dioxin/Furan Calculated Values								
Bird TEQ (Dioxins)	32.19	4.5	--	ng/kg	--	--	--	--
Fish TEQ (Dioxins)	20.52	4.5	--	ng/kg	--	--	--	--
Human TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	--	--
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	--	ng/kg	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	--	ng/kg	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	--	ng/kg	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	--	ng/kg	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	--	ng/kg	--	--	--	--
2,3,7,8-TCDD	--	0.0115	4.5	ng/kg	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	--	ng/kg	--	--	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Octachlorodibenzofuran	--	38.4	--	ng/kg	--	--	--	--
Octachlorodibenzo-P-Dioxin	--	38.4	--	ng/kg	--	--	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total TCDF	--	--	--	ng/kg	--	--	--	--

Table 1.2.3A
Paradise Creek Tidal Wetland Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD14		PCWLSD15	
				Sample Location	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
				Date Collected	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values								
Dioxin TEQ for Birds	32.19	4.5	--	ng/kg	--	--	2.05	3.14
Dioxin TEQ for Fish	20.52	4.5	--	ng/kg	--	--	1.47	1.88
Dioxin/Furan Calculated Values								
Bird TEQ (Dioxins)	32.19	4.5	--	ng/kg	--	--	1.56	2.48
Fish TEQ (Dioxins)	20.52	4.5	--	ng/kg	--	--	1	1.24
Human TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	1.32	1.27
Mammal TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	1.32	1.27
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	--	ng/kg	--	--	0.0868 U	0.0569 U
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	--	ng/kg	--	--	***32.1***	***22.9***
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	***0.678 J***	***0.406 J***
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	***0.8 J***	***0.869 J***
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	***1.41 J***	***1.21 J***
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	--	ng/kg	--	--	0.0945 U	0.114 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	--	ng/kg	--	--	0.08 U	0.088 U
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	--	ng/kg	--	--	***0.746 J***	***1.8 J***
2,3,7,8-TCDD	--	0.0115	4.5	ng/kg	--	--	***0.0985 J***	0.0958 U
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	--	ng/kg	--	--	***0.386 J***	***0.436 J***
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	*6.36*	*13*
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*54.1*	*35*
Octachlorodibenzofuran	--	38.4	--	ng/kg	--	--	0.203 U	0.212 U
Octachlorodibenzo-P-Dioxin	--	38.4	--	ng/kg	--	--	***1160***	***704***
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	*8.84*	*21.2 J*
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	*9.64 J*	*6.74*
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	*1.32*	*1.27*
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*9.17 J*	*4.75 J*
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	*5.93*	*7.18*
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*116*	*84.7*
Total TCDF	--	--	--	ng/kg	--	--	*5.31 J*	*11.7 J*

Table 1.2.3A
Paradise Creek Tidal Wetland Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD16		PCWLSD17	
				Sample Location	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values								
Dioxin TEQ for Birds	32.19	4.5	--	ng/kg	--	--	--	--
Dioxin TEQ for Fish	20.52	4.5	--	ng/kg	--	--	--	--
Dioxin/Furan Calculated Values								
Bird TEQ (Dioxins)	32.19	4.5	--	ng/kg	--	--	--	--
Fish TEQ (Dioxins)	20.52	4.5	--	ng/kg	--	--	--	--
Human TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--	--	--
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	--	ng/kg	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	--	ng/kg	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	--	ng/kg	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	--	ng/kg	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	--	ng/kg	--	--	--	--
2,3,7,8-TCDD	--	0.0115	4.5	ng/kg	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	--	ng/kg	--	--	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Octachlorodibenzofuran	--	38.4	--	ng/kg	--	--	--	--
Octachlorodibenzo-P-Dioxin	--	38.4	--	ng/kg	--	--	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total TCDF	--	--	--	ng/kg	--	--	--	--

Table 1.2.3A
Paradise Creek Tidal Wetland Sediment Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD18	
				Sample Location	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values						
Dioxin TEQ for Birds	32.19	4.5	--	ng/kg	--	--
Dioxin TEQ for Fish	20.52	4.5	--	ng/kg	--	--
Dioxin/Furan Calculated Values						
Bird TEQ (Dioxins)	32.19	4.5	--	ng/kg	--	--
Fish TEQ (Dioxins)	20.52	4.5	--	ng/kg	--	--
Human TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--
Mammal TEQ (Dioxins)	23.25	4.5	--	ng/kg	--	--
Dioxins/Furans						
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	1.15	--	ng/kg	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	1.15	--	ng/kg	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	0.115	--	ng/kg	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	0.0115	--	ng/kg	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.115	--	ng/kg	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	0.0384	--	ng/kg	--	--
2,3,7,8-TCDD	--	0.0115	4.5	ng/kg	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	0.115	--	ng/kg	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Octachlorodibenzofuran	--	38.4	--	ng/kg	--	--
Octachlorodibenzo-P-Dioxin	--	38.4	--	ng/kg	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Total TCDF	--	--	--	ng/kg	--	--

Table 1.2.3A
Paradise Creek Tidal Wetland Sediment Dioxins/Furans Human Health Risk Screening

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

(2) November 2015 RSLs (cancer risk = 10-6; Hazard Index=0.1)

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
ng/kg = nanograms per kilogram
PCDD/PCDF = Polychlorinated dibenzodioxins/Polychlorinated dibenzofurans
TCDF = Tetrachlorodibenzofuran
TCDD = Tetrachlorodibenzodioxin
TEQ = Toxic Equivalent
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
NOAA = National Oceanic and Atmospheric Administration
SQuiRTs = Screening Quick Reference Tables
J = positive detect, value estimated
U = not detected, value shown equals the reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the USEPA Region 3 November 2015 Resident Soil RSLs are <u>Underlined</u>

Table 1.2.3B
Paradise Creek Tidal Wetland Sediments Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD01		PCWLSD02	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Dioxin/Furan TEQ Calculated Values								
Bird TEQ (Dioxins)	32.19	--	--	ng/kg	--	--	--	--
Fish TEQ (Dioxins)	20.52	--	--	ng/kg	--	--	--	--
Human TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	--	--
Dioxin/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
2,3,7,8-TCDD	--	--	--	ng/kg	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Octachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total TCDF	--	--	--	ng/kg	--	--	--	--

Table 1.2.3B
Paradise Creek Tidal Wetland Sediments Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD03		PCWLSD04	
				Sample Location	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Dioxin/Furan TEQ Calculated Values								
Bird TEQ (Dioxins)	32.19	--	--	ng/kg	--	--	--	--
Fish TEQ (Dioxins)	20.52	--	--	ng/kg	--	--	--	--
Human TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	--	--
Dioxin/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
2,3,7,8-TCDD	--	--	--	ng/kg	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Octachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total TCDF	--	--	--	ng/kg	--	--	--	--

Table 1.2.3B
Paradise Creek Tidal Wetland Sediments Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Dioxin/Furan TEQ Calculated Values								
Bird TEQ (Dioxins)	32.19	--	--	ng/kg	--	--	5.08	1.75
Fish TEQ (Dioxins)	20.52	--	--	ng/kg	--	--	2.09	1.06
Human TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	2.53	1.85
Mammal TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	2.53	1.85
Dioxin/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	*9.21*	0.0573 U
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*59.7*	*56.4*
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*0.93 J*	*0.85 J*
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*2.42 J*	*1.71 J*
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*2.26 J*	*2.79 J*
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	0.0917 U	0.0821 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	0.0836 U	0.0608 U
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	--	*2.01 J*	*0.429 J*
2,3,7,8-TCDD	--	--	--	ng/kg	--	--	*0.228 J*	*0.146 J*
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	--	*2.32*	*0.644 J*
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	*21.8*	0.0546 U
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*52.2*	*80.8*
Octachlorodibenzofuran	--	--	--	ng/kg	--	--	0.2 U	0.207 U
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*735*	*1370*
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	*25.4 J*	*5.49*
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	*13*	*13.4*
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	*2.83*	*1.86*
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*10.3*	*9.29*
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	*17.8*	0.0573 U
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*162*	*184*
Total TCDF	--	--	--	ng/kg	--	--	*31.3 J*	*8.49*

Table 1.2.3B
Paradise Creek Tidal Wetland Sediments Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD07	
				Sample Location	PCWLSD07-000005	PCWLSD07-005020
				Date Collected	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal
Dioxin/Furan TEQ Calculated Values						
Bird TEQ (Dioxins)	32.19	--	--	ng/kg	--	--
Fish TEQ (Dioxins)	20.52	--	--	ng/kg	--	--
Human TEQ (Dioxins)	23.25	--	--	ng/kg	--	--
Mammal TEQ (Dioxins)	23.25	--	--	ng/kg	--	--
Dioxin/Furans						
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	--
2,3,7,8-TCDD	--	--	--	ng/kg	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Octachlorodibenzofuran	--	--	--	ng/kg	--	--
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Total TCDF	--	--	--	ng/kg	--	--

Table 1.2.3B
Paradise Creek Tidal Wetland Sediments Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD08		
				Sample Location	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate
Dioxin/Furan TEQ Calculated Values							
Bird TEQ (Dioxins)	32.19	--	--	ng/kg	--	--	--
Fish TEQ (Dioxins)	20.52	--	--	ng/kg	--	--	--
Human TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	--
Mammal TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	--
Dioxin/Furans							
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	--	--
2,3,7,8-TCDD	--	--	--	ng/kg	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--
Octachlorodibenzofuran	--	--	--	ng/kg	--	--	--
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--
Total TCDF	--	--	--	ng/kg	--	--	--

Table 1.2.3B
Paradise Creek Tidal Wetland Sediments Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Dioxin/Furan TEQ Calculated Values								
Bird TEQ (Dioxins)	32.19	--	--	ng/kg	26.3	1.75	--	--
Fish TEQ (Dioxins)	20.52	--	--	ng/kg	15.7	1.29	--	--
Human TEQ (Dioxins)	23.25	--	--	ng/kg	17.5	2.08	--	--
Mammal TEQ (Dioxins)	23.25	--	--	ng/kg	17.5	2.08	--	--
Dioxin/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	*16.8*	0.111 U	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*263*	*60.3*	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*4.8 J*	*1.17 J*	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*9.31*	*2.03 J*	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*12*	*3.25 J*	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*4.98*	0.185 U	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	*5.04*	0.125 U	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	*11.3*	*0.393 J*	--	--
2,3,7,8-TCDD	--	--	--	ng/kg	*0.602 J*	*0.219 J*	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	*6.28*	*0.526 J*	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	*65.7 J*	0.114 U	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*339*	*90.4*	--	--
Octachlorodibenzofuran	--	--	--	ng/kg	*23.2*	0.291 U	--	--
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*6520*	*1470*	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	*143 J*	*5.68*	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	*65.8 J*	*14.4*	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	*17.33*	*2.1*	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*69.8*	*8.31*	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	*22.8*	0.111 U	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*896*	*207*	--	--
Total TCDF	--	--	--	ng/kg	*182 J*	*10.1*	--	--

Table 1.2.3B
Paradise Creek Tidal Wetland Sediments Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD11		
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SED-DUP09
				Date Collected	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate
Dioxin/Furan TEQ Calculated Values							
Bird TEQ (Dioxins)	32.19	--	--	ng/kg	1.27	1.18	1.89
Fish TEQ (Dioxins)	20.52	--	--	ng/kg	0.693	0.687	1.47
Human TEQ (Dioxins)	23.25	--	--	ng/kg	1.2	1.31	2.68
Mammal TEQ (Dioxins)	23.25	--	--	ng/kg	1.2	1.31	2.68
Dioxin/Furans							
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	0.0707 U	0.0703 U	0.0572 U
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*37.8*	*42.4*	*86.2*
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*0.625 J*	*0.699 J*	*1.5 J*
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*1.04 J*	*1.35 J*	*2.71 J*
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*1.94 J*	*2.31 J*	*4.47 J*
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	0.0977 U	0.0727 U	0.0769 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	0.0711 U	0.0733 U	0.0655 U
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	*0.379 J*	*0.252 J*	*0.332 J*
2,3,7,8-TCDD	--	--	--	ng/kg	0.0793 U	0.0884 U	*0.153 J*
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	*0.516 J*	*0.504 J*	*0.555 J*
Hexachlorodibenzofuran	--	--	--	ng/kg	0.0668 U	0.0682 U	0.0562 U
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*58.4*	*59.7*	*116*
Octachlorodibenzofuran	--	--	--	ng/kg	0.225 U	0.186 U	0.286 U
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*973*	*1070*	*2130*
Pentachloro Dibenzofuran	--	--	--	ng/kg	*5.5*	0.029 U	0.0307 U
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	*11.2*	*10.4*	*19.2*
TEQ Who2005 Nd=0	--	--	--	ng/kg	*1.15*	*1.31*	*2.68*
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*8.47*	*5.83*	*10.8*
Total Heptachlorodibenzofuran	--	--	--	ng/kg	0.0707 U	0.0703 U	0.0572 U
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	*137*	*149*	*299*
Total TCDF	--	--	--	ng/kg	*7.97*	*6.39*	*9.56*

Table 1.2.3B
Paradise Creek Tidal Wetland Sediments Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD12		PCWLSD13	
				Sample Location	PCWLSD12-000005	PCWLSD12-005020	PCWLSD13-000005	PCWLSD13-005020
				Date Collected	6/22/2015	6/22/2015	6/23/2015	6/23/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Dioxin/Furan TEQ Calculated Values								
Bird TEQ (Dioxins)	32.19	--	--	ng/kg	--	--	--	--
Fish TEQ (Dioxins)	20.52	--	--	ng/kg	--	--	--	--
Human TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	--	--
Dioxin/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
2,3,7,8-TCDD	--	--	--	ng/kg	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Octachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total TCDF	--	--	--	ng/kg	--	--	--	--

Table 1.2.3B
Paradise Creek Tidal Wetland Sediments Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD14		PCWLSD15	
				Sample Location	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
				Date Collected	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Dioxin/Furan TEQ Calculated Values								
Bird TEQ (Dioxins)	32.19	--	--	ng/kg	--	--	1.56	2.48
Fish TEQ (Dioxins)	20.52	--	--	ng/kg	--	--	1	1.24
Human TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	1.32	1.27
Mammal TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	1.32	1.27
Dioxin/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	0.0868 U	0.0569 U
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*32.1*	*22.9*
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*0.678 J*	*0.406 J*
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*0.8 J*	*0.869 J*
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*1.41 J*	*1.21 J*
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	0.0945 U	0.114 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	0.08 U	0.088 U
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	--	*0.746 J*	*1.8 J*
2,3,7,8-TCDD	--	--	--	ng/kg	--	--	*0.0985 J*	0.0958 U
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	--	*0.386 J*	*0.436 J*
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	*6.36*	*13*
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*54.1*	*35*
Octachlorodibenzofuran	--	--	--	ng/kg	--	--	0.203 U	0.212 U
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*1160*	*704*
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	*8.84*	*21.2 J*
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	*9.64 J*	*6.74*
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	*1.32*	*1.27*
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*9.17 J*	*4.75 J*
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	*5.93*	*7.18*
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	*116*	*84.7*
Total TCDF	--	--	--	ng/kg	--	--	*5.31 J*	*11.7 J*

Table 1.2.3B
Paradise Creek Tidal Wetland Sediments Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD16		PCWLSD17	
				Sample Location	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Dioxin/Furan TEQ Calculated Values								
Bird TEQ (Dioxins)	32.19	--	--	ng/kg	--	--	--	--
Fish TEQ (Dioxins)	20.52	--	--	ng/kg	--	--	--	--
Human TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	--	--
Mammal TEQ (Dioxins)	23.25	--	--	ng/kg	--	--	--	--
Dioxin/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
2,3,7,8-TCDD	--	--	--	ng/kg	--	--	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Octachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--	--	--
Total TCDF	--	--	--	ng/kg	--	--	--	--

Table 1.2.3B
Paradise Creek Tidal Wetland Sediments Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD18	
				Sample Location	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal
Dioxin/Furan TEQ Calculated Values						
Bird TEQ (Dioxins)	32.19	--	--	ng/kg	--	--
Fish TEQ (Dioxins)	20.52	--	--	ng/kg	--	--
Human TEQ (Dioxins)	23.25	--	--	ng/kg	--	--
Mammal TEQ (Dioxins)	23.25	--	--	ng/kg	--	--
Dioxin/Furans						
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	ng/kg	--	--
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	ng/kg	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	ng/kg	--	--
2,3,7,8-TCDD	--	--	--	ng/kg	--	--
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	ng/kg	--	--
Hexachlorodibenzofuran	--	--	--	ng/kg	--	--
Hexachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Octachlorodibenzofuran	--	--	--	ng/kg	--	--
Octachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Pentachloro Dibenzofuran	--	--	--	ng/kg	--	--
Pentachlorodibenso-P-Dioxin	--	--	--	ng/kg	--	--
TEQ Who2005 Nd=0	--	--	--	ng/kg	--	--
Tetrachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Total Heptachlorodibenzofuran	--	--	--	ng/kg	--	--
Total Heptachlorodibenzo-P-Dioxin	--	--	--	ng/kg	--	--
Total TCDF	--	--	--	ng/kg	--	--

Table 1.2.3B
Paradise Creek Tidal Wetland Sediments Dioxins/Furans Ecological Risk Screening

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Region 3 Biological Technical Assistance Group
ft = feet
ng/kg = nanograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
SQuiRTS = Screening Quick Reference Tables
TCDF = Tetrachlorodibenzofuran
TCDD = Tetrachlorodibenzodioxin
TEQ = Toxic Equivalent
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
J = positive detect; value estimated
U = not detected; value shown equals the reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are <u>Underlined</u>

Table 1.2.4A
Paradise Creek Tidal Wetland Sediment Pesticides Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Pesticides										
4,4'-DDD	--	6.24	2000	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U
4,4'-DDE	--	4.4	1400	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U

Table 1.2.4A
Paradise Creek Tidal Wetland Sediment Pesticides Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Pesticides										
4,4'-DDD	--	6.24	2000	µg/kg	10.505 U	9.106 U	5.446 U	8.022 U	11.23 UJ	11.304 UJ
4,4'-DDE	--	4.4	1400	µg/kg	10.505 U	9.106 U	5.446 U	8.022 U	11.23 UJ	11.304 UJ

Table 1.2.4A
Paradise Creek Tidal Wetland Sediment Pesticides Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Duplicate
Pesticides									
4,4'-DDD	--	6.24	2000	µg/kg	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U
4,4'-DDE	--	4.4	1400	µg/kg	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U

Table 1.2.4A
Paradise Creek Tidal Wetland Sediment Pesticides Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Pesticides								
4,4'-DDD	--	6.24	2000	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U
4,4'-DDE	--	4.4	1400	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U

Table 1.2.4A
Paradise Creek Tidal Wetland Sediment Pesticides Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SED-DUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
Pesticides									
4,4'-DDD	--	6.24	2000	µg/kg	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U
4,4'-DDE	--	4.4	1400	µg/kg	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U

Table 1.2.4A
Paradise Creek Tidal Wetland Sediment Pesticides Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Pesticides										
4,4'-DDD	--	6.24	2000	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	*4.2 J*	5.356 U
4,4'-DDE	--	4.4	1400	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	6.449 U	*4 J*

Table 1.2.4A
Paradise Creek Tidal Wetland Sediment Pesticides Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Pesticides										
4,4'-DDD	--	6.24	2000	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U
4,4'-DDE	--	4.4	1400	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U

Table 1.2.4A
Paradise Creek Tidal Wetland Sediment Pesticides Human Health Risk Screening

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

(2) November 2015 RSLs (cancer risk = 10-6; Hazard Index=0.1)

-- = no screening value/not sampled
bgs = below ground surface
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
ft = feet
µg/kg = micrograms per kilogram
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
NOAA = National Oceanic and Atmospheric Administration
SQuiRTs = Screening Quick Reference Tables
J = positive detect, value estimated
U = not detected; value shown equals the reporting limit
UL = not detected; value shown equals the estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the USEPA Region 3 November 2015 Resident Soil RSLs are Underlined

Table 1.2.4B
Paradise Creek Tidal Wetland Sediment Pesticides Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Pesticides										
4,4'-DDD	--	1.22	3.54	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U
4,4'-DDE	--	2.07	1.42	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U

Table 1.2.4B
Paradise Creek Tidal Wetland Sediment Pesticides Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Pesticides										
4,4'-DDD	--	1.22	3.54	µg/kg	10.505 U	9.106 U	5.446 U	8.022 U	11.23 UJ	11.304 UJ
4,4'-DDE	--	2.07	1.42	µg/kg	10.505 U	9.106 U	5.446 U	8.022 U	11.23 UJ	11.304 UJ

Table 1.2.4B
Paradise Creek Tidal Wetland Sediment Pesticides Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
Pesticides									
4,4'-DDD	--	1.22	3.54	µg/kg	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U
4,4'-DDE	--	2.07	1.42	µg/kg	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U

Table 1.2.4B
Paradise Creek Tidal Wetland Sediment Pesticides Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal
Pesticides								
4,4'-DDD	--	1.22	3.54	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U
4,4'-DDE	--	2.07	1.42	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U

Table 1.2.4B
Paradise Creek Tidal Wetland Sediment Pesticides Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [(1)]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SED-DUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal
Pesticides									
4,4'-DDD	--	1.22	3.54	µg/kg	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U
4,4'-DDE	--	2.07	1.42	µg/kg	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U

Table 1.2.4B
Paradise Creek Tidal Wetland Sediment Pesticides Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [(1)]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Pesticides										
4,4'-DDD	--	1.22	3.54	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	***4.2 J***	5.356 U
4,4'-DDE	--	2.07	1.42	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	6.449 U	***4 J***

Table 1.2.4B
Paradise Creek Tidal Wetland Sediment Pesticides Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [(1)]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
Pesticides										
4,4'-DDD	--	1.22	3.54	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U
4,4'-DDE	--	2.07	1.42	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U

(1) More conservative of the freshwater or marine benchmark provided

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Region 3 Biological Technical Assistance Group
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
ft = feet
µg/kg = micrograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
SQuiRTS = Screening Quick Reference Tables
J = positive detect, value estimated
U = not detected; value shown equals the reporting limit
UJ = not detected, value shown equals the estimated reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

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Table 1.2.5A
Paradise Creek Tidal Wetland Sediment SVOCs and VOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD01		PCWLSD02		PCWI
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft
				Sample	Normal	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds									
2,6-Dinitrotoluene [3]	--	0.998	6100	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ
Benzo[a]Anthracene	580	2.05	150	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ
Benzo[a]Pyrene	980	0.205	15	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ
Benzo[b]Fluoranthene	2203	2.05	150	µg/kg	650 UJ	500 U	770 UJ	540 U	**380 J**
Benzo[g,h,i]Perylene	680	16700	--	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ
Benzo[k]Fluoranthene	1499	20.5	1500	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ
Benzyl Butyl Phthalate	--	788	260000	µg/kg	*350 J*	500 U	770 UJ	540 U	680 UJ
Bis(2-Ethylhexyl) phthalate	750	107	35000	µg/kg	**370 J**	500 U	770 UJ	1100 U	680 UJ
Caprolactam	--	278000	3100000	µg/kg	1300 UJ	960 U	1500 UJ	540 U	1300 UJ
Chrysene	790	205	15000	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ
Di-N-Butyl Phthalate	--	55600	610000	µg/kg	*460 J*	500 U	770 UJ	1100 U	680 UJ
Fluoranthene	1100	22200	230000	µg/kg	1300 UJ	960 U	1500 UJ	540 U	1000 J
Phenanthrene	540	16700	--	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ
Pyrene	1821	16700	170000	µg/kg	650 UJ	500 U	770 UJ	540 U	550 J
Volatile Organic Compounds									
2-Butanone	--	--	2800000	µg/kg	--	28 UJ	--	29 U	--
Acetone	--	--	6100000	µg/kg	--	28 UJ	--	29 U	--
Methylene Chloride	--	--	3600	µg/kg	--	14 UJ	--	15 U	--

Table 1.2.5A
Paradise Creek Tidal Wetland Sediment SVOCs and VOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]								
Location ID					**LSD03**	**PCWLSD04**		**PCWLSD05**		**PCWI**	
Sample Location					**PCWLSD03-005020**	**PCWLSD04-000005**	**PCWLSD04-005020**	**PCWLSD05-000005**	**PCWLSD05-005020**	**PCWLSD06-000005**	
Date Collected					**6/22/2015**	**6/17/2015**	**6/17/2015**	**6/17/2015**	**6/17/2015**	**6/22/2015**	
Sample Depth (bgs)					**0.5-2 ft**	**0-0.5 ft**	**0.5-2 ft**	**0-0.5 ft**	**0.5-2 ft**	**0-0.5 ft**	
Sample					**Normal**	**Normal**	**Normal**	**Normal**	**Normal**	**Normal**	
Semivolatile Organic Compounds											
2,6-Dinitrotoluene [3]	--	0.998	6100	µg/kg	500 UJ	550 U	470 U	280 U	410 U	580 UJ	
Benzo[a]Anthracene	580	2.05	150	µg/kg	500 U	550 U	470 U	280 U	410 U	580 UJ	
Benzo[a]Pyrene	980	0.205	15	µg/kg	500 U	550 U	470 U	280 U	410 U	580 UJ	
Benzo[b]Fluoranthene	2203	2.05	150	µg/kg	500 U	550 U	470 U	280 U	410 U	580 UJ	
Benzo[g,h,i]Perylene	680	16700	--	µg/kg	500 U	550 U	470 U	280 U	410 U	580 UJ	
Benzo[k]Fluoranthene	1499	20.5	1500	µg/kg	500 U	550 U	470 U	280 U	410 U	580 UJ	
Benzyl Butyl Phthalate	--	788	260000	µg/kg	*300 J*	550 U	470 U	280 U	410 U	*350 J*	
Bis(2-Ethylhexyl) phthalate	750	107	35000	µg/kg	**280 J**	550 U	470 U	280 U	410 U	580 UJ	
Caprolactam	--	278000	3100000	µg/kg	960 UJ	1100 U	910 U	540 U	800 U	1100 UJ	
Chrysene	790	205	15000	µg/kg	500 U	550 U	470 U	280 U	410 U	580 UJ	
Di-N-Butyl Phthalate	--	55600	610000	µg/kg	500 UJ	550 U	470 U	280 U	410 U	580 UJ	
Fluoranthene	1100	22200	230000	µg/kg	610 J+	1100 U	910 U	540 U	800 U	1100 UJ	
Phenanthrene	540	16700	--	µg/kg	500 UJ	550 U	470 U	280 U	410 U	580 UJ	
Pyrene	1821	16700	170000	µg/kg	300 J	550 U	470 U	280 U	410 U	580 UJ	
Volatile Organic Compounds											
2-Butanone	--	--	2800000	µg/kg	26 U	--	25 U	--	23 U	--	
Acetone	--	--	6100000	µg/kg	26 U	--	25 U	--	23 U	--	
Methylene Chloride	--	--	3600	µg/kg	13 U	--	13 U	--	12 U	--	

Table 1.2.5A
Paradise Creek Tidal Wetland Sediment SVOCs and VOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	LSD06	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Duplicate
Semivolatile Organic Compounds										
2,6-Dinitrotoluene [3]	--	0.998	6100	µg/kg	580 UJ	390 U	390 U	430 U	410 U	450 UJ
Benzo[a]Anthracene	580	2.05	150	µg/kg	580 UJ	390 U	390 U	430 U	**320 J**	**570 J+**
Benzo[a]Pyrene	980	0.205	15	µg/kg	580 UJ	390 U	390 U	430 U	**260 J**	**760**
Benzo[b]Fluoranthene	2203	2.05	150	µg/kg	580 UJ	390 U	390 U	430 U	**320 J**	**730**
Benzo[g,h,i]Perylene	680	16700	--	µg/kg	580 UJ	390 U	390 U	430 U	410 U	490
Benzo[k]Fluoranthene	1499	20.5	1500	µg/kg	580 UJ	390 U	390 U	430 U	410 U	**620**
Benzyl Butyl Phthalate	--	788	260000	µg/kg	580 UJ	*240 J*	*290 J*	430 U	410 U	450 UJ
Bis(2-Ethylhexyl) phthalate	750	107	35000	µg/kg	580 UJ	390 U	200 J	430 U	**240 J**	450 UJ
Caprolactam	--	278000	3100000	µg/kg	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
Chrysene	790	205	15000	µg/kg	580 UJ	390 U	390 U	430 U	**310 J**	**730 J+**
Di-N-Butyl Phthalate	--	55600	610000	µg/kg	580 UJ	390 U	390 U	430 U	410 U	450 UJ
Fluoranthene	1100	22200	230000	µg/kg	1100 UJ	760 U	760 U	370 J	730 J	*1400 J+*
Phenanthrene	540	16700	--	µg/kg	580 UJ	390 U	390 U	430 U	410 J	*620 J+*
Pyrene	1821	16700	170000	µg/kg	580 UJ	390 U	390 U	280 J	740	1100 J+
Volatile Organic Compounds										
2-Butanone	--	--	2800000	µg/kg	32 UJ	--	22 U	--	23 U	26 U
Acetone	--	--	6100000	µg/kg	32 UJ	--	22 U	--	23 U	26 U
Methylene Chloride	--	--	3600	µg/kg	16 UJ	--	11 U	--	11 U	13 U

Table 1.2.5A
Paradise Creek Tidal Wetland Sediment SVOCs and VOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds								
2,6-Dinitrotoluene [3]	--	0.998	6100	µg/kg	800 UJ	--	550 U	420 U
Benzo[a]Anthracene	580	2.05	150	µg/kg	800 UJ	520 U	550 U	420 U
Benzo[a]Pyrene	980	0.205	15	µg/kg	800 UJ	520 U	550 U	420 U
Benzo[b]Fluoranthene	2203	2.05	150	µg/kg	800 UJ	520 U	550 U	**210 J**
Benzo[g,h,i]Perylene	680	16700	--	µg/kg	800 UJ	520 U	550 U	420 U
Benzo[k]Fluoranthene	1499	20.5	1500	µg/kg	800 UJ	520 U	550 U	420 U
Benzyl Butyl Phthalate	--	788	260000	µg/kg	*590 J*	*370 J*	*350 J*	420 U
Bis(2-Ethylhexyl) phthalate	750	107	35000	µg/kg	**500 J**	**510 J**	**370 J**	**230 J**
Caprolactam	--	278000	3100000	µg/kg	1600 UJ	1000 U	1100 U	820 U
Chrysene	790	205	15000	µg/kg	800 UJ	520 U	550 U	420 U
Di-N-Butyl Phthalate	--	55600	610000	µg/kg	*640 J*	*400 J*	550 U	420 U
Fluoranthene	1100	22200	230000	µg/kg	1600 UJ	1000 U	1100 U	560 J
Phenanthrene	540	16700	--	µg/kg	800 UJ	520 U	550 U	420 U
Pyrene	1821	16700	170000	µg/kg	800 UJ	520 U	550 U	340 J
Volatile Organic Compounds								
2-Butanone	--	--	2800000	µg/kg	--	31 U	--	25 U
Acetone	--	--	6100000	µg/kg	--	31 U	--	25 U
Methylene Chloride	--	--	3600	µg/kg	--	15 U	--	12 U

Table 1.2.5A
Paradise Creek Tidal Wetland Sediment SVOCs and VOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SED-DUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
Semivolatile Organic Compounds									
2,6-Dinitrotoluene [3]	--	0.998	6100	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Benzo[a]Anthracene	580	2.05	150	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Benzo[a]Pyrene	980	0.205	15	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Benzo[b]Fluoranthene	2203	2.05	150	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Benzo[g,h,i]Perylene	680	16700	--	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Benzo[k]Fluoranthene	1499	20.5	1500	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Benzyl Butyl Phthalate	--	788	260000	µg/kg	430 U	470 U	*250 J*	*400 J*	390 U
Bis(2-Ethylhexyl) phthalate	750	107	35000	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Caprolactam	--	278000	3100000	µg/kg	840 U	900 U	*330 J*	*440 J*	760 U
Chrysene	790	205	15000	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Di-N-Butyl Phthalate	--	55600	610000	µg/kg	430 U	470 U	440 U	*450 J*	390 U
Fluoranthene	1100	22200	230000	µg/kg	840 U	900 U	860 UJ	1100 UJ	760 U
Phenanthrene	540	16700	--	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Pyrene	1821	16700	170000	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Volatile Organic Compounds									
2-Butanone	--	--	2800000	µg/kg	--	26 U	24 U	--	22 U
Acetone	--	--	6100000	µg/kg	--	26 U	24 U	--	22 U
Methylene Chloride	--	--	3600	µg/kg	--	13 U	12 U	--	*5.3 J*

Table 1.2.5A
Paradise Creek Tidal Wetland Sediment SVOCs and VOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds										
2,6-Dinitrotoluene [3]	--	0.998	6100	µg/kg	***620 J***	400 U	580 U	700 U	330 U	280 U
Benzo[a]Anthracene	580	2.05	150	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
Benzo[a]Pyrene	980	0.205	15	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
Benzo[b]Fluoranthene	2203	2.05	150	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
Benzo[g,h,i]Perylene	680	16700	--	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
Benzo[k]Fluoranthene	1499	20.5	1500	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
Benzyl Butyl Phthalate	--	788	260000	µg/kg	*230 J*	400 U	580 U	700 U	330 U	280 U
Bis(2-Ethylhexyl) phthalate	750	107	35000	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
Caprolactam	--	278000	3100000	µg/kg	800 U	780 U	1100 U	*420 J*	640 U	540 U
Chrysene	790	205	15000	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
Di-N-Butyl Phthalate	--	55600	610000	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
Fluoranthene	1100	22200	230000	µg/kg	800 U	780 UJ	450 J	1400 UJ	640 U	540 U
Phenanthrene	540	16700	--	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
Pyrene	1821	16700	170000	µg/kg	410 U	400 U	340 J	700 U	330 U	280 U
Volatile Organic Compounds										
2-Butanone	--	--	2800000	µg/kg	--	*510*	--	39 U	--	15 U
Acetone	--	--	6100000	µg/kg	--	*96*	--	39 U	--	15 U
Methylene Chloride	--	--	3600	µg/kg	--	11 U	--	20 U	--	7.6 U

Table 1.2.5A
Paradise Creek Tidal Wetland Sediment SVOCs and VOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]	EPA Residential Soil RSLs [2]	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds										
2,6-Dinitrotoluene [3]	--	0.998	6100	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
Benzo[a]Anthracene	580	2.05	150	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
Benzo[a]Pyrene	980	0.205	15	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
Benzo[b]Fluoranthene	2203	2.05	150	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
Benzo[g,h,i]Perylene	680	16700	--	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
Benzo[k]Fluoranthene	1499	20.5	1500	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
Benzyl Butyl Phthalate	--	788	260000	µg/kg	430 U	410 U	*400 J*	*240 J*	*290 J*	*580 J*
Bis(2-Ethylhexyl) phthalate	750	107	35000	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
Caprolactam	--	278000	3100000	µg/kg	840 U	800 U	*250 J*	750 U	620 U	*180 J*
Chrysene	790	205	15000	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
Di-N-Butyl Phthalate	--	55600	610000	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
Fluoranthene	1100	22200	230000	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
Phenanthrene	540	16700	--	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
Pyrene	1821	16700	170000	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
Volatile Organic Compounds										
2-Butanone	--	--	2800000	µg/kg	--	23 U	--	22 U	--	18 U
Acetone	--	--	6100000	µg/kg	--	23 U	--	22 U	--	18 U
Methylene Chloride	--	--	3600	µg/kg	--	*19 J*	--	*19 J*	--	8.9 U

Table 1.2.5A
Paradise Creek Tidal Wetland Sediment SVOCs and VOCs Human Health Risk Screening

(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:

> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.

> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood

> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

(2) November 2015 RSLs (cancer risk = 10-6; Hazard Index=0.1)

(3) 2,6-Dinitrotoluene is reported as a semivolatile compound and as an explosive compound.

-- = no screening value/not sampled
bgs = below ground surface
ft = feet
µg/kg = micrograms per kilogram
SVOC = semivolatile organic compound
VOC = volatile organic compound
PRG = preliminary remedial goal
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
RSL = Regional Screening Level
J+ = positive detect, value estimated and biased high
J = positive detect, value estimated
J- = positive detect, value estimated and biased low
UJ = not detected; value shown equals the estimated reporting limit
U = not detected; value shown equals the reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the USEPA Region 3 November 2015 Resident Soil RSLs are <u>Underlined</u>

Table 1.2.5B
Paradise Creek Tidal Wetland Sediment SVOCs and VOCS Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD01		PCWLSD02	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds								
2,6-Dinitrotoluene	--	--	--	µg/kg	650 UJ	500 U	770 UJ	540 U
Benzo[a]Anthracene	580	74.8	31.7	µg/kg	650 UJ	500 U	770 UJ	540 U
Benzo[a]Pyrene	980	88.8	31.9	µg/kg	650 UJ	500 U	770 UJ	540 U
Benzo[b]Fluoranthene	2203	--	--	µg/kg	650 UJ	500 U	770 UJ	540 U
Benzo[g,h,i]Perylene	680	--	300	µg/kg	650 UJ	500 U	770 UJ	540 U
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	650 UJ	500 U	770 UJ	540 U
Benzyl Butyl Phthalate	--	10900	--	µg/kg	*350 J*	500 U	770 UJ	540 U
Bis(2-Ethylhexyl) phthalate	750	180	750	µg/kg	**370 J**	500 U	770 UJ	1100 U
Caprolactam	--	--	--	µg/kg	1300 UJ	960 U	1500 UJ	540 U
Chrysene	790	108	57.1	µg/kg	650 UJ	500 U	770 UJ	540 U
Di-N-Butyl Phthalate	--	1160	110	µg/kg	*460 J*	500 U	770 UJ	1100 U
Fluoranthene	1100	113	111	µg/kg	1300 UJ	960 U	1500 UJ	540 U
Phenanthrene	540	--	41.9	µg/kg	650 UJ	500 U	770 UJ	540 U
Pyrene	1821	153	53	µg/kg	650 UJ	500 U	770 UJ	540 U
Volatile Organic Compounds								
2-Butanone	--	--	--	µg/kg	--	28 UJ	--	29 U
Acetone	--	--	--	µg/kg	--	28 UJ	--	29 U
Methylene Chloride	--	--	--	µg/kg	--	14 UJ	--	15 U

Table 1.2.5B
Paradise Creek Tidal Wetland Sediment SVOCs and VOCS Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD03		PCWLSD04	
				Sample Location	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds								
2,6-Dinitrotoluene	--	--	--	µg/kg	680 UJ	500 UJ	550 U	470 U
Benzo[a]Anthracene	580	74.8	31.7	µg/kg	680 UJ	500 U	550 U	470 U
Benzo[a]Pyrene	980	88.8	31.9	µg/kg	680 UJ	500 U	550 U	470 U
Benzo[b]Fluoranthene	2203	--	--	µg/kg	380 J	500 U	550 U	470 U
Benzo[g,h,i]Perylene	680	--	300	µg/kg	680 UJ	500 U	550 U	470 U
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	680 UJ	500 U	550 U	470 U
Benzyl Butyl Phthalate	--	10900	--	µg/kg	680 UJ	*300 J*	550 U	470 U
Bis(2-Ethylhexyl) phthalate	750	180	750	µg/kg	680 UJ	**280 J**	550 U	470 U
Caprolactam	--	--	--	µg/kg	1300 UJ	960 UJ	1100 U	910 U
Chrysene	790	108	57.1	µg/kg	680 UJ	500 U	550 U	470 U
Di-N-Butyl Phthalate	--	1160	110	µg/kg	680 UJ	500 UJ	550 U	470 U
Fluoranthene	1100	113	111	µg/kg	**1000 J**	**610 J+**	1100 U	910 U
Phenanthrene	540	--	41.9	µg/kg	680 UJ	500 UJ	550 U	470 U
Pyrene	1821	153	53	µg/kg	**550 J**	**300 J**	550 U	470 U
Volatile Organic Compounds								
2-Butanone	--	--	--	µg/kg	--	26 U	--	25 U
Acetone	--	--	--	µg/kg	--	26 U	--	25 U
Methylene Chloride	--	--	--	µg/kg	--	13 U	--	13 U

Table 1.2.5B
Paradise Creek Tidal Wetland Sediment SVOCs and VOCS Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds								
2,6-Dinitrotoluene	--	--	--	µg/kg	280 U	410 U	580 UJ	580 UJ
Benzo[a]Anthracene	580	74.8	31.7	µg/kg	280 U	410 U	580 UJ	580 UJ
Benzo[a]Pyrene	980	88.8	31.9	µg/kg	280 U	410 U	580 UJ	580 UJ
Benzo[b]Fluoranthene	2203	--	--	µg/kg	280 U	410 U	580 UJ	580 UJ
Benzo[g,h,i]Perylene	680	--	300	µg/kg	280 U	410 U	580 UJ	580 UJ
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	280 U	410 U	580 UJ	580 UJ
Benzyl Butyl Phthalate	--	10900	--	µg/kg	280 U	410 U	*350 J*	580 UJ
Bis(2-Ethylhexyl) phthalate	750	180	750	µg/kg	280 U	410 U	580 UJ	580 UJ
Caprolactam	--	--	--	µg/kg	540 U	800 U	1100 UJ	1100 UJ
Chrysene	790	108	57.1	µg/kg	280 U	410 U	580 UJ	580 UJ
Di-N-Butyl Phthalate	--	1160	110	µg/kg	280 U	410 U	580 UJ	580 UJ
Fluoranthene	1100	113	111	µg/kg	540 U	800 U	1100 UJ	1100 UJ
Phenanthrene	540	--	41.9	µg/kg	280 U	410 U	580 UJ	580 UJ
Pyrene	1821	153	53	µg/kg	280 U	410 U	580 UJ	580 UJ
Volatile Organic Compounds								
2-Butanone	--	--	--	µg/kg	--	23 U	--	32 UJ
Acetone	--	--	--	µg/kg	--	23 U	--	32 UJ
Methylene Chloride	--	--	--	µg/kg	--	12 U	--	16 UJ

Table 1.2.5B
Paradise Creek Tidal Wetland Sediment SVOCs and VOCS Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Duplicate
Semivolatile Organic Compounds									
2,6-Dinitrotoluene	--	--	--	µg/kg	390 U	390 U	430 U	410 U	450 UJ
Benzo[a]Anthracene	580	74.8	31.7	µg/kg	390 U	390 U	430 U	**320 J**	**570 J+**
Benzo[a]Pyrene	980	88.8	31.9	µg/kg	390 U	390 U	430 U	**260 J**	**760**
Benzo[b]Fluoranthene	2203	--	--	µg/kg	390 U	390 U	430 U	320 J	730
Benzo[g,h,i]Perylene	680	--	300	µg/kg	390 U	390 U	430 U	410 U	490
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	390 U	390 U	430 U	410 U	**620**
Benzyl Butyl Phthalate	--	10900	--	µg/kg	*240 J*	*290 J*	430 U	410 U	450 UJ
Bis(2-Ethylhexyl) phthalate	750	180	750	µg/kg	390 U	**200 J**	430 U	**240 J**	450 UJ
Caprolactam	--	--	--	µg/kg	760 U	760 U	840 U	800 U	880 UJ
Chrysene	790	108	57.1	µg/kg	390 U	390 U	430 U	**310 J**	**730 J+**
Di-N-Butyl Phthalate	--	1160	110	µg/kg	390 U	390 U	430 U	410 U	450 UJ
Fluoranthene	1100	113	111	µg/kg	760 U	760 U	**370 J**	**730 J**	***1400 J+***
Phenanthrene	540	--	41.9	µg/kg	390 U	390 U	430 U	410 J	*620 J+*
Pyrene	1821	153	53	µg/kg	390 U	390 U	**280 J**	**740**	**1100 J+**
Volatile Organic Compounds									
2-Butanone	--	--	--	µg/kg	--	22 U	--	23 U	26 U
Acetone	--	--	--	µg/kg	--	22 U	--	23 U	26 U
Methylene Chloride	--	--	--	µg/kg	--	11 U	--	11 U	13 U

Table 1.2.5B
Paradise Creek Tidal Wetland Sediment SVOCs and VOCS Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds								
2,6-Dinitrotoluene	--	--	--	µg/kg	800 UJ	--	550 U	420 U
Benzo[a]Anthracene	580	74.8	31.7	µg/kg	800 UJ	520 U	550 U	420 U
Benzo[a]Pyrene	980	88.8	31.9	µg/kg	800 UJ	520 U	550 U	420 U
Benzo[b]Fluoranthene	2203	--	--	µg/kg	800 UJ	520 U	550 U	210 J
Benzo[g,h,i]Perylene	680	--	300	µg/kg	800 UJ	520 U	550 U	420 U
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	800 UJ	520 U	550 U	420 U
Benzyl Butyl Phthalate	--	10900	--	µg/kg	*590 J*	*370 J*	*350 J*	420 U
Bis(2-Ethylhexyl) phthalate	750	180	750	µg/kg	**500 J**	**510 J**	**370 J**	**230 J**
Caprolactam	--	--	--	µg/kg	1600 UJ	1000 U	1100 U	820 U
Chrysene	790	108	57.1	µg/kg	800 UJ	520 U	550 U	420 U
Di-N-Butyl Phthalate	--	1160	110	µg/kg	*640 J*	*400 J*	550 U	420 U
Fluoranthene	1100	113	111	µg/kg	1600 UJ	1000 U	1100 U	**560 J**
Phenanthrene	540	--	41.9	µg/kg	800 UJ	520 U	550 U	420 U
Pyrene	1821	153	53	µg/kg	800 UJ	520 U	550 U	**340 J**
Volatile Organic Compounds								
2-Butanone	--	--	--	µg/kg	--	31 U	--	25 U
Acetone	--	--	--	µg/kg	--	31 U	--	25 U
Methylene Chloride	--	--	--	µg/kg	--	15 U	--	12 U

Table 1.2.5B
Paradise Creek Tidal Wetland Sediment SVOCs and VOCS Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SED-DUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
Semivolatile Organic Compounds									
2,6-Dinitrotoluene	--	--	--	µg/kg	430 U	470 U	--	580 UJ	390 U
Benzo[a]Anthracene	580	74.8	31.7	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Benzo[a]Pyrene	980	88.8	31.9	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Benzo[b]Fluoranthene	2203	--	--	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Benzo[g,h,i]Perylene	680	--	300	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Benzyl Butyl Phthalate	--	10900	--	µg/kg	430 U	470 U	*250 J*	*400 J*	390 U
Bis(2-Ethylhexyl) phthalate	750	180	750	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Caprolactam	--	--	--	µg/kg	840 U	900 U	*330 J*	*440 J*	760 U
Chrysene	790	108	57.1	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Di-N-Butyl Phthalate	--	1160	110	µg/kg	430 U	470 U	440 U	*450 J*	390 U
Fluoranthene	1100	113	111	µg/kg	840 U	900 U	860 UJ	1100 UJ	760 U
Phenanthrene	540	--	41.9	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Pyrene	1821	153	53	µg/kg	430 U	470 U	440 U	580 UJ	390 U
Volatile Organic Compounds									
2-Butanone	--	--	--	µg/kg	--	26 U	24 U	--	22 U
Acetone	--	--	--	µg/kg	--	26 U	24 U	--	22 U
Methylene Chloride	--	--	--	µg/kg	--	13 U	12 U	--	*5.3 J*

Table 1.2.5B
Paradise Creek Tidal Wetland Sediment SVOCs and VOCS Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD13		PCWLSD14	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds								
2,6-Dinitrotoluene	--	--	--	µg/kg	*620 J*	400 U	580 U	700 U
Benzo[a]Anthracene	580	74.8	31.7	µg/kg	410 U	400 U	580 U	700 U
Benzo[a]Pyrene	980	88.8	31.9	µg/kg	410 U	400 U	580 U	700 U
Benzo[b]Fluoranthene	2203	--	--	µg/kg	410 U	400 U	580 U	700 U
Benzo[g,h,i]Perylene	680	--	300	µg/kg	410 U	400 U	580 U	700 U
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	410 U	400 U	580 U	700 U
Benzyl Butyl Phthalate	--	10900	--	µg/kg	*230 J*	400 U	580 U	700 U
Bis(2-Ethylhexyl) phthalate	750	180	750	µg/kg	410 U	400 U	580 U	700 U
Caprolactam	--	--	--	µg/kg	800 U	780 U	1100 U	*420 J*
Chrysene	790	108	57.1	µg/kg	410 U	400 U	580 U	700 U
Di-N-Butyl Phthalate	--	1160	110	µg/kg	410 U	400 U	580 U	700 U
Fluoranthene	1100	113	111	µg/kg	800 U	780 UJ	**450 J**	1400 UJ
Phenanthrene	540	--	41.9	µg/kg	410 U	400 U	580 U	700 U
Pyrene	1821	153	53	µg/kg	410 U	400 U	**340 J**	700 U
Volatile Organic Compounds								
2-Butanone	--	--	--	µg/kg	--	*510*	--	39 U
Acetone	--	--	--	µg/kg	--	*96*	--	39 U
Methylene Chloride	--	--	--	µg/kg	--	11 U	--	20 U

Table 1.2.5B
Paradise Creek Tidal Wetland Sediment SVOCs and VOCS Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD15		PCWLSD16	
				Sample Location	PCWLSD15-000005	PCWLSD15-005020	PCWLSD16-000005	PCWLSD16-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds								
2,6-Dinitrotoluene	--	--	--	µg/kg	330 U	280 U	430 U	410 U
Benzo[a]Anthracene	580	74.8	31.7	µg/kg	330 U	280 U	430 U	410 U
Benzo[a]Pyrene	980	88.8	31.9	µg/kg	330 U	280 U	430 U	410 U
Benzo[b]Fluoranthene	2203	--	--	µg/kg	330 U	280 U	430 U	410 U
Benzo[g,h,i]Perylene	680	--	300	µg/kg	330 U	280 U	430 U	410 U
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	330 U	280 U	430 U	410 U
Benzyl Butyl Phthalate	--	10900	--	µg/kg	330 U	280 U	430 U	410 U
Bis(2-Ethylhexyl) phthalate	750	180	750	µg/kg	330 U	280 U	430 U	410 U
Caprolactam	--	--	--	µg/kg	640 U	540 U	840 U	800 U
Chrysene	790	108	57.1	µg/kg	330 U	280 U	430 U	410 U
Di-N-Butyl Phthalate	--	1160	110	µg/kg	330 U	280 U	430 U	410 U
Fluoranthene	1100	113	111	µg/kg	640 U	540 U	840 U	800 U
Phenanthrene	540	--	41.9	µg/kg	330 U	280 U	430 U	410 U
Pyrene	1821	153	53	µg/kg	330 U	280 U	430 U	410 U
Volatile Organic Compounds								
2-Butanone	--	--	--	µg/kg	--	15 U	--	23 U
Acetone	--	--	--	µg/kg	--	15 U	--	23 U
Methylene Chloride	--	--	--	µg/kg	--	7.6 U	--	*19 J*

Table 1.2.5B
Paradise Creek Tidal Wetland Sediment SVOCs and VOCS Ecological Risk Screening

Analyte	Background - Elizabeth River Sediments	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Semivolatile Organic Compounds								
2,6-Dinitrotoluene	--	--	--	µg/kg	440 U	390 U	320 U	330 U
Benzo[a]Anthracene	580	74.8	31.7	µg/kg	440 U	390 U	320 U	330 U
Benzo[a]Pyrene	980	88.8	31.9	µg/kg	440 U	390 U	320 U	330 U
Benzo[b]Fluoranthene	2203	--	--	µg/kg	440 U	390 U	320 U	330 U
Benzo[g,h,i]Perylene	680	--	300	µg/kg	440 U	390 U	320 U	330 U
Benzo[k]Fluoranthene	1499	240	13400	µg/kg	440 U	390 U	320 U	330 U
Benzyl Butyl Phthalate	--	10900	--	µg/kg	*400 J*	*240 J*	*290 J*	*580 J*
Bis(2-Ethylhexyl) phthalate	750	180	750	µg/kg	440 U	390 U	320 U	330 U
Caprolactam	--	--	--	µg/kg	*250 J*	750 U	620 U	*180 J*
Chrysene	790	108	57.1	µg/kg	440 U	390 U	320 U	330 U
Di-N-Butyl Phthalate	--	1160	110	µg/kg	440 U	390 U	320 U	330 U
Fluoranthene	1100	113	111	µg/kg	860 U	750 U	620 U	640 U
Phenanthrene	540	--	41.9	µg/kg	440 U	390 U	320 U	330 U
Pyrene	1821	153	53	µg/kg	440 U	390 U	320 U	330 U
Volatile Organic Compounds								
2-Butanone	--	--	--	µg/kg	--	22 U	--	18 U
Acetone	--	--	--	µg/kg	--	22 U	--	18 U
Methylene Chloride	--	--	--	µg/kg	--	*19 J*	--	8.9 U

Table 1.2.5B
Paradise Creek Tidal Wetland Sediment SVOCs and VOCS Ecological Risk Screening

(1) More conservative of the freshwater or marine benchmark provided

2,6-DINITROTOLUENE is reported as a semivolatile compound and as an explosive compound

-- = no screening value/not sampled
bgs = below ground surface
BTAG = USEPA Region 3 Biological Technical Assistance Group
ft = feet
µg/kg = micrograms per kilogram
NOAA = National Oceanographic and Atmospheric Administration
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
SQuiRTS = Screening Quick Reference Tables
J+ = positive detect, value estimated and biased high
J = positive detect, value estimated
UJ = not detected, value shown equals the estimated reporting limit
U = not detected, value shown equals the reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

Table 1.2.6A
Paradise Creek Tidal Wetland Sediment Isotopic Human Health Risk Screening

Analyte	Background - Elizabeth River Sediments	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Location ID	PCWLSD01		PCWLSD02	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Gamma Spectroscopy								
Bismuth-212	--	3,210,000	--	pci/g	*1.09 J*	*1.39 J*	*1.19 J*	*1.22 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.587 J*	*0.626 J*	*0.546 J*	*0.571 J*
Cesium-137	--	5.34	0.0098	pci/g	*0.241*	*0.0731*	*0.376*	*0.0246*
Lead-212	--	310,000	0.0185	pci/g	*1.02 J*	*1.05 J*	*0.868 J*	*0.969 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.695 J*	*0.727 J*	*0.603 J*	*0.64 J*
Potassium-40	--	11.5	0.0000118	pci/g	***14.5***	***17.2***	***13.9***	***16.3***
Radium-228	0.462	4.58	0.00513	pci/g	*1.09*	*1.27*	*1.06*	*1.11*
Thallium-208	--	1,790,000	--	pci/g	*0.296 J*	*0.361 J*	*0.315 J*	*0.339 J*
Uranium-235	--	13.5	0.0375	pci/g	--	--	--	*0.146 J*
Stontium 90								
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	--	--	--	--

Table 1.2.6A
Paradise Creek Tidal Wetland Sediment Isotopic Human Health Risk Screening

Analyte	Background - Elizabeth River Sediments	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Location ID	PCWLSD03		PCWLSD04	
				Sample Location	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Gamma Spectroscopy								
Bismuth-212	--	3,210,000	--	pci/g	*1.29 J*	*1.34 J*	*1.21 J*	*1.42 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.661 J*	*0.635 J*	*0.576 J*	*0.619 J*
Cesium-137	--	5.34	0.0098	pci/g	*0.238*	*0.13*	*0.165*	*0.053*
Lead-212	--	310,000	0.0185	pci/g	*0.995 J*	*1.17 J*	*0.868 J*	*1.11 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.814 J*	*0.765 J*	*0.675 J*	*0.715 J*
Potassium-40	--	11.5	0.0000118	pci/g	***16.6***	***17.2***	***14.4***	***15.7***
Radium-228	0.462	4.58	0.00513	pci/g	*1.26*	*1.26*	*1.05*	*1.24*
Thallium-208	--	1,790,000	--	pci/g	*0.342 J*	*0.371 J*	*0.309 J*	*0.375 J*
Uranium-235	--	13.5	0.0375	pci/g	--	*0.14 J*	*0.167 J*	*0.0747 J*
Stontium 90								
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	--	--	--	--

Table 1.2.6A
Paradise Creek Tidal Wetland Sediment Isotopic Human Health Risk Screening

Analyte	Background - Elizabeth River Sediments	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Location ID	PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Gamma Spectroscopy								
Bismuth-212	--	3,210,000	--	pci/g	*0.887 J*	*0.591 J*	*1.29 J*	*1.32 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.51 J*	*0.401 J*	*0.578 J*	*0.618 J*
Cesium-137	--	5.34	0.0098	pci/g	--	*0.105*	*0.0807*	*0.0193*
Lead-212	--	310,000	0.0185	pci/g	*0.734 J*	*0.462 J*	*1.19 J*	*1.24 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.58 J*	*0.451 J*	*0.685 J*	*0.729 J*
Potassium-40	--	11.5	0.0000118	pci/g	*10.8*	*4.85*	***17.5***	***17.7***
Radium-228	0.462	4.58	0.00513	pci/g	*0.84*	*0.535*	*1.25*	*1.28*
Thallium-208	--	1,790,000	--	pci/g	*0.26 J*	*0.156 J*	*0.349 J*	*0.386 J*
Uranium-235	--	13.5	0.0375	pci/g	*0.0845 J*	*0.0441 J*	--	--
Stontium 90								
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	--	--	*0.81*	--

Table 1.2.6A
Paradise Creek Tidal Wetland Sediment Isotopic Human Health Risk Screening

Analyte	Background - Elizabeth River Sediments	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Duplicate
Gamma Spectroscopy									
Bismuth-212	--	3,210,000	--	pci/g	*1.21 J*	*1.25 J*	*1.19 J*	*1.61 J*	*1.12 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.668 J*	*0.573 J*	*0.882 J*	***1.39 J***	*0.966 J*
Cesium-137	--	5.34	0.0098	pci/g	--	--	*0.162*	*0.128*	*0.0772*
Lead-212	--	310,000	0.0185	pci/g	*0.964 J*	*1.11 J*	*0.923 J*	*1.28 J*	*0.96 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.76 J*	*0.654 J*	***1.12 J***	***1.66 J***	***1.13 J***
Potassium-40	--	11.5	0.0000118	pci/g	***15.8***	***16.6***	***13.1***	***15***	*11.4*
Radium-228	0.462	4.58	0.00513	pci/g	*1.09*	*1.23*	*1.04*	*1.48*	*0.971*
Thallium-208	--	1,790,000	--	pci/g	*0.338 J*	*0.35 J*	*0.307 J*	*0.448 J*	*0.32 J*
Uranium-235	--	13.5	0.0375	pci/g	--	--	--	--	*0.108 J*
Stontium 90									
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	*0.437*	--	--	--	--

Table 1.2.6A
Paradise Creek Tidal Wetland Sediment Isotopic Human Health Risk Screening

Analyte	Background - Elizabeth River Sediments	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Gamma Spectroscopy								
Bismuth-212	--	3,210,000	--	pci/g	*1.28 J*	*1.06 J*	*0.914 J*	*1.19 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.481 J*	*0.553 J*	*0.636 J*	*0.622 J*
Cesium-137	--	5.34	0.0098	pci/g	*0.019*	--	*0.128*	*0.0757*
Lead-212	--	310,000	0.0185	pci/g	*1.08 J*	*0.952 J*	*0.903 J*	*1.04 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.592 J*	*0.628 J*	*0.746 J*	*0.759 J*
Potassium-40	--	11.5	0.0000118	pci/g	***16.3***	***14.2***	***12.7***	***15.3***
Radium-228	0.462	4.58	0.00513	pci/g	*1.15*	*1.06*	*0.991*	*1.06*
Thallium-208	--	1,790,000	--	pci/g	*0.339 J*	*0.322 J*	*0.276 J*	*0.332 J*
Uranium-235	--	13.5	0.0375	pci/g	*0.124 J*	*0.0973 J*	--	--
Stontium 90								
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	--	--	--	*0.39*

Table 1.2.6A
Paradise Creek Tidal Wetland Sediment Isotopic Human Health Risk Screening

Analyte	Background - Elizabeth River Sediments	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
Gamma Spectroscopy									
Bismuth-212	--	3,210,000	--	pci/g	*1.3 J*	*1.44 J*	*1.37 J*	*1.06 J*	*1.22 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.585 J*	*0.589 J*	*0.563 J*	*0.439 J*	*0.541 J*
Cesium-137	--	5.34	0.0098	pci/g	--	--	--	*0.0858*	--
Lead-212	--	310,000	0.0185	pci/g	*1.18 J*	*1.2 J*	*1.03 J*	*0.741 J*	*0.874 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.68 J*	*0.66 J*	*0.661 J*	*0.534 J*	*0.604 J*
Potassium-40	--	11.5	0.0000118	pci/g	***18.6***	***17***	***16.4***	***12.4***	***13.8***
Radium-228	0.462	4.58	0.00513	pci/g	*1.3*	*1.25*	*1.23*	*0.889*	*1.01*
Thallium-208	--	1,790,000	--	pci/g	*0.363 J*	*0.351 J*	*0.363 J*	*0.253 J*	*0.315 J*
Uranium-235	--	13.5	0.0375	pci/g	--	*0.151 J*	--	--	--
Stontium 90									
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	--	--	--	--	--

Table 1.2.6A
Paradise Creek Tidal Wetland Sediment Isotopic Human Health Risk Screening

Analyte	Background - Elizabeth River Sediments	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Location ID	PCWLSD13		PCWLSD14	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Gamma Spectroscopy								
Bismuth-212	--	3,210,000	--	pci/g	*1.21 J*	*1.32 J*	*1.18 J*	*1.39 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.545 J*	*0.571 J*	*0.559 J*	*0.6 J*
Cesium-137	--	5.34	0.0098	pci/g	*0.0963*	*0.0421*	*0.19*	*0.0475*
Lead-212	--	310,000	0.0185	pci/g	*0.927 J*	*0.929 J*	*0.855 J*	*0.962 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.677 J*	*0.673 J*	*0.65 J*	*0.643 J*
Potassium-40	--	11.5	0.0000118	pci/g	***16.5***	***16.7***	***14.6***	***15.3***
Radium-228	0.462	4.58	0.00513	pci/g	*1.13*	*1.14*	*1.03*	*1.13*
Thallium-208	--	1,790,000	--	pci/g	*0.33 J*	*0.313 J*	*0.3 J*	*0.336 J*
Uranium-235	--	13.5	0.0375	pci/g	--	--	--	*0.17 J*
Stontium 90								
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	--	--	*0.335*	--

Table 1.2.6A
Paradise Creek Tidal Wetland Sediment Isotopic Human Health Risk Screening

Analyte	Background - Elizabeth River Sediments	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Location ID	PCWLSD15		PCWLSD16	
				Sample Location	PCWLSD15-000005	PCWLSD15-005020	PCWLSD16-000005	PCWLSD16-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Gamma Spectroscopy								
Bismuth-212	--	3,210,000	--	pci/g	*0.774 J*	*0.667 J*	*1.2 J*	*1.33 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.432 J*	*0.373 J*	*0.58 J*	*0.562 J*
Cesium-137	--	5.34	0.0098	pci/g	*0.107*	*0.0798*	*0.123*	*0.0677*
Lead-212	--	310,000	0.0185	pci/g	*0.644 J*	*0.56 J*	*0.85 J*	*0.979 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.481 J*	*0.423 J*	*0.653 J*	*0.693 J*
Potassium-40	--	11.5	0.0000118	pci/g	*8.48*	*6.84*	***15.4***	***17.1***
Radium-228	0.462	4.58	0.00513	pci/g	*0.69*	*0.55*	*1.05*	*1.18*
Thallium-208	--	1,790,000	--	pci/g	*0.203 J*	*0.172 J*	*0.32 J*	*0.329 J*
Uranium-235	--	13.5	0.0375	pci/g	--	*0.0372 J*	*0.0715 J*	*0.12 J*
Stontium 90								
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	--	--	--	--

Table 1.2.6A
Paradise Creek Tidal Wetland Sediment Isotopic Human Health Risk Screening

Analyte	Background - Elizabeth River Sediments	Sediment PRGs - Direct Contact (Calculated) [1]	Sediment PRG - Fish, Crab, Oyster Consumption (Calculated) [2]	Location ID	PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Gamma Spectroscopy								
Bismuth-212	--	3,210,000	--	pci/g	*0.825 J*	*0.951 J*	*0.716 J*	*0.823 J*
Bismuth-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.588 J*	*0.524 J*	*0.401 J*	*0.464 J*
Cesium-137	--	5.34	0.0098	pci/g	*0.0877*	--	*0.046*	--
Lead-212	--	310,000	0.0185	pci/g	*0.801 J*	*0.84 J*	*0.579 J*	*0.66 J*
Lead-214	--	1.09 [4]	0.0142 [4]	pci/g	*0.632 J*	*0.597 J*	*0.456 J*	*0.515 J*
Potassium-40	--	11.5	0.0000118	pci/g	***14.4***	***12.8***	*11.5*	***11.9***
Radium-228	0.462	4.58	0.00513	pci/g	*0.96*	*0.816*	*0.68*	*0.706*
Thallium-208	--	1,790,000	--	pci/g	*0.302 J*	*0.258 J*	*0.21 J*	*0.215 J*
Uranium-235	--	13.5	0.0375	pci/g	*0.104 J*	*0.0593 J*	--	*0.0618 J*
Stontium 90								
Strontium-90 [3]	-- [3]	53.1	0.128	pci/g	--	--	--	--

Table 1.2.6A
Paradise Creek Tidal Wetland Sediment Isotopic Human Health Risk Screening

(1) Obtained from the USEPA Radionuclide PRG Calculator, http://epa-prgs.ornl.gov/radionuclides

(2) Sediment PRG concentrations protective of the fish, crab, and oyster consumption exposure pathways were calculated using the following equation: Tissue PRG / BCF * Kd = Sediment PRG

(3) Unvalidated data provided

-- = no screening value/ not detected
bgs = below ground surface
ft = feet
pci/g = picocuries per gram
PRG = preliminary remedial goal
UTL = upper tolerance limit
USEPA = U.S. Environmental Protection Agency
RSL = Regional Screening Level
J = indicates an estimated value

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding calculated sediment PRGs for direct contact are **Bolded**
Results exceeding calculated sediment PRGs protective of fish, crab and oyster consumption (lowest PRG shown) are Underlined

Table 1.2.6B
Paradise Creek Tidal Wetland Sediments Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD01		PCWLSD02		PCWLSD03	
				Sample Location	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020
				Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Gamma Spectroscopy										
Bismuth-212	--	1400	--	pci/g	*1.09 J*	*1.39 J*	*1.19 J*	*1.22 J*	*1.29 J*	*1.34 J*
Bismuth-214	--	1400	--	pci/g	*0.587 J*	*0.626 J*	*0.546 J*	*0.571 J*	*0.661 J*	*0.635 J*
Cesium-137	--	1400	--	pci/g	*0.241*	*0.0731*	*0.376*	*0.0246*	*0.238*	*0.13*
Lead-212	--	1400	--	pci/g	*1.02 J*	*1.05 J*	*0.868 J*	*0.969 J*	*0.995 J*	*1.17 J*
Lead-214	--	1400	--	pci/g	*0.695 J*	*0.727 J*	*0.603 J*	*0.64 J*	*0.814 J*	*0.765 J*
Potassium-40	--	1400	--	pci/g	*14.5*	*17.2*	*13.9*	*16.3*	*16.6*	*17.2*
Radium-228	--	1400	--	pci/g	*1.09*	*1.27*	*1.06*	*1.11*	*1.26*	*1.26*
Thallium-208	--	1400	--	pci/g	*0.296 J*	*0.361 J*	*0.315 J*	*0.339 J*	*0.342 J*	*0.371 J*
Uranium-235	--	1400	--	pci/g	--	--	--	*0.146 J*	--	*0.14 J*
Stontium 90										
Strontium-90 [2]	-- [2]	3400	--	pci/g	--	--	--	--	--	--

Table 1.2.6B
Paradise Creek Tidal Wetland Sediments Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD04		PCWLSD05		PCWLSD06	
				Sample Location	PCWLSD04-000005	PCWLSD04-005020	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Gamma Spectroscopy										
Bismuth-212	--	1400	--	pci/g	*1.21 J*	*1.42 J*	*0.887 J*	*0.591 J*	*1.29 J*	*1.32 J*
Bismuth-214	--	1400	--	pci/g	*0.576 J*	*0.619 J*	*0.51 J*	*0.401 J*	*0.578 J*	*0.618 J*
Cesium-137	--	1400	--	pci/g	*0.165*	*0.053*	--	*0.105*	*0.0807*	*0.0193*
Lead-212	--	1400	--	pci/g	*0.868 J*	*1.11 J*	*0.734 J*	*0.462 J*	*1.19 J*	*1.24 J*
Lead-214	--	1400	--	pci/g	*0.675 J*	*0.715 J*	*0.58 J*	*0.451 J*	*0.685 J*	*0.729 J*
Potassium-40	--	1400	--	pci/g	*14.4*	*15.7*	*10.8*	*4.85*	*17.5*	*17.7*
Radium-228	--	1400	--	pci/g	*1.05*	*1.24*	*0.84*	*0.535*	*1.25*	*1.28*
Thallium-208	--	1400	--	pci/g	*0.309 J*	*0.375 J*	*0.26 J*	*0.156 J*	*0.349 J*	*0.386 J*
Uranium-235	--	1400	--	pci/g	*0.167 J*	*0.0747 J*	*0.0845 J*	*0.0441 J*	--	--
Stontium 90										
Strontium-90 [2]	-- [2]	3400	--	pci/g	--	--	--	--	*0.81*	--

Table 1.2.6B
Paradise Creek Tidal Wetland Sediments Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD07		PCWLSD08		
				Sample Location	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SED-DUP08
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Duplicate
Gamma Spectroscopy									
Bismuth-212	--	1400	--	pci/g	*1.21 J*	*1.25 J*	*1.19 J*	*1.61 J*	*1.12 J*
Bismuth-214	--	1400	--	pci/g	*0.668 J*	*0.573 J*	*0.882 J*	*1.39 J*	*0.966 J*
Cesium-137	--	1400	--	pci/g	--	--	*0.162*	*0.128*	*0.0772*
Lead-212	--	1400	--	pci/g	*0.964 J*	*1.11 J*	*0.923 J*	*1.28 J*	*0.96 J*
Lead-214	--	1400	--	pci/g	*0.76 J*	*0.654 J*	*1.12 J*	*1.66 J*	*1.13 J*
Potassium-40	--	1400	--	pci/g	*15.8*	*16.6*	*13.1*	*15*	*11.4*
Radium-228	--	1400	--	pci/g	*1.09*	*1.23*	*1.04*	*1.48*	*0.971*
Thallium-208	--	1400	--	pci/g	*0.338 J*	*0.35 J*	*0.307 J*	*0.448 J*	*0.32 J*
Uranium-235	--	1400	--	pci/g	--	--	--	--	*0.108 J*
Stontium 90									
Strontium-90 [2]	-- [2]	3400	--	pci/g	*0.437*	--	--	--	--

Table 1.2.6B
Paradise Creek Tidal Wetland Sediments Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD09		PCWLSD10	
				Sample Location	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal
Gamma Spectroscopy								
Bismuth-212	--	1400	--	pci/g	*1.28 J*	*1.06 J*	*0.914 J*	*1.19 J*
Bismuth-214	--	1400	--	pci/g	*0.481 J*	*0.553 J*	*0.636 J*	*0.622 J*
Cesium-137	--	1400	--	pci/g	*0.019*	--	*0.128*	*0.0757*
Lead-212	--	1400	--	pci/g	*1.08 J*	*0.952 J*	*0.903 J*	*1.04 J*
Lead-214	--	1400	--	pci/g	*0.592 J*	*0.628 J*	*0.746 J*	*0.759 J*
Potassium-40	--	1400	--	pci/g	*16.3*	*14.2*	*12.7*	*15.3*
Radium-228	--	1400	--	pci/g	*1.15*	*1.06*	*0.991*	*1.06*
Thallium-208	--	1400	--	pci/g	*0.339 J*	*0.322 J*	*0.276 J*	*0.332 J*
Uranium-235	--	1400	--	pci/g	*0.124 J*	*0.0973 J*	--	--
Stontium 90								
Strontium-90 [2]	-- [2]	3400	--	pci/g	--	--	--	*0.39*

Table 1.2.6B
Paradise Creek Tidal Wetland Sediments Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD11			PCWLSD12	
				Sample Location	PCWLSD11-000005	PCWLSD11-005020	FE05SED-DUP09	PCWLSD12-000005	PCWLSD12-005020
				Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Duplicate	Normal	Normal
Gamma Spectroscopy									
Bismuth-212	--	1400	--	pci/g	*1.3 J*	*1.44 J*	*1.37 J*	*1.06 J*	*1.22 J*
Bismuth-214	--	1400	--	pci/g	*0.585 J*	*0.589 J*	*0.563 J*	*0.439 J*	*0.541 J*
Cesium-137	--	1400	--	pci/g	--	--	--	*0.0858*	--
Lead-212	--	1400	--	pci/g	*1.18 J*	*1.2 J*	*1.03 J*	*0.741 J*	*0.874 J*
Lead-214	--	1400	--	pci/g	*0.68 J*	*0.66 J*	*0.661 J*	*0.534 J*	*0.604 J*
Potassium-40	--	1400	--	pci/g	*18.6*	*17*	*16.4*	*12.4*	*13.8*
Radium-228	--	1400	--	pci/g	*1.3*	*1.25*	*1.23*	*0.889*	*1.01*
Thallium-208	--	1400	--	pci/g	*0.363 J*	*0.351 J*	*0.363 J*	*0.253 J*	*0.315 J*
Uranium-235	--	1400	--	pci/g	--	*0.151 J*	--	--	--
Stontium 90									
Strontium-90 [2]	-- [2]	3400	--	pci/g	--	--	--	--	--

Table 1.2.6B
Paradise Creek Tidal Wetland Sediments Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
				Sample Location	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
				Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Gamma Spectroscopy										
Bismuth-212	--	1400	--	pci/g	*1.21 J*	*1.32 J*	*1.18 J*	*1.39 J*	*0.774 J*	*0.667 J*
Bismuth-214	--	1400	--	pci/g	*0.545 J*	*0.571 J*	*0.559 J*	*0.6 J*	*0.432 J*	*0.373 J*
Cesium-137	--	1400	--	pci/g	*0.0963*	*0.0421*	*0.19*	*0.0475*	*0.107*	*0.0798*
Lead-212	--	1400	--	pci/g	*0.927 J*	*0.929 J*	*0.855 J*	*0.962 J*	*0.644 J*	*0.56 J*
Lead-214	--	1400	--	pci/g	*0.677 J*	*0.673 J*	*0.65 J*	*0.643 J*	*0.481 J*	*0.423 J*
Potassium-40	--	1400	--	pci/g	*16.5*	*16.7*	*14.6*	*15.3*	*8.48*	*6.84*
Radium-228	--	1400	--	pci/g	*1.13*	*1.14*	*1.03*	*1.13*	*0.69*	*0.55*
Thallium-208	--	1400	--	pci/g	*0.33 J*	*0.313 J*	*0.3 J*	*0.336 J*	*0.203 J*	*0.172 J*
Uranium-235	--	1400	--	pci/g	--	--	--	*0.17 J*	--	*0.0372 J*
Stontium 90										
Strontium-90 [2]	-- [2]	3400	--	pci/g	--	--	*0.335*	--	--	--

Table 1.2.6B
Paradise Creek Tidal Wetland Sediments Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks [1]	Sediment - NOAA SQuiRTs, Freshwater Sediment	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
				Sample Location	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
				Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
				Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
				Sample	Normal	Normal	Normal	Normal	Normal	Normal
Gamma Spectroscopy										
Bismuth-212	--	1400	--	pci/g	*1.2 J*	*1.33 J*	*0.825 J*	*0.951 J*	*0.716 J*	*0.823 J*
Bismuth-214	--	1400	--	pci/g	*0.58 J*	*0.562 J*	*0.588 J*	*0.524 J*	*0.401 J*	*0.464 J*
Cesium-137	--	1400	--	pci/g	*0.123*	*0.0677*	*0.0877*	--	*0.046*	--
Lead-212	--	1400	--	pci/g	*0.85 J*	*0.979 J*	*0.801 J*	*0.84 J*	*0.579 J*	*0.66 J*
Lead-214	--	1400	--	pci/g	*0.653 J*	*0.693 J*	*0.632 J*	*0.597 J*	*0.456 J*	*0.515 J*
Potassium-40	--	1400	--	pci/g	*15.4*	*17.1*	*14.4*	*12.8*	*11.5*	*11.9*
Radium-228	--	1400	--	pci/g	*1.05*	*1.18*	*0.96*	*0.816*	*0.68*	*0.706*
Thallium-208	--	1400	--	pci/g	*0.32 J*	*0.329 J*	*0.302 J*	*0.258 J*	*0.21 J*	*0.215 J*
Uranium-235	--	1400	--	pci/g	*0.0715 J*	*0.12 J*	*0.104 J*	*0.0593 J*	--	*0.0618 J*
Stontium 90										
Strontium-90 [2]	-- [2]	3400	--	pci/g	--	--	--	--	--	--

(1) More conservative of the freshwater or marine benchmark provided

(2) Positive and non detect data currently unvalidated

-- = no screening value/not detected
bgs = below ground surface
BTAG = USEPA Region 3 Biological Technical Assistance Group
ft = feet
NOAA = National Oceanographic and Atmospheric Administration
pci/g = picocuries per gram
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
SQuiRTS = Screening Quick Reference Tables
J = indicates an estimated value

Results exceeding the Elizabeth River background sediment analyte UTLs ar*Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark ar**Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark ar<u>Underlined</u>

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Table 1.2.7
Paradise Creek Tidal Wetland Sediment Miscellaneous Chemistry

Sample Location	Analyte		Grain Size				Total Solids	pH	TOC
	Date Collected	Sample Depth (bgs)	Clay % by wt	Sand % by wt	Silt % by wt	Description	% by wt	PH	mg/kg
PCWLSD01	6/22/2015	0-0.5 ft	--	--	--	--	--	6.38 H	--
	6/22/2015	0.5-2 ft	--	--	--	--	--	7.33 H	42000
PCWLSD02	6/17/2015	0-0.5 ft	--	--	--	--	--	7.32 H	--
	6/17/2015	0.5-2 ft	--	--	--	--	--	7.48 H	--
PCWLSD03	6/22/2015	0-0.5 ft	57.4	5	37.6	Silts and Clays	--	7.07 H	--
	6/22/2015	0.5-2 ft	--	--	--	--	--	7.24 H	37000
PCWLSD04	6/17/2015	0-0.5 ft	--	--	--	--	--	7.29 H	--
	6/17/2015	0.5-2 ft	--	--	--	--	33.8	7.67 H	--
PCWLSD05	6/17/2015	0-0.5 ft	--	--	--	--	--	7.66 H	--
	6/17/2015	0.5-2 ft	--	--	--	--	--	7.43 H	41000
PCWLSD06	6/22/2015	0-0.5 ft	--	--	--	--	31.2	7.31 H	--
	6/22/2015	0.5-2 ft	--	--	--	--	29.3	7.22 H	--
PCWLSD07	6/22/2015	0-0.5 ft	--	--	--	--	--	7.42 H	--
	6/22/2015	0.5-2 ft	--	--	--	--	--	7.63 H	49000
PCWLSD08	6/22/2015	0.5-2 ft	37.2	30.7	32.1	Silts and Clays	--	--	--
PCWLSD09	6/22/2015	0-0.5 ft	--	--	--	--	28.4	7.25 H	--
	6/22/2015	0.5-2 ft	49.5	5.3	45.3	Silts and Clays	32	7.5 H	50000
PCWLSD10	6/22/2015	0-0.5 ft	--	--	--	--	--	7.39 H	--
	6/22/2015	0.5-2 ft	53.3	7.9	38.8	Silts and Clays	--	7.25 H	--
PCWLSD11	6/22/2015	0-0.5 ft	--	--	--	--	35.7	7.59 H	--
	6/22/2015	0.5-2 ft	--	--	--	--	36.1	7.55 H	52000
	6/22/2015	0.5-2 ft	--	--	--	--	36.5	7.73 H	52000
PCWLSD12	6/22/2015	0-0.5 ft	--	--	--	--	--	7.34 H	--
	6/22/2015	0.5-2 ft	--	--	--	--	--	7.28 H	--
PCWLSD13	6/23/2015	0-0.5 ft	57.5	8.3	34.2	Silts and Clays	--	7.15 H	--
	6/23/2015	0.5-2 ft	--	--	--	--	--	7.35 H	42000
PCWLSD14	6/23/2015	0-0.5 ft	--	--	--	--	--	7.11 H	--
	6/23/2015	0.5-2 ft	--	--	--	--	--	7.31 H	--
PCWLSD15	6/21/2015	0-0.5 ft	17.3	54	28.7	Silty Sand	50.9	--	--
	6/21/2015	0.5-2 ft	16.8	57.1	26.1	Silty Sand	66	--	--
PCWLSD18	6/21/2015	0-0.5 ft	29.8	50.2	20	Clayey Sand	--	--	--
	6/21/2015	0.5-2 ft	18.5	45	36.6	Silts and Clays	--	--	--

-- = not sampled
bgs = below ground surface
ft = feet
mg/kg = miligrams per kilogram
% by wt = percent by weight
TOC = total organic carbon

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Table 1.3.1A
Paradise Creek Surface Water Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Human Health Ambient Water Quality Criteria [2]	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
			Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
			Units	Result	Result	Result	Result	Result	Result	Result
Metals										
Aluminum	165	--	µg/L	*276*	*344*	*254*	*433*	*470*	*524*	*468*
Arsenic	1.8	0.018	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Barium	29.7	1000	µg/L	*46.6 J*	*48 J*	*45.9 J*	*50.3 J*	*49 J*	*47.1 J*	*39.1 J*
Calcium	212000	--	µg/L	181000	178000	181000	182000	179000	164000	192000
Chromium	2.8	--	µg/L	1.7 J	2.4 J	1.4 J	1.6 J	1.8 J	2.6 J	*3.4 J*
Copper	7.7	1300	µg/L	4.4 J	3.7 J	4.6 J	3.9 J	4 J	5.6 J	25 U
Iron	301	--	µg/L	*669 J*	*788 J*	*701 J*	*954 J*	*972 J*	*938 J*	*786 J*
Lead	1.2	--	µg/L	*2.8 J*	*3.1 J*	10 U	10 U	10 U	*3.2 J*	10 U
Magnesium	659000	--	µg/L	529000	515000	526000	523000	515000	468000	567000
Manganese	29.1	50	µg/L	*108*	*108*	*108*	*121*	*118*	*98.7*	*111*
Nickel	1.9	610	µg/L	*4 J*	*4.1 J*	*3.5 J*	*4 J*	*4.3 J*	*4 J*	*7.1 J*
Potassium	200000	--	µg/L	179000	177000	181000	180000	178000	162000	195000
Selenium	42.7	170	µg/L	35 U	35 U	35 U	35 U	35 U	35 U	35 U
Sodium	5480000	--	µg/L	4261000	4188900	4106700	4090000	4097500	3956400	4538500
Thallium	--	0.24	µg/L	25 U	*2.2 J*	25 U	*3 J*	*3.1 J*	25 U	*2.8 J*
Vanadium	--	--	µg/L	50 U	*6.3 J*	50 U	50 U	50 U	50 U	50 U
Zinc	19.2	7400	µg/L	60 U	60 U	60 U	60 U	60 U	*24.2 J*	60 U
Miscellaneous Chemistry										
Hardness, as $CaCO_3$	--	--	mg/L	*2630*	*2570*	*2620*	*2610*	*2570*	*2340*	*2810*

Table 1.3.1A
Paradise Creek Surface Water Metals Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Human Health Ambient Water Quality Criteria [2]	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
			Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
			Units	Result	Result	Result	Result	Result	Result	Result
Metals										
Aluminum	165	--	µg/L	*419*	*454*	137 J	*412*	*392*	*321*	*217*
Arsenic	1.8	0.018	µg/L	***2.2 J***	10 U	10 U	***5.7 J***	***2.8 J***	***4.2 J***	***3 J***
Barium	29.7	1000	µg/L	*40.8 J*	*40.6 J*	*38.3 J*	*36 J*	26.6 J	23.2 J	20.4 J
Calcium	212000	--	µg/L	176000	176000	196000	181000	195000	202000	202000
Chromium	2.8	--	µg/L	*3.7 J*	*4 J*	1.1 J	2.2 J	1.6 J	1.2 J	10 U
Copper	7.7	1300	µg/L	4.8 J	3.8 J	3.7 J	4.6 J	25 U	4.9 J	25 U
Iron	301	--	µg/L	*727 J*	*744 J*	*380 J*	*648 J*	*532 J*	*448 J*	*335 J*
Lead	1.2	--	µg/L	*3.8 J*	*3.5 J*	10 U	10 U	10 U	*2.6 J*	10 U
Magnesium	659000	--	µg/L	514000	513000	584000	535000	589000	617000	617000
Manganese	29.1	50	µg/L	*101*	*100*	*98.3*	*94.3*	*83.6*	*81.8*	*76.2*
Nickel	1.9	610	µg/L	*16.9 J*	*12.7 J*	*3.4 J*	*3.4 J*	*3 J*	*2.9 J*	40 U
Potassium	200000	--	µg/L	179000	181000	*201000*	188000	*206000*	*215000*	*215000*
Selenium	42.7	170	µg/L	35 U	35 U	35 U	5 J	35 U	4.2 J	35 U
Sodium	5480000	--	µg/L	4231700	4332700	4754900	4467800	4758300	5117500	5109600
Thallium	--	0.24	µg/L	25 U	*3.2 J*	25 U	*3.5 J*	*3.2 J*	*2 J*	*3.8 J*
Vanadium	--	--	µg/L	50 U	*7.2 J*	50 U	50 U	50 U	*5.9 J*	50 U
Zinc	19.2	7400	µg/L	*31.2 J*	*20.5 J*	*72.6*	*20.3 J*	*28.3 J*	12.7 J	14.7 J
Miscellaneous Chemistry										
Hardness, as $CaCO_3$	--	--	mg/L	*2560*	*2550*	*2890*	*2660*	*2910*	*3050*	*3050*

Table 1.3.1A
Paradise Creek Surface Water Metals Human Health Risk Screening

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative criteria values between AWQC - water only and AWQC - water plus organism provided

-- = no screening value/ not sampled
bgs = below ground surface
ft = feet
mg/L = milligrams per liter
µg/L = micrograms per liter
UTL = upper tolerance limit
J= positive detect, value estimated

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding human health AWQC are **Bolded**

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Table 1.3.1B
Paradise Creek Surface Water Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal
				Units	Result	Result	Result	Result	Result	Result
Metals										
Aluminum	165	87	87	µg/L	***276***	***344***	***254***	***433***	***470***	***524***
Arsenic	1.8	5	36	µg/L	10 U	10 U	10 U	10 U	10 U	10 U
Barium	29.7	4	--	µg/L	***46.6 J***	***48 J***	***45.9 J***	***50.3 J***	***49 J***	***47.1 J***
Calcium	212000	--	--	µg/L	181000	178000	181000	182000	179000	164000
Chromium	2.8	11 [3]	--	µg/L	1.7 J	2.4 J	1.4 J	1.6 J	1.8 J	2.6 J
Copper	7.7	3.1	3.1	µg/L	**4.4 J**	**3.7 J**	**4.6 J**	**3.9 J**	**4 J**	**5.6 J**
Iron	301	300	1000	µg/L	***669 J***	***788 J***	***701 J***	***954 J***	***972 J***	***938 J***
Lead	1.2	2.5	2.5	µg/L	***2.8 J***	***3.1 J***	10 U	10 U	10 U	***3.2 J***
Magnesium	659000	--	--	µg/L	529000	515000	526000	523000	515000	468000
Manganese	29.1	120	--	µg/L	*108*	*108*	*108*	***121***	*118*	*98.7*
Nickel	1.9	8.2	8.2	µg/L	*4 J*	*4.1 J*	*3.5 J*	*4 J*	*4.3 J*	*4 J*
Potassium	200000	--	--	µg/L	179000	177000	181000	180000	178000	162000
Selenium	42.7	1	5	µg/L	35 U	35 U	35 U	35 U	35 U	35 U
Sodium	5480000	--	--	µg/L	4261000	4188900	4106700	4090000	4097500	3956400
Thallium	--	0.8	--	µg/L	25 U	***2.2 J***	25 U	***3 J***	***3.1 J***	25 U
Vanadium	--	--	--	µg/L	50 U	*6.3 J*	50 U	50 U	50 U	50 U
Zinc	19.2	81	81	µg/L	60 U	60 U	60 U	60 U	60 U	*24.2 J*
Miscellaneous Chemistry										
Hardness, as $CaCO_3$	--	--	--	mg/L	2630	2570	2620	2610	2570	2340

Table 1.3.1B
Paradise Creek Surface Water Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW06	PCSW07		PCSW08	PCSW09	PCSW10
				Date Collected	6/16/2015	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Duplicate	Normal	Normal	Normal
				Units	Result	Result	Result	Result	Result	Result
Metals										
Aluminum	165	87	87	µg/L	***468***	***419***	***454***	**137 J**	***412***	***392***
Arsenic	1.8	5	36	µg/L	10 U	*2.2 J*	10 U	10 U	***5.7 J***	*2.8 J*
Barium	29.7	4	--	µg/L	***39.1 J***	***40.8 J***	***40.6 J***	***38.3 J***	***36 J***	**26.6 J**
Calcium	212000	--	--	µg/L	192000	176000	176000	196000	181000	195000
Chromium	2.8	11 [3]	--	µg/L	*3.4 J*	*3.7 J*	*4 J*	1.1 J	2.2 J	1.6 J
Copper	7.7	3.1	3.1	µg/L	25 U	**4.8 J**	**3.8 J**	**3.7 J**	**4.6 J**	25 U
Iron	301	300	1000	µg/L	***786 J***	***727 J***	***744 J***	***380 J***	***648 J***	***532 J***
Lead	1.2	2.5	2.5	µg/L	10 U	***3.8 J***	***3.5 J***	10 U	10 U	10 U
Magnesium	659000	--	--	µg/L	567000	514000	513000	584000	535000	589000
Manganese	29.1	120	--	µg/L	*111*	*101*	*100*	*98.3*	*94.3*	*83.6*
Nickel	1.9	8.2	8.2	µg/L	*7.1 J*	***16.9 J***	***12.7 J***	*3.4 J*	*3.4 J*	*3 J*
Potassium	200000	--	--	µg/L	195000	179000	181000	*201000*	188000	*206000*
Selenium	42.7	1	5	µg/L	35 U	35 U	35 U	35 U	**5 J**	35 U
Sodium	5480000	--	--	µg/L	4538500	4231700	4332700	4754900	4467800	4758300
Thallium	--	0.8	--	µg/L	***2.8 J***	25 U	***3.2 J***	25 U	***3.5 J***	***3.2 J***
Vanadium	--	--	--	µg/L	50 U	50 U	*7.2 J*	50 U	50 U	50 U
Zinc	19.2	81	81	µg/L	60 U	*31.2 J*	*20.5 J*	*72.6*	*20.3 J*	*28.3 J*
Miscellaneous Chemistry										
Hardness, as $CaCO_3$	--	--	--	mg/L	2810	2560	2550	2890	2660	2910

Table 1.3.1B
Paradise Creek Surface Water Metals Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW11	PCSW12
				Date Collected	6/20/2015	6/20/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft
				Sample Type	Normal	Normal
				Units	Result	Result
Metals						
Aluminum	165	87	87	µg/L	***321***	***217***
Arsenic	1.8	5	36	µg/L	*4.2 J*	*3 J*
Barium	29.7	4	--	µg/L	**23.2 J**	**20.4 J**
Calcium	212000	--	--	µg/L	202000	202000
Chromium	2.8	11 [3]	--	µg/L	1.2 J	10 U
Copper	7.7	3.1	3.1	µg/L	**4.9 J**	25 U
Iron	301	300	1000	µg/L	***448 J***	***335 J***
Lead	1.2	2.5	2.5	µg/L	***2.6 J***	10 U
Magnesium	659000	--	--	µg/L	617000	617000
Manganese	29.1	120	--	µg/L	*81.8*	*76.2*
Nickel	1.9	8.2	8.2	µg/L	*2.9 J*	40 U
Potassium	200000	--	--	µg/L	*215000*	*215000*
Selenium	42.7	1	5	µg/L	**4.2 J**	35 U
Sodium	5480000	--	--	µg/L	5117500	5109600
Thallium	--	0.8	--	µg/L	***2 J***	***3.8 J***
Vanadium	--	--	--	µg/L	*5.9 J*	50 U
Zinc	19.2	81	81	µg/L	12.7 J	14.7 J
Miscellaneous Chemistry						
Hardness, as $CaCO_3$	--	--	--	mg/L	3050	3050

Table 1.3.1B
Paradise Creek Surface Water Metals Ecological Risk Screening

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative of the freshwater and marine benchmark provided
(3) More conservative of the AWQC freshwater (acute/chronic) and marine (acute/chronic) provided

-- = no screening value/ not sampled
bgs = below ground surface
BTAG = USEPA region 3 biological technical assistance group
TEQ = toxicity equivalent
ft = feet
mg/L = milligrams per liter
µg/L = micrograms per liter
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
AWQC = Ambient Water Quality Criteria
J = positive detection, estimated value
U = not detected; value presented equals reporting limit

Results exceeding the Elizabeth River background surface water analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding AWQC are <u>Underlined</u>

Table 1.3.2A
Paradise Creek Surface Water PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Human Health Ambient Water Quality Criteria [2]	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
			Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
			Units	Result	Result	Result	Result	Result	Result	Result
Calculated Values										
Bird TEQ (Dioxin Like PCBs)	--	0.52	pg/L	--	*0.00412*	--	*0.00584*	*0.00629*	--	*0.00651*
Fish TEQ (Dioxin Like PCBs)	--	0.52	pg/L	--	*0.000556*	--	*0.000801*	*0.000864*	--	*0.000879*
Human TEQ (Dioxin Like PCBs)	--	0.051 [3]	pg/L	--	*0.00334*	--	*0.0048*	*0.00518*	--	*0.00527*
Mammal TEQ (Dioxin Like PCBs)	--	0.52	pg/L	--	*0.00334*	--	*0.0048*	*0.00518*	--	*0.00527*
High Risk PCB Congeners	--	0.64	pg/L	--	***1160***	--	***1830***	***2190***	--	***2240***
Sum of All PCB Congeners	--	0.64	pg/L	--	***1230***	--	***1960***	***2330***	--	***2320***
TEQ WHO2005 ND=0 (PCB Congeners)	--	0.52	pg/L	--	*0.0033*	--	*0.0048*	*0.0052*	--	*0.0053*
PCB Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	19.8 U	***23.4***	--	20.1 U
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	***29.1***	***30.8***	--	***32.7***
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	0.64	pg/L	--	***29.5***	--	***42.1***	***46.4***	--	***51.3***
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	0.64	pg/L	--	***144***	--	***202***	***220***	--	***248***
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	***25.1***	***26.9***	--	***31.5***
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	0.64	pg/L	--	***29.6***	--	***38.7***	***43.7***	--	***51.3***
2,2',3,3',4,6'-Hexachlorobiphenyl	--	0.64	pg/L	--	***39.9***	--	***52.3***	***59.8***	--	***68.8***
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	19.8 U	***21.2***	--	***22.7***
2,2',3,3',6,6'-Hexachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	***21.6***
2,2',3,3',6-Pentachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	***23***	***27.5***	--	***28.8***
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	19.8 U	***22***	--	***21.3***
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	0.64	pg/L	--	***50.5***	--	***66.2***	***73.5***	--	***79.1***
2,2',3,4,5,5'-Hexachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	***27.2***	***28.7***	--	***34.5***
2,2',3,4',5,5'-Hexachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	***23.6***	***26.9***	--	***28.9***
2,2',3,5,5'-Pentachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	***21.9***	***23.9***	--	***24.7***
2,2',3,5',6-Pentachlorobiphenyl	--	0.64	pg/L	--	***65.2***	--	***81.7***	***92***	--	***100***
2,2',4,4',5-Pentachlorobiphenyl	--	0.64	pg/L	--	***36.6***	--	***49.2***	***53.3***	--	***55.7***
2,2',5,5'-Tetrachlorobiphenyl	--	0.64	pg/L	--	***70.4***	--	***84***	***90.4***	--	***89.3***
2,2'-Dichlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	19.8 U	***20.7***	--	20.1 U
2,3,3',4,4'-Pentachlorobiphenyl	--	0.64	pg/L	--	***33.4***	--	***47.1***	***50.7***	--	***52.8***
2,3,3',4'-Tetrachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	19.8 U	***20.6***	--	20.1 U

Table 1.3.2A
Paradise Creek Surface Water PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Human Health Ambient Water Quality Criteria [2]	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
			Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
			Units	Result	Result	Result	Result	Result	Result	Result
2,3',4,4',5-Pentachlorobiphenyl	--	0.64	pg/L	--	***77.8***	--	***113***	***122***	--	***123***
2,3',4,4'-Tetrachlorobiphenyl	--	0.64	pg/L	--	***35.1***	--	***47***	***48.7***	--	***47.3***
2,3,4',6-Tetrachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	***22***	***23.5***	--	***21.7***
2,4',5-Trichlorobiphenyl	--	0.64	pg/L	--	***27.6***	--	***31.1***	***33.6***	--	***32.4***
3,3'-Dichlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	***41***	***39.9***	--	20.1 U
BZ#153 & BZ#168	--	0.64	pg/L	--	***114***	--	***158***	***172***	--	***190***
Co-elute: PCB#44, PCB#47, PCB#65	--	0.64	pg/L	--	***67.1***	--	***81***	***89.5***	--	***88.2***
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	0.64	pg/L	--	85.7 U	--	79.3 U	***85***	--	80.4 U
Co-elute: PCB#90, PCB#101, and PCB#113	--	0.64	pg/L	--	***90***	--	***118***	***131***	--	***137***
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	0.64	pg/L	--	42.8 U	--	***51.2***	***54.5***	--	***51.7***
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	0.64	pg/L	--	***43.7***	--	***50.6***	***52.8***	--	***51.7***
Decachlorobiphenyl	--	0.64	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
PCB110 & 115	--	0.64	pg/L	--	***112***	--	***148***	***163***	--	***181***
PCB135 & 151	--	0.64	pg/L	--	42.8 U	--	***54.8***	***62***	--	***69.3***
PCB147 & 149	--	0.64	pg/L	--	***94.2***	--	***130***	***143***	--	***164***
PCB180 & 193	--	0.64	pg/L	--	***70.6***	--	***98.6***	***110***	--	***121***

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative criteria values between AWQC - water only and AWQC - water plus organism provided
(3) Virginia Water Quality Criterion caluclated to protect human health from toxic effects through fish consumption.

-- = no screening value/ not sampled
bgs = below ground surface
ft = feet
pg/L = picograms per liter
UTL = upper tolerance limit
J = indicates an estimated value

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding human health AWQC are **Bolded**

Table 1.3.2A
Paradise Creek Surface Water PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Human Health Ambient Water Quality Criteria [2]	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
			Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
			Units	Result	Result	Result	Result	Result	Result	Result
Calculated Values										
Bird TEQ (Dioxin Like PCBs)	--	0.52	pg/L	*0.00549*	*0.00462*	--	--	--	*0.00428*	--
Fish TEQ (Dioxin Like PCBs)	--	0.52	pg/L	*0.000743*	*0.000633*	--	--	--	*0.000604*	--
Human TEQ (Dioxin Like PCBs)	--	0.051 [3]	pg/L	*0.00446*	*0.0038*	--	--	--	*0.00362*	--
Mammal TEQ (Dioxin Like PCBs)	--	0.52	pg/L	*0.00446*	*0.0038*	--	--	--	*0.00362*	--
High Risk PCB Congeners	--	0.64	pg/L	***1820***	***1510***	--	--	--	***1160***	--
Sum of All PCB Congeners	--	0.64	pg/L	***1940***	***1620***	--	--	--	***1220***	--
TEQ WHO2005 ND=0 (PCB Congeners)	--	0.52	pg/L	*0.0044*	*0.0038*	--	--	--	*0.0036*	--
PCB Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	0.64	pg/L	***31.8***	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	0.64	pg/L	***23.6***	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	0.64	pg/L	***41.8***	***31.3***	--	--	--	***30.3***	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	--	0.64	pg/L	***185***	***151***	--	--	--	***138***	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	0.64	pg/L	***24***	***20.1***	--	--	--	23.8 U	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	0.64	pg/L	***41***	***31.2***	--	--	--	***30.7***	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	0.64	pg/L	***51.2***	***43.9***	--	--	--	***41.4***	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	0.64	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	0.64	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',6-Pentachlorobiphenyl	--	0.64	pg/L	***22.1***	***21.7***	--	--	--	23.8 U	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	0.64	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	0.64	pg/L	***63.8***	***51.9***	--	--	--	***52.4***	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	0.64	pg/L	***25.8***	***22***	--	--	--	23.8 U	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	0.64	pg/L	***20.7***	19.9 U	--	--	--	23.8 U	--
2,2',3,5,5'-Pentachlorobiphenyl	--	0.64	pg/L	***20.8***	***20***	--	--	--	23.8 U	--
2,2',3,5',6-Pentachlorobiphenyl	--	0.64	pg/L	***79.4***	***78.3***	--	--	--	***71.2***	--
2,2',4,4',5-Pentachlorobiphenyl	--	0.64	pg/L	***54***	***48.2***	--	--	--	***47***	--
2,2',5,5'-Tetrachlorobiphenyl	--	0.64	pg/L	***79.1***	***82.3***	--	--	--	***74.7***	--
2,2'-Dichlorobiphenyl	--	0.64	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4,4'-Pentachlorobiphenyl	--	0.64	pg/L	***44.5***	***37.3***	--	--	--	***34.1***	--
2,3,3',4'-Tetrachlorobiphenyl	--	0.64	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--

Table 1.3.2A
Paradise Creek Surface Water PCBs Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Human Health Ambient Water Quality Criteria [2]	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
			Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
			Units	Result	Result	Result	Result	Result	Result	Result
2,3',4,4',5-Pentachlorobiphenyl	--	0.64	pg/L	***104***	***89.2***	--	--	--	***86.7***	--
2,3',4,4'-Tetrachlorobiphenyl	--	0.64	pg/L	***38.4***	***36.9***	--	--	--	***33.3***	--
2,3,4',6-Tetrachlorobiphenyl	--	0.64	pg/L	***21.1***	***20.8***	--	--	--	23.8 U	--
2,4',5-Trichlorobiphenyl	--	0.64	pg/L	***31.7***	***30.1***	--	--	--	***24.8***	--
3,3'-Dichlorobiphenyl	--	0.64	pg/L	***38.9***	***34.8***	--	--	--	***34.6***	--
BZ#153 & BZ#168	--	0.64	pg/L	***149***	***123***	--	--	--	***118***	--
Co-elute: PCB#44, PCB#47, PCB#65	--	0.64	pg/L	***76.2***	***79***	--	--	--	71.5 U	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	0.64	pg/L	81.6 U	79.4 U	--	--	--	95.4 U	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	0.64	pg/L	***118***	***109***	--	--	--	***100***	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	0.64	pg/L	***45.8***	***48***	--	--	--	47.7 U	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	0.64	pg/L	***48.6***	***46.8***	--	--	--	47.7 U	--
Decachlorobiphenyl	--	0.64	pg/L	***37.5***	19.9 U	--	--	--	23.8 U	--
PCB110 & 115	--	0.64	pg/L	***143***	***129***	--	--	--	***124***	--
PCB135 & 151	--	0.64	pg/L	***53.1***	***47.9***	--	--	--	47.7 U	--
PCB147 & 149	--	0.64	pg/L	***131***	***108***	--	--	--	***104***	--
PCB180 & 193	--	0.64	pg/L	***95.6***	***76.1***	--	--	--	***75.1***	--

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative criteria values between AWQC - water only and AWQC - water plus organism provided
(3) Virginia Water Quality Criterion caluclated to protect human health from toxic effects through fish consumption.

-- = no screening value/ not sampled
bgs = below ground surface
ft = feet
pg/L = picograms per liter
UTL = upper tolerance limit
J = indicates an estimated value

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding human health AWQC are **Bolded**

Table 1.3.2B
Paradise Creek Surface Water PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW01	PCSW02	PCSW03	PCSW04	
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
				Units	Result	Result	Result	Result	Result
Calculated Values									
High Risk PCB Congeners	--	--	--	pg/L	--	*1160*	--	*1830*	*2190*
Sum of All PCB Congeners	--	--	--	pg/L	--	*1230*	--	*1960*	*2330*
TEQ WHO2005 ND=0 (PCB Congeners)	--	--	--	pg/L	--	*0.0033*	--	*0.0048*	*0.0052*
Bird TEQ (Dioxin Like PCBs)	--	--	--	pg/L	--	*0.00412*	--	*0.00584*	*0.00629*
Fish TEQ (Dioxin Like PCBs)	--	--	--	pg/L	--	*0.000556*	--	*0.000801*	*0.000864*
Human TEQ (Dioxin Like PCBs)	--	--	--	pg/L	--	*0.00334*	--	*0.0048*	*0.00518*
Mammal TEQ (Dioxin Like PCBs)	--	--	--	pg/L	--	*0.00334*	--	*0.0048*	*0.00518*
PCB Congeners									
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	19.8 U	*23.4*
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	*29.1*	*30.8*
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	--	--	pg/L	--	*29.5*	--	*42.1*	*46.4*
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB	--	--	--	pg/L	--	*144*	--	*202*	*220*
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	*25.1*	*26.9*
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	--	--	pg/L	--	*29.6*	--	*38.7*	*43.7*
2,2',3,3',4,6'-Hexachlorobiphenyl	--	--	--	pg/L	--	*39.9*	--	*52.3*	*59.8*
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	19.8 U	*21.2*
2,2',3,3',6,6'-Hexachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	19.8 U	20.3 U
2,2',3,3',6-Pentachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	*23*	*27.5*
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	19.8 U	*22*
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	--	--	pg/L	--	*50.5*	--	*66.2*	*73.5*
2,2',3,4,5,5'-Hexachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	*27.2*	*28.7*
2,2',3,4',5,5'-Hexachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	*23.6*	*26.9*
2,2',3,5,5'-Pentachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	*21.9*	*23.9*
2,2',3,5',6-Pentachlorobiphenyl	--	--	--	pg/L	--	*65.2*	--	*81.7*	*92*
2,2',4,4',5-Pentachlorobiphenyl	--	--	--	pg/L	--	*36.6*	--	*49.2*	*53.3*
2,2',5,5'-Tetrachlorobiphenyl	--	--	--	pg/L	--	*70.4*	--	*84*	*90.4*
2,2'-Dichlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	19.8 U	*20.7*
2,3,3',4,4'-Pentachlorobiphenyl	--	--	--	pg/L	--	*33.4*	--	*47.1*	*50.7*
2,3,3',4'-Tetrachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	19.8 U	*20.6*
2,3',4,4',5-Pentachlorobiphenyl	--	--	--	pg/L	--	*77.8*	--	*113*	*122*

Table 1.3.2B
Paradise Creek Surface Water PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW01	PCSW02	PCSW03	PCSW04	
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
				Units	Result	Result	Result	Result	Result
2,3',4,4'-Tetrachlorobiphenyl	--	--	--	pg/L	--	*35.1*	--	*47*	*48.7*
2,3,4',6-Tetrachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	*22*	*23.5*
2,4',5-Trichlorobiphenyl	--	--	--	pg/L	--	*27.6*	--	*31.1*	*33.6*
3,3'-Dichlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	*41*	*39.9*
BZ#153 & BZ#168	--	--	--	pg/L	--	*114*	--	*158*	*172*
Co-elute: PCB#44, PCB#47, PCB#65	--	--	--	pg/L	--	*67.1*	--	*81*	*89.5*
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	--	--	pg/L	--	85.7 U	--	79.3 U	*85*
Co-elute: PCB#90, PCB#101, and PCB#113	--	--	--	pg/L	--	*90*	--	*118*	*131*
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	--	--	pg/L	--	42.8 U	--	*51.2*	*54.5*
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	--	--	pg/L	--	*43.7*	--	*50.6*	*52.8*
Decachlorobiphenyl	--	--	--	pg/L	--	21.4 U	--	19.8 U	20.3 U
PCB110 & 115	--	--	--	pg/L	--	*112*	--	*148*	*163*
PCB135 & 151	--	--	--	pg/L	--	42.8 U	--	*54.8*	*62*
PCB147 & 149	--	--	--	pg/L	--	*94.2*	--	*130*	*143*
PCB180 & 193	--	--	--	pg/L	--	*70.6*	--	*98.6*	*110*

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative of the freshwater and marine benchmark provided
(3) More conservative of the AWQC freshwater (acute/chronic) and marine (acute/chronic) provided

-- = no screening value/ not sampled
bgs = below ground surface
BTAG = USEPA region 3 biological technical assistance group
TEQ = toxicity equivalent
PCB = polychlorinated biphenyl
ft = feet
pg/L = picograms per liter
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
AWQC = Ambient Water Quality Criteria
J = positive detection, estimated value
U = not detected; value presented equals reporting limit

Results exceeding the Elizabeth River background surface water analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding AWQC are Underlined

Table 1.3.2B
Paradise Creek Surface Water PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW05	PCSW06	PCSW07		PCSW08
				Date Collected	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/16/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Duplicate	Normal
				Units	Result	Result	Result	Result	Result
Calculated Values									
High Risk PCB Congeners	--	--	--	pg/L	--	*2240*	*1820*	*1510*	--
Sum of All PCB Congeners	--	--	--	pg/L	--	*2320*	*1940*	*1620*	--
TEQ WHO2005 ND=0 (PCB Congeners)	--	--	--	pg/L	--	*0.0053*	*0.0044*	*0.0038*	--
Bird TEQ (Dioxin Like PCBs)	--	--	--	pg/L	--	*0.00651*	*0.00549*	*0.00462*	--
Fish TEQ (Dioxin Like PCBs)	--	--	--	pg/L	--	*0.000879*	*0.000743*	*0.000633*	--
Human TEQ (Dioxin Like PCBs)	--	--	--	pg/L	--	*0.00527*	*0.00446*	*0.0038*	--
Mammal TEQ (Dioxin Like PCBs)	--	--	--	pg/L	--	*0.00527*	*0.00446*	*0.0038*	--
PCB Congeners									
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	--	--	pg/L	--	20.1 U	*31.8*	19.9 U	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	--	--	pg/L	--	*32.7*	*23.6*	19.9 U	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	--	--	pg/L	--	*51.3*	*41.8*	*31.3*	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB	--	--	--	pg/L	--	*248*	*185*	*151*	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	--	--	pg/L	--	*31.5*	*24*	*20.1*	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	--	--	pg/L	--	*51.3*	*41*	*31.2*	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	--	--	pg/L	--	*68.8*	*51.2*	*43.9*	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	--	--	pg/L	--	*22.7*	20.4 U	19.9 U	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	--	--	pg/L	--	*21.6*	20.4 U	19.9 U	--
2,2',3,3',6-Pentachlorobiphenyl	--	--	--	pg/L	--	*28.8*	*22.1*	*21.7*	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	--	--	pg/L	--	*21.3*	20.4 U	19.9 U	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	--	--	pg/L	--	*79.1*	*63.8*	*51.9*	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	--	--	pg/L	--	*34.5*	*25.8*	*22*	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	--	--	pg/L	--	*28.9*	*20.7*	19.9 U	--
2,2',3,5,5'-Pentachlorobiphenyl	--	--	--	pg/L	--	*24.7*	*20.8*	*20*	--
2,2',3,5',6-Pentachlorobiphenyl	--	--	--	pg/L	--	*100*	*79.4*	*78.3*	--
2,2',4,4',5-Pentachlorobiphenyl	--	--	--	pg/L	--	*55.7*	*54*	*48.2*	--
2,2',5,5'-Tetrachlorobiphenyl	--	--	--	pg/L	--	*89.3*	*79.1*	*82.3*	--
2,2'-Dichlorobiphenyl	--	--	--	pg/L	--	20.1 U	20.4 U	19.9 U	--
2,3,3',4,4'-Pentachlorobiphenyl	--	--	--	pg/L	--	*52.8*	*44.5*	*37.3*	--
2,3,3',4'-Tetrachlorobiphenyl	--	--	--	pg/L	--	20.1 U	20.4 U	19.9 U	--
2,3',4,4',5-Pentachlorobiphenyl	--	--	--	pg/L	--	*123*	*104*	*89.2*	--

Table 1.3.2B
Paradise Creek Surface Water PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW05	PCSW06	PCSW07		PCSW08
				Date Collected	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/16/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Duplicate	Normal
				Units	Result	Result	Result	Result	Result
2,3',4,4'-Tetrachlorobiphenyl	--	--	--	pg/L	--	*47.3*	*38.4*	*36.9*	--
2,3,4',6-Tetrachlorobiphenyl	--	--	--	pg/L	--	*21.7*	*21.1*	*20.8*	--
2,4',5-Trichlorobiphenyl	--	--	--	pg/L	--	*32.4*	*31.7*	*30.1*	--
3,3'-Dichlorobiphenyl	--	--	--	pg/L	--	20.1 U	*38.9*	*34.8*	--
BZ#153 & BZ#168	--	--	--	pg/L	--	*190*	*149*	*123*	--
Co-elute: PCB#44, PCB#47, PCB#65	--	--	--	pg/L	--	*88.2*	*76.2*	*79*	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	--	--	pg/L	--	80.4 U	81.6 U	79.4 U	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	--	--	pg/L	--	*137*	*118*	*109*	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	--	--	pg/L	--	*51.7*	*45.8*	*48*	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	--	--	pg/L	--	*51.7*	*48.6*	*46.8*	--
Decachlorobiphenyl	--	--	--	pg/L	--	20.1 U	*37.5*	19.9 U	--
PCB110 & 115	--	--	--	pg/L	--	*181*	*143*	*129*	--
PCB135 & 151	--	--	--	pg/L	--	*69.3*	*53.1*	*47.9*	--
PCB147 & 149	--	--	--	pg/L	--	*164*	*131*	*108*	--
PCB180 & 193	--	--	--	pg/L	--	*121*	*95.6*	*76.1*	--

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative of the freshwater and marine benchmark provided
(3) More conservative of the AWQC freshwater (acute/chronic) and marine (acute/chronic) provided

-- = no screening value/ not sampled
bgs = below ground surface
BTAG = USEPA region 3 biological technical assistance group
TEQ = toxicity equivalent
PCB = polychlorinated biphenyl
ft = feet
pg/L = picograms per liter
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
AWQC = Ambient Water Quality Criteria
J = positive detection, estimated value
U = not detected; value presented equals reporting limit

Results exceeding the Elizabeth River background surface water analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding AWQC are Underlined

Table 1.3.2B
Paradise Creek Surface Water PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW09	PCSW10	PCSW11	PCSW12
				Date Collected	6/20/2015	6/20/2015	6/20/2015	6/20/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Normal
				Units	Result	Result	Result	Result
Calculated Values								
High Risk PCB Congeners	--	--	--	pg/L	--	--	*1160*	--
Sum of All PCB Congeners	--	--	--	pg/L	--	--	*1220*	--
TEQ WHO2005 ND=0 (PCB Congeners)	--	--	--	pg/L	--	--	*0.0036*	--
Bird TEQ (Dioxin Like PCBs)	--	--	--	pg/L	--	--	*0.00428*	--
Fish TEQ (Dioxin Like PCBs)	--	--	--	pg/L	--	--	*0.000604*	--
Human TEQ (Dioxin Like PCBs)	--	--	--	pg/L	--	--	*0.00362*	--
Mammal TEQ (Dioxin Like PCBs)	--	--	--	pg/L	--	--	*0.00362*	--
PCB Congeners								
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	--	--	--	pg/L	--	--	*30.3*	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB	--	--	--	pg/L	--	--	*138*	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	--	--	--	pg/L	--	--	*30.7*	--
2,2',3,3',4,6'-Hexachlorobiphenyl	--	--	--	pg/L	--	--	*41.4*	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,2',3,3',6,6'-Hexachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,2',3,3',6-Pentachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	--	--	--	pg/L	--	--	*52.4*	--
2,2',3,4,5,5'-Hexachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,2',3,4',5,5'-Hexachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,2',3,5,5'-Pentachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,2',3,5',6-Pentachlorobiphenyl	--	--	--	pg/L	--	--	*71.2*	--
2,2',4,4',5-Pentachlorobiphenyl	--	--	--	pg/L	--	--	*47*	--
2,2',5,5'-Tetrachlorobiphenyl	--	--	--	pg/L	--	--	*74.7*	--
2,2'-Dichlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,3,3',4,4'-Pentachlorobiphenyl	--	--	--	pg/L	--	--	*34.1*	--
2,3,3',4'-Tetrachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,3',4,4',5-Pentachlorobiphenyl	--	--	--	pg/L	--	--	*86.7*	--

Table 1.3.2B
Paradise Creek Surface Water PCBs Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW09	PCSW10	PCSW11	PCSW12
				Date Collected	6/20/2015	6/20/2015	6/20/2015	6/20/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Normal
				Units	Result	Result	Result	Result
2,3',4,4'-Tetrachlorobiphenyl	--	--	--	pg/L	--	--	*33.3*	--
2,3,4',6-Tetrachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
2,4',5-Trichlorobiphenyl	--	--	--	pg/L	--	--	*24.8*	--
3,3'-Dichlorobiphenyl	--	--	--	pg/L	--	--	*34.6*	--
BZ#153 & BZ#168	--	--	--	pg/L	--	--	*118*	--
Co-elute: PCB#44, PCB#47, PCB#65	--	--	--	pg/L	--	--	71.5 U	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	--	--	--	pg/L	--	--	95.4 U	--
Co-elute: PCB#90, PCB#101, and PCB#113	--	--	--	pg/L	--	--	*100*	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	--	--	--	pg/L	--	--	47.7 U	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	--	--	--	pg/L	--	--	47.7 U	--
Decachlorobiphenyl	--	--	--	pg/L	--	--	23.8 U	--
PCB110 & 115	--	--	--	pg/L	--	--	*124*	--
PCB135 & 151	--	--	--	pg/L	--	--	47.7 U	--
PCB147 & 149	--	--	--	pg/L	--	--	*104*	--
PCB180 & 193	--	--	--	pg/L	--	--	*75.1*	--

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative of the freshwater and marine benchmark provided
(3) More conservative of the AWQC freshwater (acute/chronic) and marine (acute/chronic) provided

-- = no screening value/ not sampled
bgs = below ground surface
BTAG = USEPA region 3 biological technical assistance group
TEQ = toxicity equivalent
PCB = polychlorinated biphenyl
ft = feet
pg/L = picograms per liter
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
AWQC = Ambient Water Quality Criteria
J = positive detection, estimated value
U = not detected; value presented equals reporting limit

Results exceeding the Elizabeth River background surface water analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding AWQC are Underlined

Table 1.3.3A
Paradise Creek Surface Water Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Human Health Ambient Water Quality Criteria [2]	Location ID	PCSW01	PCSW02	PCSW03	PCSW04	
			Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Duplicate
			Units	Result	Result	Result	Result	Result
Calculated Values								
Bird TEQ (Dioxins)	--	0.52	pg/L	--	--	--	***0.703***	*0.0214*
Fish TEQ (Dioxins)	--	0.52	pg/L	--	--	--	***0.703***	*0.0214*
Human TEQ (Dioxins)	--	0.051 [3]	pg/L	--	--	--	***0.816***	***0.131***
Mammal TEQ (Dioxins)	--	0.52	pg/L	--	--	--	***0.816***	*0.131*
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	0.52	pg/L	--	--	--	***9.8 J***	***9.49 J***
1,2,3,6,7,8-Hexachlorodibenzofuran	--	0.52	pg/L	--	--	--	***0.714 J***	0.742 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.52	pg/L	--	--	--	***0.734 J***	0.778 U
2,3,4,7,8-Pentachlorodibenzofuran	--	0.52	pg/L	--	--	--	0.574 U	0.579 U
2,3,7,8-TCDD	--	0.52	pg/L	--	--	--	***0.536 J***	0.85 U
Hexachlorodibenzo-p-dioxin	--	0.52	pg/L	--	--	--	***3.73 J***	***3.36 J***
Octachlorodibenzofuran	--	0.52	pg/L	--	--	--	***3.12 J***	***2.46 J***
Octachlorodibenzo-p-dioxin	--	0.52	pg/L	--	--	--	***120***	***117***
Pentachlorodibenzo-p-dioxin	--	0.52	pg/L	--	--	--	0.78 U	*0.471 J*
TEQ WHO2005 ND=0	--	0.52	pg/L	--	--	--	***0.816***	*0.131*
Tetrachlorodibenzo-p-dioxin	--	0.52	pg/L	--	--	--	***0.536 J***	*0.354 J*
Total Heptachlorodibenzo-p-dioxin	--	0.52	pg/L	--	--	--	***27.3 J***	***35.1 J***
Total TCDF	--	0.52	pg/L	--	--	--	0.677 U	*0.295 J*
Laboratory Calculated TEQs								
Dioxin TEQ for Birds	--	0.52	pg/L	--	--	--	***3.24***	***3.9***
Dioxin TEQ for Fish	--	0.52	pg/L	--	--	--	***2.74***	***3.28***

Table 1.3.3A
Paradise Creek Surface Water Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Human Health Ambient Water Quality Criteria [2]	Location ID	PCSW05	PCSW06	PCSW07		PCSW08
			Date Collected	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/16/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Normal	Normal	Duplicate	Normal
			Units	Result	Result	Result	Result	Result
Calculated Values								
Bird TEQ (Dioxins)	--	0.52	pg/L	--	***0.665***	--	--	*0.213*
Fish TEQ (Dioxins)	--	0.52	pg/L	--	***0.665***	--	--	*0.127*
Human TEQ (Dioxins)	--	0.051 [3]	pg/L	--	***0.798***	--	--	***0.124***
Mammal TEQ (Dioxins)	--	0.52	pg/L	--	***0.798***	--	--	*0.124*
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	0.52	pg/L	--	***11.7 J***	--	--	***3.58 J***
1,2,3,6,7,8-Hexachlorodibenzofuran	--	0.52	pg/L	--	0.71 U	--	--	0.583 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.52	pg/L	--	***0.746 J***	--	--	*0.365 J*
2,3,4,7,8-Pentachlorodibenzofuran	--	0.52	pg/L	--	0.533 U	--	--	*0.173 J*
2,3,7,8-TCDD	--	0.52	pg/L	--	***0.565 J***	--	--	0.756 U
Hexachlorodibenzo-p-dioxin	--	0.52	pg/L	--	***8.53 J***	--	--	***0.827 J***
Octachlorodibenzofuran	--	0.52	pg/L	--	***1.57 J***	--	--	4.06 U
Octachlorodibenzo-p-dioxin	--	0.52	pg/L	--	***135***	--	--	12.1 U
Pentachlorodibenzo-p-dioxin	--	0.52	pg/L	--	0.998 U	--	--	0.871 U
TEQ WHO2005 ND=0	--	0.52	pg/L	--	***0.797***	--	--	*0.124*
Tetrachlorodibenzo-p-dioxin	--	0.52	pg/L	--	***0.565 J***	--	--	0.756 U
Total Heptachlorodibenzo-p-dioxin	--	0.52	pg/L	--	***36.1 J***	--	--	***11.8 J***
Total TCDF	--	0.52	pg/L	--	1.05 U	--	--	0.833 U
Laboratory Calculated TEQs								
Dioxin TEQ for Birds	--	0.52	pg/L	--	***3.94***	--	--	***3.16***
Dioxin TEQ for Fish	--	0.52	pg/L	--	***3.34***	--	--	***2.65***

Table 1.3.3A
Paradise Creek Surface Water Dioxins/Furans Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Human Health Ambient Water Quality Criteria [2]	Location ID	PCSW09	PCSW10	PCSW11	PCSW12
			Date Collected	6/20/2015	6/20/2015	6/20/2015	6/20/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Normal	Normal	Normal
			Units	Result	Result	Result	Result
Calculated Values							
Bird TEQ (Dioxins)	--	0.52	pg/L	--	--	--	--
Fish TEQ (Dioxins)	--	0.52	pg/L	--	--	--	--
Human TEQ (Dioxins)	--	0.051 [3]	pg/L	--	--	--	--
Mammal TEQ (Dioxins)	--	0.52	pg/L	--	--	--	--
Dioxins/Furans							
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	0.52	pg/L	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran	--	0.52	pg/L	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	0.52	pg/L	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	0.52	pg/L	--	--	--	--
2,3,7,8-TCDD	--	0.52	pg/L	--	--	--	--
Hexachlorodibenzo-p-dioxin	--	0.52	pg/L	--	--	--	--
Octachlorodibenzofuran	--	0.52	pg/L	--	--	--	--
Octachlorodibenzo-p-dioxin	--	0.52	pg/L	--	--	--	--
Pentachlorodibenzo-p-dioxin	--	0.52	pg/L	--	--	--	--
TEQ WHO2005 ND=0	--	0.52	pg/L	--	--	--	--
Tetrachlorodibenzo-p-dioxin	--	0.52	pg/L	--	--	--	--
Total Heptachlorodibenzo-p-dioxin	--	0.52	pg/L	--	--	--	--
Total TCDF	--	0.52	pg/L	--	--	--	--
Laboratory Calculated TEQs							
Dioxin TEQ for Birds	--	0.52	pg/L	--	--	--	--
Dioxin TEQ for Fish	--	0.52	pg/L	--	--	--	--

Table 1.3.3A
Paradise Creek Surface Water Dioxins/Furans Human Health Risk Screening

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative criteria values between AWQC - water only and AWQC - water plus organism provided
(3) Virginia Water Quality Criterion caluclated to protect human health from toxic effects through fish consumption.

-- = no screening value/ not sampled
bgs = below ground surface
ft = feet
pg/L = picograms per liter
UTL = upper tolerance limit
J = indicates an estimated value

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding human health AWQC are **Bolded**

Table 1.3.3B
Paradise Creek Surface Water Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW01	PCSW02	PCSW03	PCSW04	
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
				Units	Result	Result	Result	Result	Result
Calculated Values									
Bird TEQ (Dioxins)	--	--	--	pg/L	--	--	--	*0.703*	*0.0214*
Fish TEQ (Dioxins)	--	--	--	pg/L	--	--	--	*0.703*	*0.0214*
Human TEQ (Dioxins)	--	--	--	pg/L	--	--	--	*0.816*	*0.131*
Mammal TEQ (Dioxins)	--	--	--	pg/L	--	--	--	*0.816*	*0.131*
Laboratory Reported									
Dioxin TEQ for Birds	--	--	--	pg/L	--	--	--	*3.24*	*3.9*
Dioxin TEQ for Fish	--	--	--	pg/L	--	--	--	*2.74*	*3.28*
Dioxins/Furans									
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	pg/L	--	--	--	*9.8 J*	*9.49 J*
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	pg/L	--	--	--	*0.714 J*	0.742 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	pg/L	--	--	--	*0.734 J*	0.778 U
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	pg/L	--	--	--	0.574 U	0.579 U
2,3,7,8-TCDD	--	0.0031	--	pg/L	--	--	--	***0.536 J***	0.85 U
Hexachlorodibenzo-p-dioxin	--	--	--	pg/L	--	--	--	*3.73 J*	*3.36 J*
Octachlorodibenzofuran	--	--	--	pg/L	--	--	--	*3.12 J*	*2.46 J*
Octachlorodibenzo-p-dioxin	--	--	--	pg/L	--	--	--	*120*	*117*
Pentachlorodibenzo-p-dioxin	--	--	--	pg/L	--	--	--	0.78 U	*0.471 J*
TEQ WHO2005 ND=0	--	--	--	pg/L	--	--	--	*0.816*	*0.131*
Tetrachlorodibenzo-p-dioxin	--	--	--	pg/L	--	--	--	*0.536 J*	*0.354 J*
Total Heptachlorodibenzo-p-dioxin	--	--	--	pg/L	--	--	--	*27.3 J*	*35.1 J*
Total TCDF	--	--	--	pg/L	--	--	--	0.677 U	*0.295 J*

Table 1.3.3B
Paradise Creek Surface Water Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW05	PCSW06	PCSW07		PCSW08
				Date Collected	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/16/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Duplicate	Normal
				Units	Result	Result	Result	Result	Result
Calculated Values									
Bird TEQ (Dioxins)	--	--	--	pg/L	--	*0.665*	--	--	*0.213*
Fish TEQ (Dioxins)	--	--	--	pg/L	--	*0.665*	--	--	*0.127*
Human TEQ (Dioxins)	--	--	--	pg/L	--	*0.798*	--	--	*0.124*
Mammal TEQ (Dioxins)	--	--	--	pg/L	--	*0.798*	--	--	*0.124*
Laboratory Reported									
Dioxin TEQ for Birds	--	--	--	pg/L	--	*3.94*	--	--	*3.16*
Dioxin TEQ for Fish	--	--	--	pg/L	--	*3.34*	--	--	*2.65*
Dioxins/Furans									
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	pg/L	--	*11.7 J*	--	--	*3.58 J*
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	pg/L	--	0.71 U	--	--	0.583 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	pg/L	--	*0.746 J*	--	--	*0.365 J*
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	pg/L	--	0.533 U	--	--	*0.173 J*
2,3,7,8-TCDD	--	0.0031	--	pg/L	--	***0.565 J***	--	--	0.756 U
Hexachlorodibenzo-p-dioxin	--	--	--	pg/L	--	*8.53 J*	--	--	*0.827 J*
Octachlorodibenzofuran	--	--	--	pg/L	--	*1.57 J*	--	--	4.06 U
Octachlorodibenzo-p-dioxin	--	--	--	pg/L	--	*135*	--	--	12.1 U
Pentachlorodibenzo-p-dioxin	--	--	--	pg/L	--	0.998 U	--	--	0.871 U
TEQ WHO2005 ND=0	--	--	--	pg/L	--	*0.797*	--	--	*0.124*
Tetrachlorodibenzo-p-dioxin	--	--	--	pg/L	--	*0.565 J*	--	--	0.756 U
Total Heptachlorodibenzo-p-dioxin	--	--	--	pg/L	--	*36.1 J*	--	--	*11.8 J*
Total TCDF	--	--	--	pg/L	--	1.05 U	--	--	0.833 U

Table 1.3.3B
Paradise Creek Surface Water Dioxins/Furans Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW09	PCSW10	PCSW11	PCSW12
				Date Collected	6/20/2015	6/20/2015	6/20/2015	6/20/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Normal
				Units	Result	Result	Result	Result
Calculated Values								
Bird TEQ (Dioxins)	--	--	--	pg/L	--	--	--	--
Fish TEQ (Dioxins)	--	--	--	pg/L	--	--	--	--
Human TEQ (Dioxins)	--	--	--	pg/L	--	--	--	--
Mammal TEQ (Dioxins)	--	--	--	pg/L	--	--	--	--
Laboratory Reported								
Dioxin TEQ for Birds	--	--	--	pg/L	--	--	--	--
Dioxin TEQ for Fish	--	--	--	pg/L	--	--	--	--
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	pg/L	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	pg/L	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	pg/L	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	pg/L	--	--	--	--
2,3,7,8-TCDD	--	0.0031	--	pg/L	--	--	--	--
Hexachlorodibenzo-p-dioxin	--	--	--	pg/L	--	--	--	--
Octachlorodibenzofuran	--	--	--	pg/L	--	--	--	--
Octachlorodibenzo-p-dioxin	--	--	--	pg/L	--	--	--	--
Pentachlorodibenzo-p-dioxin	--	--	--	pg/L	--	--	--	--
TEQ WHO2005 ND=0	--	--	--	pg/L	--	--	--	--
Tetrachlorodibenzo-p-dioxin	--	--	--	pg/L	--	--	--	--
Total Heptachlorodibenzo-p-dioxin	--	--	--	pg/L	--	--	--	--
Total TCDF	--	--	--	pg/L	--	--	--	--

Table 1.3.3B
Paradise Creek Surface Water Dioxins/Furans Ecological Risk Screening

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative of the freshwater and marine benchmark provided
(3) More conservative of the AWQC freshwater (acute/chronic) and marine (acute/chronic) provided

-- = no screening value/ not sampled
bgs = below ground surface
BTAG = USEPA region 3 biological technical assistance group
TEQ = toxicity equivalent
ft = feet
pg/L = picograms per liter
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
AWQC = Ambient Water Quality Criteria
J = positive detection, estimated value
U = not detected; value presented equals reporting limit

Results exceeding the Elizabeth River background surface water analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding AWQC are Underlined

Table 1.3.4A
Paradise Creek Surface Water SVOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Human Health Ambient Water Quality Criteria [2]	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
			Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
			Units	Result	Result	Result	Result	Result	Result	Result
Semivolatile Organic Compounds										
Bis(2-ethylhexyl) phthalate	--	0.32	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Di-N-butyl phthalate	--	20	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative criteria values between AWQC - water only and AWQC - water plus organism provided

-- = no screening value/ not sampled
bgs = below ground surface
ft = feet
µg/L = micrograms per liter
UTL = upper tolerance limit
J = indicates an estimated value

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding human health AWQC are **Bolded**

Table 1.3.4A
Paradise Creek Surface Water SVOCs Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Human Health Ambient Water Quality Criteria [2]	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
			Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
			Units	Result	Result	Result	Result	Result	Result	Result
Semivolatile Organic Compounds										
Bis(2-ethylhexyl) phthalate	--	0.32	µg/L	5 U	5 U	***8***	5 U	5 U	5 U	5 U
Di-N-butyl phthalate	--	20	µg/L	5 U	5 U	*2.7 J*	5 U	5 U	5 U	5 U

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative criteria values between AWQC - water only and AWQC - water plus organism provided

-- = no screening value/ not sampled
bgs = below ground surface
ft = feet
µg/L = micrograms per liter
UTL = upper tolerance limit
J = indicates an estimated value

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding human health AWQC are **Bolded**

Table 1.3.4B
Paradise Creek Surface Water SVOCs Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
				Units	Result	Result	Result	Result	Result	Result	Result
Semivolatile Organic Compounds											
Bis(2-ethylhexyl) phthalate	--	16	--	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Di-N-butyl phthalate	--	3.4	--	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table 1.3.4B
Paradise Creek Surface Water SVOCs Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
				Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
				Units	Result	Result	Result	Result	Result	Result	Result
Semivolatile Organic Compounds											
Bis(2-ethylhexyl) phthalate	--	16	--	µg/L	5 U	5 U	*8*	5 U	5 U	5 U	5 U
Di-N-butyl phthalate	--	3.4	--	µg/L	5 U	5 U	*2.7 J*	5 U	5 U	5 U	5 U

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative of the freshwater and marine benchmark provided
(3) More conservative of the AWQC freshwater (acute/chronic) and marine (acute/chronic) provided

-- = no screening value/ not sampled
bgs = below ground surface
BTAG = USEPA region 3 biological technical assistance group
TEQ = toxicity equivalent
ft = feet
µg/L = micrograms per liter
USEPA = U.S. Environmental Protection Agency
UTL = upper tolerance limit
AWQC = Ambient Water Quality Criteria
J = positive detection, estimated value
U = not detected; value presented equals reporting limit

Results exceeding the Elizabeth River background surface water analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding AWQC are Underlined

Table 1.3.5A
Paradise Creek Surface Water Isotopic Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Calculated PRG [2]	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
			Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
			Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
			Units	Result	Result	Result	Result	Result	Result	Result
Gamma Spectroscopy [3][4]										
BISMUTH-212	--	--	pci/L	*-4.78 J*	*26.6 J*	*9.22 J*	*19.3 J*	*-24.7 J*	*-0.144 J*	*5.23 J*
BISMUTH-214	--	0.000438	pci/L	***4.75 J***	***6.16 J***	***-1.83***	***2.83 J***	***1.23 J***	***0.684 J***	***4.87 J***
LEAD-212	--	--	pci/L	*3.13 J*	*-0.511 J*	*2.85 J*	*3.21 J*	*1.52 J*	*1.05 J*	*-0.0368 J*
LEAD-214	--	0.000438	pci/L	***1.56 J***	***-2.7 J***	***1.24 J***	***2.2 J***	***-2.87 J***	***0.909 J***	***-0.541 J***
POTASSIUM-40	--	--	pci/L	*137*	*99.7*	*143*	*158*	*175*	*150*	*168*
RADIUM-228	0.462	0.000438	pci/L	***1.83***	***-3.73***	**-0.341**	***4.59***	***6.53***	***5.75***	***3.65***
Strontium 90										
Strontium-90 [3][4]	-- [3]	0.468	pci/L	--	--	--	--	--	--	--

Table 1.3.5A
Paradise Creek Surface Water Isotopic Human Health Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	Calculated PRG [2]	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
			Field Sample ID	PCSW07	FE05SW-DUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
			Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
			Units	Result	Result	Result	Result	Result	Result	Result
Gamma Spectroscopy [3][4]										
BISMUTH-212	--	--	pci/L	*13.7 J*	*11 J*	*5.12 J*	*-6.07 J*	*6.5 J*	*-7.98 J*	*-10.9 J*
BISMUTH-214	--	0.000438	pci/L	***1.75 J***	***7.17 J***	***1.52 J***	***6.69 J***	***2.71 J***	***0.587 J***	***9.34 J***
LEAD-212	--	--	pci/L	*2.34 J*	*3.4 J*	*-0.102 J*	*-1.29 J*	*-0.153 J*	*0.959 J*	*0.0347 J*
LEAD-214	--	0.000438	pci/L	***-0.0585 J***	***8.65 J***	***1.66 J***	***3.04 J***	***0.409 J***	***4.98 J***	***6.85 J***
POTASSIUM-40	--	--	pci/L	*135*	*173*	*171*	*162*	*156*	*170*	*194*
RADIUM-228	0.462	0.000438	pci/L	***-4.32***	***5.08***	***-0.917***	***0.793***	***2.53***	***4.29***	***2.5***
Strontium 90										
Strontium-90 [3][4]	-- [3]	0.468	pci/L	--	--	--	--	--	--	--

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) Calculated by EPA using PRG calculator for radionuclides in residential tap water (http://epa-prgs.ornl.gov/radionuclides/index.html)
(3) Positive and non detect data currently unvalidated
(4) Negative gamma spectrometry readings are below laboratory background standard

-- = no screening value/not detected
bgs = below ground surface
ft = feet
pci/L = picocuries per liter
J = indicates an estimated value

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding calculated tap water PRG are **Bolded**

Table 1.3.5B
Paradise Creek Surface Water Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW01	PCSW02	PCSW03	PCSW04	
				Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SW-DUP01
				Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Normal	Duplicate
				Units	Result	Result	Result	Result	Result
Gamma Spectroscopy [5]									
BISMUTH-212 [4]	--	0.1	--	pci/L	***-4.78 J***	***26.6 J***	***9.22 J***	***19.3 J***	***-24.7 J***
BISMUTH-214 [4]	--	0.1	--	pci/L	***4.75 J***	***6.16 J***	***-1.83***	***2.83 J***	***1.23 J***
LEAD-212 [4]	--	0.1	--	pci/L	***3.13 J***	***-0.511 J***	***2.85 J***	***3.21 J***	***1.52 J***
LEAD-214 [4]	--	0.1	--	pci/L	***1.56 J***	***-2.7 J***	***1.24 J***	***2.2 J***	***-2.87 J***
POTASSIUM-40 [4]	--	0.1	--	pci/L	***137***	***99.7***	***143***	***158***	***175***
RADIUM-228 [4]	0.462	0.1	--	pci/L	***1.83***	***-3.73***	**-0.341**	***4.59***	***6.53***
Strontium 90									
Strontium-90 [4]	-- [4]	570	--	pci/L	--	--	--	--	--

Table 1.3.5B
Paradise Creek Surface Water Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]	Location ID	PCSW05	PCSW06	PCSW07		PCSW08	PCSW09
				Field Sample ID	PCSW05	PCSW06	PCSW07	FE05SW-DUP02	PCSW08	PCSW09
				Date Collected	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/16/2015	6/20/2015
				Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
				Sample Type	Normal	Normal	Normal	Duplicate	Normal	Normal
				Units	Result	Result	Result	Result	Result	Result
Gamma Spectroscopy [5]										
BISMUTH-212 [4]	--	0.1	--	pci/L	***-0.144 J***	***5.23 J***	***13.7 J***	***11 J***	***5.12 J***	***-6.07 J***
BISMUTH-214 [4]	--	0.1	--	pci/L	***0.684 J***	***4.87 J***	***1.75 J***	***7.17 J***	***1.52 J***	***6.69 J***
LEAD-212 [4]	--	0.1	--	pci/L	***1.05 J***	*-0.0368 J*	***2.34 J***	***3.4 J***	***-0.102 J***	***-1.29 J***
LEAD-214 [4]	--	0.1	--	pci/L	***0.909 J***	***-0.541 J***	*-0.0585 J*	***8.65 J***	***1.66 J***	***3.04 J***
POTASSIUM-40 [4]	--	0.1	--	pci/L	***150***	***168***	***135***	***173***	***171***	***162***
RADIUM-228 [4]	0.462	0.1	--	pci/L	***5.75***	***3.65***	***-4.32***	***5.08***	***-0.917***	***0.793***
Strontium 90										
Strontium-90 [4]	-- [4]	570	--	pci/L	--	--	--	--	--	--

Table 1.3.5B
Paradise Creek Surface Water Isotopic Ecological Risk Screening

Analyte	Background - Elizabeth River Surface Water UTLs [1]	BTAG Freshwater / Marine Benchmarks [2]	Ambient Water Quality Criteria [3]				
			Location ID	PCSW10	PCSW11	PCSW12
			Field Sample ID	PCSW10	PCSW11	PCSW12
			Date Collected	6/20/2015	6/20/2015	6/20/2015
			Sample Depth (bgs)	1-2 ft	1-2 ft	1-2 ft
			Sample Type	Normal	Normal	Normal
			Units	Result	Result	Result
Gamma Spectroscopy [5]						
BISMUTH-212 [4]	--	0.1	--	pci/L	***6.5 J***	***-7.98 J***	***-10.9 J***
BISMUTH-214 [4]	--	0.1	--	pci/L	***2.71 J***	***0.587 J***	***9.34 J***
LEAD-212 [4]	--	0.1	--	pci/L	***-0.153 J***	***0.959 J***	*0.0347 J*
LEAD-214 [4]	--	0.1	--	pci/L	***0.409 J***	***4.98 J***	***6.85 J***
POTASSIUM-40 [4]	--	0.1	--	pci/L	***156***	***170***	***194***
RADIUM-228 [4]	0.462	0.1	--	pci/L	***2.53***	***4.29***	***2.5***
Strontium 90							
Strontium-90 [4]	-- [4]	570	--	pci/L	--	--	--

(1) Analytes positively detected but with no calculated UTLs are assumed to exceed background.
(2) More conservative of the freshwater and marine benchmark provided
(3)More conservative of the AWQC freshwater (acute/chronic) and marine (acute/chronic) provided
(4) Positive and non detect data currently unvalidated
(5) Negative gamma spectrometry readings are below laboratory background standard

-- = no screening value/not detected
bgs = below ground surface
ft = feet
pci/L = picocuries per liter
PRG = preliminary remedial goal
J = indicates an estimated value

Results exceeding the Elizabeth River background surface water analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding AWQC are <u>Underlined</u>

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Table 2.1
Paradise Creek Biota Tissue Sampling Scheme

Sample ID	Corresponding Location	Proposed Analyses								
		SVOCs	Pest	PCBs (+ T.PCBs)	Metals	Mercury	PCDD / PCDF	PCB Congeners	Percent Lipids	Percent Moisture
		SW846 8270D or SOM01.1/SOM01.2	SW846 8081B / SW846 8082A or SOM01.1/ SOM01.2	SW846 8081B / SW846 8082A or SOM01.1/ SOM01.2	SW846 6010C / SW846 6020A or ILM05.3/ ILM05.4	SW846 7471B / SW846 7470A or ILM05.3/ILM05.4	8290B or DLM02.2	SOM01.1/ SOM01.2 or Method 1668	1613	1613
Community Fish Samples										
BIOTASED01-BTCF	BIOTASED01 (Schuffletown Creek)	X	X	X	X	X	X		X	X
BIOTASED02-BTCF	BIOTASED02 (Gilligan Creek)	X	X	X	X	X	X		X	X
BIOTASED03-BTCF	BIOTASED03 (Newton Creek)	X	X	X	X	X	X		X	X
PCSD02-BTCF	PCSD02	X	X	X	X	X	X		X	X
PCSD04-BTCF	PCSD04	X	X	X	X	X	X	X	X	X
PCBTDUP01CF		X	X	X	X	X	X	X	X	X
PCSD09-BTCF	PCSD09	X	X	X	X	X	X		X	X
PCSD12-BTCF	PCSD12	X	X	X	X	X	X		X	X
Installed Oysters										
SOY00	from market	X	X	X	X	X	X		X	X
BIOTASED01-BTOY	BIOTASED01 (Schuffletown Creek)	X	X	X	X	X	X		X	X
BIOTASED02-BTOY	BIOTASED02 (Gilligan Creek)	X	X	X	X	X	X		X	X
BIOTASED03-BTOY	BIOTASED03 (Newton Creek)	X	X	X	X	X	X		X	X
PCSD02-BTOY	PCSD02	X	X	X	X	X	X		X	X
PCSD04-BTOY	PCSD04	X	X	X	X	X	X	X	X	X
PCBTDUP01OY		X	X	X	X	X	X	X	X	X
PCSD09-BTOY	PCSD09	X	X	X	X	X	X		X	X
PCSD12-BTOY	PCSD12	X	X	X	X	X	X		X	X

Notes:
bkg = background
PCDD/PCDF = polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans
Pest = pesticides
PCB = polychlorinated biphenyls
SVOC = semivolatile organic compound
DUP = duplicate sample

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Table 2.2
Paradise Creek Biota Sampling Mass Requirements

Proposed Analyses	Community Fish Sample (per sample)		Oyster Tissue Sample (per sample)	
SVOCs:	30	grams	30	grams
Pesticides:	20	grams	20	grams
PCBs* (+ Total PCBs):	20	grams	20	grams
PCDD/PCDF*:	25	grams	25	grams
Metals:	5	grams	5	grams
Mercury:	5	grams	5	grams
Percent Moisture:	5	grams	5	grams
Percent Lipids:	5	grams	5	grams
PCB Congeners:	30	grams	30	grams
Total Mass per sample:	**145**	**grams**	**145**	**grams**
Individual Size Requirement	No legal size/creel limit - assume 2 to 3 inches in length		No legal size/creel limit; 3 inches in length	
Assumed individual weight:	2.45	grams	8	grams (med oy)
Anticipated number of individuals needed per Sample	60	ind	19	ind
% for mortality/predation:	NA	%	50	%
Estimated # of Ind per Sample:	**60**	**ind**	**29**	**ind**

Notes:

Mass requirements are estimated. The exact mass needed per analysis will depend on laboratory requirements
* = Percent Lipids are analyzed from the Pest/PCB or dioxin extract
PCDD/PCDF = polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans
Pest = pesticides
PCB = polychlorinated biphenyls
SVOC = semivolatile organic compound
ind = individual

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Table 2.3
Toxicity Testing Analytical Summary Scheme

Sample ID	Corresponding Location	Toxicity Test	Proposed Analyses [1]					
			Metals		Mercury		PCBs (+ T.PCBs)	
			SW846 6010C / SW846 6020A or ILM05.3/ ILM05.4		SW846 7471B / SW846 7470A or ILM05.3/ILM05.4		SW846 8081B / SW846 8082A or SOM01.1/ SOM01.2	
			Sed	Tis	Sed	Tis	Sed	Tis
PCSD04_TOX01	PCSD04	*Leptocheirus plurnulosus*	X	X	X	X	X	X
PCSD04_TOX02		*Strebliospio benedicti*	X	X	X	X	X	X
PCSD05_TOX01	PCSD05	*Leptocheirus plurnulosus*	X	X	X	X	X	X
PCSD05_TOX02		*Strebliospio benedicti*	X	X	X	X	X	X
PCSD06_TOX01	PCSD06	*Leptocheirus plurnulosus*	X	X	X	X	X	X
PCSD06_TOX02		*Strebliospio benedicti*	X	X	X	X	X	X
PCSD07_TOX01	PCSD07	*Leptocheirus plurnulosus*	X	X	X	X	X	X
PCSD07_TOX01		*Strebliospio benedicti*	X	X	X	X	X	X

Table 2.3
Toxicity Testing Analytical Summary Scheme

Sample ID	Corresponding Location	Toxicity Test	Proposed Analyses [1]							
			PCDD / PCDF		PCB Congeners		SVOCs		Pest	
			8290B or DLM02.2		SOM01.1/ SOM01.2 or Method 1668		SW846 8270D or SOM01.1/SOM01.2		SW846 8081B / SW846 8082A or SOM01.1/ SOM01.2	
			Sed	Tis	Sed	Tis	Sed	Tis	Sed	Tis
PCSD04_TOX01	PCSD04	*Leptocheirus plurnulosus*	X	X	X	X	X	X	X	X
PCSD04_TOX02		*Strebliospio benedicti*	X	X	X	X	X	X	X	X
PCSD05_TOX01	PCSD05	*Leptocheirus plurnulosus*	X	X	X	X	X	X	X	X
PCSD05_TOX02		*Strebliospio benedicti*	X	X	X	X	X	X	X	X
PCSD06_TOX01	PCSD06	*Leptocheirus plurnulosus*	X	X	X	X	X	X	X	X
PCSD06_TOX02		*Strebliospio benedicti*	X	X	X	X	X	X	X	X
PCSD07_TOX01	PCSD07	*Leptocheirus plurnulosus*	X	X	X	X	X	X	X	X
PCSD07_TOX01		*Strebliospio benedicti*	X	X	X	X	X	X	X	X

Notes:
(1) Proposed analyses presented in order of preference if tissue mass is insufficient to complete all of the analyses
PCDD/PCDF = polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans
Pest = pesticides
PCB = polychlorinated biphenyls
T.PCBs = total PCBs
SVOC = semivolatile organic compound
Sed = sediment
Tis = tissue

Table 3.1
Paradise Creek Biota Sampling Potential Screening Values

Analyte	CAS Number	Test America MDL (mg/kg)	Test America CRQL (mg/kg)	Human Fish Consumption Screening Level (mg/kg)[1]	Human Oyster Consumption Screening Level (mg/kg)[3]	Environmental Screening Level (mg/kg)
SVOCs by SW846 8270D (Preparation Method 3541 with Cleanup Method 3640A)						
Benzaldehyde	100-52-7	0.005	0.033	55.6	2210	--
Phenol	108-95-2	0.000788	0.0067	167	6640	--
bis(2-Chloroethyl)ether	111-44-4	0.000895	0.0067	**0.00136**	0.0542	--
2-Chlorophenol	95-57-8	0.00273	0.033	2.78	111	--
2-Methylphenol	95-48-7	0.00233	0.033	27.8	1110	--
2,2′-oxybis(1-Chloropropane)	108-60-1	0.00072	0.0067	0.0214	0.851	--
Acetophenone	98-86-2	0.00274	0.033	55.6	2210	--
3&4-Methylphenol	106-44-5	0.00327	0.033	55.6	2210	--
N-Nitrosodi-n-propylamine	621-64-7	0.000782	0.0067	**0.000214**	0.00851	--
Hexachloroethane	67-72-1	0.0024	0.033	0.0374	1.49	--
Nitrobenzene	98-95-3	0.00278	0.0667	1.11	44.3	--
Isophorone	78-59-1	0.00251	0.033	1.58	62.7	--
2-Nitrophenol	88-75-5	0.00368	0.033	--	--	--
2,4-Dimethylphenol	105-67-9	0.00522	0.033	11.1	443	--
bis(2-Chloroethoxy)methane	111-91-1	0.0022	0.033	1.67	66.4	--
2,4-Dichlorophenol	120-83-2	0.000669	0.0067	1.67	66.4	--
Naphthalene	91-20-3	0.000575	0.0067	11.1	443	--
4-Chloroaniline	106-47-8	0.000267	0.033	**0.00749**	0.298	--
Hexachlorobutadiene	87-68-3	0.000747	0.0067	0.0192	0.764	--
Caprolactam	105-60-2	0.0252	0.17	278	11100	--
4-Chloro-3-methylphenol	59-50-7	0.00307	0.033	55.6	2210	--
2-Methylnaphthalene	91-57-6	0.0006	0.0067	2.22	88.5	--
Hexachlorocyclopentadiene	77-47-4	0.00036	0.033	3.34	133	--
2,4,6-Trichlorophenol	88-06-2	0.00499	0.033	0.136	5.42	0.1[7]
2,4,5-Trichlorophenol	95-95-4	0.00356	0.033	55.6	2210	0.1[7]
1,1′-Biphenyl	92-52-4	0.00298	0.033	0.187	7.45	--
2-Chloronaphthalene	91-58-7	0.000696	0.0067	44.5	1770	--
2-Nitroaniline	88-74-4	0.0149	0.17	5.56	221	--
Dimethyl phthalate	131-11-3	0.00363	0.033	--	--	--
2,6-Dinitrotoluene	606-20-2	0.00344	0.033	**0.000998**	0.0397	--
Acenaphthylene	208-96-8	0.000764	0.0067	33.4[5]	1330[5]	--
3-Nitroaniline	99-09-2	0.0137	0.17	--	--	--
Acenaphthene	83-32-9	0.000641	0.0067	33.4	1330	--
2,4-Dinitrophenol	51-28-5	0.00397	0.17	1.11	44.3	--
4-Nitrophenol	100-02-7	0.0122	0.17	--	--	--
Dibenzofuran	132-64-9	0.00328	0.033	0.556	22.1	--
2,4-Dinitrotoluene	121-14-2	0.00269	0.033	**0.00483**	0.192	--
Diethyl phthalate	84-66-2	0.00364	0.033	445	17700	--
Fluorene	86-73-7	0.000879	0.0067	22.2	885	--
4-Chlorophenyl phenyl ether	7005-72-3	0.00371	0.033	--	--	--
4-Nitroaniline	100-01-6	0.0135	0.17	**0.0749**	2.98	--
4,6-Dinitro-2-methylphenol	534-52-1	0.0134	0.17	**0.0445**	1.77	--
N-Nitrosodiphenylamine	86-30-6	0.00309	0.033	0.306	12.2	--
1,2,4,5-Tetrachlorobenzene	95-94-3	0.00253	0.033	0.167	6.64	--
4-Bromophenyl phenyl ether	101-55-3	0.0029	0.033	--	--	--
Hexachlorobenzene	118-74-1	0.000711	0.0067	**0.000936**	0.0372	--

Table 3.1
Paradise Creek Biota Sampling Potential Screening Values

Analyte	CAS Number	Test America MDL (mg/kg)	Test America CRQL (mg/kg)	Human Fish Consumption Screening Level (mg/kg)[1]	Human Oyster Consumption Screening Level (mg/kg)[3]	Environmental Screening Level (mg/kg)
Atrazine	1912-24-9	0.00325	0.033	**0.00651**	0.259	--
Pentachlorophenol	87-86-5	0.00298	0.033	**0.00374**	0.149	0.1[7]
Phenanthrene	85-01-8	0.00106	0.0067	--	--	--
Anthracene	120-12-7	0.000653	0.0067	167	6640	--
Carbazole	86-74-8	0.000615	0.0067	--	--	--
Di-n-butyl phthalate	84-74-2	0.00418	0.033	55.6	2210	--
Fluoranthene	206-44-0	0.000713	0.0067	22.2	885	--
Pyrene	129-00-0	0.000675	0.0067	16.7	664	--
Butyl benzyl phthalate	85-68-7	0.00456	0.033	0.788	31.4	--
3,3′-Dichlorobenzidine	91-94-1	0.00353	0.033	**0.00333**	0.132	--
Benzo[a]anthracene	56-55-3	0.000836	0.0067	**0.00205**	0.0816	--
Chrysene	218-01-9	0.000794	0.0067	0.205	8.16	--
bis(2-Ethylhexyl)phthalate	117-81-7	0.00539	0.0667	0.107	4.26	--
Di-n-octyl phthalate	117-84-0	0.00352	0.033	5.56	221	--
Benzo[b]fluoranthene	205-99-2	0.00105	0.0067	**0.00205**	0.0816	--
Benzo[k]fluoranthene	207-08-9	0.00135	0.0067	0.0205	0.816	--
Benzo[a]pyrene	50-32-8	0.000668	0.0067	**0.000205**	0.00816	--
Indeno[1,2,3-cd]pyrene	193-39-5	0.000687	0.0067	**0.00205**	0.0816	--
Dibenzo[a,h]anthracene	53-70-3	0.000742	0.0067	**0.000205**	0.00816	--
Benzo[g,h,i]perylene	191-24-2	0.000664	0.0067	16.7[6]	664[6]	--
2,3,4,6-Tetrachlorophenol	58-90-2	0.00214	0.033	16.7	664	0.1[7]
Total Low Molecular Weight PAHs	NA	NA	NA	--	--	0.21[8]
Total High Molecular Weight PAHs	NA	NA	NA	--	--	0.21[8]
Pesticides by SW846 8081B (Preparation Method 3541 with Cleanup Method 3640A)						
alpha-BHC	319-84-6	0.0000136	0.0000833	0.000238	0.00946	0.1[9]
beta-BHC	319-85-7	0.0000216	0.0000833	0.000832	0.0331	0.1[9]
delta-BHC	319-86-8	0.0000128	0.0000833	--	--	0.1[9]
gamma-BHC (Lindane)	58-89-9	0.0000146	0.0000833	0.00136	0.0542	0.1[9]
Heptachlor	76-44-8	0.0000185	0.0000833	0.000333	0.0132	0.2[9]
Aldrin	309-00-2	0.0000149	0.0000833	0.0000881	0.0035	0.022[10]
Heptachlor epoxide	1024-57-3	0.0000162	0.0000833	0.000165	0.00655	0.2[9]
Endosulfan I	959-98-8	0.0000157	0.0000833	--	--	--
Dieldrin	60-57-1	0.0000139	0.0000833	0.0000936	0.00372	0.022[10]
4,4′-DDE	72-55-9	0.0000126	0.0000833	0.0044	0.175	0.2[9]
Endrin	72-20-8	0.0000162	0.0000833	0.167	6.64	0.025[9]
Endosulfan II	33213-65-9	0.0000147	0.0000833	--	--	--
4,4′-DDD	72-54-8	0.0000109	0.0000833	0.00624	0.248	0.2[9]
Endosulfan sulfate	1031-07-8	0.0000087	0.0000833	--	--	--
4,4′-DDT	50-29-3	0.0000125	0.0000833	0.0044	0.175	0.2[9]
Methoxychlor	72-43-5	0.0000174	0.000167	2.78	111	0.06[11]
Endrin ketone	53494-70-5	0.000013	0.0000833	--	--	--
Endrin aldehyde	7421-93-4	0.0000162	0.0000833	--	--	--
alpha-Chlordane	5103-71-9	0.0000165	0.0000833	--	--	0.37[10]
gamma-Chlordane	5103-74-2	0.0000164	0.0000833	--	--	0.37[10]
Toxaphene	8001-35-2	0.000556	0.00333	0.00136	0.0542	--

Table 3.1
Paradise Creek Biota Sampling Potential Screening Values

Analyte	CAS Number	Test America MDL (mg/kg)	Test America CRQL (mg/kg)	Human Fish Consumption Screening Level (mg/kg)[1]	Human Oyster Consumption Screening Level (mg/kg)[3]	Environmental Screening Level (mg/kg)
PCBs by SW846 8082A (Preparation Method 3541 with Cleanup Methods 3660B and 3655A)						
Aroclor-1016	12674-11-2	0.00017	0.000833	0.0214	0.851	0.11[12]
Aroclor-1221	11104-28-2	0.000209	0.000833	**0.000749**	0.0298	0.11[12]
Aroclor-1232	11141-16-5	0.000288	0.000833	**0.000749**	0.0298	0.11[12]
Aroclor-1242	53469-21-9	0.000211	0.000833	**0.000749**	0.0298	0.11[12]
Aroclor-1248	12672-29-6	0.000209	0.000833	**0.000749**	0.0298	0.11[12]
Aroclor-1254	11097-82-5	0.000199	0.000833	**0.000749**	0.0298	0.11[12]
Aroclor-1260	11096-82-5	0.000183	0.000833	**0.000749**	0.0298	0.11[12]
Aroclor-1262	37324-23-5	0.000308	0.000833	**0.000749**[4]	0.0298[4]	0.11[12]
Aroclor-1268	11100-14-4	0.000168	0.000833	**0.000749**[4]	0.0298[4]	0.11[12]
Total PCBs	NA	NA	NA	0.000749	0.0298	0.11[12]
Metals by SW846 6020A (Preparation Method 3050B)						
Aluminum	7429-90-5	0.285	3	556	22100	--
Antimony	7440-36-0	0.0026	0.2	0.222	8.85	--
Arsenic	7440-38-2	0.0181	0.1	**0.000998**	**0.0397**	1.5[11]
Barium	7440-39-3	0.0107	1	111	4430	--
Beryllium	7440-41-7	0.0075	0.1	1.11	44.3	--
Cadmium	7440-43-9	0.007	0.1	0.556	22.1	0.4[13]
Calcium	7440-70-2	1.33	50	--	--	--
Chromium	7440-47-3	0.0061	0.2	**0.00299**	**0.119**	**0.18**
Cobalt	7440-48-4	0.0015	0.05	0.167	6.64	--
Copper	7440-50-8	0.033	0.2	22.2	885	**0.002**[8]
Iron	7439-89-6	0.354	5	389	15500	--
Lead	7439-92-1	0.0038	0.1	--	--	**0.028**[8]
Magnesium	7439-95-4	0.187	50	--	--	--
Manganese	7439-96-5	0.0103	0.5	77.9	3100	--
Nickel	7440-02-0	0.0113	0.1	11.1	443	--
Potassium	7440-09-7	1.36	50	--	--	--
Selenium	7782-49-2	0.0502	0.5	2.78	111	0.6[11]
Silver	7440-22-4	0.0039	0.1	2.78	111	**0.024**[11]
Sodium	7440-23-5	1.37	50	--	--	--
Thallium	7440-28-0	0.002	0.1	**0.00556**	0.221	--
Tin	7440-31-5	0.0593	0.5	334	13300	--
Vanadium	7440-62-2	0.0079	0.1	2.8	112	--
Zinc	7440-66-6	0.0648	0.5	167	6640	**0.284**[11]
Mercury by SW846 7471B						
Mercury	7439-97-6	0.0113	0.033	--	--	3[14]
PCDDs and PCDFs by DLM02.2 (all concentrations in ng/kg)						
2,3,7,8-TCDD	1746-01-6	NA	1	**0.0115**	**0.458**	--
1,2,3,7,8-PeCDD	40321-76-4	NA	5	**0.0115**	**0.458**	--
1,2,3,4,7,8-HxCDD	39227-28-6	NA	5	**0.115**	**4.58**	--
1,2,3,6,7,8-HxCDD	57653-85-7	NA	5	**0.115**	**4.58**	--
1,2,3,7,8,9-HxCDD	19408-74-3	NA	5	**0.115**	**4.58**	--
1,2,3,4,6,7,8-HpCDD	35822-46-9	NA	5	**1.15**	45.8	--

Table 3.1
Paradise Creek Biota Sampling Potential Screening Values

Analyte	CAS Number	Test America MDL (mg/kg)	Test America CRQL (mg/kg)	Human Fish Consumption Screening Level (mg/kg)[(1)]	Human Oyster Consumption Screening Level (mg/kg)[(3)]	Environmental Screening Level (mg/kg)
OCDD	3268-87-9	NA	10	38.4	1530	--
2,3,7,8-TCDF	51207-31-9	NA	1	**0.115**	4.58	--
1,2,3,7,8-PeCDF	57117-41-6	NA	5	**0.384**	15.3	--
2,3,4,7,8-PeCDF	57117-31-4	NA	5	**0.0384**	**1.53**	--
1,2,3,4,7,8-HxCDF	70648-26-9	NA	5	**0.115**	**4.58**	--
1,2,3,6,7,8-HxCDF	57117-44-9	NA	5	**0.115**	**4.58**	--
1,2,3,7,8,9-HxCDF	72918-21-9	NA	5	**0.115**	**4.58**	--
2,3,4,6,7,8-HxCDF	60851-34-5	NA	5	**0.115**	**4.58**	--
1,2,3,4,6,7,8-HpCDF	67562-39-4	NA	5	**1.15**	45.8	--
1,2,3,4,7,8,9-HpCDF	55673-89-7	NA	5	**1.15**	45.8	--
OCDF	39001-02-0	NA	10	38.4	1530	--
Toxicity Equivalent (TEQ)	NA	NA	NA	--	--	2.3[(10)]
Percent Solids by Laboratory SOP (percent)						
Percent Solids	NA	NA	0.1	--	--	--
Percent Solids by Laboratory SOP (Preparation Method 3541)						
Percent Lipids	NA	NA	0.1	--	--	--

Notes:

(1) calculated using EPA region 3 RSL risk calculator for fish consumption using an ingestion rate of 150 grams/day, the approximate ingestion rate of subsistence fishers near the site, as directed by EPA.

(2) calculated using EPA region 3 RSL risk calculator for crab consumption using an ingestion rate of 13.01 grams/day, using the Atlantic Wood Industries HHRA.

(3) calculated using EPA region 3 RSL risk calculator for oyster consumption using an ingestion rate of 3.77 grams/day, using the Atlantic Wood Industries HHRA.

(4) The screening level for PCB-1260 is used as a proxy.

(5) The screening level for acenaphthene is used as a proxy

(6) The screening level for pyrene is used as a proxy

(7) Total chlorophenols, wet weight (Swain and Holms, 1985)

(8) Refinement of Toxicity Values and development of Critical Biota Residues and biomagnificaiton Factors for the Lower Passaic River Restoration Project, Battelle, 2006

(9) NYSDEC - noncancer piscivorous wildlife (RAIS)

(10) NYSDEC - cancer piscivorous wildlife (RAIS)

(11) Gowanus Canal Remedial Investigation Report, Appendix E

(12) Total PCBs, high risk (NYSDEC - noncancer and cancer piscivorous wildlife benchmark; RAIS)

(13) Contaminant Residues in Demersal Fish, Invertebrates, and Deployed Mussels in Selected areas of Puget Sound, Washington. Johnston, et al., 2007.

(14) Environmental Contaminants in Wildlife, fish whole body benchmark (RAIS)

(15) Obtained from the USEPA Radionuclide PRG Calculator assuming a fish ingestion rate of 150 g/day

(16) Obtained from the USEPA Radionuclide PRG Calculator assuming a oyster tissue adult ingestion rate of 3.77 g/day

(17) Sediment PRG concentrations protective of the fish consumption exposure pathways calculated by Tissue PRG / BCF * Kd = Sediment PRG.

Bold text in a shaded cell indicates a screening value that is lower than the associated CRQL.

PCDD/PCDF = polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans

PCB = polychlorinated biphenyls

SVOC = semivolatile organic compound

CRQL = contract required quantitation limit

mg/kg = milligram per kilogram

ng/kg = nanograms per kilogram

pCi/g = picocuries per gram

EPA = U. S. Environmental Protection Agency

CRQL = contract required quantitation limit

NYSDEC = New York State Department of Environmental Conservation

RAIS = Risk Assessment Information System

-- = not available

NA = not applicable

Table 3.2
Aquatic Sediment Sampling Scheme and Contract Required Quantitation Limits

Analyte	CAS Number	CRQL (µg/kg)	EPA Residential Soil RSL[1] (µg/kg)	Region 3 Freshwater/Marine Benchmark[2] (µg/kg)
TCL SVOCs by SOM01.1/SOM01.2 (Low Level)				
Benzaldehyde	100-52-7	170	780,000 (n)	--
Phenol	108-95-2	170	1,900,000 (n)	420
bis(2-Chloroethyl)ether	111-44-4	170	230 (c)	--
2-Chlorophenol	95-57-8	170	39,000 (n)	31.2
2-Methylphenol	95-48-7	170	320,000 (n)	--
2,2′-oxybis(1-Chloropropane)	108-60-1	170	4,900 (c)	--
Acetophenone	98-86-2	170	780,000 (n)	--
4-Methylphenol	106-44-5	170	630,000 (n)[3]	670
N-Nitrosodi-n-propylamine	621-64-7	170	78 (c)	--
Hexachloroethane	67-72-1	170	1,800 (n)	1,027
Nitrobenzene	98-95-3	170	5,100 (c)	--
Isophorone	78-59-1	170	570,000 (c)	--
2-Nitrophenol	88-75-5	170	--	--
2,4-Dimethylphenol	105-67-9	170	130,000 (n)	29
bis(2-Chloroethoxy)methane	111-91-1	170	19,000 (n)	--
2,4-Dichlorophenol	120-83-2	170	19,000 (n)	117
Naphthalene	91-20-3	170	3,800 (c)	176
4-Chloroaniline	106-47-8	170	2,700 (c)	--
Hexachlorobutadiene	87-68-3	170	1,200 (n)	--
Caprolactam	105-60-2	170	3,100,000 (n)	--
4-Chloro-3-methylphenol	59-50-7	170	630,000 (n)	--
2-Methylnaphthalene	91-57-6	170	24,000 (n)	20.2
Hexachlorocyclopentadiene	77-47-4	170	180 (n)	--
2,4,6-Trichlorophenol	88-06-2	170	6,300 (n)	213
2,4,5-Trichlorophenol	95-95-4	170	630,000 (n)	--
1,1′-Biphenyl	92-52-4	170	4,700 (n)	1,220
2-Chloronaphthalene	91-58-7	170	480,000 (n)	--
2-Nitroaniline	88-74-4	330	63,000 (n)	--
Dimethyl phthalate	131-11-3	170	--	--
2,6-Dinitrotoluene	606-20-2	170	360 (c) (as mix of isomers)	--
Acenaphthylene	208-96-8	170	360,000 (n)[4]	5.9
3-Nitroaniline	99-09-2	330	--	--
Acenaphthene	83-32-9	170	360,000 (n)	6.7
2,4-Dinitrophenol	51-28-5	330	13,000 (n)	--
4-Nitrophenol	100-02-7	330	--	--
Dibenzofuran	132-64-9	170	7,300 (n)	415
2,4-Dinitrotoluene	121-14-2	170	1,700 (c)	41.6
Diethyl phthalate	84-66-2	170	5,100,000 (n)	603
Fluorene	86-73-7	170	240,000 (n)	77.4
4-Chlorophenyl phenyl ether	7005-72-3	170	--	--
4-Nitroaniline	100-01-6	330	25,000 (c)	--
4,6-Dinitro-2-methylphenol	534-52-1	330	510 (n)	--

Table 3.2
Aquatic Sediment Sampling Scheme and Contract Required Quantitation Limits

Analyte	CAS Number	CRQL (µg/kg)	EPA Residential Soil RSL[1] (µg/kg)	Region 3 Freshwater/Marine Benchmark[2] (µg/kg)
N-Nitrosodiphenylamine	86-30-6	170	110,000 (c)	2.68
1,2,4,5-Tetrachlorobenzene	95-94-3	170	2,300 (n)	1,090
4-Bromophenyl phenyl ether	101-55-3	170	--	1,230
Hexachlorobenzene	118-74-1	170	210 (c)	20
Atrazine	1912-24-9	170	2,400 (c)	--
Pentachlorophenol	87-86-5	330	1,000 (c)	504
Phenanthrene	85-01-8	170	180,000 (n)[5]	204
Anthracene	120-12-7	170	1,800,000 (n)	57.2
Carbazole	86-74-8	170	--	--
Di-n-butyl phthalate	84-74-2	170	630,000 (n)	6,470
Fluoranthene	206-44-0	170	240,000 (n)	423
Pyrene	129-00-0	170	180,000 (n)	195
Butyl benzyl phthalate	85-68-7	170	290,000 (n)	10,900
3,3′-Dichlorobenzidine	91-94-1	170	1,200 (n)	127
Benzo[a]anthracene	56-55-3	170	160 (c)	108
Chrysene	218-01-9	170	16,000 (c)	166
bis(2-Ethylhexyl)phthalate	117-81-7	170	39,000 (c)	180
Di-n-octyl phthalate	117-84-0	170	63,000	--
Benzo[b]fluoranthene	205-99-2	170	160 (c)	27.2 (total of [b] and [k] isomers)
Benzo[k]fluoranthene	207-08-9	170	1,600 (c)	27.2 (total of [b] and [k] isomers)
Benzo[a]pyrene	50-32-8	170	16 (c)	150
Indeno[1,2,3-cd]pyrene	193-39-5	170	160 (c)	17
Dibenzo[a,h]anthracene	53-70-3	170	16 (c)	0.033
Benzo[g,h,i]perylene	191-24-2	170	180,000 (n)[5]	170
2,3,4,6-Tetrachlorophenol	58-90-2	170	190,000 (n)	284
Total Low Molecular Weight PAHs	NA	NA	NA	76
Total High Molecular Weight PAHs	NA	NA	NA	190
TCL Pesticides by SOM01.1/SOM01.2				
alpha-BHC	319-84-6	1.7	86 (c)	6.0
beta-BHC	319-85-7	1.7	300 (c)	5.0
delta-BHC	319-86-8	1.7	--	6,400
gamma-BHC (Lindane)	58-89-9	1.7	560 (c)	2.37
Heptachlor	76-44-8	1.7	130 (c)	68
Aldrin	309-00-2	1.7	39 (c)	2.0
Heptachlor epoxide	1024-57-3	1.7	70 (c)	2.47
Endosulfan I	959-98-8	1.7	47,000 (n)	2.14 (mix of isomers)
Dieldrin	60-57-1	3.3	34 (c)	1.9
4,4′-DDE	72-55-9	3.3	2,000 (c)	3.16
Endrin	72-20-8	3.3	1,900 (n)	2.22
Endosulfan II	33213-65-9	3.3	37,000 (n)	2.14 (mix of isomers)
4,4′-DDD	72-54-8	3.3	2,300 (c)	4.88
Endosulfan sulfate	1031-07-8	3.3	47,000 (n)	5.4
4,4′-DDT	50-29-3	3.3	1,900 (c)	4.16
Methoxychlor	72-43-5	170	32,000 (n)	18.7

Table 3.2
Aquatic Sediment Sampling Scheme and Contract Required Quantitation Limits

Analyte	CAS Number	CRQL (µg/kg)	EPA Residential Soil RSL[1] (µg/kg)	Region 3 Freshwater/Marine Benchmark[2] (µg/kg)
Endrin ketone	53494-70-5	3.3	--	--
Endrin aldehyde	7421-93-4	3.3	--	--
alpha-Chlordane	5103-71-9	1.7	1,800 (c)	3.24
gamma-Chlordane	5103-74-2	1.7	1,800 (c)	3.24
Toxaphene	8001-35-2	170	490 (n)	0.1
Total DDD/DDE/DDT	NA	NA	NA	5.28
TCL PCBs by SOM01.1/SOM01.2				
Aroclor-1016	12674-11-2	33	410 (n)	see Total PCBs
Aroclor-1221	11104-28-2	33	170 (c)	see Total PCBs
Aroclor-1232	11141-16-5	33	170 (c)	see Total PCBs
Aroclor-1242	53469-21-9	33	230 (c)	see Total PCBs
Aroclor-1248	12672-29-6	33	230 (c)	see Total PCBs
Aroclor-1254	11097-82-5	33	120 (n)	see Total PCBs
Aroclor-1260	11096-82-5	33	240 (c)	see Total PCBs
Aroclor-1262	37324-23-5	33	240 (c)[6]	see Total PCBs
Aroclor-1268	11100-14-4	33	240 (c)[6]	see Total PCBs
Total PCBs	NA	0.01	120[10]	59.8
TAL Metals by ILM05.3/ILM05.4 (ICP-AES and CVAA) (all concentrations in mg/kg)				
Aluminum	7429-90-5	20	7,700 (n)	--
Antimony	7440-36-0	6.0	3.1 (n)	2.0
Arsenic	7440-38-2	1.0	0.68 (c)	9.8
Barium	7440-39-3	20	1,500 (n)	--
Beryllium	7440-41-7	0.5	16 (n)	--
Cadmium	7440-43-9	0.5	7.1 (n)	0.99
Calcium	7440-70-2	500	--	--
Chromium	7440-47-3	1.0	0.3 (c) (as chromium VI)	43.4
Cobalt	7440-48-4	5.0	2.3 (n)	50
Copper	7440-50-8	2.5	310 (n)	31.6
Iron	7439-89-6	10	5,500 (n)	20,000
Lead	7439-92-1	1.0	400[7]	35.8
Magnesium	7439-95-4	500	--	--
Manganese	7439-96-5	1.5	180 (n)	460
Nickel	7440-02-0	4.0	150 (n)	22.7
Potassium	7440-09-7	500	--	--
Selenium	7782-49-2	3.5	39 (n)	2.0
Silver	7440-22-4	1.0	39 (n)	1.0
Sodium	7440-23-5	500	--	--
Thallium	7440-28-0	2.5	0.078 (n)	--
Tin	7440-31-5	0.5	4,700 (n)	--
Vanadium	7440-62-2	5.0	39 (n)	--
Zinc	7440-66-6	6.0	2,300 (n)	--
TAL Metals by ILM05.3/ILM05.4 (CVAA) (all concentrations in mg/kg)				
Mercury	7439-97-6	0.1	0.78 (n) (as methyl mercury	0.18

Table 3.2
Aquatic Sediment Sampling Scheme and Contract Required Quantitation Limits

Analyte	CAS Number	CRQL (µg/kg)	EPA Residential Soil RSL[1] (µg/kg)	Region 3 Freshwater/Marine Benchmark[2] (µg/kg)
PCDDs and PCDFs by DLM02.2 (all concentrations in ng/kg)				
2,3,7,8-TCDD	1746-01-6	1.0	see TEQ	--
1,2,3,7,8-PeCDD	40321-76-4	5.0	see TEQ	--
1,2,3,4,7,8-HxCDD	39227-28-6	5.0	see TEQ	--
1,2,3,6,7,8-HxCDD	57653-85-7	5.0	see TEQ	--
1,2,3,7,8,9-HxCDD	19408-74-3	5.0	see TEQ	--
1,2,3,4,6,7,8-HpCDD	35822-46-9	5.0	see TEQ	--
OCDD	3268-87-9	10	see TEQ	--
2,3,7,8-TCDF	51207-31-9	1.0	see TEQ	--
1,2,3,7,8-PeCDF	57117-41-6	5.0	see TEQ	--
2,3,4,7,8-PeCDF	57117-31-4	5.0	see TEQ	--
1,2,3,4,7,8-HxCDF	70648-26-9	5.0	see TEQ	--
1,2,3,6,7,8-HxCDF	57117-44-9	5.0	see TEQ	--
1,2,3,7,8,9-HxCDF	72918-21-9	5.0	see TEQ	--
2,3,4,6,7,8-HxCDF	60851-34-5	5.0	see TEQ	--
1,2,3,4,6,7,8-HpCDF	67562-39-4	5.0	see TEQ	--
1,2,3,4,7,8,9-HpCDF	55673-89-7	5.0	see TEQ	--
OCDF	39001-02-0	10	see TEQ	--
Toxicity Equivalent (TEQ)[9]	NA	NA	4.5 (c)	NA
PCB Congeners by Method 1668[8][10]				
PCB Congeners (1 – 209)	NA	0.01	120[10]	59.8

(1) EPA Region 3 Residential Soil RSLs based upon November 2015 RSL table. Noncarcinogenic (n) RSLs based on hazard index of 0.1; carcinogenic RSLs (c) based on a hazard quotient of 1 x 10^{-6}.
(2) The lower of the EPA Region 3 freshwater and marine benchmark provided.
(3) Some analytical systems are unable to resolve 3- and 4-methylphenol; if the data are reported as a sum of the two isomers, the residential soil RSL for 3-methylphenol (630,000 µg/kg in November 2015) will be used as the screening value.
(4) The RSL for acenaphthene is used as a proxy.
(5) The RSL for pyrene is used as a proxy.
(6) The RSL for PCB-1260 is used as a proxy.
(7) EPA recommended value for residential soils (http://www.epa.gov/reg3hwmd/risk/human/info/faq.htm)
(8) Not an analytical method in the CLP; the CRQL/CRDL is a reporting limit that is considered to be practical under the method.
(9) The TEQ is calculated on a sample-specific basis by summing the concentration of each detected 2,3,7,8-substituted PCDD/PCDF isomer converted to the equivalent concentration of 2,3,7,8-TCDD using the toxicity equivalent factors (TEFs) published by the World Health Organization (WHO, 2005).
(10) RSL for 2,3',4,4'5-PCB 118 used as a proxy.
(11) Calculated PRG concentraions protective of fish consumption exposure pathways were calculated using assuming an adult ingestion rate of fish tissue at 150 g/day and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.
(12) Los Alamos dataset, No Effects ESL value presented; Radium 226 No Effect ESL value used as surrogate for gamma spectrometry.

CRDL = contract required detection limit
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
PCB = polychlorinated biphenyl
PRG = preliminary remedial goal
SVOC = semivolatile organic compound
TAL = Target Analyte List
ICP-AES = inductively coupled plasma-atomic absorption spectroscopy
SSL = soil screening level
PAH = polynuclear aromatic hydrocarbon
TOC = total organic carbon
RBC = risk-based concentration
RSL = regional screening level
(f) = freshwater
(m) = marine
TCL = Target Compound List
NA = not applicable
mg/kg = milligrams per kilogram

Table 3.3
Paradise Creek Biota Sampling
Laboratory Control Limits

Analyte	CAS Number	TestAmerica LCS Limits (%R)	TestAmerica MS/MSD Limits (%R)	TestAmerica Surrogate Limits (%R)	TestAmerica Precision Limits (RPD)
SVOCs by SW846 8270D (Preparation Method 3541 with Cleanup Method 3640A)					
Benzaldehyde	100-52-7	30-130	30-130	NA	20
Phenol	108-95-2	34-100	34-100	NA	20
bis(2-Chloroethyl)ether	111-44-4	31-100	31-100	NA	20
2-Chlorophenol	95-57-8	31-100	31-100	NA	20
2-Methylphenol	95-48-7	33-100	33-100	NA	20
2,2′-oxybis(1-Chloropropane)	108-60-1	29-100	29-100	NA	20
Acetophenone	98-86-2	31-100	31-100	NA	20
3&4-Methylphenol	106-44-5	33-100	33-100	NA	20
N-Nitrosodi-n-propylamine	621-64-7	33-100	33-100	NA	20
Hexachloroethane	67-72-1	31-100	31-100	NA	20
Nitrobenzene	98-95-3	30-100	30-100	NA	20
Isophorone	78-59-1	34-100	34-100	NA	20
2-Nitrophenol	88-75-5	33-100	33-100	NA	22
2,4-Dimethylphenol	105-67-9	34-100	34-100	NA	20
bis(2-Chloroethoxy)methane	111-91-1	31-100	31-100	NA	20
2,4-Dichlorophenol	120-83-2	34-100	34-100	NA	20
Naphthalene	91-20-3	32-100	32-100	NA	20
4-Chloroaniline	106-47-8	33-100	33-100	NA	20
Hexachlorobutadiene	87-68-3	30-104	30-104	NA	20
Caprolactam	105-60-2	37-103	37-103	NA	20
4-Chloro-3-methylphenol	59-50-7	37-100	37-100	NA	20
2-Methylnaphthalene	91-57-6	33-100	33-100	NA	21
Hexachlorocyclopentadiene	77-47-4	21-113	21-113	NA	30
2,4,6-Trichlorophenol	88-06-2	34-103	34-103	NA	25
2,4,5-Trichlorophenol	95-95-4	34-103	34-103	NA	22
1,1′-Biphenyl	92-52-4	32-100	32-100	NA	24
2-Chloronaphthalene	91-58-7	29-100	29-100	NA	25
2-Nitroaniline	88-74-4	34-108	34-108	NA	23
Dimethyl phthalate	131-11-3	36-100	36-100	NA	23
2,6-Dinitrotoluene	606-20-2	37-100	37-100	NA	20
Acenaphthylene	208-96-8	34-100	34-100	NA	23
3-Nitroaniline	99-09-2	35-100	35-100	NA	20
Acenaphthene	83-32-9	34-100	34-100	NA	23
2,4-Dinitrophenol	51-28-5	30-100	30-100	NA	23
4-Nitrophenol	100-02-7	23-138	23-138	NA	20
Dibenzofuran	132-64-9	35-100	35-100	NA	23
2,4-Dinitrotoluene	121-14-2	36-102	36-102	NA	21
Diethyl phthalate	84-66-2	36-100	36-100	NA	23
Fluorene	86-73-7	35-100	35-100	NA	21
4-Chlorophenyl phenyl ether	7005-72-3	35-100	35-100	NA	22
4-Nitroaniline	100-01-6	34-104	34-104	NA	20
4,6-Dinitro-2-methylphenol	534-52-1	36-100	36-100	NA	20
N-Nitrosodiphenylamine	86-30-6	32-100	32-100	NA	20
1,2,4,5-Tetrachlorobenzene	95-94-3	27-102	27-102	NA	26

Table 3.3
Paradise Creek Biota Sampling
Laboratory Control Limits

Analyte	CAS Number	TestAmerica LCS Limits (%R)	TestAmerica MS/MSD Limits (%R)	TestAmerica Surrogate Limits (%R)	TestAmerica Precision Limits (RPD)
4-Bromophenyl phenyl ether	101-55-3	33-100	33-100	NA	20
Hexachlorobenzene	118-74-1	30-104	30-104	NA	21
Atrazine	1912-24-9	30-130	30-130	NA	20
Pentachlorophenol	87-86-5	24-106	24-106	NA	20
Phenanthrene	85-01-8	33-100	33-100	NA	20
Anthracene	120-12-7	35-100	35-100	NA	20
Carbazole	86-74-8	34-100	34-100	NA	20
Di-n-butyl phthalate	84-74-2	36-102	36-102	NA	20
Fluoranthene	206-44-0	36-100	36-100	NA	20
Pyrene	129-00-0	32-100	32-100	NA	21
Butyl benzyl phthalate	85-68-7	33-105	33-105	NA	20
3,3′-Dichlorobenzidine	91-94-1	29-100	29-100	NA	21
Benzo[a]anthracene	56-55-3	37-100	37-100	NA	20
Chrysene	218-01-9	37-100	37-100	NA	20
bis(2-Ethylhexyl)phthalate	117-81-7	32-106	32-106	NA	20
Di-n-octyl phthalate	117-84-0	26-112	26-112	NA	20
Benzo[b]fluoranthene	205-99-2	31-100	31-100	NA	22
Benzo[k]fluoranthene	207-08-9	34-100	34-100	NA	21
Benzo[a]pyrene	50-32-8	36-100	36-100	NA	21
Indeno[1,2,3-cd]pyrene	193-39-5	31-125	31-125	NA	25
Dibenzo[a,h]anthracene	53-70-3	31-106	31-106	NA	26
Benzo[g,h,i]perylene	191-24-2	29-106	29-106	NA	20
2,3,4,6-Tetrachlorophenol	58-90-2	35-102	35-102	NA	25
Total Low Molecular Weight PAHs	NA	NA	NA	NA	NA
Total High Molecular Weight PAHs	NA	NA	NA	NA	NA
2-Fluorobiphenyl (surrogate)	321-60-8	NA	NA	38-103	NA
Nitrobenzene-d5 (surrogate)	4165-60-0	NA	NA	41-108	NA
Terphenyl-d14 (surrogate)	1718-51-0	NA	NA	28-109	NA
2,4,6-Tribromophenol (surrogate)	118-79-6	NA	NA	20-113	NA
2-Fluorophenol (surrogate)	367-12-4	NA	NA	34-103	NA
Phenol-d5 (surrogate)	4165-62-2	NA	NA	35-103	NA
Pesticides by SW846 8081B (Preparation Method 3541 with Cleanup Method 3640A)					
alpha-BHC	319-84-6	50-150	50-150	NA	20
beta-BHC	319-85-7	50-150	50-150	NA	20
delta-BHC	319-86-8	20-124	20-124	NA	20
gamma-BHC (Lindane)	58-89-9	50-150	50-150	NA	20
Heptachlor	76-44-8	50-150	50-150	NA	20
Aldrin	309-00-2	50-150	50-150	NA	20
Heptachlor epoxide	1024-57-3	50-150	50-150	NA	20
Endosulfan I	959-98-8	50-150	50-150	NA	23
Dieldrin	60-57-1	50-150	50-150	NA	20
4,4′-DDE	72-55-9	50-150	50-150	NA	20
Endrin	72-20-8	30-150	30-150	NA	20
Endosulfan II	33213-65-9	50-150	50-150	NA	33
4,4′-DDD	72-54-8	50-150	50-150	NA	20

Table 3.3
Paradise Creek Biota Sampling
Laboratory Control Limits

Analyte	CAS Number	TestAmerica LCS Limits (%R)	TestAmerica MS/MSD Limits (%R)	TestAmerica Surrogate Limits (%R)	TestAmerica Precision Limits (RPD)
Endosulfan sulfate	1031-07-8	44-140	44-140	NA	26
4,4′-DDT	50-29-3	30-150	30-150	NA	37
Methoxychlor	72-43-5	30-150	30-150	NA	36
Endrin ketone	53494-70-5	50-150	50-150	NA	20
Endrin aldehyde	7421-93-4	30-150	30-150	NA	20
alpha-Chlordane	5103-71-9	30-150	30-150	NA	20
gamma-Chlordane	5103-74-2	30-150	30-150	NA	24
Toxaphene	8001-35-2	50-150	50-150	NA	40
Decachlorobiphenyl (surrogate)	2051-24-3	NA	NA	45-140	NA
Tetrachloro-m-xylene (surrogate)	877-09-8	NA	NA	45-140	NA
PCBs by SW846 8082A (Preparation Method 3541 with Cleanup Methods 3660B and 3655A)					
Aroclor-1016	12674-11-2	50-120	50-120	NA	30
Aroclor-1221	11104-28-2	NA[(1)]	NA[(1)]	NA	NA[(1)]
Aroclor-1232	11141-16-5	NA[(1)]	NA[(1)]	NA	NA[(1)]
Aroclor-1242	53469-21-9	NA[(2)]	NA[(2)]	NA	NA[(2)]
Aroclor-1248	12672-29-6	NA[(2)]	NA[(2)]	NA	NA[(2)]
Aroclor-1254	11097-82-5	NA[(2)]	NA[(2)]	NA	NA[(2)]
Aroclor-1260	11096-82-5	50-120	50-120	NA	30
Aroclor-1262	37324-23-5	NA[(2)]	NA[(2)]	NA	NA[(2)]
Aroclor-1268	11100-14-4	NA[(2)]	NA[(2)]	NA	NA[(2)]
Total PCBs	NA	NA	NA	NA	NA
Decachlorobiphenyl (surrogate)	2051-24-3	NA	NA	20-150	NA
Tetrachloro-m-xylene (surrogate)	877-09-8	NA	NA	30-150	NA
Metals by SW846 6020A (Preparation Method 3050B)					
Aluminum	7429-90-5	80-120	75-125	NA	20
Antimony	7440-36-0	80-120	75-125	NA	20
Arsenic	7440-38-2	80-120	75-125	NA	20
Barium	7440-39-3	80-120	75-125	NA	20
Beryllium	7440-41-7	80-120	75-125	NA	20
Cadmium	7440-43-9	80-120	75-125	NA	20
Calcium	7440-70-2	80-120	75-125	NA	20
Chromium	7440-47-3	80-120	75-125	NA	20
Cobalt	7440-48-4	80-120	75-125	NA	20
Copper	7440-50-8	80-120	75-125	NA	20
Iron	7439-89-6	80-120	75-125	NA	20
Lead	7439-92-1	80-120	75-125	NA	20
Magnesium	7439-95-4	80-120	75-125	NA	20
Manganese	7439-96-5	80-120	75-125	NA	20
Nickel	7440-02-0	80-120	75-125	NA	20
Potassium	7440-09-7	80-120	75-125	NA	20
Selenium	7782-49-2	80-120	75-125	NA	20
Silver	7440-22-4	80-120	75-125	NA	20
Sodium	7440-23-5	80-120	75-125	NA	20
Thallium	7440-28-0	80-120	75-125	NA	20

Table 3.3
Paradise Creek Biota Sampling
Laboratory Control Limits

Analyte	CAS Number	TestAmerica LCS Limits (%R)	TestAmerica MS/MSD Limits (%R)	TestAmerica Surrogate Limits (%R)	TestAmerica Precision Limits (RPD)
Tin	7440-31-5	80-120	75-125	NA	20
Vanadium	7440-62-2	80-120	75-125	NA	20
Zinc	7440-66-6	80-120	75-125	NA	20
Mercury by SW846 7471B					
Mercury	7439-97-6	80-120	75-125	NA	20
Cyanide by SW846 9014 (Preparation Method 9010C)					
Cyanide	57-12-5	85-115	75-125	NA	20
Explosives by 8330B					
1,3,5-Trinitrobenzene	99-35-4	25-150	25-150	NA	35
1,3-Dinitrobenzene	99-65-0	25-150	25-150	NA	35
2,4,6-Trinitrotoluene	118-96-7	25-150	25-150	NA	35
2,4-Dinitrotoluene	121-14-2	25-150	25-150	NA	35
2,6-Dinitrotoluene	606-20-2	25-150	25-150	NA	35
2-Amino-4,6-dinitrotoluene	35572-78-2	25-150	25-150	NA	35
2-Nitrotoluene	88-72-2	25-150	25-150	NA	35
3-Nitrotoluene	99-08-1	25-150	25-150	NA	35
4-Amino-2,6-dinitrotoluene	19406-51-0	25-150	25-150	NA	35
4-Nitrotoluene	99-99-0	25-150	25-150	NA	35
HMX	2691-41-0	25-150	25-150	NA	35
Nitrobenzene	98-95-3	25-150	25-150	NA	35
RDX	121-82-4	25-150	25-150	NA	35
Tetryl	479-45-8	10-150	10-150	NA	35
3,4-Dinitrotoluene (surrogate)	610-39-9	NA	NA	74-117	NA
PCDDs and PCDFs by DLM02.2 (all concentrations in ng/kg)					
2,3,7,8-TCDD	1746-01-6	50-150	50-150	NA	20
1,2,3,7,8-PeCDD	40321-76-4	50-150	50-150	NA	21
1,2,3,4,7,8-HxCDD	39227-28-6	50-150	50-150	NA	22
1,2,3,6,7,8-HxCDD	57653-85-7	50-150	50-150	NA	23
1,2,3,7,8,9-HxCDD	19408-74-3	50-150	50-150	NA	24
1,2,3,4,6,7,8-HpCDD	35822-46-9	50-150	50-150	NA	25
OCDD	3268-87-9	50-150	50-150	NA	26
2,3,7,8-TCDF	51207-31-9	50-150	50-150	NA	27
1,2,3,7,8-PeCDF	57117-41-6	50-150	50-150	NA	28
2,3,4,7,8-PeCDF	57117-31-4	50-150	50-150	NA	29
1,2,3,4,7,8-HxCDF	70648-26-9	50-150	50-150	NA	30
1,2,3,6,7,8-HxCDF	57117-44-9	50-150	50-150	NA	31
1,2,3,7,8,9-HxCDF	72918-21-9	50-150	50-150	NA	32
2,3,4,6,7,8-HxCDF	60851-34-5	50-150	50-150	NA	33
1,2,3,4,6,7,8-HpCDF	67562-39-4	50-150	50-150	NA	34
1,2,3,4,7,8,9-HpCDF	55673-89-7	50-150	50-150	NA	35
OCDF	39001-02-0	50-150	50-150	NA	36
Toxicity Equivalent (TEQ)	NA	NA	NA	NA	NA
Percent Solids by Laboratory SOP (percent)					
Percent Solids	NA	NA	NA	NA	NA
Percent Solids by Laboratory SOP (Preparation Method 3541)					
Percent Lipids	NA	30-150	NA	NA	25

Table 3.3
Paradise Creek Biota Sampling
Laboratory Control Limits

Analyte	CAS Number	TestAmerica LCS Limits (%R)	TestAmerica MS/MSD Limits (%R)	TestAmerica Surrogate Limits (%R)	TestAmerica Precision Limits (RPD)
Radium-226 and Gamma Emitters by EPA Method 901.1 (pCi/g)					
Radium-226	13982-63-3	NA	NA	NA	40
Radium-228	15262-20-1	NA	NA	NA	40
Americium-241	14596-10-2	87-116	NA	NA	40
Cesium-137	10045-97-3	87-120	NA	NA	40
Cobalt-60	10198-40-0	87-115	NA	NA	40
Total gamma radiation	NA	NA	NA	NA	NA
Strontium-90 by EPA Method 905 (pCi/g)					
Strontium-90	10098-97-2	88-136	70-130	NA	40
Strontium carrier	NA	NA	NA	40-110	NA
Yttrium carrier	7440-65-5	NA	NA	40-110	NA

Notes:

(1) Discrepancies noted for Aroclor-1016 will also be considered to affect this Aroclor.

(2) Discrepancies noted for Aroclor-1260 will also be considered to affect this Aroclor.

PCDD/PCDF = polychlorinated dibenzo-p-dioxins/polychlorinated dibenzofurans
PCB = polychlorinated biphenyls
SVOC = semivolatile organic compound
SR90 = Strontium 90
CRQL = contract required quantitation limit
LCS = laboratory control sample
MS = matrix spike
MSD = matrix spike duplicate
%R = percent recovery
RPD = relative percent difference
EPA = U. S. Environmental Protection Agency
NA = not applicable

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FIGURES

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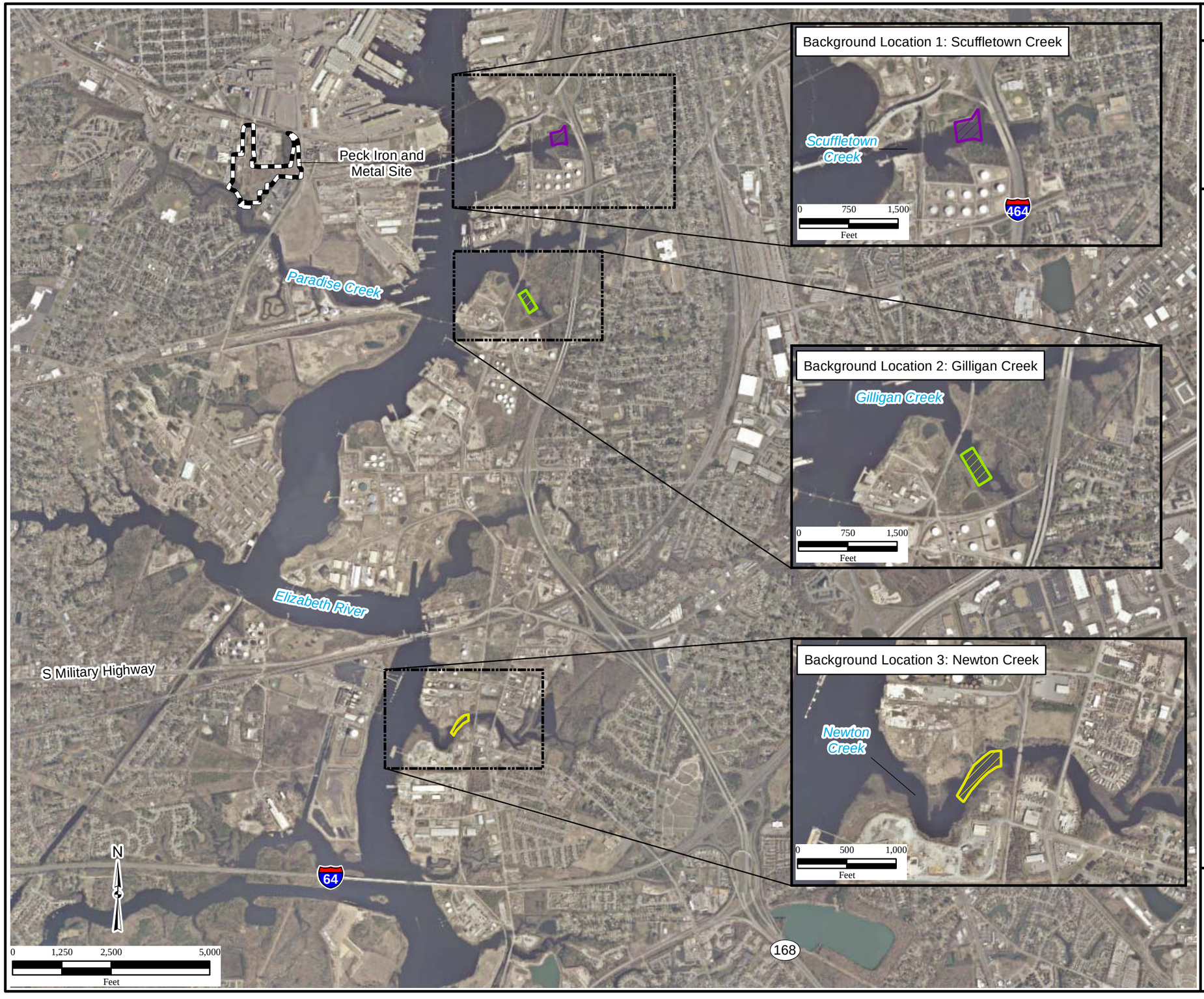


HGL—Biota SAP, Peck Iron and Metal RI/FS
Portsmouth, VA

Figure 1.1
Elizabeth River
Background Sampling Locations

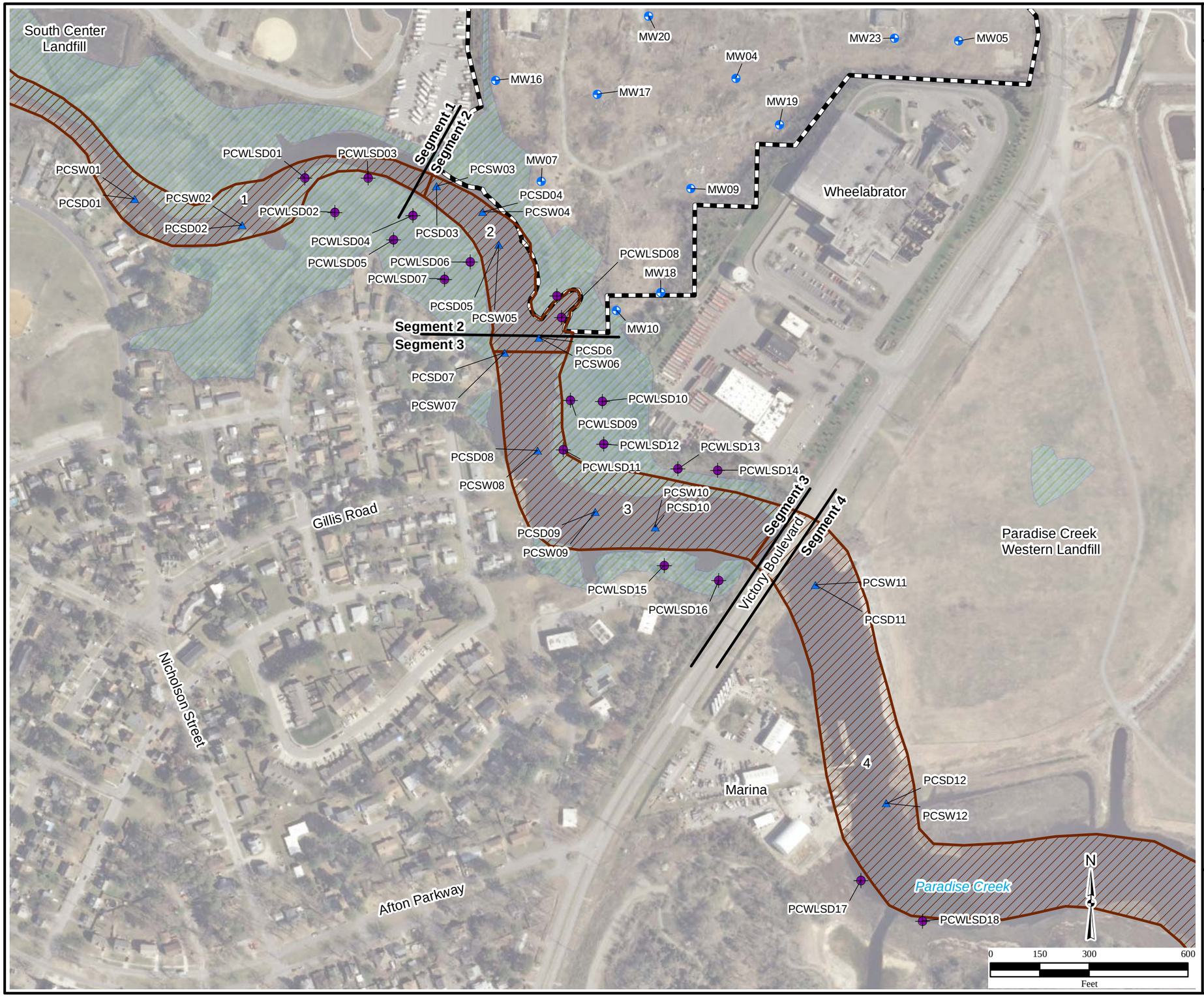
Legend

- Scuffletown Creek Biota Sampling Area
- Gilligran Creek Biota Sampling Area
- Newton Creek Biota Sampling Area
- Background Sampling Location
- Peck Iron and Metal

\\gst-srv-01\HGLGIS\Peck_MSIW\Biota_SAP
(1-01)Potential_BKG_Sample_Loc.mxd
5/3/2016 TB
Source: HGL, ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 1.2
Paradise Creek
RI Sample Locations



Legend

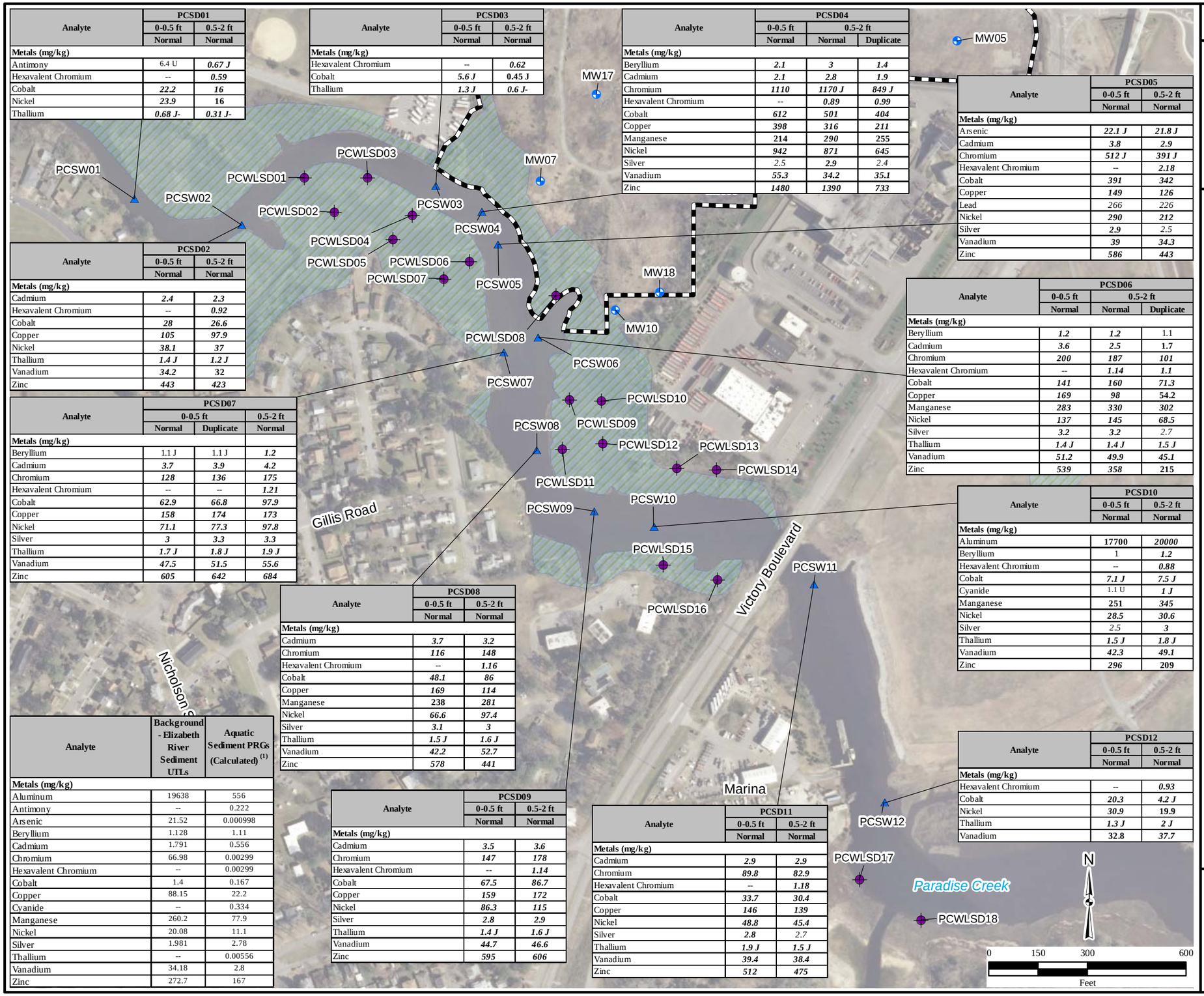
- Monitoring Well
- Aquatic Sediment and Surface Water Sample Location
- Tidal Wetland Sediment Sample Location
- PCSD01 — Sample Location Identification
- Peck Iron and Metal
- Proposed Biota Sampling Area
- Wetland

Note:
Wetland areas are defined and digitized by the National Wetlands Inventory branch of the U.S. Fish and Wildlife Service, September 26, 2011 and revised based on the onsite wetland survey conducted on June 15, 2015 and June 16, 2015.

RI=Remedial Investigation

\\gst-srv-01\HGLGIS\Peck_MSIW\Biota_SAP
(1-02)PC_RI_SampLocs.mxd
5/3/2016 TB
Source: HGL, Malcolm Pirnie, EPA, NWI
ArcGIS Online Imagery

HydroGeoLogic, Inc



Analyte	PCSD01	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Antimony	6.4 U	***0.67 J***
Hexavalent Chromium	--	***0.59***
Cobalt	***22.2***	***16***
Nickel	***23.9***	**16**
Thallium	***0.68 J-***	***0.31 J-***

Analyte	PCSD03	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Hexavalent Chromium	--	***0.62***
Cobalt	***5.6 J***	**0.45 J**
Thallium	***1.3 J***	***0.6 J-***

Analyte	PCSD04		
	0-0.5 ft	0.5-2 ft	
	Normal	Normal	Duplicate
Metals (mg/kg)			
Beryllium	***2.1***	***3***	***1.4***
Cadmium	***2.1***	***2.8***	***1.9***
Chromium	***1110***	***1170 J***	***849 J***
Hexavalent Chromium	--	***0.89***	***0.99***
Cobalt	***612***	***501***	***404***
Copper	***398***	***316***	***211***
Manganese	**214**	***290***	**255**
Nickel	***942***	***871***	***645***
Silver	*2.5*	***2.9***	*2.4*
Vanadium	***55.3***	***34.2***	***35.1***
Zinc	***1480***	***1390***	***733***

Analyte	PCSD05	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Arsenic	***22.1 J***	***21.8 J***
Cadmium	***3.8***	***2.9***
Chromium	***512 J***	***391 J***
Hexavalent Chromium	--	***2.18***
Cobalt	***391***	***342***
Copper	***149***	***126***
Lead	*266*	*226*
Nickel	***290***	***212***
Silver	***2.9***	*2.5*
Vanadium	***39***	***34.3***
Zinc	***586***	***443***

Analyte	PCSD02	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Cadmium	***2.4***	***2.3***
Hexavalent Chromium	--	***0.92***
Cobalt	***28***	***26.6***
Copper	***105***	***97.9***
Nickel	***38.1***	***37***
Thallium	***1.4 J***	***1.2 J***
Vanadium	***34.2***	**32**
Zinc	***443***	***423***

Analyte	PCSD06		
	0-0.5 ft	0.5-2 ft	
	Normal	Normal	Duplicate
Metals (mg/kg)			
Beryllium	***1.2***	***1.2***	1.1
Cadmium	***3.6***	***2.5***	**1.7**
Chromium	***200***	***187***	***101***
Hexavalent Chromium	--	***1.14***	***1.1***
Cobalt	***141***	***160***	***71.3***
Copper	***169***	***98***	**54.2**
Manganese	***283***	***330***	***302***
Nickel	***137***	***145***	***68.5***
Silver	***3.2***	***3.2***	*2.7*
Thallium	***1.4 J***	***1.4 J***	***1.5 J***
Vanadium	***51.2***	***49.9***	***45.1***
Zinc	***539***	***358***	**215**

Analyte	PCSD07		
	0-0.5 ft		0.5-2 ft
	Normal	Duplicate	Normal
Metals (mg/kg)			
Beryllium	1.1 J	1.1 J	***1.2***
Cadmium	***3.7***	***3.9***	***4.2***
Chromium	***128***	***136***	***175***
Hexavalent Chromium	--	--	***1.21***
Cobalt	***62.9***	***66.8***	***97.9***
Copper	***158***	***174***	***173***
Nickel	***71.1***	***77.3***	***97.8***
Silver	***3***	***3.3***	***3.3***
Thallium	***1.7 J***	***1.8 J***	***1.9 J***
Vanadium	***47.5***	***51.5***	***55.6***
Zinc	***605***	***642***	***684***

Analyte	PCSD10	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Aluminum	**17700**	***20000***
Beryllium	1	***1.2***
Hexavalent Chromium	--	***0.88***
Cobalt	***7.1 J***	***7.5 J***
Cyanide	1.1 U	***1 J***
Manganese	**251**	***345***
Nickel	***28.5***	***30.6***
Silver	*2.5*	***3***
Thallium	***1.5 J***	***1.8 J***
Vanadium	***42.3***	***49.1***
Zinc	***296***	**209**

Analyte	PCSD08	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Cadmium	***3.7***	***3.2***
Chromium	***116***	***148***
Hexavalent Chromium	--	***1.16***
Cobalt	***48.1***	***86***
Copper	***169***	***114***
Manganese	**238**	***281***
Nickel	***66.6***	***97.4***
Silver	***3.1***	***3***
Thallium	***1.5 J***	***1.6 J***
Vanadium	***42.2***	***52.7***
Zinc	***578***	***441***

Analyte	PCSD12	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Hexavalent Chromium	--	***0.93***
Cobalt	***20.3***	***4.2 J***
Nickel	***30.9***	**19.9**
Thallium	***1.3 J***	***2 J***
Vanadium	**32.8**	***37.7***

Analyte	PCSD09	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Cadmium	***3.5***	***3.6***
Chromium	***147***	***178***
Hexavalent Chromium	--	***1.14***
Cobalt	***67.5***	***86.7***
Copper	***159***	***172***
Nickel	***86.3***	***115***
Silver	***2.8***	***2.9***
Thallium	***1.4 J***	***1.6 J***
Vanadium	***44.7***	***46.6***
Zinc	***595***	***606***

Analyte	PCSD11	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Cadmium	***2.9***	***2.9***
Chromium	***89.8***	***82.9***
Hexavalent Chromium	--	***1.18***
Cobalt	***33.7***	***30.4***
Copper	***146***	***139***
Nickel	***48.8***	***45.4***
Silver	***2.8***	*2.7*
Thallium	***1.9 J***	***1.5 J***
Vanadium	***39.4***	***38.4***
Zinc	***512***	***475***

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]
Metals (mg/kg)		
Aluminum	19638	556
Antimony	--	0.222
Arsenic	21.52	0.000998
Beryllium	1.128	1.11
Cadmium	1.791	0.556
Chromium	66.98	0.00299
Hexavalent Chromium	--	0.00299
Cobalt	1.4	0.167
Copper	88.15	22.2
Cyanide	--	0.334
Manganese	260.2	77.9
Nickel	20.08	11.1
Silver	1.981	2.78
Thallium	--	0.00556
Vanadium	34.18	2.8
Zinc	272.7	167

HGL—Biota SAP, Peck Iron and Metal RI/FS
Portsmouth, VA

Figure 1.3
Paradise Creek Sediment
Metals Human Health Risk Screening

Legend

- Monitoring Well
- Aquatic Sediment and Surface Water Sample Location
- Tidal Wetland Sediment Sample Location
- PCSD01 Sample Location Identification
- Peck Iron and Metal
- Wetland

Notes:
[1] Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:
> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.
> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA
> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

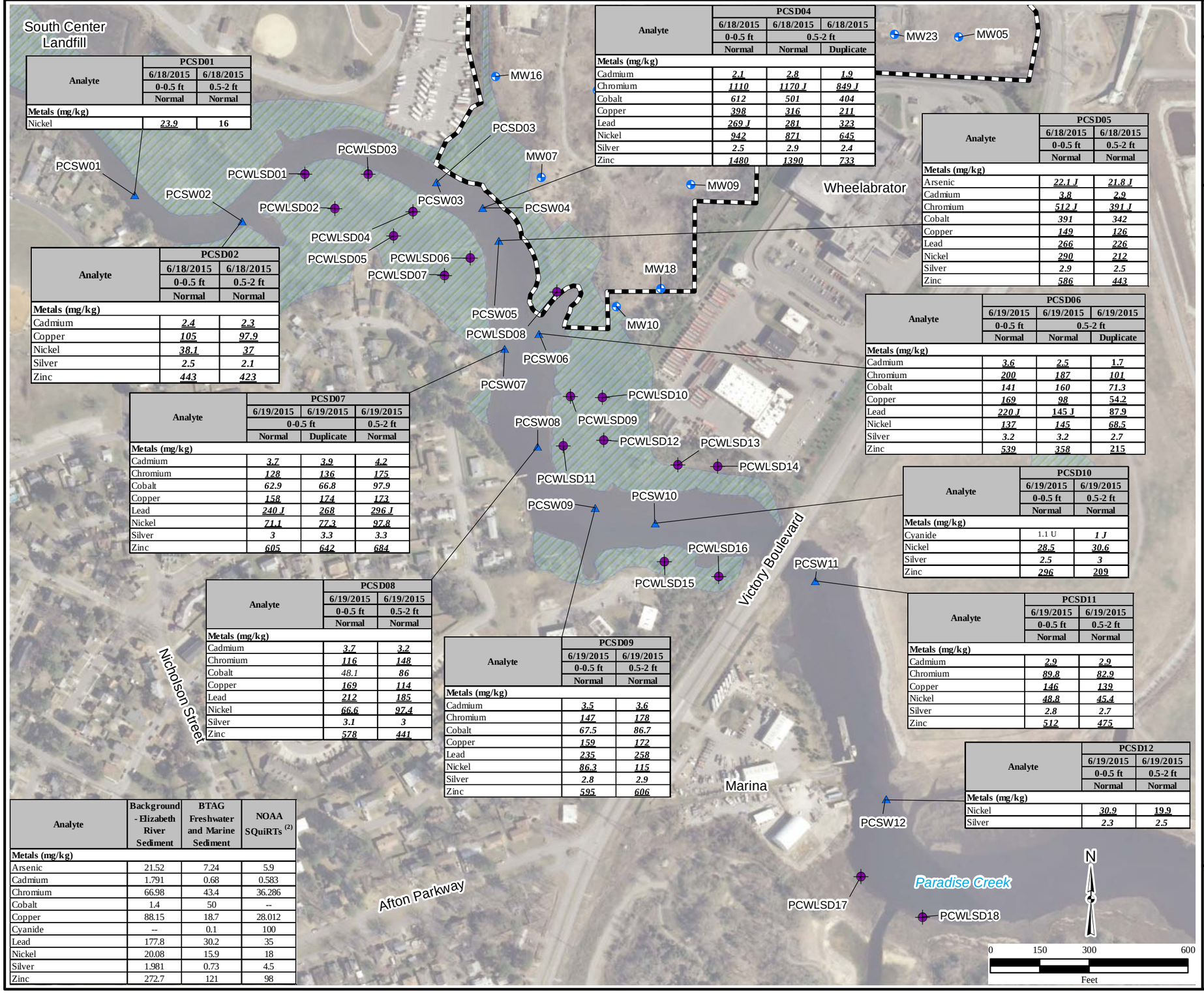
--=no screening value/not sampled
bgs=below ground surface
ft=feet
mg/kg=milligrams per kilogram
PRG=preliminary remedial goal
USEPA=U.S. Environmental Protection Agency
UTL=upper tolerance limit
RI=Remedial Investigation
RSL=Regional Screening Level
NOAA=National Oceanic and Atmospheric Administration
SQuiRTs=Screening Quick Reference Tables
J=positive detect; value estimated
J-=positive detect; value estimated and biased low
UJ=not detected; value shown equals an estimated reporting limit
U=not detected; value shown equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated PRG for Peck Iron and Metal are **Bolded**
Results exceeding the NOAA SQuiRT sediment screening values are <u>Underlined</u>

\\gst-srv-01\HGLGIS\Peck_MSIW\Biota_SAP\(1-03)PC_Sed_HHS_Metals2.mxd
5/11/2016 TB
Source: HGL, Malcolm Pirnie, EPA, NWI ArcGIS Online Imagery

HydroGeoLogic, Inc

Figure 1.4
Paradise Creek Sediment
Metals Ecological Risk Screening



Analyte	PCSD01	
	6/18/2015	6/18/2015
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Nickel	***23.9***	**16**

Analyte	PCSD02	
	6/18/2015	6/18/2015
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Cadmium	***2.4***	***2.3***
Copper	***105***	***97.9***
Nickel	***38.1***	***37***
Silver	***2.5***	***2.1***
Zinc	***443***	***423***

Analyte	PCSD04		
	6/18/2015	6/18/2015	6/18/2015
	0-0.5 ft	0.5-2 ft	
	Normal	Normal	Duplicate
Metals (mg/kg)			
Cadmium	***2.1***	***2.8***	***1.9***
Chromium	***1110***	***1170 J***	***849 J***
Cobalt	***612***	***501***	***404***
Copper	***398***	***316***	***211***
Lead	***269 J***	***281***	***323***
Nickel	***942***	***871***	***645***
Silver	***2.5***	***2.9***	***2.4***
Zinc	***1480***	***1390***	***733***

Analyte	PCSD05	
	6/18/2015	6/18/2015
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Arsenic	***22.1 J***	***21.8 J***
Cadmium	***3.8***	***2.9***
Chromium	***512 J***	***391 J***
Cobalt	***391***	***342***
Copper	***149***	***126***
Lead	***266***	***226***
Nickel	***290***	***212***
Silver	***2.9***	***2.5***
Zinc	***586***	***443***

Analyte	PCSD06		
	6/19/2015	6/19/2015	6/19/2015
	0-0.5 ft	0.5-2 ft	
	Normal	Normal	Duplicate
Metals (mg/kg)			
Cadmium	***3.6***	***2.5***	***1.7***
Chromium	***200***	***187***	***101***
Cobalt	***141***	***160***	***71.3***
Copper	***169***	***98***	***54.2***
Lead	***220 J***	***145 J***	***87.9***
Nickel	***137***	***145***	***68.5***
Silver	***3.2***	***3.2***	***2.7***
Zinc	***539***	***358***	***215***

Analyte	PCSD07		
	6/19/2015	6/19/2015	6/19/2015
	0-0.5 ft		0.5-2 ft
	Normal	Duplicate	Normal
Metals (mg/kg)			
Cadmium	***3.7***	***3.9***	***4.2***
Chromium	***128***	***136***	***175***
Cobalt	***62.9***	***66.8***	***97.9***
Copper	***158***	***174***	***173***
Lead	***240 J***	***268***	***296 J***
Nickel	***71.1***	***77.3***	***97.8***
Silver	***3***	***3.3***	***3.3***
Zinc	***605***	***642***	***684***

Analyte	PCSD08	
	6/19/2015	6/19/2015
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Cadmium	***3.7***	***3.2***
Chromium	***116***	***148***
Cobalt	*48.1*	***86***
Copper	***169***	***114***
Lead	***212***	***185***
Nickel	***66.6***	***97.4***
Silver	***3.1***	***3***
Zinc	***578***	***441***

Analyte	PCSD09	
	6/19/2015	6/19/2015
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Cadmium	***3.5***	***3.6***
Chromium	***147***	***178***
Cobalt	***67.5***	***86.7***
Copper	***159***	***172***
Lead	***235***	***258***
Nickel	***86.3***	***115***
Silver	***2.8***	***2.9***
Zinc	***595***	***606***

Analyte	PCSD10	
	6/19/2015	6/19/2015
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Cyanide	1.1 U	***1 J***
Nickel	***28.5***	***30.6***
Silver	***2.5***	***3***
Zinc	***296***	***209***

Analyte	PCSD11	
	6/19/2015	6/19/2015
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Cadmium	***2.9***	***2.9***
Chromium	***89.8***	***82.9***
Copper	***146***	***139***
Nickel	***48.8***	***45.4***
Silver	***2.8***	***2.7***
Zinc	***512***	***475***

Analyte	PCSD12	
	6/19/2015	6/19/2015
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Metals (mg/kg)		
Nickel	***30.9***	***19.9***
Silver	***2.3***	***2.5***

Analyte	Background - Elizabeth River Sediment	BTAG Freshwater and Marine Sediment	NOAA SQuiRTs [2]
Metals (mg/kg)			
Arsenic	21.52	7.24	5.9
Cadmium	1.791	0.68	0.583
Chromium	66.98	43.4	36.286
Cobalt	1.4	50	--
Copper	88.15	18.7	28.012
Cyanide	--	0.1	100
Lead	177.8	30.2	35
Nickel	20.08	15.9	18
Silver	1.981	0.73	4.5
Zinc	272.7	121	98

Legend

- Monitoring Well
- Aquatic Sediment and Surface Water Sample Location
- Tidal Wetland Sediment Sample Location
- PCSD01 — Sample Location Identification
- Peck Iron and Metal
- Wetland

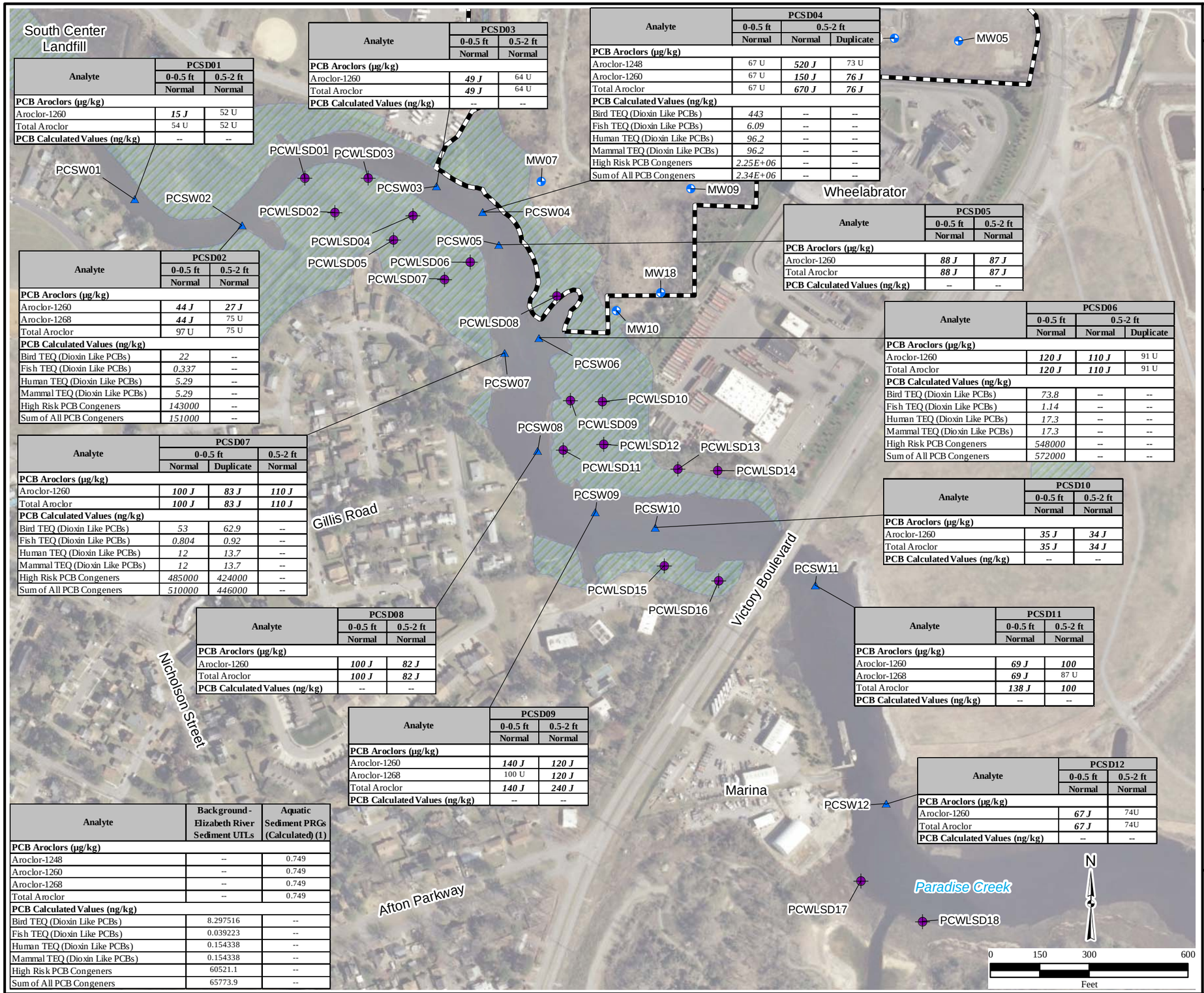
Notes:
[1] More conservative of the freshwater or marine benchmark provided
[2] The lowest of the freshwater or marine SQuiRT value provided
--=no screening value/not sampled
bgs=below ground surface
BTAG=USEPA Region 3 Biological Technical Assistance Group
ft=feet
mg/kg=milligrams per kilogram
NOAA=National Oceanic and Atmospheric Administration
RI=Remedial Investigation
USEPA=U.S. Environmental Protection Agency
UTL=upper tolerance limit
SQuiRTS=Screening Quick Reference Tables
J=positive detect; value estimated
J-=positive detect; value estimated and biased low
UJ=not detected; the value shown the estimated reporting limit
U=not detected; value shown equals the reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are <u>Underlined</u>

\\gst-srv-01\HGLGIS\Peck_MSIW\Biota_SAP
(1-04)PC_Sed_ES_Metals2.mxd
5/11/2016 TB
Source: HGL, Malcolm Pirnie, EPA, NWI
ArcGIS Online Imagery

HydroGeoLogic, Inc

Figure 1.5
Paradise Creek Sediment PCB Aroclor and PCB TEQ Human Health Risk Screening



Analyte	PCSD01	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Aroclors (µg/kg)		
Aroclor-1260	***15 J***	52 U
Total Aroclor	54 U	52 U
PCB Calculated Values (ng/kg)	--	--

Analyte	PCSD02	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Aroclors (µg/kg)		
Aroclor-1260	***44 J***	***27 J***
Aroclor-1268	***44 J***	75 U
Total Aroclor	97 U	75 U
PCB Calculated Values (ng/kg)		
Bird TEQ (Dioxin Like PCBs)	*22*	--
Fish TEQ (Dioxin Like PCBs)	*0.337*	--
Human TEQ (Dioxin Like PCBs)	*5.29*	--
Mammal TEQ (Dioxin Like PCBs)	*5.29*	--
High Risk PCB Congeners	*143000*	--
Sum of All PCB Congeners	*151000*	--

Analyte	PCSD03	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Aroclors (µg/kg)		
Aroclor-1260	***49 J***	64 U
Total Aroclor	***49 J***	64 U
PCB Calculated Values (ng/kg)	--	--

Analyte	PCSD04		
	0-0.5 ft	0.5-2 ft	
	Normal	Normal	Duplicate
PCB Aroclors (µg/kg)			
Aroclor-1248	67 U	***520 J***	73 U
Aroclor-1260	67 U	***150 J***	***76 J***
Total Aroclor	67 U	***670 J***	***76 J***
PCB Calculated Values (ng/kg)			
Bird TEQ (Dioxin Like PCBs)	*443*	--	--
Fish TEQ (Dioxin Like PCBs)	*6.09*	--	--
Human TEQ (Dioxin Like PCBs)	*96.2*	--	--
Mammal TEQ (Dioxin Like PCBs)	*96.2*	--	--
High Risk PCB Congeners	*2.25E+06*	--	--
Sum of All PCB Congeners	*2.34E+06*	--	--

Analyte	PCSD05	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Aroclors (µg/kg)		
Aroclor-1260	***88 J***	***87 J***
Total Aroclor	***88 J***	***87 J***
PCB Calculated Values (ng/kg)	--	--

Analyte	PCSD06		
	0-0.5 ft	0.5-2 ft	
	Normal	Normal	Duplicate
PCB Aroclors (µg/kg)			
Aroclor-1260	***120 J***	***110 J***	91 U
Total Aroclor	***120 J***	***110 J***	91 U
PCB Calculated Values (ng/kg)			
Bird TEQ (Dioxin Like PCBs)	*73.8*	--	--
Fish TEQ (Dioxin Like PCBs)	*1.14*	--	--
Human TEQ (Dioxin Like PCBs)	*17.3*	--	--
Mammal TEQ (Dioxin Like PCBs)	*17.3*	--	--
High Risk PCB Congeners	*548000*	--	--
Sum of All PCB Congeners	*572000*	--	--

Analyte	PCSD07		
	0-0.5 ft		0.5-2 ft
	Normal	Duplicate	Normal
PCB Aroclors (µg/kg)			
Aroclor-1260	***100 J***	***83 J***	***110 J***
Total Aroclor	***100 J***	***83 J***	***110 J***
PCB Calculated Values (ng/kg)			
Bird TEQ (Dioxin Like PCBs)	*53*	*62.9*	--
Fish TEQ (Dioxin Like PCBs)	*0.804*	*0.92*	--
Human TEQ (Dioxin Like PCBs)	*12*	*13.7*	--
Mammal TEQ (Dioxin Like PCBs)	*12*	*13.7*	--
High Risk PCB Congeners	*485000*	*424000*	--
Sum of All PCB Congeners	*510000*	*446000*	--

Analyte	PCSD10	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Aroclors (µg/kg)		
Aroclor-1260	***35 J***	***34 J***
Total Aroclor	***35 J***	***34 J***
PCB Calculated Values (ng/kg)	--	--

Analyte	PCSD08	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Aroclors (µg/kg)		
Aroclor-1260	***100 J***	***82 J***
Total Aroclor	***100 J***	***82 J***
PCB Calculated Values (ng/kg)	--	--

Analyte	PCSD09	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Aroclors (µg/kg)		
Aroclor-1260	***140 J***	***120 J***
Aroclor-1268	100 U	***120 J***
Total Aroclor	***140 J***	***240 J***
PCB Calculated Values (ng/kg)	--	--

Analyte	PCSD11	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Aroclors (µg/kg)		
Aroclor-1260	***69 J***	***100***
Aroclor-1268	***69 J***	87 U
Total Aroclor	***138 J***	***100***
PCB Calculated Values (ng/kg)	--	--

Analyte	PCSD12	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Aroclors (µg/kg)		
Aroclor-1260	***67 J***	74U
Total Aroclor	***67 J***	74U
PCB Calculated Values (ng/kg)	--	--

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) (1)
PCB Aroclors (µg/kg)		
Aroclor-1248	--	0.749
Aroclor-1260	--	0.749
Aroclor-1268	--	0.749
Total Aroclor	--	0.749
PCB Calculated Values (ng/kg)		
Bird TEQ (Dioxin Like PCBs)	8.297516	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--
Human TEQ (Dioxin Like PCBs)	0.154338	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--
High Risk PCB Congeners	60521.1	--
Sum of All PCB Congeners	65773.9	--

Legend

- Monitoring Well
- Aquatic Sediment and Surface Water Sample Location
- Tidal Wetland Sediment Sample Location
- PCSD01 — Sample Location Identification
- Peck Iron and Metal
- Wetland

Notes:
(1) Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:
> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.
> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA
> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

--=no screening value/not sampled
bgs=below ground surface
ft=feet
µg/kg=micrograms per kilogram
ng/kg= nanograms per kilogram
PCB=polychlorinated biphenyls
PRG=preliminary remedial goal
RI=Remedial Investigation
RSL=Regional Screening Level
USEPA=U.S. Environmental Protection Agency
UTL=upper tolerance limit
J=positive detect; value estimated
U=not detected; value shown equals reporting limit

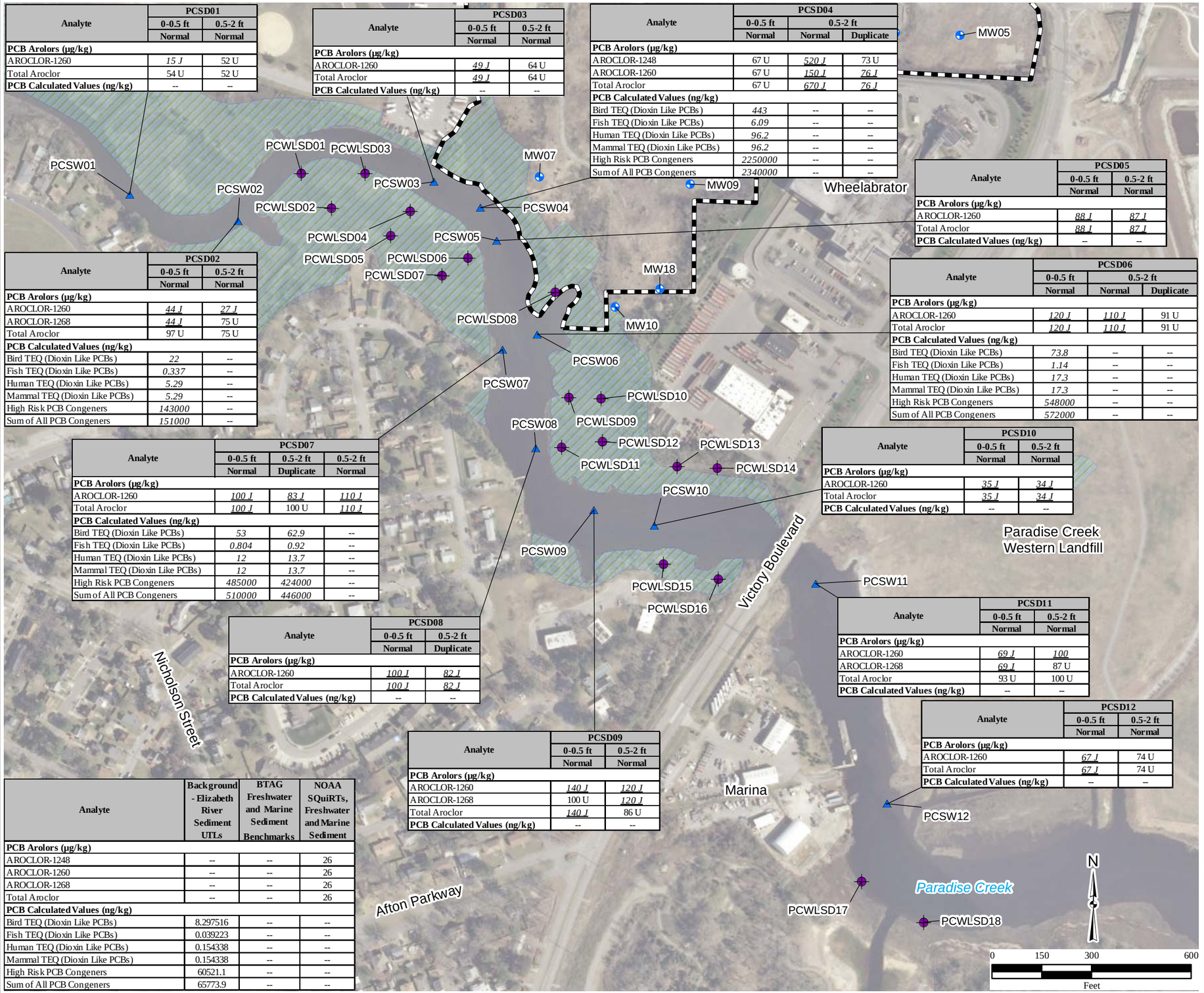
Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the calculated PRG for Peck Iron and Metal are **Bolded**
Results exceeding the NOAA SQuiRT sediment screening values are <u>Underlined</u>

\\gst-srv-01\HGLGIS\Peck_MSIW\Biota_SAP\ (1-05)PC_Sed_HHS_PCB_A.mxd
5/11/2016 TB
Source: HGL, Malcolm Pirnie, EPA, NWI ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

HGL—Biota SAP, Peck Iron and Metal RI/FS
Portsmouth, VA

Figure 1.6
Paradise Creek Sediment PCB Aroclor and PCB TEQ Ecological Risk Screening



Analyte	PCSD01		
	0-0.5 ft	0.5-2 ft	
	Normal	Normal	
PCB Arolors (µg/kg)			
AROCLOR-1260	*15 J*	52 U	
Total Aroclor	54 U	52 U	
PCB Calculated Values (ng/kg)	--	--	

Analyte	PCSD03		
	0-0.5 ft	0.5-2 ft	
	Normal	Normal	
PCB Arolors (µg/kg)			
AROCLOR-1260	*49 J*	64 U	
Total Aroclor	*49 J*	64 U	
PCB Calculated Values (ng/kg)	--	--	

Analyte	PCSD04			
	0-0.5 ft	0.5-2 ft		
	Normal	Normal	Duplicate	
PCB Arolors (µg/kg)				
AROCLOR-1248	67 U	*520 J*	73 U	
AROCLOR-1260	67 U	*150 J*	*76 J*	
Total Aroclor	67 U	*670 J*	*76 J*	
PCB Calculated Values (ng/kg)				
Bird TEQ (Dioxin Like PCBs)	*443*	--	--	
Fish TEQ (Dioxin Like PCBs)	*6.09*	--	--	
Human TEQ (Dioxin Like PCBs)	*96.2*	--	--	
Mammal TEQ (Dioxin Like PCBs)	*96.2*	--	--	
High Risk PCB Congeners	*2250000*	--	--	
Sum of All PCB Congeners	*2340000*	--	--	

Analyte	PCSD05	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Arolors (µg/kg)		
AROCLOR-1260	*88 J*	*87 J*
Total Aroclor	*88 J*	*87 J*
PCB Calculated Values (ng/kg)	--	--

Analyte	PCSD02	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Arolors (µg/kg)		
AROCLOR-1260	*44 J*	*27 J*
AROCLOR-1268	*44 J*	75 U
Total Aroclor	97 U	75 U
PCB Calculated Values (ng/kg)		
Bird TEQ (Dioxin Like PCBs)	*22*	--
Fish TEQ (Dioxin Like PCBs)	*0.337*	--
Human TEQ (Dioxin Like PCBs)	*5.29*	--
Mammal TEQ (Dioxin Like PCBs)	*5.29*	--
High Risk PCB Congeners	*143000*	--
Sum of All PCB Congeners	*151000*	--

Analyte	PCSD06		
	0-0.5 ft	0.5-2 ft	
	Normal	Normal	Duplicate
PCB Arolors (µg/kg)			
AROCLOR-1260	*120 J*	*110 J*	91 U
Total Aroclor	*120 J*	*110 J*	91 U
PCB Calculated Values (ng/kg)			
Bird TEQ (Dioxin Like PCBs)	*73.8*	--	--
Fish TEQ (Dioxin Like PCBs)	*1.14*	--	--
Human TEQ (Dioxin Like PCBs)	*17.3*	--	--
Mammal TEQ (Dioxin Like PCBs)	*17.3*	--	--
High Risk PCB Congeners	*548000*	--	--
Sum of All PCB Congeners	*572000*	--	--

Analyte	PCSD07			
	0-0.5 ft	0.5-2 ft	0.5-2 ft	
	Normal	Duplicate	Normal	
PCB Arolors (µg/kg)				
AROCLOR-1260	*100 J*	*83 J*	*110 J*	
Total Aroclor	*100 J*	100 U	*110 J*	
PCB Calculated Values (ng/kg)				
Bird TEQ (Dioxin Like PCBs)	*53*	*62.9*	--	
Fish TEQ (Dioxin Like PCBs)	*0.804*	*0.92*	--	
Human TEQ (Dioxin Like PCBs)	*12*	*13.7*	--	
Mammal TEQ (Dioxin Like PCBs)	*12*	*13.7*	--	
High Risk PCB Congeners	*485000*	*424000*	--	
Sum of All PCB Congeners	*510000*	*446000*	--	

Analyte	PCSD10	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Arolors (µg/kg)		
AROCLOR-1260	*35 J*	*34 J*
Total Aroclor	*35 J*	*34 J*
PCB Calculated Values (ng/kg)	--	--

Analyte	PCSD08	
	0-0.5 ft	0.5-2 ft
	Normal	Duplicate
PCB Arolors (µg/kg)		
AROCLOR-1260	*100 J*	*82 J*
Total Aroclor	*100 J*	*82 J*
PCB Calculated Values (ng/kg)	--	--

Analyte	PCSD11	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Arolors (µg/kg)		
AROCLOR-1260	*69 J*	*100*
AROCLOR-1268	*69 J*	87 U
Total Aroclor	93 U	100 U
PCB Calculated Values (ng/kg)	--	--

Analyte	PCSD09	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Arolors (µg/kg)		
AROCLOR-1260	*140 J*	*120 J*
AROCLOR-1268	100 U	*120 J*
Total Aroclor	*140 J*	86 U
PCB Calculated Values (ng/kg)	--	--

Analyte	PCSD12	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
PCB Arolors (µg/kg)		
AROCLOR-1260	*67 J*	74 U
Total Aroclor	*67 J*	74 U
PCB Calculated Values (ng/kg)	--	--

Analyte	Background - Elizabeth River Sediment UTLs	BTAG Freshwater and Marine Sediment Benchmarks	NOAA SQuiRTs, Freshwater and Marine Sediment
PCB Arolors (µg/kg)			
AROCLOR-1248	--	--	26
AROCLOR-1260	--	--	26
AROCLOR-1268	--	--	26
Total Aroclor	--	--	26
PCB Calculated Values (ng/kg)			
Bird TEQ (Dioxin Like PCBs)	8.297516	--	--
Fish TEQ (Dioxin Like PCBs)	0.039223	--	--
Human TEQ (Dioxin Like PCBs)	0.154338	--	--
Mammal TEQ (Dioxin Like PCBs)	0.154338	--	--
High Risk PCB Congeners	60521.1	--	--
Sum of All PCB Congeners	65773.9	--	--

Legend

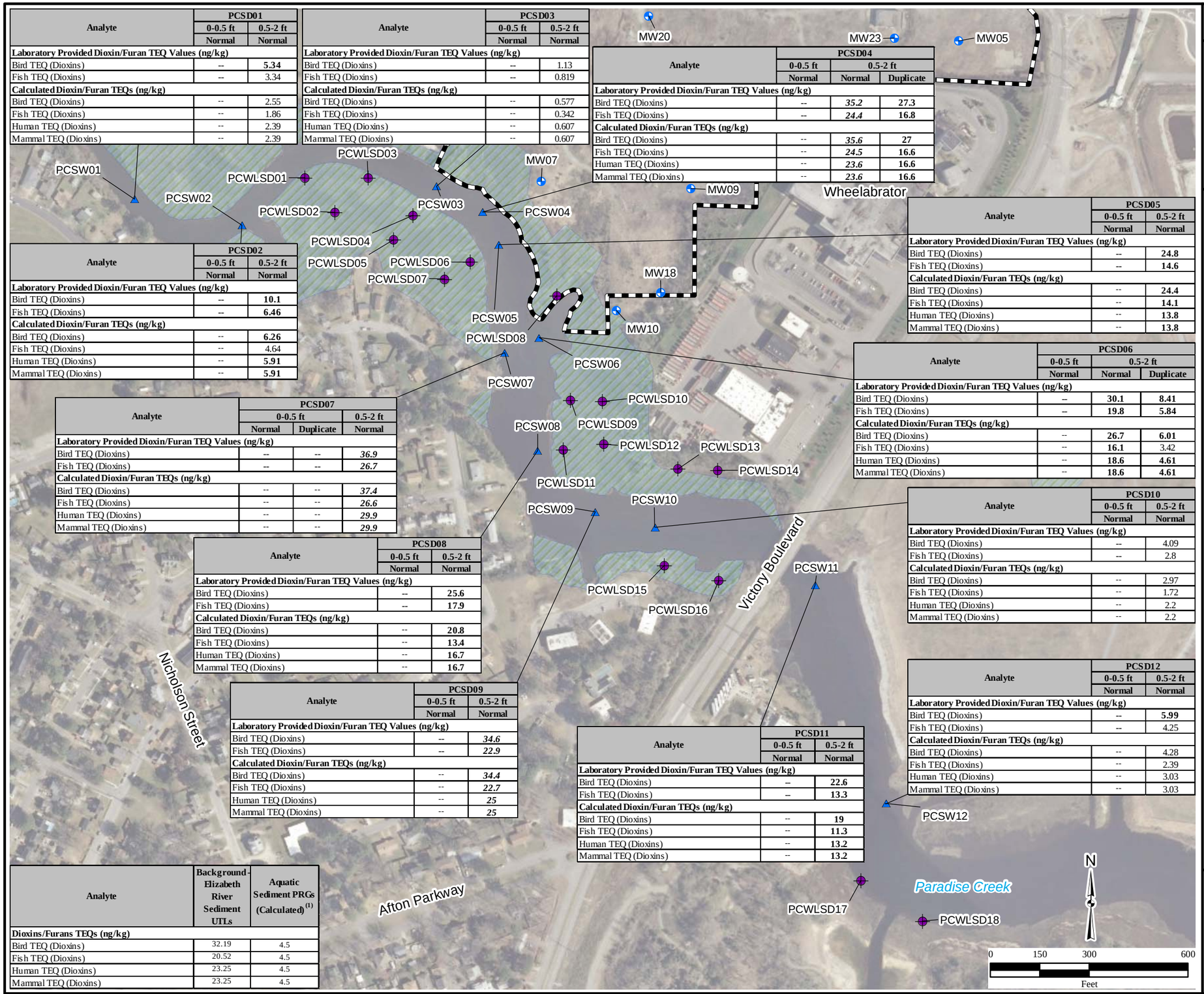
- Monitoring Well
- Aquatic Sediment and Surface Water Sample Location
- Tidal Wetland Sediment Sample Location
- PCSD01 Sample Location Identification
- Peck Iron and Metal
- Wetland

Notes:
(1) More conservative of the freshwater or marine benchmark provided
--=no screening value/not sampled
bgs=below ground surface
BTAG=USEPA Region 3 Biological Technical Assistance Group
ft=feet
ng/kg= nanograms per kilogram
µg/kg=micrograms per kilogram
NOAA=National Oceanographic and Atmospheric Administration
PCB=polychlorinated biphenyls
RI=Remedial Investigation
SQuiRTS=Screening Quick Reference Tables
TEQ=Toxic Equivalent
USEPA=U.S. Environmental Protection Agency
UTL=upper tolerance limit
J=indicates an estimated value
U=not detected; value presented equals reporting limit

Results exceeding the Elizabeth River background sediment analyte UTLs are *Italicized*
Results exceeding the Region 3 BTAG freshwater or marine sediment benchmark are **Bolded**
Results exceeding the NOAA SQuiRTs Freshwater benchmark are Underlined

\\gst-srv-01\HGLGIS\Peck_MSIW\Biota_SAP\(1-06)PC_Sed_ES_PCB_A.mxd
5/10/2016 TB
Source: HGL, Malcolm Pirnie, EPA, NWI ArcGIS Online Imagery

HydroGeoLogic, Inc



Analyte	PCSD01	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values (ng/kg)		
Bird TEQ (Dioxins)	--	**5.34**
Fish TEQ (Dioxins)	--	3.34
Calculated Dioxin/Furan TEQs (ng/kg)		
Bird TEQ (Dioxins)	--	2.55
Fish TEQ (Dioxins)	--	1.86
Human TEQ (Dioxins)	--	2.39
Mammal TEQ (Dioxins)	--	2.39

Analyte	PCSD03	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values (ng/kg)		
Bird TEQ (Dioxins)	--	1.13
Fish TEQ (Dioxins)	--	0.819
Calculated Dioxin/Furan TEQs (ng/kg)		
Bird TEQ (Dioxins)	--	0.577
Fish TEQ (Dioxins)	--	0.342
Human TEQ (Dioxins)	--	0.607
Mammal TEQ (Dioxins)	--	0.607

Analyte	PCSD04		
	0-0.5 ft	0.5-2 ft	
	Normal	Normal	Duplicate
Laboratory Provided Dioxin/Furan TEQ Values (ng/kg)			
Bird TEQ (Dioxins)	--	***35.2***	**27.3**
Fish TEQ (Dioxins)	--	***24.4***	**16.8**
Calculated Dioxin/Furan TEQs (ng/kg)			
Bird TEQ (Dioxins)	--	***35.6***	**27**
Fish TEQ (Dioxins)	--	***24.5***	**16.6**
Human TEQ (Dioxins)	--	***23.6***	**16.6**
Mammal TEQ (Dioxins)	--	***23.6***	**16.6**

Analyte	PCSD05	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values (ng/kg)		
Bird TEQ (Dioxins)	--	**24.8**
Fish TEQ (Dioxins)	--	**14.6**
Calculated Dioxin/Furan TEQs (ng/kg)		
Bird TEQ (Dioxins)	--	**24.4**
Fish TEQ (Dioxins)	--	**14.1**
Human TEQ (Dioxins)	--	**13.8**
Mammal TEQ (Dioxins)	--	**13.8**

Analyte	PCSD02	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values (ng/kg)		
Bird TEQ (Dioxins)	--	**10.1**
Fish TEQ (Dioxins)	--	**6.46**
Calculated Dioxin/Furan TEQs (ng/kg)		
Bird TEQ (Dioxins)	--	**6.26**
Fish TEQ (Dioxins)	--	4.64
Human TEQ (Dioxins)	--	**5.91**
Mammal TEQ (Dioxins)	--	**5.91**

Analyte	PCSD06		
	0-0.5 ft	0.5-2 ft	
	Normal	Normal	Duplicate
Laboratory Provided Dioxin/Furan TEQ Values (ng/kg)			
Bird TEQ (Dioxins)	--	**30.1**	**8.41**
Fish TEQ (Dioxins)	--	**19.8**	**5.84**
Calculated Dioxin/Furan TEQs (ng/kg)			
Bird TEQ (Dioxins)	--	**26.7**	**6.01**
Fish TEQ (Dioxins)	--	**16.1**	3.42
Human TEQ (Dioxins)	--	**18.6**	**4.61**
Mammal TEQ (Dioxins)	--	**18.6**	**4.61**

Analyte	PCSD07		
	0-0.5 ft		0.5-2 ft
	Normal	Duplicate	Normal
Laboratory Provided Dioxin/Furan TEQ Values (ng/kg)			
Bird TEQ (Dioxins)	--	--	***36.9***
Fish TEQ (Dioxins)	--	--	***26.7***
Calculated Dioxin/Furan TEQs (ng/kg)			
Bird TEQ (Dioxins)	--	--	***37.4***
Fish TEQ (Dioxins)	--	--	***26.6***
Human TEQ (Dioxins)	--	--	***29.9***
Mammal TEQ (Dioxins)	--	--	***29.9***

Analyte	PCSD10	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values (ng/kg)		
Bird TEQ (Dioxins)	--	4.09
Fish TEQ (Dioxins)	--	2.8
Calculated Dioxin/Furan TEQs (ng/kg)		
Bird TEQ (Dioxins)	--	2.97
Fish TEQ (Dioxins)	--	1.72
Human TEQ (Dioxins)	--	2.2
Mammal TEQ (Dioxins)	--	2.2

Analyte	PCSD08	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values (ng/kg)		
Bird TEQ (Dioxins)	--	**25.6**
Fish TEQ (Dioxins)	--	**17.9**
Calculated Dioxin/Furan TEQs (ng/kg)		
Bird TEQ (Dioxins)	--	**20.8**
Fish TEQ (Dioxins)	--	**13.4**
Human TEQ (Dioxins)	--	**16.7**
Mammal TEQ (Dioxins)	--	**16.7**

Analyte	PCSD12	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values (ng/kg)		
Bird TEQ (Dioxins)	--	**5.99**
Fish TEQ (Dioxins)	--	4.25
Calculated Dioxin/Furan TEQs (ng/kg)		
Bird TEQ (Dioxins)	--	4.28
Fish TEQ (Dioxins)	--	2.39
Human TEQ (Dioxins)	--	3.03
Mammal TEQ (Dioxins)	--	3.03

Analyte	PCSD09	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values (ng/kg)		
Bird TEQ (Dioxins)	--	***34.6***
Fish TEQ (Dioxins)	--	***22.9***
Calculated Dioxin/Furan TEQs (ng/kg)		
Bird TEQ (Dioxins)	--	***34.4***
Fish TEQ (Dioxins)	--	***22.7***
Human TEQ (Dioxins)	--	***25***
Mammal TEQ (Dioxins)	--	***25***

Analyte	PCSD11	
	0-0.5 ft	0.5-2 ft
	Normal	Normal
Laboratory Provided Dioxin/Furan TEQ Values (ng/kg)		
Bird TEQ (Dioxins)	--	**22.6**
Fish TEQ (Dioxins)	--	**13.3**
Calculated Dioxin/Furan TEQs (ng/kg)		
Bird TEQ (Dioxins)	--	**19**
Fish TEQ (Dioxins)	--	**11.3**
Human TEQ (Dioxins)	--	**13.2**
Mammal TEQ (Dioxins)	--	**13.2**

Analyte	Background - Elizabeth River Sediment UTLs	Aquatic Sediment PRGs (Calculated) [1]
Dioxins/Furans TEQs (ng/kg)		
Bird TEQ (Dioxins)	32.19	4.5
Fish TEQ (Dioxins)	20.52	4.5
Human TEQ (Dioxins)	23.25	4.5
Mammal TEQ (Dioxins)	23.25	4.5

HGL—Biota SAP, Peck Iron and Metal RI/FS
Portsmouth, VA

Figure 1.7
Paradise Creek Sediment Dioxins/Furans TEQ Human Health Risk Screening

Legend

- Monitoring Well
- Aquatic Sediment and Surface Water Sample Location
- Tidal Wetland Sediment Sample Location
- PCSD01 Sample Location Identification
- Peck Iron and Metal
- Wetland

Notes:
[1] Calculated PRG concentrations provided were the lowest between PRG calculated using the following equation: Tissue PRG / biological concentration factor * distribution coefficient.for:
> Fish consumption exposure pathways were calculated using assuming an ingestion rate of fish tissue at 150 g/day, the approximate ingestion rate of subsistence fishers near the Site, as directed by EPA.
> Crab consumption using an ingestion rate of 13.01 g/day provided in the Atlantic Wood Industries HHRA
> Oyster consumption using an ingestion rate of 3.77 g/day provided in the Atlantic Wood Industries HHRA and the following equation: Tissue PRG / biological concentration factor * distribution coefficient.

--=no screening value/not sampled
bgs=below ground surface
ft=feet
ng/kg=nanograms per kilogram
PCB=polychlorinated biphenyls
PCDD/PCDF=Polychlorinated dibenzodioxins/Polychlorinated dibenzofurans
RI=Remedial Investigation
TCDF=Tetrachlorodibenzofuran
TCDD=Tetrachlorodibenzodioxin
TEQ=Toxic Equivalent
NOAA=National Oceanic and Atmospheric Administration
SQuiRTs=Screening Quick Reference Tables
J=positive detect, value estimated
U=not detected; value shown equals reporting limit
UJ=not detected; value shown equals an estimated reporting limit

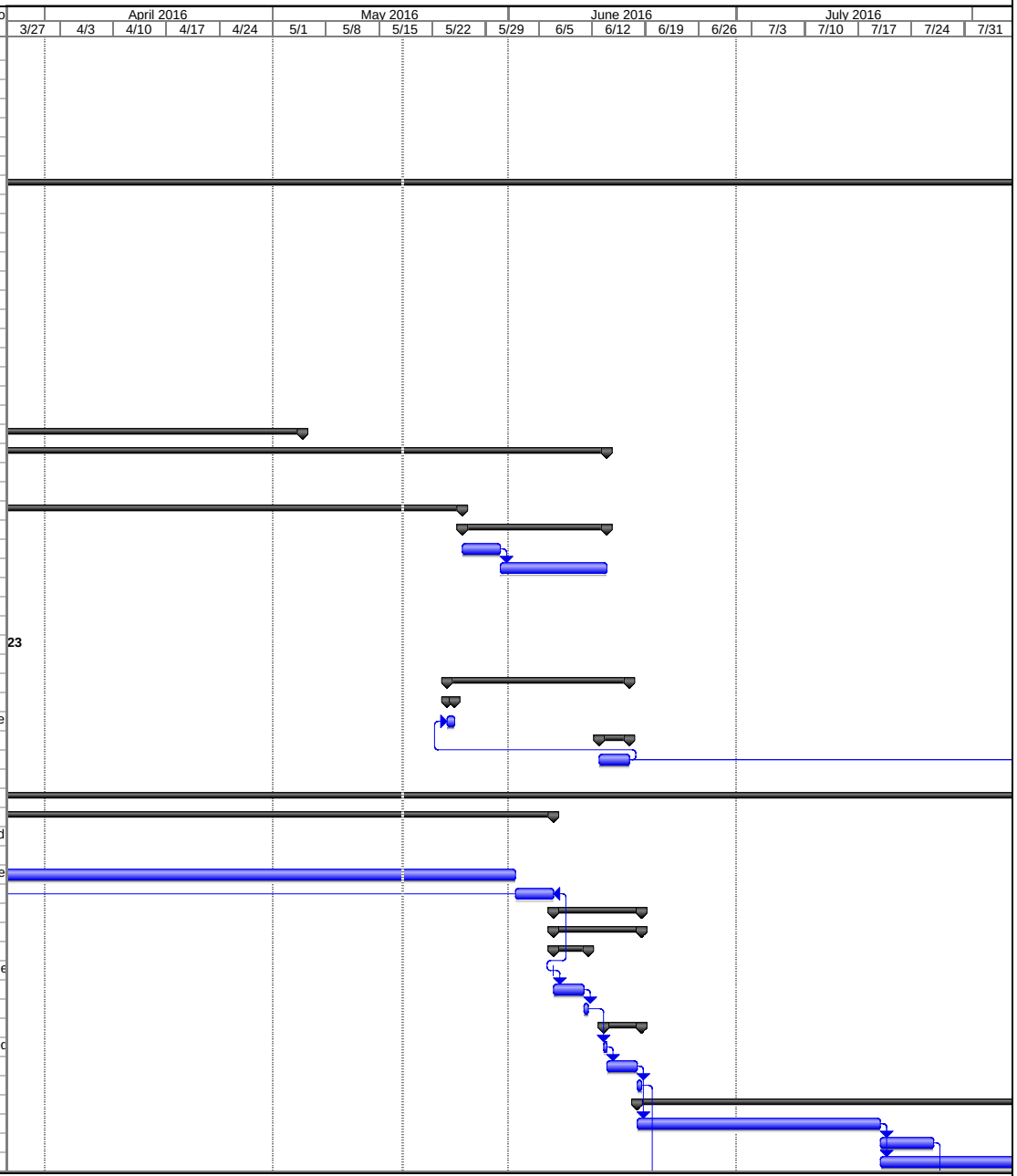
Results exceeding the calculated preliminary remedial goal for Peck Iron and Metal are **Bolded**
Results exceeding the NOAA SQuiRT sediment screening values are <u>Underlined</u>

\\gst-srv-01\HGLGIS\Peck_MSIW\Biota_SAP
(1-07)PC_Sed_HHS_PCB_C.mxd
5/17/2016 TB
Source: HGL, Malcolm Pirnie, EPA, NWI
ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Figure 1.8
May 18, 2016 Project Schedule
Peck Iron and Metal RI/FS, City of Portsmouth, VA

ID	Task Name	Duration	Start	Finish	Predecesso
1	**WA44 Recipt**	1 day?	Thu 7/14/11	Thu 7/14/11	
2	**Work Plan Cost Estimate**	**918 days**	**Wed 7/20/11**	**Sat 1/24/15**	
29					
30	**Project Plans**	**1043 days**	**Fri 10/21/11**	**Wed 10/21/15**	
87					
88	**Subcontracting**	**384 days**	**Mon 9/9/13**	**Thu 2/26/15**	
177					
178	**Risk Identification and Assessment**	**1437 days**	**Thu 7/14/11**	**Fri 1/13/17**	
179	**Mobilization Activities**	**13 days**	**Mon 12/16/13**	**Thu 1/2/14**	
182	**Field Event 1 - Field Activities Completed**	**72 days**	**Tue 9/3/13**	**Wed 12/11/13**	
200	**Field Event 2 - Field Activities Completed**	**169 days**	**Tue 10/15/13**	**Fri 6/6/14**	
233	**Field Event 3 - Isotope Investigation - Completed**	**998 days**	**Thu 7/14/11**	**Tue 5/12/15**	
259	**Field Event 4 - SS Sampling - CLP data still missing**	**156 days**	**Sun 2/8/15**	**Mon 9/14/15**	
308	**Field Event 5 - PC SW/SD Sampling - Complete**	**103 days**	**Sat 4/25/15**	**Wed 9/16/15**	
331	**Field Event 6 - Test Pits - CLP data still missing**	**144 days**	**Sun 4/5/15**	**Thu 10/22/15**	
375	**Field Event 7 - Well Installations - CLP data still missi**	**145 days**	**Sun 4/26/15**	**Fri 11/13/15**	
402	**Field Event 8 - Wetland Well Installations - CLP data s**	**136 days**	**Mon 5/18/15**	**Mon 11/23/15**	
429	**Field Event 9 - GW Qrtly Event 1 & Eliz River Bkg San**	**140 days**	**Sun 6/14/15**	**Fri 12/25/15**	
461	**Field Event 10 - ElizRiv Bkg SW/SD Sampling; Site SV**	**104 days**	**Sun 9/20/15**	**Thu 2/11/16**	
484	**Field Event 11 - GW Qrtly Event 2**	**38.38 days**	**Tue 9/1/15**	**Fri 3/11/16**	
515	**Field Event 12 - DPT SB**	**137 days**	**Tue 10/27/15**	**Wed 5/4/16**	
548	**Field Event 13 - GW Event 3**	**39.38 days**	**Tue 12/1/15**	**Mon 6/13/16**	
549	**RAS/DAS Request**	**69 days**	**Tue 12/1/15**	**Mon 3/7/16**	
554	**Field Work**	**9.38 days**	**Mon 3/7/16**	**Sat 3/19/16**	
565	**FE 13 Laboratory and Validation**	**48 days**	**Fri 3/18/16**	**Wed 5/25/16**	
569	**FE 13 Project Data File Update**	**13 days**	**Thu 5/26/16**	**Mon 6/13/16**	
570	EDD Receipts	3 days	Thu 5/26/16	Mon 5/30/16	568
571	EDD Data Download	14 edays	Mon 5/30/16	Mon 6/13/16	570
572	**FE 13 Related Reports**	**3 days**	**Mon 3/21/16**	**Wed 3/23/16**	
573	**Trip Reporting**	**3 days**	**Mon 3/21/16**	**Wed 3/23/16**	
574	Trip Report	3 days	Mon 3/21/16	Wed 3/23/16	564
575	Trip Report Submittal	0 edays	Wed 3/23/16	Wed 3/23/16	574
576					
577	**Field Event 14 - Oyster Installation**	**18 days**	**Tue 5/24/16**	**Fri 6/17/16**	
578	**Mob/Demob**	**1 day**	**Tue 5/24/16**	**Wed 5/25/16**	
579	Cages /Oysters purchased	1 eday	Tue 5/24/16	Wed 5/25/16	581FS-24 e
580	**Field Work**	**4 days**	**Mon 6/13/16**	**Fri 6/17/16**	
581	Oyster Seeding	4 edays	Mon 6/13/16	Fri 6/17/16	
582					
583	**Field Event 15 - GW Event 4**	**139 days**	**Tue 3/1/16**	**Mon 9/12/16**	
584	**RAS/DAS Request**	**69 days**	**Tue 3/1/16**	**Mon 6/6/16**	
585	Development	1 eday	Tue 3/1/16	Wed 3/2/16	587SF-1 ed
586	Submittal	0 edays	Wed 3/2/16	Wed 3/2/16	585
587	CLP Procurement	90 edays	Thu 3/3/16	Wed 6/1/16	588SS-90 e
588	Laboratory Assignment	5 edays	Wed 6/1/16	Mon 6/6/16	592SF
589	**Field Work**	**9 days**	**Mon 6/6/16**	**Sat 6/18/16**	
590	**GW Sampling**	**9 days**	**Mon 6/6/16**	**Sat 6/18/16**	
591	**Week 1**	**4 days**	**Mon 6/6/16**	**Sat 6/11/16**	
592	Travel to Site	0.25 edays	Mon 6/6/16	Tue 6/7/16	557FS+91 e
593	Qrtly GW Sampling Event 4 - 1st weel	4 edays	Tue 6/7/16	Sat 6/11/16	592
594	Travel home - week 1	0.5 edays	Sat 6/11/16	Sat 6/11/16	593
595	**Week 2**	**4.38 days**	**Mon 6/13/16**	**Sat 6/18/16**	
596	Travel to Site - week 2	0.5 edays	Mon 6/13/16	Tue 6/14/16	594FS+2 ed
597	Qrtly GW Sampling Event 4 - 2nd wee	4 edays	Tue 6/14/16	Sat 6/18/16	596
598	Travel Home - week 2	0.5 edays	Sat 6/18/16	Sat 6/18/16	597
599	**FE 15 Laboratory and Validation**	**48 days**	**Sat 6/18/16**	**Thu 8/25/16**	
600	Laboratory Analysis	32 edays	Sat 6/18/16	Wed 7/20/16	597
601	Receipt of Unvalidated Data	7 edays	Wed 7/20/16	Wed 7/27/16	600
602	Data Validation	36 edays	Wed 7/20/16	Thu 8/25/16	600

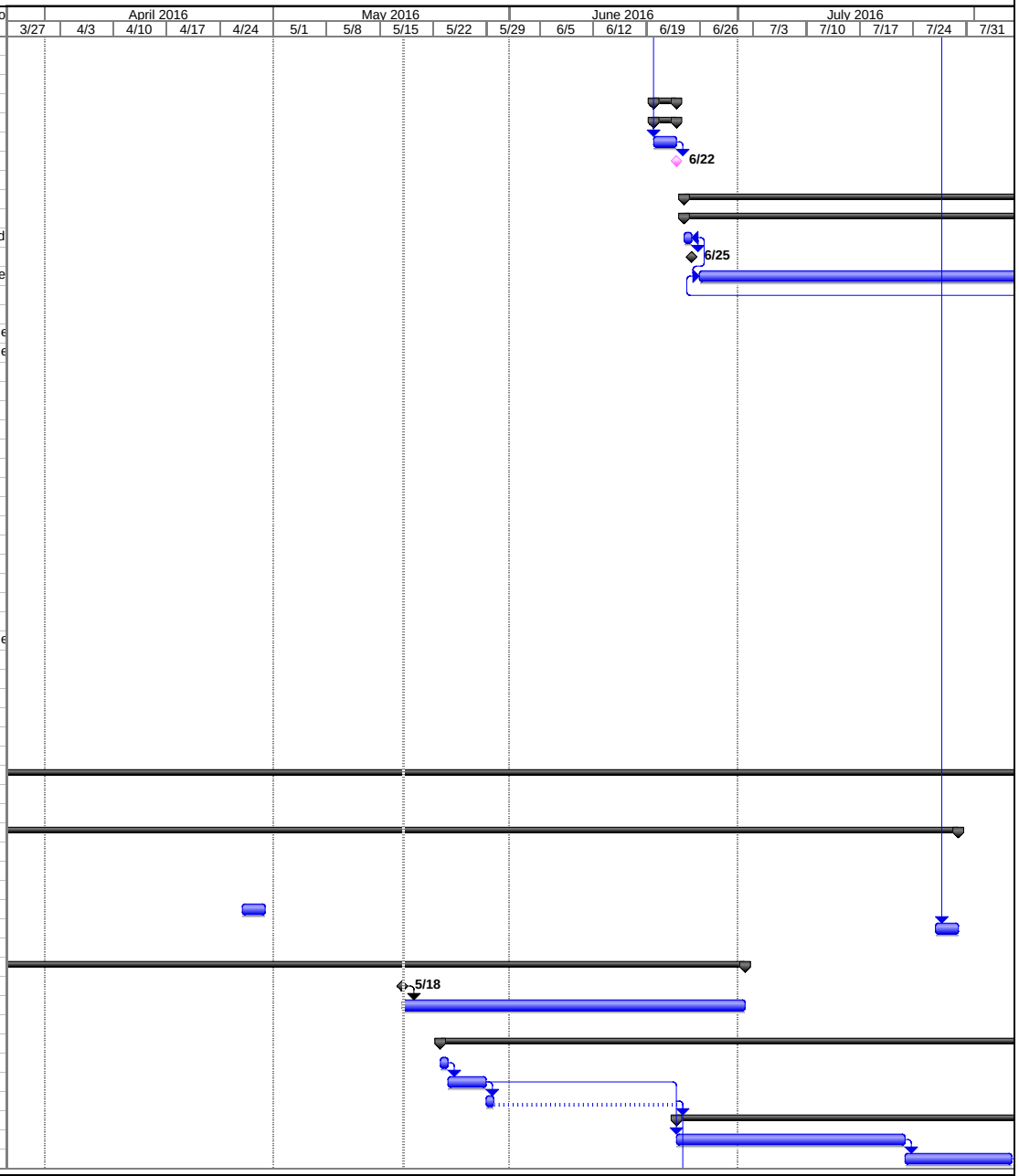


Project: 2016_0518-WA44projSchd
Date: Wed 5/18/16

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Figure 1.8
May 18, 2016 Project Schedule
Peck Iron and Metal RI/FS, City of Portsmouth, VA

ID	Task Name	Duration	Start	Finish	Predecesso
603	**FE 15 Project Data File Update**	**13 days**	**Thu 8/25/16**	**Mon 9/12/16**	
604	EDD Receipts	3 days	Thu 8/25/16	Mon 8/29/16	602
605	EDD Data Download	14 edays	Mon 8/29/16	Mon 9/12/16	604
606	**FE 15 Related Reports**	**3 days**	**Mon 6/20/16**	**Wed 6/22/16**	
607	**Trip Reporting**	**3 days**	**Mon 6/20/16**	**Wed 6/22/16**	
608	Trip Report	3 days	Mon 6/20/16	Wed 6/22/16	598
609	Trip Report Submittal	0 edays	Wed 6/22/16	Wed 6/22/16	608
610					
611	**Field Event 16 - Aquatic Tissue Sampling/Toxicity Tes**	**146 days**	**Fri 6/24/16**	**Fri 1/13/17**	
612	**RAS/DAS Request**	**69 days**	**Fri 6/24/16**	**Thu 9/29/16**	
613	Development	1 eday	Fri 6/24/16	Sat 6/25/16	615SF-1 ed
614	Submittal	0 edays	Sat 6/25/16	Sat 6/25/16	613
615	CLP Procurement	90 edays	Sun 6/26/16	Sat 9/24/16	616SS-90 e
616	Laboratory Assignment	5 edays	Sat 9/24/16	Thu 9/29/16	618
617	**Field Work**	**5 days**	**Mon 9/19/16**	**Sat 9/24/16**	
618	Aquatic Tissue Sampling	5 edays	Mon 9/19/16	Sat 9/24/16	581FS+94 e
619	Toxicity Sediment Sampling	0 edays	Mon 9/19/16	Mon 9/19/16	581FS+94 e
620	**FE 15 Laboratory and Validation**	**72 days**	**Mon 9/19/16**	**Wed 12/28/16**	
621	Bioassay Analysis	32 edays	Mon 9/19/16	Fri 10/21/16	619
622	Laboratory Analysis	32 edays	Fri 10/21/16	Tue 11/22/16	621
623	Receipt of Unvalidated Data	7 edays	Tue 11/22/16	Tue 11/29/16	622
624	Data Validation	36 edays	Tue 11/22/16	Wed 12/28/16	622
625	**FE 15 Project Data File Update**	**13 days**	**Wed 12/28/16**	**Fri 1/13/17**	
626	EDD Receipts	3 days	Wed 12/28/16	Fri 12/30/16	624
627	EDD Data Download	14 edays	Fri 12/30/16	Fri 1/13/17	626
628	**FE 15 Related Reports**	**3 days**	**Mon 9/26/16**	**Wed 9/28/16**	
629	**Trip Reporting**	**3 days**	**Mon 9/26/16**	**Wed 9/28/16**	
630	Trip Report	3 days	Mon 9/26/16	Wed 9/28/16	618
631	Trip Report Submittal	0 edays	Wed 9/28/16	Wed 9/28/16	630
632					
633	**Demobilization Activities**	**2 days**	**Sat 10/8/16**	**Wed 10/12/16**	
634	Demob supplies	3 edays	Sat 10/8/16	Tue 10/11/16	618FS+14 e
635	Remove Trailer	1 eday	Tue 10/11/16	Wed 10/12/16	634
636					
637	**IDW Removal**	**23 days**	**Mon 9/12/16**	**Thu 10/13/16**	
638	Preparation	30 edays	Mon 9/12/16	Wed 10/12/16	605
639	IDW removal	1 eday	Wed 10/12/16	Thu 10/13/16	638
640					
641	**Submissions/Reports**	**1887 days?**	**Thu 7/14/11**	**Fri 10/5/18**	
642	**Trip Reports - Under each FE**	0 edays	Mon 9/14/15	Mon 9/14/15	307
643					
644	**Tier IV Data Submissions**	**175 days**	**Sun 11/29/15**	**Sat 7/30/16**	
645	FE04 thru FE09	3 edays	Sun 11/29/15	Wed 12/2/15	
646	FE10 & FE11	3 edays	Mon 2/8/16	Thu 2/11/16	
647	FE12	3 edays	Fri 3/18/16	Mon 3/21/16	539
648	FE13	3 edays	Tue 4/26/16	Fri 4/29/16	567
649	FE14	3 edays	Wed 7/27/16	Sat 7/30/16	601
650					
651	**Biota SAP**	**1297 days?**	**Thu 7/14/11**	**Sat 7/2/16**	
652	Submission of Biota SAP	0 edays	Wed 5/18/16	Wed 5/18/16	
653	EPA Review	45 edays	Wed 5/18/16	Sat 7/2/16	652
654		1 day?	Thu 7/14/11	Thu 7/14/11	
655	Data Evaluation Report (FE.1 thru 12)	145 days?	Mon 5/23/16	Fri 12/9/16	
656	Tier IV data validation	1 day?	Mon 5/23/16	Mon 5/23/16	
657	Data Check	5 edays	Mon 5/23/16	Sat 5/28/16	656
658	Data Uploading	25 edays	Sat 5/28/16	Wed 6/22/16	657
659	**Draft DE Report**	**74 days**	**Wed 6/22/16**	**Tue 10/4/16**	**658**
660	DE Report Development	30 edays	Wed 6/22/16	Fri 7/22/16	657
661	Submission of DE Report	14 edays	Fri 7/22/16	Fri 8/5/16	660

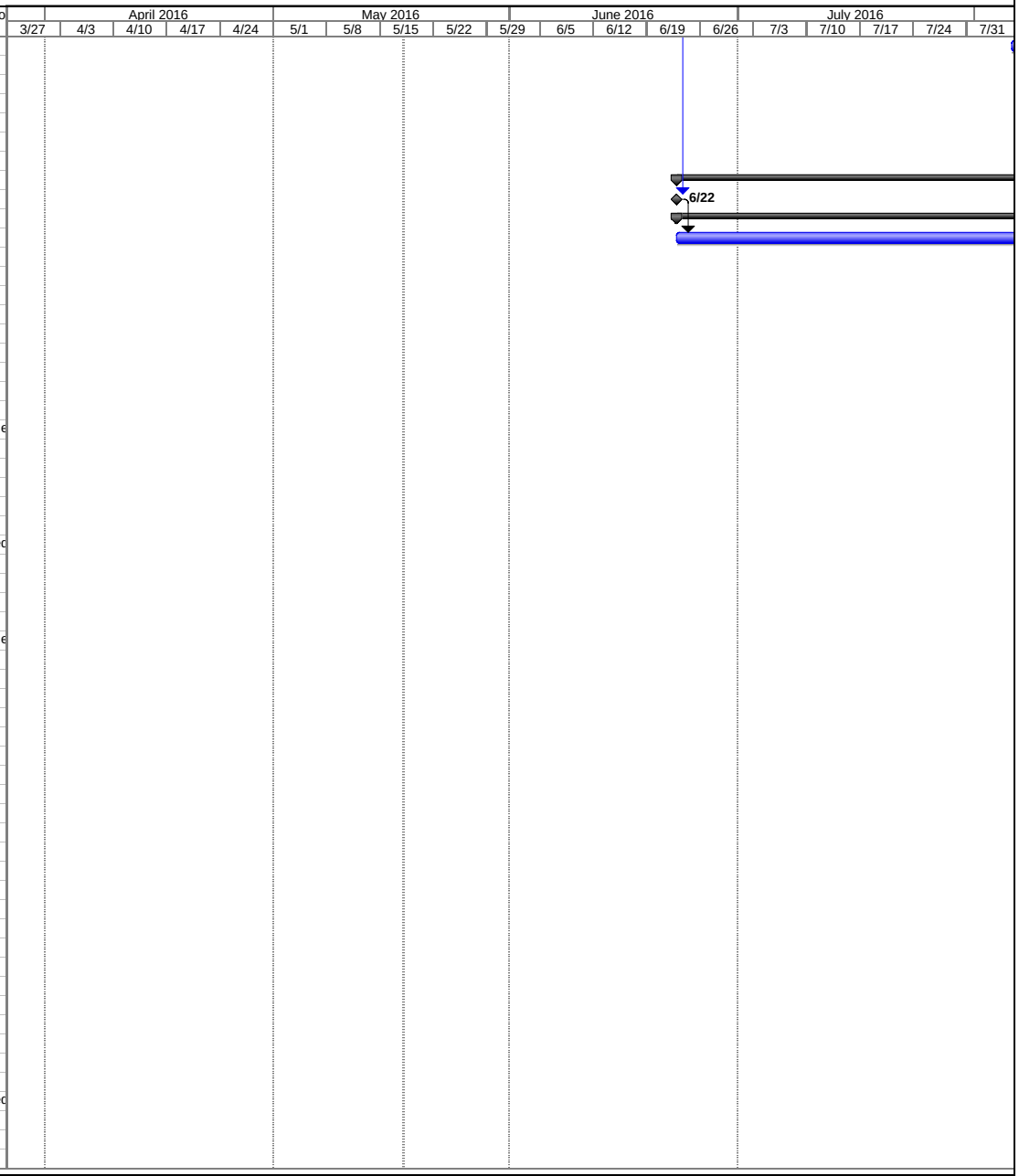


Project: 2016_0518-WA44projSchd
Date: Wed 5/18/16

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Figure 1.8
May 18, 2016 Project Schedule
Peck Iron and Metal RI/FS, City of Portsmouth, VA

ID	Task Name	Duration	Start	Finish	Predecesso
662	EPA & VDEQ Review of DE Report	60 edays	Fri 8/5/16	Tue 10/4/16	661
663	**Final DE Report**	**48 days**	**Tue 10/4/16**	**Fri 12/9/16**	
664	Revised Draft DE Report	21 edays	Tue 10/4/16	Tue 10/25/16	662
665	Submission of Final DE Report	0 edays	Tue 10/25/16	Tue 10/25/16	664
666	EPA & VDEQ Review	45 edays	Tue 10/25/16	Fri 12/9/16	665
667	EPA Report Approval	0 edays	Fri 12/9/16	Fri 12/9/16	666
668					
669	**Screening Level Ecological Risk Assessment thru FE**	**112 days**	**Wed 6/22/16**	**Fri 11/25/16**	
670	Tier IV data validation	0 edays	Wed 6/22/16	Wed 6/22/16	658
671	**Draft SLERA**	**75 days**	**Wed 6/22/16**	**Wed 10/5/16**	
672	Draft SLERA Development	60 edays	Wed 6/22/16	Sun 8/21/16	670
673	Draft SLERA Submittal	0 edays	Sun 8/21/16	Sun 8/21/16	672
674	EPA Review of SLERA	45 edays	Sun 8/21/16	Wed 10/5/16	673
675	**Final SLERA**	**37 days**	**Wed 10/5/16**	**Fri 11/25/16**	
676	Revision of Draft SLERA	21 edays	Wed 10/5/16	Wed 10/26/16	674
677	Final SLERA submission	0 edays	Wed 10/26/16	Wed 10/26/16	676
678	EPA & VDEQ Review	30 edays	Wed 10/26/16	Fri 11/25/16	677
679	EPA Approval	0 edays	Fri 11/25/16	Fri 11/25/16	678
680					
681	**BERA Work Plan - based on SLERA thru FE12**	**79 days**	**Sat 11/5/16**	**Thu 2/23/17**	
682	BERA WP	30 edays	Sat 11/5/16	Mon 12/5/16	677FS+10 e
683	EPA Review of BERA WP	25 edays	Mon 12/5/16	Fri 12/30/16	682
684	BERA WP Final Development	30 edays	Fri 12/30/16	Sun 1/29/17	683
685	EPA Approval of BERA WP	25 edays	Sun 1/29/17	Thu 2/23/17	684
686					
687	**SCEM Tech Memorandum**	**40 days**	**Sat 2/4/17**	**Fri 3/31/17**	
688	SCEM Tech Memorandum	30 edays	Sat 2/4/17	Mon 3/6/17	684FS+6 ed
689	EPA Review of D. HHRA	25 edays	Mon 3/6/17	Fri 3/31/17	688
690	EPA Approval	0 edays	Fri 3/31/17	Fri 3/31/17	689
691					
692	**Human Health Risk Assessment**	**130 days**	**Fri 1/27/17**	**Fri 7/28/17**	
693	Draft HHRA Rpt	60 edays	Fri 1/27/17	Tue 3/28/17	627FS+14 e
694	EPA Review of D. HHRA	45 days	Wed 3/29/17	Tue 5/30/17	693
695	Final HHRA RPT	30 edays	Tue 5/30/17	Thu 6/29/17	694
696	EPA Approval	21 days	Fri 6/30/17	Fri 7/28/17	695
697					
698	**Baseline Ecological Risk Assessment**	**130 days**	**Fri 1/27/17**	**Fri 7/28/17**	
699	Draft BERA Rpt	60 edays	Fri 1/27/17	Tue 3/28/17	693SS
700	EPA Review of D. BERA	45 days	Wed 3/29/17	Tue 5/30/17	699
701	Final BERA Rpt	30 edays	Tue 5/30/17	Thu 6/29/17	700
702	EPA Approval	21 days	Fri 6/30/17	Fri 7/28/17	701
703					
704	**Remedial Investigation Rpt**	**130 days**	**Fri 1/27/17**	**Fri 7/28/17**	
705	Draft RI Rpt	60 edays	Fri 1/27/17	Tue 3/28/17	693SS
706	Draft RI Rpt Submittal	0 edays	Tue 3/28/17	Tue 3/28/17	705
707	EPA Review of D. RI	45 days	Wed 3/29/17	Tue 5/30/17	706
708	Final RI Rpt	30 edays	Tue 5/30/17	Thu 6/29/17	707
709	EPA Approval	21 days	Fri 6/30/17	Fri 7/28/17	708
710					
711	**Remedial Alt Tech Memo**	**41 days**	**Fri 7/28/17**	**Mon 9/25/17**	
712	Remedial Alt Screening Tech Memo	30 edays	Fri 7/28/17	Sun 8/27/17	709
713	Rem Alt Evaluation Tech memo	30 edays	Fri 7/28/17	Sun 8/27/17	702
714	EPA Approval	21 days	Mon 8/28/17	Mon 9/25/17	713
715					
716	**Remedial Alter Eval Tech Memo**	**41 days**	**Fri 9/29/17**	**Mon 11/27/17**	
717	Tech Memo	30 edays	Fri 9/29/17	Sun 10/29/17	714FS+4 ed
718	EPA Approval	21 days	Mon 10/30/17	Mon 11/27/17	717
719					
720	**Feasibility Study**	**130 days**	**Fri 12/1/17**	**Fri 6/1/18**	

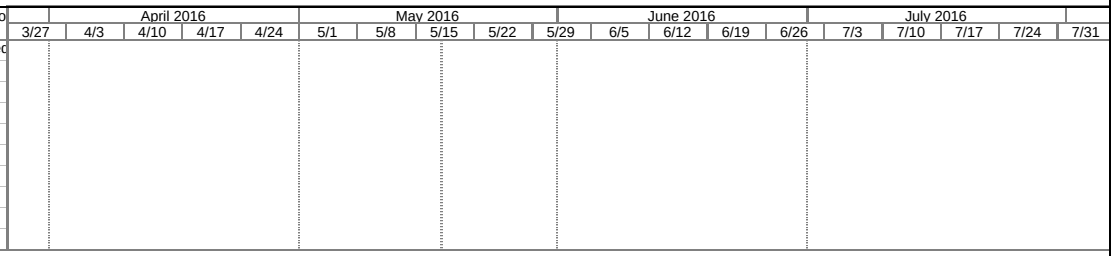


Project: 2016_0518-WA44projSchd
Date: Wed 5/18/16

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Figure 1.8
May 18, 2016 Project Schedule
Peck Iron and Metal RI/FS, City of Portsmouth, VA

ID	Task Name	Duration	Start	Finish	Predecesso
721	Draft FS Report	60 edays	Fri 12/1/17	Tue 1/30/18	718FS+4 ed
722	EPA Review of D FS	45 days	Wed 1/31/18	Tue 4/3/18	721
723	Final FS Rpt	30 edays	Tue 4/3/18	Thu 5/3/18	722
724	EPA Approval	21 days	Fri 5/4/18	Fri 6/1/18	723
725					
726	**Proposed Plan/ROD**	**90 days**	**Mon 6/4/18**	**Fri 10/5/18**	
727	Proposed Plan/ROD Support	90 days	Mon 6/4/18	Fri 10/5/18	724
728					
729	**Work Assignment Closeout**	**0 days**	**Fri 10/5/18**	**Sat 10/6/18**	
730	Closeout	1 eday	Fri 10/5/18	Sat 10/6/18	727



Project: 2016_0518-WA44projSchd
Date: Wed 5/18/16

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

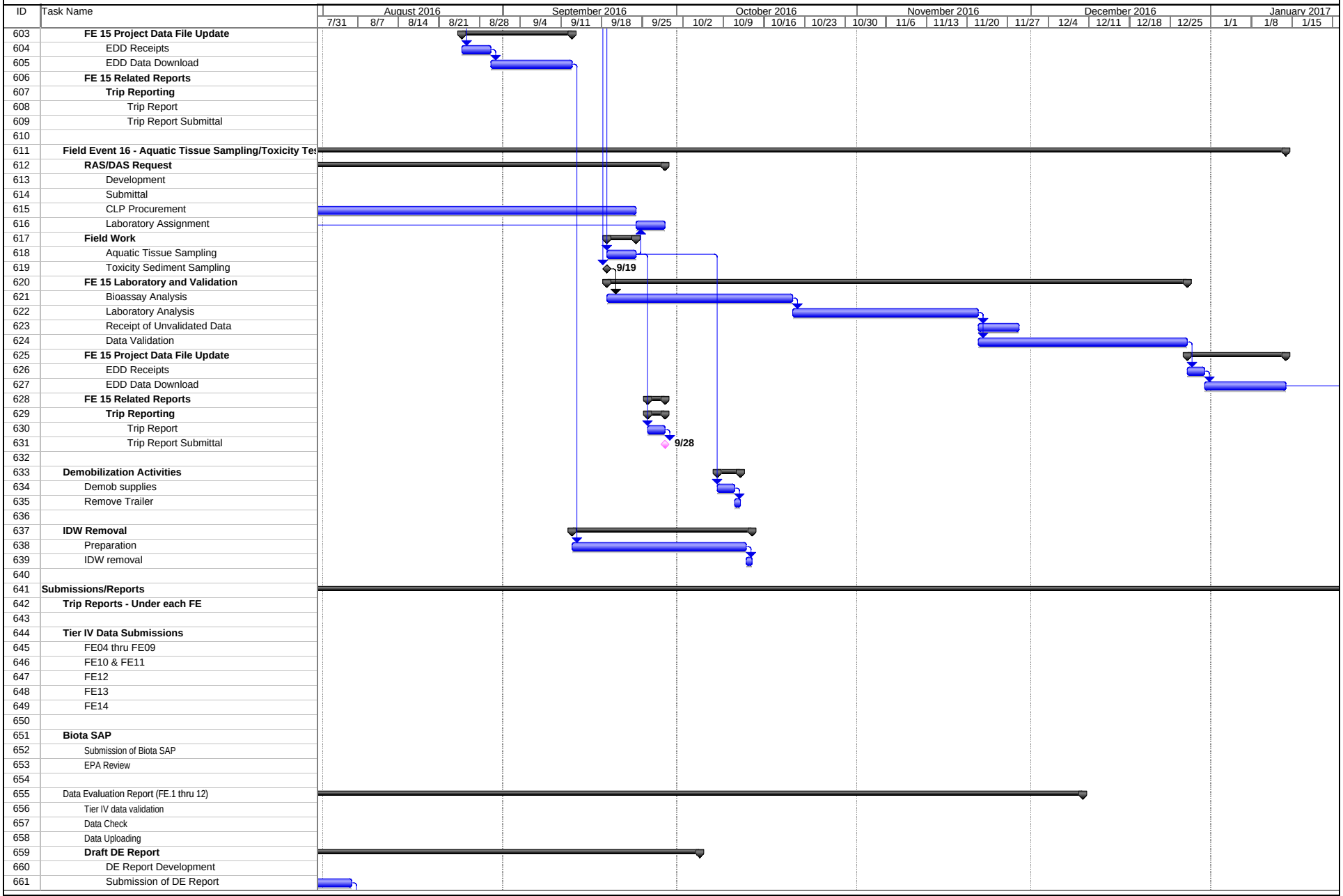
Figure 1.8
May 18, 2016 Project Schedule
Peck Iron and Metal RI/FS, City of Portsmouth, VA

ID	Task Name
1	**WA44 Recipt**
2	**Work Plan Cost Estimate**
29	
30	**Project Plans**
87	
88	**Subcontracting**
177	
178	**Risk Identification and Assessment**
179	**Mobilization Activities**
182	**Field Event 1 - Field Activities Completed**
200	**Field Event 2 - Field Activities Completed**
233	**Field Event 3 - Isotope Investigation - Completed**
259	**Field Event 4 - SS Sampling - CLP data still missing**
308	**Field Event 5 - PC SW/SD Sampling - Complete**
331	**Field Event 6 - Test Pits - CLP data still missing**
375	**Field Event 7 - Well Installations - CLP data still missi**
402	**Field Event 8 - Wetland Well Installations - CLP data s**
429	**Field Event 9 - GW Qrtly Event 1 & Eliz River Bkg San**
461	**Field Event 10 - ElizRiv Bkg SW/SD Sampling; Site SV**
484	**Field Event 11 - GW Qrtly Event 2**
515	**Field Event 12 - DPT SB**
548	**Field Event 13 - GW Event 3**
549	**RAS/DAS Request**
554	**Field Work**
565	**FE 13 Laboratory and Validation**
569	**FE 13 Project Data File Update**
570	EDD Receipts
571	EDD Data Download
572	**FE 13 Related Reports**
573	**Trip Reporting**
574	Trip Report
575	Trip Report Submittal
576	
577	**Field Event 14 - Oyster Installation**
578	**Mob/Demob**
579	Cages /Oysters purchased
580	**Field Work**
581	Oyster Seeding
582	
583	**Field Event 15 - GW Event 4**
584	**RAS/DAS Request**
585	Development
586	Submittal
587	CLP Procurement
588	Laboratory Assignment
589	**Field Work**
590	**GW Sampling**
591	**Week 1**
592	Travel to Site
593	Qrtly GW Sampling Event 4 - 1st wee
594	Travel home - week 1
595	**Week 2**
596	Travel to Site - week 2
597	Qrtly GW Sampling Event 4 - 2nd wee
598	Travel Home - week 2
599	**FE 15 Laboratory and Validation**
600	Laboratory Analysis
601	Receipt of Unvalidated Data
602	Data Validation

Project: 2016_0518-WA44projSchd
Date: Wed 5/18/16

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Figure 1.8
May 18, 2016 Project Schedule
Peck Iron and Metal RI/FS, City of Portsmouth, VA



Project: 2016_0518-WA44projSchd
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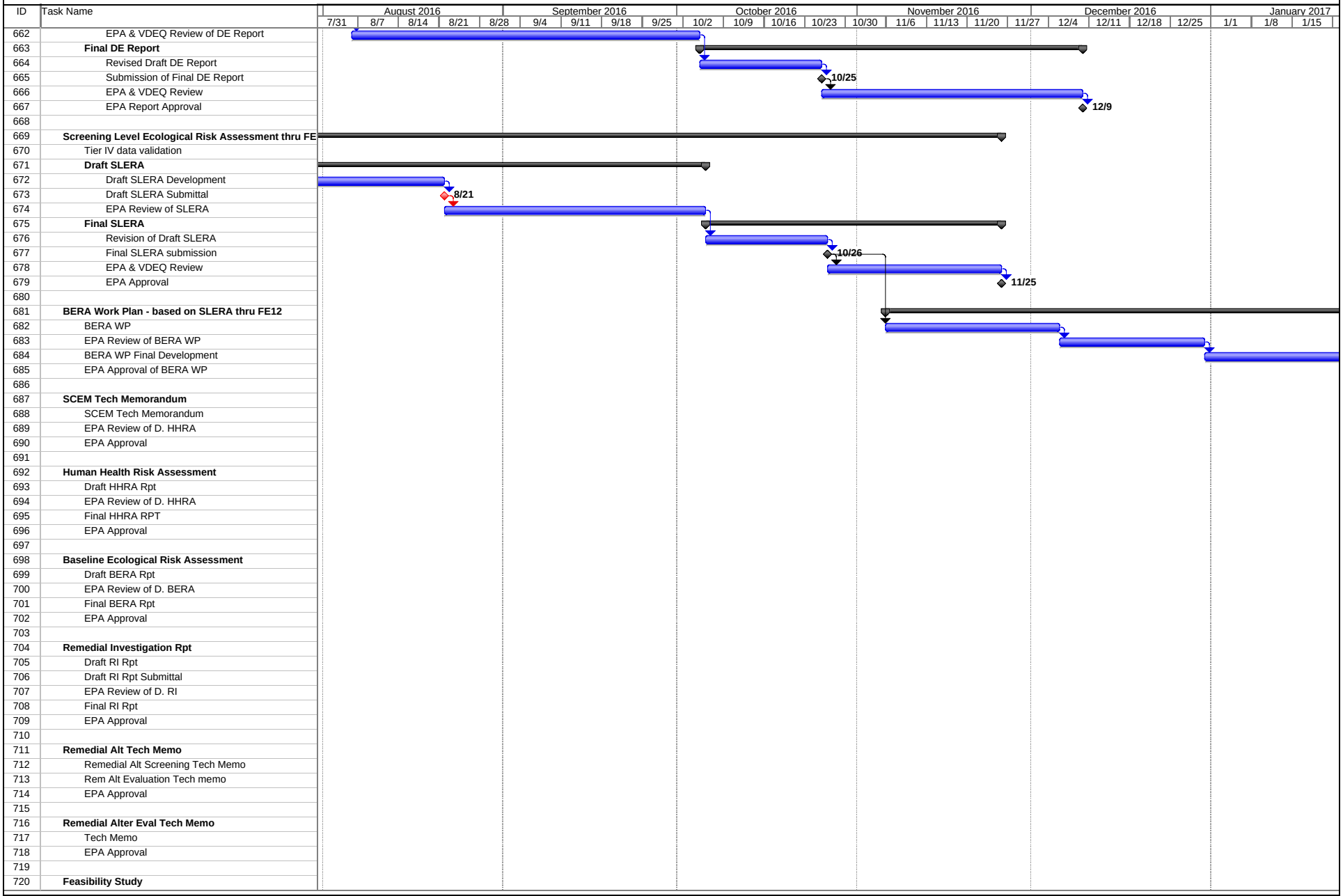

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Peck Iron and Metal RI/FS, City of Portsmouth, VA

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641	**Submissions/Reports**
642	**Trip Reports - Under each FE**
643	
644	**Tier IV Data Submissions**
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646	FE10 & FE11
647	FE12
648	FE13
649	FE14
650	
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660	DE Report Development
661	Submission of DE Report

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675	**Final SLERA**
676	Revision of Draft SLERA
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684	BERA WP Final Development
685	EPA Approval of BERA WP
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688	SCEM Tech Memorandum
689	EPA Review of D. HHRA
690	EPA Approval
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705	Draft RI Rpt
706	Draft RI Rpt Submittal
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709	EPA Approval
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711	**Remedial Alt Tech Memo**
712	Remedial Alt Screening Tech Memo
713	Rem Alt Evaluation Tech memo
714	EPA Approval
715	
716	**Remedial Alter Eval Tech Memo**
717	Tech Memo
718	EPA Approval
719	
720	**Feasibility Study**

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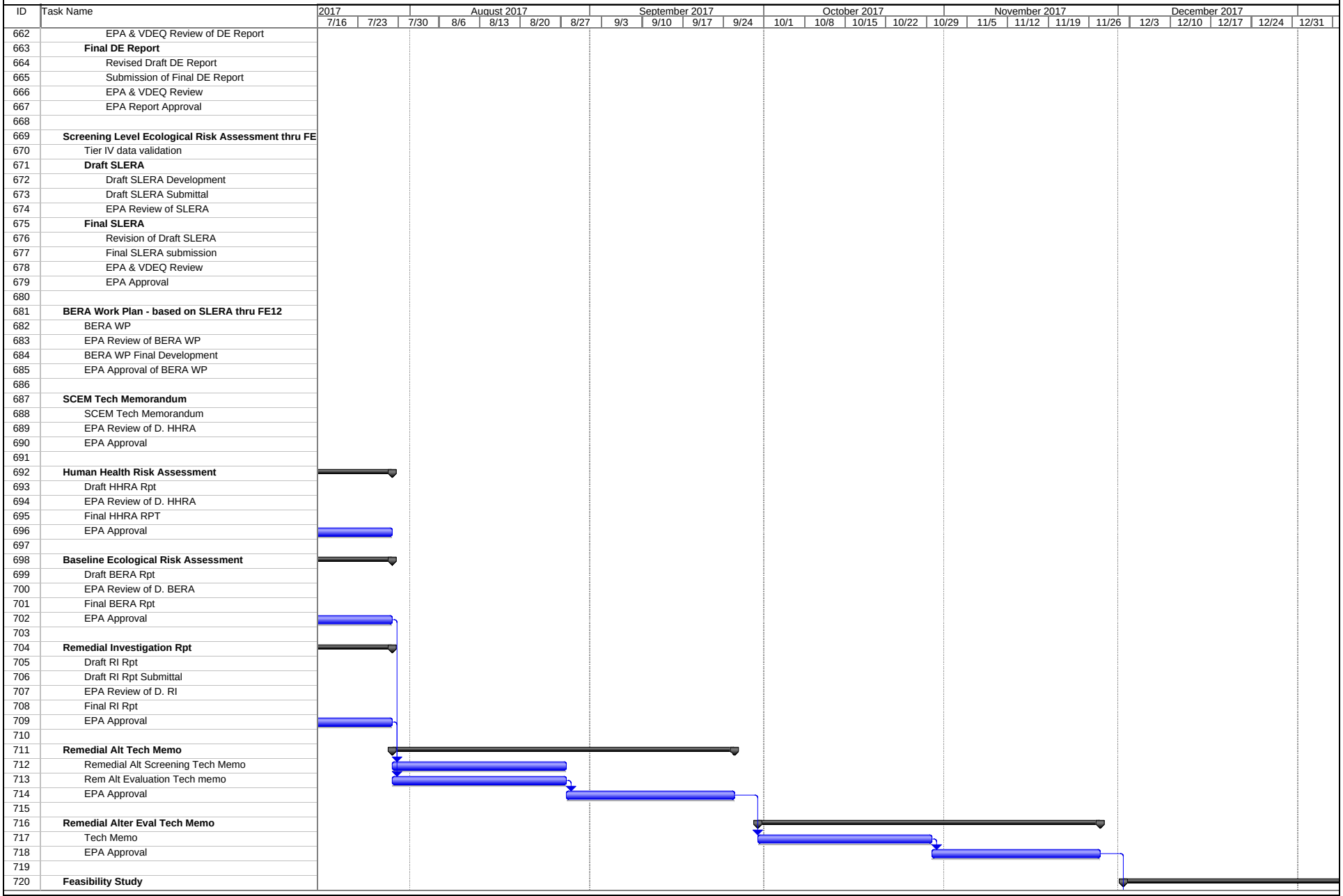

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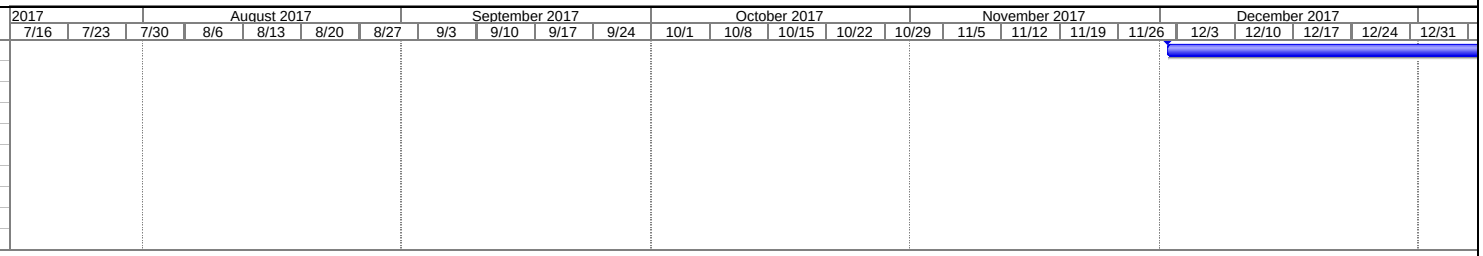
727	Proposed Plan/ROD Support
728	
729	**Work Assignment Closeout**
730	Closeout



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Task
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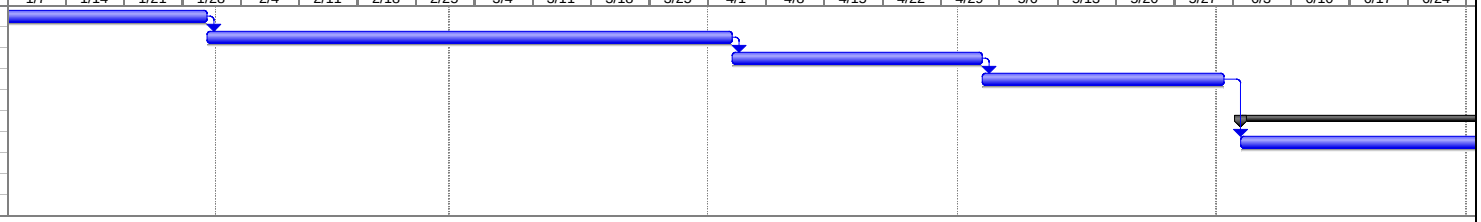

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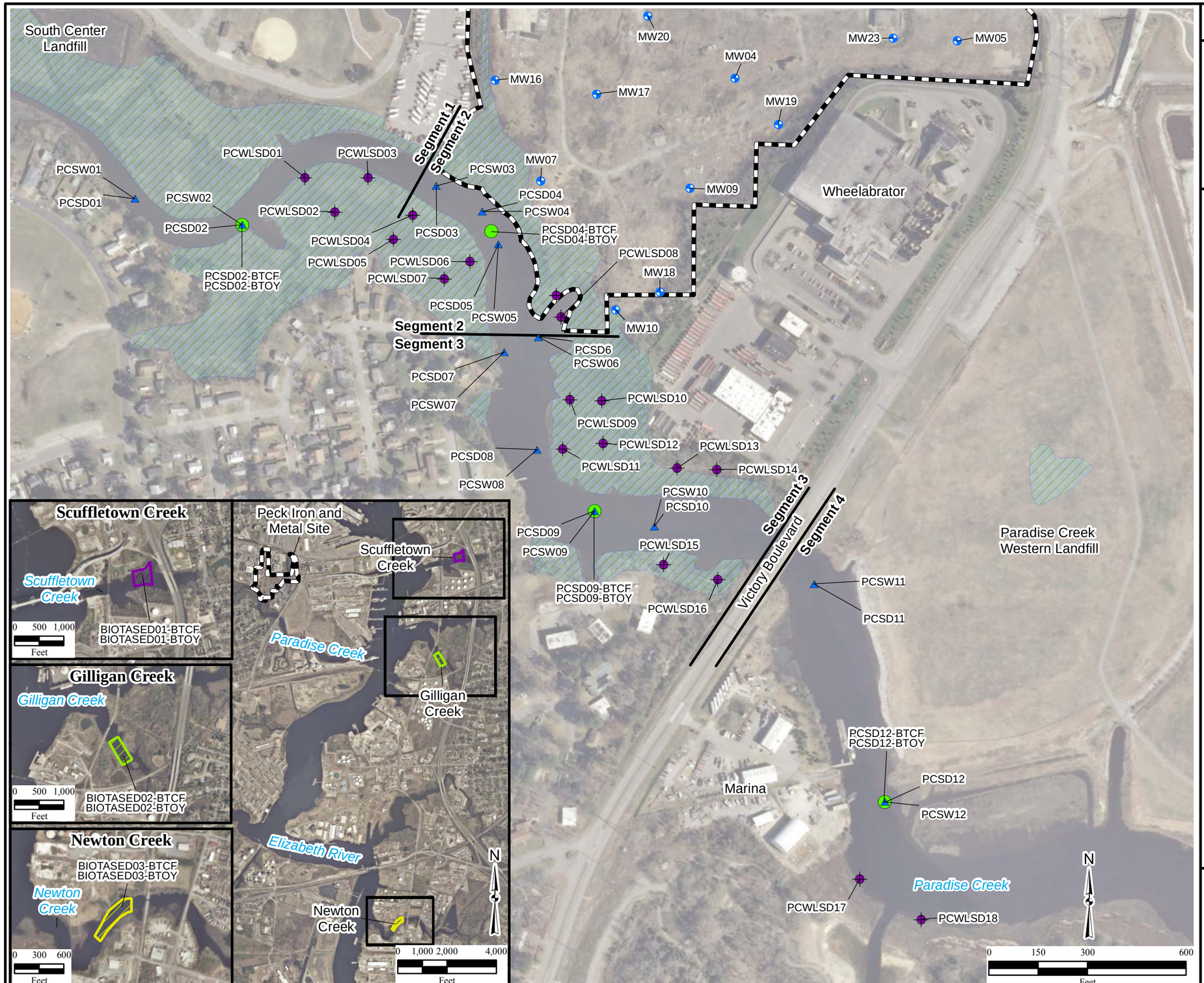

HGL—Biota SAP, Peck Iron and Metal RI/FS
Portsmouth, VA

Figure 2.1
Proposed Paradise Creek Biota Sample Locations

Legend

- Monitoring Well
- Aquatic Sediment and Surface Water Sample Location
- Tidal Wetland Sediment Sample Location
- Proposed Biota Sample Location
- PCSD01 — Sample Location Identification
- Peck Iron and Metal
- Wetland
- Scuffletown Creek Biota Sampling Area
- Gilligran Creek Biota Sampling Area
- Newton Creek Biota Sampling Area

Note:
Wetland areas are defined and digitized by the National Wetlands Inventory branch of the U.S. Fish and Wildlife Service, September 26, 2011 and revised based on the onsite wetland survey conducted on June 15, 2015 and June 16, 2015.

RI=Remedial Investigation

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5/3/2016 TB
Source: HGL, Malcolm Pirnie, EPA, NWI ArcGIS Online Imagery

HGL HydroGeoLogic, Inc

Mummichog (Community Fish)

Eastern Oyster

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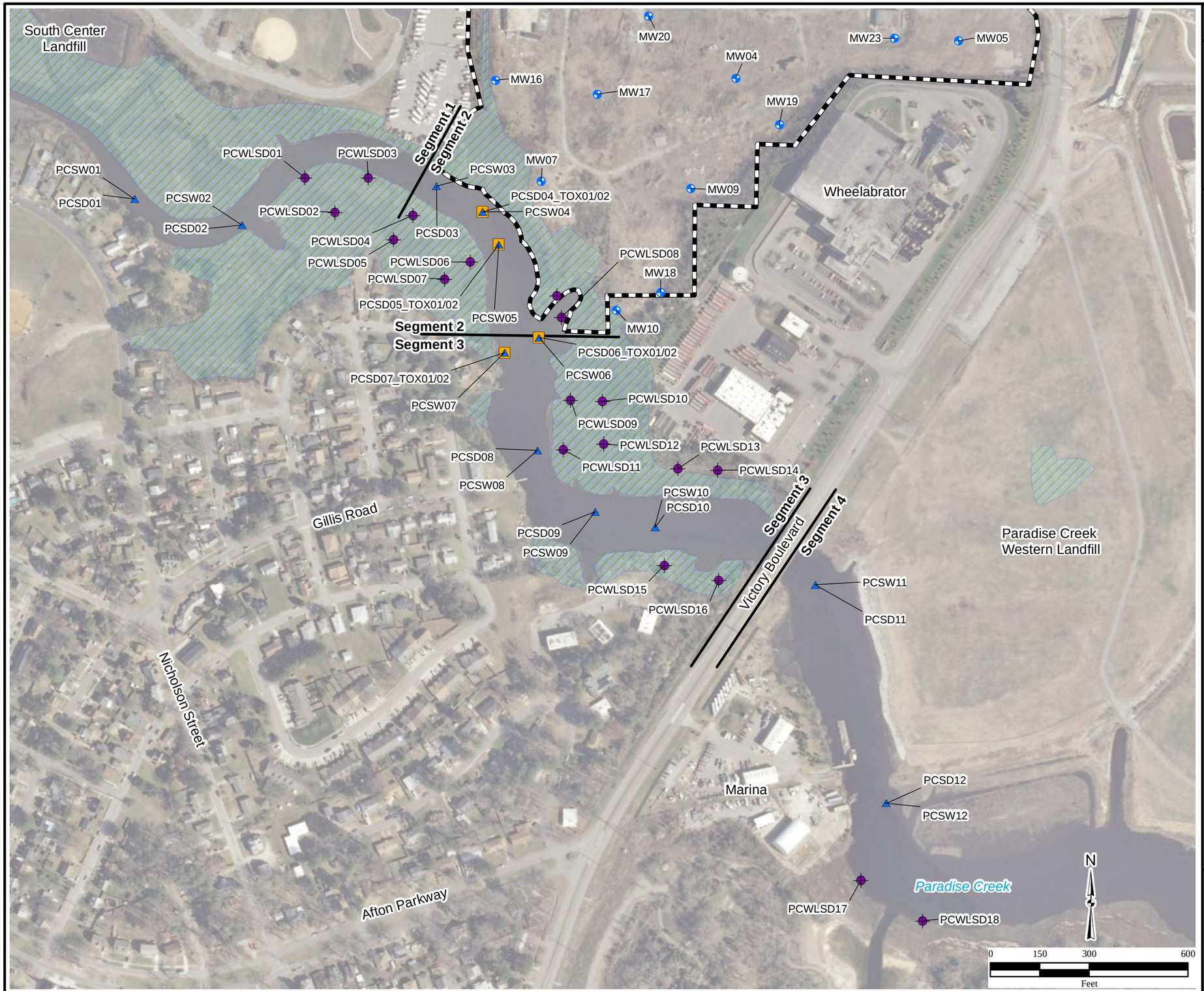
Creek_Biota_Species.cdr
05/03/2016 TB
Source:HGL

Figure 2.2
Examples of Target
Paradise Creek
Biota Species

Figure 2.3
Proposed Paradise Creek Toxicity Assessment Sample Locations



Legend

- Monitoring Well
- Aquatic Sediment and Surface Water Sample Location
- Tidal Wetland Sediment Sample Location
- Proposed Toxicity Assessment Sample Locations
- PCSD01 — Sample Location Identification
- Peck Iron and Metal
- Wetland
- Scuffletown Creek Biota Sampling Area
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Note:
Wetland areas are defined and digitized by the National Wetlands Inventory branch of the U.S. Fish and Wildlife Service, September 26, 2011 and revised based on the onsite wetland survey conducted on June 15, 2015 and June 16, 2015.

RI=Remedial Investigation
TOX01=Test 1
TOX02=Test 2

\\gst-srv-01\HGLGIS\Peck_MSIW\Biota_SAP\(2-03)PropToxAssessSamp.mxd
5/3/2016 TB
Source: HGL, Malcolm Pirnie, EPA, NWI ArcGIS Online Imagery

HydroGeoLogic, Inc

APPENDIX A

2015 PARADISE CREEK AND ELIZABETH RIVER BACKGROUND SEDIMENT AND SURFACE WATER REMEDIAL INVESTIGATION ANALYTICAL RESULTS

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Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Metals								
ALUMINUM	mg/kg	4460	4830	9680	12200	8810	6440	10200
ANTIMONY	mg/kg	6.9 UJ	8.6 UJ	8.2 UJ	10.3 UJ	8.7 UJ	8 UJ	9.2 UJ
ARSENIC	mg/kg	3.8	5.9	11.7	13.2	6.6	6.1	7.6
BARIUM	mg/kg	23.9	16 J	28.2	34.7	22.5 J	19.4 J	30.6 J
BERYLLIUM	mg/kg	0.3 J	0.34 J	0.59 J	0.72 J	0.51 J	0.42 J	0.63 J
CADMIUM	mg/kg	1	0.84	1.1	1.3	0.61 J	0.71	0.86
CALCIUM	mg/kg	1820	3350	1610	1880	2120	1820	2250
CHROMIUM	mg/kg	14.3	15.4	21.7	26.8	27.2	59.5	33
COBALT	mg/kg	0.5 J	7.2 U	0.66 J	0.85 J	1.5 J	0.78 J	1.4 J
COPPER	mg/kg	44.4	32	43.9	56.5	17.9	21	25.2
CYANIDE	mg/kg	0.79 U	0.97 U	0.94 U	1.2 U	1 U	0.98 U	1.1 U
IRON	mg/kg	9080	13800	22500	26400	15300	11400	15400
LEAD	mg/kg	62	42.3	89.2	106	27.1	24	36.6
MAGNESIUM	mg/kg	1730	1940	3600	4240	2770	2100	3020
MANGANESE	mg/kg	62.7	77.2	145	169	109	67.8	97.5
MERCURY	mg/kg	0.84	2.1	0.46	1	0.19 J-	0.054 J-	0.15 J-
NICKEL	mg/kg	6.7	8.3	11.7	14.3	10	8.1	10.5
POTASSIUM	mg/kg	815	940	1930	2320	1410	904	1430
SELENIUM	mg/kg	0.76 J+	1.1 J	2 J+	1.9 J+	1.7 J+	1.3 J+	1.3 J+
SILVER	mg/kg	0.52 J	0.56 J	1.2 J	1.2 J	0.75 J	0.42 J	0.69 J
SODIUM	mg/kg	3260	4140	6380	7350	4340	4270	5790
THALLIUM	mg/kg	2.9 U	3.6 U	3.4 U	4.3 U	3.6 U	3.3 U	3.8 U
VANADIUM	mg/kg	10	13	19.6	23.1	17.2	13	18.4
ZINC	mg/kg	173 J	126 J	155 J	178 J	84.2 J	90.4 J	111 J

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Polychlorinated Bipenyls								
AROCLOR 1262	µg/kg	55 U	55 U	53 U	75 U	65 U	66 U	85 U
AROCLOR-1016	µg/kg	55 U	55 U	53 U	75 U	65 U	66 U	85 U
AROCLOR-1221	µg/kg	55 U	55 U	53 U	75 U	65 U	66 U	85 U
AROCLOR-1232	µg/kg	55 U	55 U	53 U	75 U	65 U	66 U	85 U
AROCLOR-1242	µg/kg	55 U	55 U	53 U	75 U	65 U	66 U	85 U
AROCLOR-1248	µg/kg	55 U	55 U	53 U	75 U	65 U	66 U	85 U
AROCLOR-1254	µg/kg	55 U	55 U	53 U	75 U	65 U	66 U	85 U
AROCLOR-1260	µg/kg	55 U	55 U	53 U	75 U	65 U	66 U	85 U
AROCLOR 1268	µg/kg	55 U	55 U	53 U	75 U	65 U	66 U	85 U
Total Dichlorobiphenyl	ng/kg	1050	--	193	--	391	36.7	--
Total Heptachlorobiphenyl	ng/kg	11000	--	3610	--	2820	333	--
Total Hexachlorobiphenyl	ng/kg	19400	--	7230	--	6310	815	--
Total Monochlorobiphenyl	ng/kg	162	--	49.9	--	43.3 U	1.9 U	--
Total Nonachlorobiphenyl	ng/kg	1250	--	701	--	284	69.2	--
Total Pentachlorobiphenyl	ng/kg	16000	--	8180	--	7010	958	--
Total Tetrachlorobiphenyl	ng/kg	8570	--	3780	--	3850	545	--
Total Trichlorobiphenyl	ng/kg	4040	--	1220	--	1700	172	--
Polychlorinated Bipenyl Congeners								
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	796	--	456	--	204	47.3	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	726	--	316	--	202	20.3	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	104	--	67.2	--	43.3 U	1.9 U	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	396	--	172	--	96.5	11	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	239	--	78.4	--	57.8	6.4	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	1200	--	333	--	297	31.8	--

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	ng/kg	4880	--	1740	--	1650	202	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	353	--	177	--	80.1	21.9	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	230	--	67.7	--	53.1	6.3	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	124	--	64.8	--	43.3 U	3.6	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	707	--	221	--	178	21.5	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	53.6	--	16.5	--	43.3 U	1.9 U	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	1110	--	380	--	269	32.6	--
2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	233	--	75.7	--	80.2	11.7	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	145	--	51.6	--	43.3 U	1.9 U	--
2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	1210	--	443	--	371	51.3	--
2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	44.3	--	16.6	--	43.3 U	1.9 U	--
2,2',3,3',4-Pentachlorobiphenyl	ng/kg	223	--	118	--	88.7	11.4	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	243	--	136	--	72.2	9.8	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	293	--	122	--	86.7	11.6	--
2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	61.1	--	23.7	--	43.3 U	1.9 U	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	518	--	200	--	142	18.8	--
2,2',3,3',5,6-Hexachlorobiphenyl	ng/kg	206	--	113	--	67.1	8.8	--
2,2',3,3',5-Pentachlorobiphenyl	ng/kg	160	--	62.9	--	64.5	8.5	--
2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	387	--	166	--	131	19.5	--
2,2',3,3',6-Pentachlorobiphenyl	ng/kg	488	--	295	--	226	29.3	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	623	--	319	--	179	19.7	--
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	177	--	42.2	--	56.8	6.5	--

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	1970	--	705	--	609	74.3	--
2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	725	--	260	--	175	22.9	--
2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	565	--	236	--	214	25.5	--
2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	28.6 U	--	11.7	--	43.3 U	1.9 U	--
2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	28.6 U	--	6.4	--	43.3 U	1.9 U	--
2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	166	--	14.4	--	43.3 U	5.7	--
2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	28.6 U	--	7.8	--	43.3 U	1.9 U	--
2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	29	--	1.9 UJ	--	43.3 U	1.9 U	--
2,2',3,4'-Tetrachlorobiphenyl	ng/kg	249	--	116	--	136	17.5	--
2,2',3,4-Tetrachlorobiphenyl	ng/kg	51.8	--	17.6	--	43.3 U	1.9 U	--
2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	479	--	258	--	212	26.6	--
2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	28.6 U	--	5.2	--	43.3 U	1.9 U	--
2,2',3,5',6-Pentachlorobiphenyl	ng/kg	1590	--	657 J	--	723	89.2	--
2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	29.3	--	1.9 U	--	43.3 U	1.9 U	--
2,2',3,5-Tetrachlorobiphenyl	ng/kg	47.3	--	27.6	--	43.3 U	1.9 U	--
2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	28.6 U	--	5.5	--	43.3 U	1.9 U	--
2,2',3,6'-Tetrachlorobiphenyl	ng/kg	46.5	--	1.9 U	--	43.3 U	3.3	--
2,2',3-Trichlorobiphenyl	ng/kg	137	--	50.3	--	71	9.6	--
2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	81.5	--	32.8	--	43.3 U	4.2	--
2,2',4,4',5-Pentachlorobiphenyl	ng/kg	1290	--	714	--	629	84.7	--
2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,2',4,5',6-Pentachlorobiphenyl	ng/kg	33.4	--	12.7	--	43.3 U	2.5	--
2,2',4,5-Tetrachlorobiphenyl	ng/kg	149	--	46.7	--	51.4	12	--
2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,2',4-Trichlorobiphenyl	ng/kg	183	--	69.2	--	112	8.7	--
2,2',5,5'-Tetrachlorobiphenyl	ng/kg	1060	--	634	--	583	93.9	--
2,2',6,6'-Tetrachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,2',6-Trichlorobiphenyl	ng/kg	41.5	--	22	--	45.6	1.9 U	--
2,2'-Dichlorobiphenyl	ng/kg	94.7	--	1.9 UJ	--	102	1.9 U	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	32.2	--	12.1	--	43.3 U	1.9 U	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	54.3	--	18.2	--	43.3 U	2.2	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	240	--	66.2	--	61.8	7.1	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	51.6	--	1.9 U	--	43.3 U	1.9 U	--
2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	400	--	141	--	127	15.7	--
2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	1110	--	490	--	423	54.1	--
2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	28.6 U	--	3.7	--	43.3 U	1.9 U	--
2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	288	--	108	--	104	12.4	--
2,3,3',4,5-Pentachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2',3,3',4,5-Pentachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3,3',4',5-Pentachlorobiphenyl	ng/kg	185	--	77.5	--	84.1	11	--
2,3,3',4'-Tetrachlorobiphenyl	ng/kg	520	--	175	--	194	22.9	--
2,3,3',4-Tetrachlorobiphenyl	ng/kg	32.4	--	1.9 U	--	43.3 U	1.9 U	--
2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3,3',5,6-Pentachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3,3',5'-Tetrachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3,3',5-Tetrachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	190	--	73.6	--	66.6	7.6	--
2,3,4,4',5-Pentachlorobiphenyl	ng/kg	58	--	18.5	--	43.3 U	1.9 U	--
2',3,4,4',5-Pentachlorobiphenyl	ng/kg	47.3	--	28	--	43.3 U	2.2	--
2,3',4,4',5-Pentachlorobiphenyl	ng/kg	2630	--	1170	--	1080	142	--
2,3,4,4'-Tetrachlorobiphenyl	ng/kg	300	--	86.8	--	99.9	10.7	--
2,3',4,4'-Tetrachlorobiphenyl	ng/kg	1080	--	455	--	486	62	--
2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3',4,5',6-Pentachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3',4,5'-Tetrachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3',4,5-Tetrachlorobiphenyl	ng/kg	38.6	--	12.4	--	43.3 U	2 J	--
2,3,4',5-Tetrachlorobiphenyl	ng/kg	38.2	--	14.4	--	43.3 U	1.9 U	--
2,3,4',6-Tetrachlorobiphenyl	ng/kg	366	--	159	--	191	25.3	--
2,3',4-Trichlorobiphenyl	ng/kg	83.4	--	18.6	--	43.3 U	1.9 U	--
2,3,4'-Trichlorobiphenyl	ng/kg	311	--	91.7	--	136	13.3	--
2,3',5,5'-Tetrachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3',5',6-Tetrachlorobiphenyl	ng/kg	31.3	--	32.6	--	43.3 U	3.4	--
2,3,5-Trichlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2',3,5-Trichlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3,6-Trichlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
2,3',6-Trichlorobiphenyl	ng/kg	38.4	--	18.6	--	43.3 U	1.9 U	--
2,3'-Dichlorobiphenyl	ng/kg	48.4	--	12.4 J	--	43.3 U	1.9 U	--
2,3-Dichlorobiphenyl	ng/kg	28.6 U	--	1.9 UJ	--	43.3 U	1.9 U	--

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,4',5-Trichlorobiphenyl	ng/kg	748	--	198	--	300	32.9	--
2,4',6-Trichlorobiphenyl	ng/kg	135	--	50	--	91.1	1.9 U	--
2,4'-Dichlorobiphenyl	ng/kg	245	--	63.7 J	--	94.4	9.1	--
2,4-Dichlorobiphenyl	ng/kg	28.6 U	--	1.9 UJ	--	43.3 U	1.9 U	--
2,5-Dichlorobiphenyl	ng/kg	28.6 U	--	1.9 UJ	--	43.3 U	1.9 U	--
2,6-Dichlorobiphenyl	ng/kg	28.6 U	--	1.9 UJ	--	43.3 U	1.9 U	--
2-Monochlorobiphenyl	ng/kg	66.8	--	16.5	--	43.3 U	1.9 U	--
3 -Monochlorobiphenyl	ng/kg	28.6 U	--	14.4	--	43.3 U	1.9 U	--
3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
3,3',4,4',5-Pentachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
3,3',4,4'-Tetrachlorobiphenyl	ng/kg	162	--	58.3	--	65.7	6.5	--
3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	39.7	--	1.9 U	--	43.3 U	1.9 U	--
3,3',4,5'-Tetrachlorobiphenyl	ng/kg	28.6 U	--	23.2	--	43.3 U	1.9 U	--
3,3',4,5-Tetrachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
3,3',4-Trichlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
3,3',5,5'-Tetrachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
3,3',5-Trichlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
3,3'-Dichlorobiphenyl	ng/kg	124	--	1.9 UJ	--	67.4	12.2	--
3,4,4',5-Tetrachlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
3,4,4'-Trichlorobiphenyl	ng/kg	390	--	106	--	138	18	--
3,4,5-Trichlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
3,4',5-Trichlorobiphenyl	ng/kg	28.6 U	--	1.9 U	--	43.3 U	1.9 U	--
3,5-Dichlorobiphenyl	ng/kg	28.6 U	--	1.9 UJ	--	43.3 U	1.9 U	--
4,4'-DICHLOROBIPHENYL	ng/kg	483	--	117	--	128	15.4	--
4-Monochlorobiphenyl	ng/kg	95.4	--	19.1	--	43.3 U	1.9 U	--
BZ#139 & BZ#140	ng/kg	70.6	--	25	--	86.7 U	3.8 U	--

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
BZ#153 & BZ#168	ng/kg	3910	--	1450	--	1320	164	--
BZ#156 & BZ#157	ng/kg	515	--	194	--	169	20.7	--
Co-elute: PCB#44, PCB#47, PCB#65	ng/kg	1000	--	489	--	553	85.7	--
Co-elute: PCB#59, PCB#62, and PCB#75	ng/kg	85.9 U	--	32.2	--	130 U	6.3	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	ng/kg	2010	--	799	--	794	98.2	--
Co-elute: PCB#85, PCB#116 and PCB#117	ng/kg	434	--	190	--	199	26.9	--
Co-elute: PCB#90, PCB#101, and PCB#113	ng/kg	2630	--	1330	--	1080	158	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	ng/kg	200	--	69.9	--	109	13.4	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	ng/kg	77.1	--	22.6	--	86.7 U	4	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	ng/kg	661	--	331	--	387	54	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	ng/kg	127	--	51.8	--	86.7 U	3.8 U	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	ng/kg	310	--	123	--	156	17.1	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	ng/kg	1090	--	314	--	483	49.7	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	ng/kg	423	--	117	--	171	16.2	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	ng/kg	146	--	39.4	--	86.7 U	6.5	--

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
DECACHLOROBIPHENYL	ng/kg	860	--	286	--	291	90.3	--
DICHLOROBIPHENYL: 3,4/ 3,4'	ng/kg	59.2	--	3.9 UJ	--	86.7 U	3.8 U	--
PCB108 & 0124	ng/kg	110	--	45.8	--	86.7 U	4.2	--
PCB110 & 115	ng/kg	3130	--	1610	--	1360	179	--
PCB128 & 166	ng/kg	568	--	250	--	204	26.9	--
PCB135 & 151	ng/kg	1310	--	535	--	418	59.7	--
PCB147 & 149	ng/kg	3400	--	1260	--	1150	149	--
PCB171 & 173	ng/kg	369	--	113	--	96.6	11.7	--
PCB180 & 193	ng/kg	3070	--	1010	--	778	85.1	--
PCB183 & 185	ng/kg	948	--	293	--	246	30	--
PCB197 & 200	ng/kg	125	--	66.7	--	86.7 U	3.8 U	--
PCB198 & 199	ng/kg	1020	--	500	--	272	32.1	--
PCB-40/PCB-71	ng/kg	388	--	152	--	196	27.8	--
PCB-86/87/97/108/119/125	ng/kg	753	--	850	--	641	92.5	--
PCB-98/PCB-102	ng/kg	88	--	38.1	--	86.7 U	5.9	--
PENTACHLOROBIPHENYL:2,2',3,4,6/2,2'3,4',6	ng/kg	361	--	177	--	198	25.9	--
Total octaCB	ng/kg	3530	--	1660	--	880	103	--
Laboratory Provided PCB TEQ and Total PCBs								
TEQ WHO2005 ND=0 (PCB Congeners)	ng/kg	0.15	--	0.066	--	0.059	0.0075	--
Total Aroclor	ng/kg	65800	--	26900	--	23500	3120	--
Total Aroclor	µg/kg	55 U	55 U	53 U	75 U	65 U	66 U	85 U

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Calculated PCB TEQs								
Bird TEQ (Dioxin Like PCBs)	ng/kg	8.3	--	3	--	3.36	0.334	--
Fish TEQ (Dioxin Like PCBs)	ng/kg	0.0392	--	0.0158	--	0.0153	0.00179	--
High Risk PCB Congeners	ng/kg	60500	--	25400	--	21400	2910	--
Human TEQ (Dioxin Like PCBs)	ng/kg	0.154	--	0.0656	--	0.0587	0.00751	--
Mammal TEQ (Dioxin Like PCBs)	ng/kg	0.154	--	0.0656	--	0.0587	0.00751	--
Sum of All PCB Congeners	ng/kg	65800	--	26900	--	23500	3120	--
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	46	16.1	0.791 U	10.3	0.547 U	0.0968 U	0.401 U
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	ng/kg	349	98.1	20	95.2	57.8	24.4	13.2
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	3.39 J	1.26 J	1.41 U	2.69 U	1.09 U	0.133 U	0.724 U
1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	5.3	1.93 J	0.344 J	1.01 U	0.528 U	0.198 U	0.447 U
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	4.53 J	1.39 J	1.32 U	2.45 U	1.37 U	0.259 J	1.04 U
1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	6	2.22 J	0.532 U	0.925 U	0.535 U	0.213 U	0.405 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	12.5	3.53 J	1.27 U	2.4 U	1.56 J	0.634 J	0.935 U
1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	1.5 J	0.699 J	0.911 U	1.42 U	0.96 U	0.251 U	0.691 U
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	8.22	2.94 J	1.32 U	2.47 U	1.79 J	0.634 J	1 U
1,2,3,7,8-PENTACHLORODIBENZOFURAN	ng/kg	0.115 U	0.192 U	0.513 U	0.74 U	0.444 U	0.171 U	0.279 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	ng/kg	0.125 U	0.131 U	0.683 U	1.17 U	0.575 U	0.14 U	0.531 U
2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	7.66	0.341 U	0.584 U	1.07 U	0.533 U	0.208 U	0.46 U
2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	10.3	6.5	0.668 J	1.24 J	0.468 U	0.28 J	0.307 U

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,3,7,8-TCDD	ng/kg	0.728 J	0.339 J	0.379 U	0.773 U	0.376 U	0.168 U	0.332 U
2,3,7,8-TETRACHLORODIBENZOFURAN	ng/kg	2.91	1.2	0.908 U	0.417 J	0.776 J	0.314 U	0.605 U
HEXACHLORODIBENZOFURAN	ng/kg	112	52.9 J	5.24	13.7	4.95	0.198 U	0.405 U
HEXACHLORODIBENZO-P-DIOXIN	ng/kg	244	69.2	19.3	78.4	49.3	18.9	11.4
Octachlorodibenzofuran	ng/kg	87	29.9	3 U	39.7	1.38 U	0.229 U	2.04 U
OCTACHLORODIBENZO-P-DIOXIN	ng/kg	3850 J	1300	233	1270	1490	406	325
PENTACHLORO DIBENZOFURAN	ng/kg	145 J	89.5 J	5.11 J	16.5	5.6	0.0448 U	0.138 U
PENTACHLORODIBENSO-P-DIOXIN	ng/kg	44.2 J	14.3 J	0.683 U	12.1	6.64	0.14 U	0.531 U
TEQ WHO2005 ND=0	ng/kg	13.9	5.23	0.504	1.86	1.44	0.604	0.229
TETRACHLORODIBENZO-P-DIOXIN	ng/kg	18.2	6.3	1.04	6.07	2.61	0.651 J	0.29 J
Total Heptachlorodibenzofuran	ng/kg	119	42.2	7.62	37.5	7.78	0.0968 U	0.401 U
Total Heptachlorodibenzo-p-dioxin	ng/kg	1460	354	115	363	213	118	51.6
Total TCDF	ng/kg	77.6 J	45 J	0.908 U	16.9 J	2.88	1.94	0.605 U
Laboratory Provided Dioxin TEQs								
Dioxin TEQ for Birds	ng/kg	22.4	10.7	3.19	4.86	3.01	1.23	2.22
Dioxin TEQ for Fish	ng/kg	15.1	6.63	2.45	4.69	2.46	0.843	1.86
Calculated Dioxin/Furan TEQs								
Bird TEQ (Dioxins)	ng/kg	18.4	9.33	0.746	1.99	1.18	0.428	0.0457
Fish TEQ (Dioxins)	ng/kg	11.8	5.3	0.412	0.97	0.279	0.347	0.0457
Human TEQ (Dioxins)	ng/kg	13.8	5.23	0.505	1.86	1.44	0.602	0.229
Mammal TEQ (Dioxins)	ng/kg	13.8	5.23	0.505	1.86	1.44	0.602	0.229
Pesticides								
4,4'-DDD	µg/kg	5.5 U	5.5 U	5.3 U	7.5 U	6.5 U	6.6 U	8.6 U
4,4'-DDE	µg/kg	5.5 U	5.5 U	5.3 U	7.5 U	6.5 U	6.6 U	8.6 U
4,4'-DDT	µg/kg	5.5 U	5.5 U	5.3 U	7.5 U	6.5 U	6.6 U	8.6 U

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
ALDRIN	µg/kg	2.8 U	2.8 U	2.7 U	3.9 U	3.4 U	3.4 U	4.4 U
ALPHA-BHC	µg/kg	2.8 U	2.8 U	2.7 U	3.9 U	3.4 U	3.4 U	4.4 U
ALPHA-CHLORDANE	µg/kg	2.8 U	2.8 U	2.7 U	3.9 U	3.4 U	3.4 U	4.4 U
BETA-BHC	µg/kg	2.8 U	2.8 U	2.7 U	3.9 U	3.4 U	3.4 U	4.4 U
DELTA-BHC	µg/kg	2.8 U	2.8 U	2.7 U	3.9 U	3.4 U	3.4 U	4.4 U
DIELDRIN	µg/kg	5.5 U	5.5 U	5.3 U	7.5 U	6.5 U	6.6 U	8.6 U
ENDOSULFAN I	µg/kg	2.8 U	2.8 U	2.7 U	3.9 U	3.4 U	3.4 U	4.4 U
ENDOSULFAN II	µg/kg	5.5 U	5.5 U	5.3 U	7.5 U	6.5 U	6.6 U	8.6 U
ENDOSULFAN SULFATE	µg/kg	5.5 U	5.5 U	5.3 U	7.5 U	6.5 U	6.6 U	8.6 U
ENDRIN	µg/kg	5.5 U	5.5 U	5.3 U	7.5 U	6.5 U	6.6 U	8.6 U
ENDRIN ALDEHYDE	µg/kg	5.5 U	5.5 U	5.3 U	7.5 U	6.5 U	6.6 U	8.6 U
ENDRIN KETONE	µg/kg	5.5 U	5.5 U	5.3 U	7.5 U	6.5 U	6.6 U	8.6 U
GAMMA-BHC (LINDANE)	µg/kg	2.8 U	2.8 U	2.7 U	3.9 U	3.4 U	3.4 U	4.4 U
GAMMA-CHLORDANE	µg/kg	2.8 U	2.8 U	2.7 U	3.9 U	3.4 U	3.4 U	4.4 U
HEPTACHLOR	µg/kg	2.8 U	2.8 U	2.7 U	3.9 U	3.4 U	3.4 U	4.4 U
HEPTACHLOR EPOXIDE	µg/kg	2.8 U	2.8 U	2.7 U	3.9 U	3.4 U	3.4 U	4.4 U
METHOXYCHLOR	µg/kg	28 U	28 U	27 U	39 U	34 U	34 U	44 U
TOXAPHENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
Semivolatile Organic Compounds								
1,2,4,5-TETRACHLOROBENZENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
1,4-DIOXANE	µg/kg	110 U	110 U	110 U	150 U	130 U	130 U	170 U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
2,3,4,6-TETRACHLOROPHENOL	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
2,4,5-TRICHLOROPHENOL	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
2,4,6-TRICHLOROPHENOL	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,4-DICHLOROPHENOL	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
2,4-DIMETHYLPHENOL	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
2,4-DINITROPHENOL	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 UJ
2,4-DINITROTOLUENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
2,6-DINITROTOLUENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
2-CHLORONAPHTHALENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
2-CHLOROPHENOL	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
2-METHLYPHENOL	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
2-METHYLNAPHTHALENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
2-NITROANILINE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
2-NITROPHENOL	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
3,3`-DICHLOROBENZIDINE	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
3-NITROANILINE	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
4,6-DINITRO-2-METHYLPHENOL	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
4-BROMOPHENYL PHENYL ETHER	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
4-CHLORO-3-METHYLPHENOL	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
4-CHLOROANILINE	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
4-CHLOROPHENYL PHENYL ETHER	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
4-METHLYPHENOL	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
4-NITROANILINE	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
4-NITROPHENOL	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
ACENAPHTHENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
ACENAPHTHYLENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
ACETOPHENONE	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
ANTHRACENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
ATRAZINE	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 UJ
BENZALDEHYDE	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
BENZO[A]ANTHRACENE	µg/kg	400	280 U	270 U	270 J	420	360	580
BENZO[A]PYRENE	µg/kg	590	280 U	200 J	340 J	620	460	980
BENZO[B]FLUORANTHENE	µg/kg	1100	200 J	280	410	540	460	1200
BENZO[G,H,I]PERYLENE	µg/kg	410	280 U	270 U	390 U	350	260 J	680
BENZO[K]FLUORANTHENE	µg/kg	740	190 J	250 J	360 J	470	400	880
BENZYL BUTYL PHTHALATE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
BIPHENYL	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
BIS(2-CHLOROETHOXY)METHANE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
BIS(2-CHLOROETHYL) ETHER	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
BIS(2-ETHYLHEXYL) PHTHALATE	µg/kg	290	280 U	270 U	390 U	750	340 U	440 U
CAPROLACTAM	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
CARBAZOLE	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
CHRYSENE	µg/kg	480	280 U	210 J	270 J	540	450	790
DIBENZ[A,H]ANTHRACENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
DIBENZOFURAN	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
DIETHYL PHTHALATE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
DIMETHYL PHTHALATE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
DI-N-BUTYL PHTHALATE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
DI-N-OCTYL PHTHALATE	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
FLUORANTHENE	µg/kg	790	300 J	530 U	830	730	630 J	1100
FLUORENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
HEXACHLOROBENZENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
HEXACHLOROBUTADIENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
HEXACHLOROCYCLOPENTADIENE	µg/kg	550 UJ	550 UJ	530 UJ	750 U	650 U	660 UJ	860 UJ
HEXACHLOROETHANE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
INDENO[1,2,3-CD]PYRENE	µg/kg	390	280 U	270 U	240 J	300 J	210 J	560
ISOPHORONE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
NAPHTHALENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
NITROBENZENE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
N-NITROSODI-N-PROPYLAMINE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
N-NITROSODIPHENYLAMINE	µg/kg	280 U	280 U	270 U	390 U	340 U	340 U	440 U
PENTACHLOROPHENOL	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
PHENANTHRENE	µg/kg	280 U	280 U	270 U	390 U	540	340 U	440 U
PHENOL	µg/kg	550 U	550 U	530 U	750 U	650 U	660 U	860 U
PYRENE	µg/kg	830	250 J	220 J	630	1000	740	960
Isotopes								
RADIUM-226	pci/g	0.222	0.304	0.179	--	--	--	0.31
RADIUM-228	pci/g	0.248	--	--	--	--	--	0.155
STRONTIUM-90	pci/g	--	--	--	--	--	--	--
Grain Size								
%CLAY	%	12.8	20.3	11.6	26.6	21.3	--	28.1
SAND	%	41	48.3	67.2	34	59.2	--	50.1
SILT	%	46.2	31.5	21.2	39.4	19.5	--	21.8

Table A.1
Elizabeth River Background Sediment Analytical Results

Analyte	Location ID	BIOTASED01		BIOTASED02		BIOTASED03		
	Field Sample ID	BIOTASED01-000005	BIOTASED01-005020	BIOTASED02-000005	BIOTASED02-005020	BIOTASED03-000005	FE10SED DUP03	BIOTASED03-005020
	Date Collected	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Miscellaneous Chemistry								
PH	pH units	7.66	7.32	7.1	7.37	7.15	6.97	7.08
TEMPERATURE	deg c	20.1	20.1	20.2	20.1	20	19.7	19.7

ID = identification
ft = feet
bgs = below ground surface
mg/kg = milligrams per kilogram
µg/kg = micrograms per kilogram
ng/kg = nanograms per kilogram
deg c = degrees Celsius
% = percent
PCB = polychlorinated biphenyls
TCDF = Tetrachlorodibenzofuran
TCDD = Tetrachlorodibenzodioxin
TEQ = Toxic Equivalent
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
BHC = hexachlorocyclohexane

J = positive detect; value reported is estimated
J - = positive detect; value reported is estimated and biased low
J + = positive detect; value reported is estimated and biased high
U = not detected; value shown equals the reporting limit
UJ = not detected; value shown represents the estimated reporting limit
-- = not analyzed/not provided

Table A.2
Elizabeth River Background Surface Water Analytical Results

Analyte	Location ID	BIOTASW01	BIOTASW02	BIOTASW03
	Field Sample ID	BIOTASW01	BIOTASW02	BIOTASW03
	Date Collected	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal
	Units	Result	Result	Result
Metals				
ALUMINUM	µg/L	148	106	165
ANTIMONY	µg/L	2 U	2 U	2 U
ARSENIC	µg/L	1.8	1.5	1.7
BARIUM	µg/L	29.3	29.4	29.7
BERYLLIUM	µg/L	1 U	1 U	1 U
CADMIUM	µg/L	1 U	1 U	1 U
CALCIUM	µg/L	212000	209000	211000
CHROMIUM	µg/L	2.8	2 U	2 U
COBALT	µg/L	0.3 J	0.31 J	0.3 J
COPPER	µg/L	7.7	6.3	6.8
CYANIDE	µg/L	10 U	10 U	10 U
IRON	µg/L	301	234	290
LEAD	µg/L	1.2	1 U	1.2
MAGNESIUM	µg/L	659000	649000	648000
MANGANESE	µg/L	28.9	27.1	29.1
MERCURY	µg/L	0.2 U	0.2 U	0.2 U
NICKEL	µg/L	1.4	1.9	1.3
POTASSIUM	µg/L	197000	197000	200000
SELENIUM	µg/L	41.2	42.4	42.7
SILVER	µg/L	1 U	1 U	1 U
SODIUM	µg/L	5480000	5380000	5390000
THALLIUM	µg/L	1 U	1 U	1 U
VANADIUM	µg/L	5 U	5 U	5 U
ZINC	µg/L	18.6	13.3	19.2
Polychlorinated Biphenyls				
AROCLOR 1262	µg/L	1 U	1 U	1 U
AROCLOR-1016	µg/L	1 U	1 U	1 U
AROCLOR-1221	µg/L	1 U	1 U	1 U
AROCLOR-1232	µg/L	1 U	1 U	1 U
AROCLOR-1242	µg/L	1 U	1 U	1 U
AROCLOR-1248	µg/L	1 U	1 U	1 U
AROCLOR-1254	µg/L	1 U	1 U	1 U
AROCLOR-1260	µg/L	1 U	1 U	1 U
PCB-1268 (AROCLOR 1268)	µg/L	1 U	1 U	1 U
Total Dichlorobiphenyl	pg/L	22.8	23.8	18.9 U
Total Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
Total Hexachlorobiphenyl	pg/L	86	18.8 U	18.9 U
Total Monochlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
Total Nonachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U

Table A.2
Elizabeth River Background Surface Water Analytical Results

Analyte	Location ID	BIOTASW01	BIOTASW02	BIOTASW03
	Field Sample ID	BIOTASW01	BIOTASW02	BIOTASW03
	Date Collected	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal
	Units	Result	Result	Result
Total Pentachlorobiphenyl	pg/L	121	44.4	18.9 U
Total Tetrachlorobiphenyl	pg/L	36.3	28.6	23.7
Total Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
Polychlorinated Biphenyl Congeners				
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,4',5,6-Octachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,4',5-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	pg/L	56.7 U	56.4 U	56.6 U
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,5,5'-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4',5,6-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,5',6-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,5,6'-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,5'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,6,6'-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,6'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4,6-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',4-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',5,5',6-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',5,5'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',5,6,6'-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',5,6-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',5-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',6,6'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,3',6-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,4',5,5',6-Octachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,4',5,6'-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,4',5,6-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,4',5-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,4',6,6'-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4',5,5',6-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,5,5'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4',5,5'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,5,6,6'-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U

Table A.2
Elizabeth River Background Surface Water Analytical Results

Analyte	Location ID	BIOTASW01	BIOTASW02	BIOTASW03
	Field Sample ID	BIOTASW01	BIOTASW02	BIOTASW03
	Date Collected	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal
	Units	Result	Result	Result
2,2',3,4',5,6,6'-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,5,6'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4',5,6'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,5,6-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,5',6-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,6,6'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4',6,6'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4,6'-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4'-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,4-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,5,5'-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,5,6,6'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,5',6-Pentachlorobiphenyl	pg/L	30	23	18.9 U
2,2',3,5,6'-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,5-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,6,6'-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3,6'-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',3-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',4,4',5,6'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',4,4',5-Pentachlorobiphenyl	pg/L	19.5	18.8 U	18.9 U
2,2',4,4',6,6'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',4,5',6-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',4,5-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',4,6,6'-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',4-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',5,5'-Tetrachlorobiphenyl	pg/L	36.3	28.6	23.7
2,2',6,6'-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2',6-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,2'-Dichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4,4',5,5',6-Octachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4,4',5,5'-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4,4',5,6-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4,4',5',6-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4,4',6-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4,4'-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4,5,5',6-Heptachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4,5,5'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4',5,5'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4,5,6-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4,5',6-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4',5',6-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U

Table A.2
Elizabeth River Background Surface Water Analytical Results

Analyte	Location ID	BIOTASW01	BIOTASW02	BIOTASW03
	Field Sample ID	BIOTASW01	BIOTASW02	BIOTASW03
	Date Collected	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal
	Units	Result	Result	Result
2,3,3',4,5-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2',3,3',4,5-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4',5-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4'-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',4-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',5,5',6-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',5,5'-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',5,6-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',5'-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,3',5-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3',4,4',5,5'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,4,4',5-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2',3,4,4',5-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3',4,4',5-Pentachlorobiphenyl	pg/L	30.5	21.4	18.9 U
2,3,4,4'-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3',4,4'-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3',4,5,5'-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3',4,5',6-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3',4,5'-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3',4,5-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,4',5-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,4',6-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3',4-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,4'-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3',5,5'-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3',5',6-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,5-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2',3,5-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3,6-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3',6-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3'-Dichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,3-Dichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,4',5-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,4',6-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,4'-Dichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,4-Dichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,5-Dichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2,6-Dichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
2-Monochlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3 -Monochlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,3',4,4',5,5'-Hexachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U

Table A.2
Elizabeth River Background Surface Water Analytical Results

Analyte	Location ID	BIOTASW01	BIOTASW02	BIOTASW03
	Field Sample ID	BIOTASW01	BIOTASW02	BIOTASW03
	Date Collected	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal
	Units	Result	Result	Result
3,3',4,4',5-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,3',4,4'-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,3',4,5,5'-Pentachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,3',4,5'-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,3',4,5-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,3',4-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,3',5,5'-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,3',5-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,3'-Dichlorobiphenyl	pg/L	22.8 U	23.8 U	18.9 U
3,4,4',5-Tetrachlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,4,4'-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,4,5-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,4',5-Trichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
3,5-Dichlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
4,4'-DICHLOROBIPHENYL	pg/L	18.9 U	18.8 U	18.9 U
4-Monochlorobiphenyl	pg/L	18.9 U	18.8 U	18.9 U
BZ#139 & BZ#140	pg/L	37.8 U	37.6 U	37.7 U
BZ#153 & BZ#168	pg/L	44.5	37.6 U	37.7 U
BZ#156 & BZ#157	pg/L	37.8 U	37.6 U	37.7 U
Co-elute: PCB#44, PCB#47, PCB#65	pg/L	56.7 U	56.4 U	56.6 U
Co-elute: PCB#59, PCB#62, and PCB#75	pg/L	56.7 U	56.4 U	56.6 U
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	pg/L	75.6 U	75.2 U	75.5 U
Co-elute: PCB#85, PCB#116 and PCB#117	pg/L	56.7 U	56.4 U	56.6 U
Co-elute: PCB#90, PCB#101, and PCB#113	pg/L	56.7 U	56.4 U	56.6 U
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	pg/L	37.8 U	37.6 U	37.7 U
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	pg/L	37.8 U	37.6 U	37.7 U
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	pg/L	37.8 U	37.6 U	37.7 U
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	pg/L	37.8 U	37.6 U	37.7 U
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	pg/L	37.8 U	37.6 U	37.7 U
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	pg/L	37.8 U	37.6 U	37.7 U
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	pg/L	37.8 U	37.6 U	37.7 U
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	pg/L	37.8 U	37.6 U	37.7 U
DECACHLOROBIPHENYL	pg/L	18.9 U	18.8 U	18.9 U
DICHLOROBIPHENYL: 3,4/ 3,4'	pg/L	37.8 U	37.6 U	37.7 U

Table A.2
Elizabeth River Background Surface Water Analytical Results

Analyte	Location ID	BIOTASW01	BIOTASW02	BIOTASW03
	Field Sample ID	BIOTASW01	BIOTASW02	BIOTASW03
	Date Collected	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal
	Units	Result	Result	Result
PCB108 & 0124	pg/L	37.8 U	37.6 U	37.7 U
PCB110 & 115	pg/L	40.6	37.6 U	37.7 U
PCB128 & 166	pg/L	37.8 U	37.6 U	37.7 U
PCB135 & 151	pg/L	37.8 U	37.6 U	37.7 U
PCB147 & 149	pg/L	41.5	37.6 U	37.7 U
PCB171 & 173	pg/L	37.8 U	37.6 U	37.7 U
PCB180 & 193	pg/L	37.8 U	37.6 U	37.7 U
PCB183 & 185	pg/L	37.8 U	37.6 U	37.7 U
PCB197 & 200	pg/L	37.8 U	37.6 U	37.7 U
PCB198 & 199	pg/L	37.8 U	37.6 U	37.7 U
PCB-40/PCB-71	pg/L	38.8 U	37.6 U	37.7 U
PCB-86/87/97/108/119/125	pg/L	113 U	113 U	113 U
PCB-98/PCB-102	pg/L	37.8 U	37.6 U	37.7 U
PENTACHLOROBIPHENYL: 2,2',3,4,6/2,2'3,4',6	pg/L	37.8 U	37.6 U	37.7 U
Total octaCB	pg/L	18.9 U	18.8 U	18.9 U
Laboratory Reported PCB TEQ and Total PCBs				
TEQ WHO2005 ND=0 (PCB Congeners)	pg/L	0.00092	0.00064	0
Total Aroclor	pg/L	266	96.9	23.7
Total Aroclor	µg/L	1 U	1 U	1 U
Calculated PCB TEQs and Total PCBs				
Bird TEQ (Dioxin Like PCBs)	pg/L	0.000305	0.000214	0 U
Fish TEQ (Dioxin Like PCBs)	pg/L	0.000153	0.000107	0 U
Human TEQ (Dioxin Like PCBs)	pg/L	0.000915	0.000642	0 U
Mammal TEQ (Dioxin Like PCBs)	pg/L	0.000915	0.000642	0 U
Sum of All PCB Congeners	pg/L	243	73	23.7
High Risk PCB Congeners	pg/L	243	73	23.7
Dioxins/Furans				
1,2,3,4,6,7,8-Heptachlorodibenzofuran	pg/L	0.7 U	0.605 U	0.547 J
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	pg/L	1.48 U	2.04 U	2.29 U
1,2,3,4,7,8,9-Heptachlorodibenzofuran	pg/L	0.332 J	0.862 U	0.861 U
1,2,3,4,7,8-Hexachlorodibenzofuran	pg/L	0.828 U	0.626 U	0.766 U
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	pg/L	1.53 U	1.18 U	1.63 U
1,2,3,6,7,8-Hexachlorodibenzofuran	pg/L	0.82 U	0.618 U	0.801 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	pg/L	1.51 U	1.23 U	1.56 U
1,2,3,7,8,9-Hexachlorodibenzofuran	pg/L	1.07 U	0.343 J	0.628 J
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	pg/L	1.55 U	1.23 U	1.63 U
1,2,3,7,8-PENTACHLORODIBENZOFURAN	pg/L	0.713 U	0.677 U	0.821 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	pg/L	1.07 U	0.87 U	0.851 U
2,3,4,6,7,8-Hexachlorodibenzofuran	pg/L	0.885 U	0.617 U	0.799 U
2,3,4,7,8-Pentachlorodibenzofuran	pg/L	0.699 U	0.679 U	0.819 U

Table A.2
Elizabeth River Background Surface Water Analytical Results

Analyte	Location ID	BIOTASW01	BIOTASW02	BIOTASW03
	Field Sample ID	BIOTASW01	BIOTASW02	BIOTASW03
	Date Collected	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal
	Units	Result	Result	Result
2,3,7,8-TCDD	pg/L	1.26 U	0.552 J	1.28 U
2,3,7,8-TETRACHLORODIBENZOFURAN	pg/L	1.7 U	1.46 U	1.73 U
HEXACHLORODIBENZOFURAN	pg/L	0.82 U	0.343 J	0.628 J
HEXACHLORODIBENZO-P-DIOXIN	pg/L	1.51 U	1.18 U	1.56 U
Octachlorodibenzofuran	pg/L	1.09 J	1.77 U	2.09 U
OCTACHLORODIBENZO-P-DIOXIN	pg/L	2.99 U	2.25 U	1.98 U
PENTACHLORO DIBENZOFURAN	pg/L	0.523 U	0.489 U	0.64 U
PENTACHLORODIBENSO-P-DIOXIN	pg/L	1.07 U	0.87 U	0.851 U
TEQ WHO2005 ND=0	pg/L	0.0546	0.586	0.0683
TETRACHLORODIBENZO-P-DIOXIN	pg/L	1.26 U	0.552 J	1.28 U
Total Heptachlorodibenzofuran	pg/L	1.91 J	0.605 U	0.547 J
Total Heptachlorodibenzo-p-dioxin	pg/L	1.48 U	2.04 U	2.29 U
Total TCDF	pg/L	1.7 U	1.46 U	1.73 U
Laboratory Reported Dioxin/Furan TEQs				
Dioxin TEQ for Birds	pg/L	5.43	4.06	5.35
Dioxin TEQ for Fish	pg/L	3.98	2.73	3.85
Calculated Dioxin/Furan TEQs				
Bird TEQ (Dioxins)	pg/L	0.00343	0.586	0.0683
Fish TEQ (Dioxins)	pg/L	0.00343	0.586	0.0683
Human TEQ (Dioxins)	pg/L	0.00365	0.586	0.0683
Mammal TEQ (Dioxins)	pg/L	0.00365	0.586	0.0683
Pesticides				
4,4'-DDD	µg/L	0.1 U	0.1 U	0.1 U
4,4'-DDE	µg/L	0.1 U	0.1 U	0.1 U
4,4'-DDT	µg/L	0.1 U	0.1 U	0.1 U
ALDRIN	µg/L	0.05 U	0.05 U	0.05 U
ALPHA-BHC	µg/L	0.05 U	0.05 U	0.05 U
ALPHA-CHLORDANE	µg/L	0.05 U	0.05 U	0.05 U
BETA-BHC	µg/L	0.05 U	0.05 U	0.05 U
DELTA-BHC	µg/L	0.05 U	0.05 U	0.05 U
DIELDRIN	µg/L	0.1 U	0.1 U	0.1 U
ENDOSULFAN I	µg/L	0.05 U	0.05 U	0.05 U
ENDOSULFAN II	µg/L	0.1 U	0.1 U	0.1 U
ENDOSULFAN SULFATE	µg/L	0.1 U	0.1 U	0.1 U
ENDRIN	µg/L	0.1 U	0.1 U	0.1 U
ENDRIN ALDEHYDE	µg/L	0.1 U	0.1 U	0.1 U
ENDRIN KETONE	µg/L	0.1 U	0.1 U	0.1 U
GAMMA-BHC (LINDANE)	µg/L	0.05 U	0.05 U	0.05 U
GAMMA-CHLORDANE	µg/L	0.05 U	0.05 U	0.05 U
HEPTACHLOR	µg/L	0.05 U	0.05 U	0.05 U

Table A.2
Elizabeth River Background Surface Water Analytical Results

Analyte	Location ID	BIOTASW01	BIOTASW02	BIOTASW03
	Field Sample ID	BIOTASW01	BIOTASW02	BIOTASW03
	Date Collected	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal
	Units	Result	Result	Result
HEPTACHLOR EPOXIDE	µg/L	0.05 U	0.05 U	0.05 U
METHOXYCHLOR	µg/L	0.5 U	0.5 U	0.5 U
TOXAPHENE	µg/L	5 U	5 U	5 U
Semivolatile Organic Compounds				
1,2,4,5-TETRACHLOROBENZENE	µg/L	5 U	5 U	5 U
1,4-DIOXANE	µg/L	2 U	2 U	2 U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/L	10 U	10 U	10 U
2,3,4,6-TETRACHLOROPHENOL	µg/L	5 U	5 U	5 U
2,4,5-TRICHLOROPHENOL	µg/L	5 U	5 U	5 U
2,4,6-TRICHLOROPHENOL	µg/L	5 U	5 U	5 U
2,4-DICHLOROPHENOL	µg/L	5 U	5 U	5 U
2,4-DIMETHYLPHENOL	µg/L	5 U	5 U	5 U
2,4-DINITROPHENOL	µg/L	10 U	10 U	10 U
2,4-DINITROTOLUENE	µg/L	5 U	5 U	5 U
2,6-DINITROTOLUENE	µg/L	5 U	5 U	5 U
2-CHLORONAPHTHALENE	µg/L	5 U	5 U	5 U
2-CHLOROPHENOL	µg/L	5 U	5 U	5 U
2-METHLYPHENOL	µg/L	10 U	10 U	10 U
2-METHYLNAPHTHALENE	µg/L	5 U	5 U	5 U
2-NITROANILINE	µg/L	5 U	5 U	5 U
2-NITROPHENOL	µg/L	5 U	5 U	5 U
3,3`-DICHLOROBENZIDINE	µg/L	10 U	10 U	10 U
3-NITROANILINE	µg/L	10 U	10 U	10 U
4,6-DINITRO-2-METHYLPHENOL	µg/L	10 U	10 U	10 U
4-BROMOPHENYL PHENYL ETHER	µg/L	5 U	5 U	5 U
4-CHLORO-3-METHYLPHENOL	µg/L	5 U	5 U	5 UJ
4-CHLOROANILINE	µg/L	10 U	10 U	10 U
4-CHLOROPHENYL PHENYL ETHER	µg/L	5 U	5 U	5 U
4-METHLYPHENOL	µg/L	10 U	10 U	10 U
4-NITROANILINE	µg/L	10 U	10 U	10 U
4-NITROPHENOL	µg/L	10 U	10 U	10 U
ACENAPHTHENE	µg/L	5 U	5 U	5 U
ACENAPHTHYLENE	µg/L	5 U	5 U	5 U
ACETOPHENONE	µg/L	10 U	10 U	10 U
ANTHRACENE	µg/L	5 U	5 U	5 U
ATRAZINE	µg/L	10 U	10 U	10 U
BENZALDEHYDE	µg/L	10 U	10 U	10 U
BENZO[A]ANTHRACENE	µg/L	5 U	5 U	5 U
BENZO[A]PYRENE	µg/L	5 U	5 U	5 U

Table A.2
Elizabeth River Background Surface Water Analytical Results

Analyte	Location ID	BIOTASW01	BIOTASW02	BIOTASW03
	Field Sample ID	BIOTASW01	BIOTASW02	BIOTASW03
	Date Collected	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal
	Units	Result	Result	Result
BENZO[B]FLUORANTHENE	µg/L	5 U	5 U	5 U
BENZO[G,H,I]PERYLENE	µg/L	5 U	5 U	5 U
BENZO[K]FLUORANTHENE	µg/L	5 U	5 U	5 U
BENZYL BUTYL PHTHALATE	µg/L	5 U	5 U	5 U
BIPHENYL	µg/L	5 U	5 U	5 U
BIS(2-CHLOROETHOXY)METHANE	µg/L	5 U	5 U	5 U
BIS(2-CHLOROETHYL) ETHER	µg/L	10 U	10 U	10 U
BIS(2-ETHYLHEXYL) PHTHALATE	µg/L	5 U	5 U	5 U
CAPROLACTAM	µg/L	10 U	10 U	10 U
CARBAZOLE	µg/L	10 U	10 U	10 U
CHRYSENE	µg/L	5 U	5 U	5 U
DIBENZ[A,H]ANTHRACENE	µg/L	5 U	5 U	5 U
DIBENZOFURAN	µg/L	5 U	5 U	5 U
DIETHYL PHTHALATE	µg/L	5 U	5 U	5 U
DIMETHYL PHTHALATE	µg/L	5 U	5 U	5 U
DI-N-BUTYL PHTHALATE	µg/L	5 U	5 U	5 U
DI-N-OCTYL PHTHALATE	µg/L	10 U	10 U	10 U
FLUORANTHENE	µg/L	10 U	10 U	10 U
FLUORENE	µg/L	5 U	5 U	5 U
HEXACHLOROBENZENE	µg/L	5 U	5 U	5 U
HEXACHLOROBUTADIENE	µg/L	5 U	5 U	5 U
HEXACHLOROCYCLOPENTADIENE	µg/L	10 U	10 U	10 U
HEXACHLOROETHANE	µg/L	5 U	5 U	5 U
INDENO[1,2,3-CD]PYRENE	µg/L	5 U	5 U	5 U
ISOPHORONE	µg/L	5 U	5 U	5 U
NAPHTHALENE	µg/L	5 U	5 U	5 U
NITROBENZENE	µg/L	5 U	5 U	5 U
N-NITROSODI-N-PROPYLAMINE	µg/L	5 U	5 U	5 U
N-NITROSODIPHENYLAMINE	µg/L	5 U	5 U	5 U
PENTACHLOROPHENOL	µg/L	10 U	10 U	10 U
PHENANTHRENE	µg/L	5 U	5 U	5 U
PHENOL	µg/L	10 U	10 U	10 U
PYRENE	µg/L	5 U	5 U	5 U

Table A.2
Elizabeth River Background Surface Water Analytical Results

Analyte	Location ID	BIOTASW01	BIOTASW02	BIOTASW03
	Field Sample ID	BIOTASW01	BIOTASW02	BIOTASW03
	Date Collected	11/13/2015	11/13/2015	11/13/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal
	Units	Result	Result	Result
Isotopes				
RADIUM-226	pci/L	--	74.6	--
RADIUM-228	pci/L	--	--	--
STRONTIUM-90	pci/L	--	--	--

ID = identification
ft = feet
bws = below water surface
µg/L = micrograms per liter
pg/L = picograms per liter
PCB = polychlorinated biphenyls
TCDF = Tetrachlorodibenzofuran
TCDD = Tetrachlorodibenzodioxin
TEQ = Toxic Equivalent
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
BHC = hexachlorocyclohexane

J = positive detect; value reported is estimated
U = not detected; value shown equals reporting limit
UJ = not detected; value shown equals the estimated reporting limit
-- = not sampled/not provided

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SED DUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Metals										
ALUMINUM	mg/kg	5260	2800	11000	10200	13000	6340	9770	12300 J	12800 J
ANTIMONY	mg/kg	6.4 U	0.67 J	13.2 U	10.6 U	8.3 U	6.6 U	8.5 U	9 UJ	10.3 UJ
ARSENIC	mg/kg	4.7	3.8	12.6	11.4	7.7	2.5	11.1	12.2 J	11.1 J
BARIUM	mg/kg	22.2	14.8 J	46.7	45.3	34.6	19.3 J	97.9	102 J	68 J
BERYLLIUM	mg/kg	0.35 J	0.19 J	0.83 J	0.75 J	0.65 J	0.29 J	2.1	3	1.4
CADMIUM	mg/kg	0.88	0.71	2.4	2.3	1	0.35 J	2.1	2.8	1.9
CALCIUM	mg/kg	932	637	2950	2650	1460	655	2460	2960	2490
CHROMIUM	mg/kg	27.8	17.7	66	63.2	32.5	12.1	1110	1170 J	849 J
CHROMIUM (HEXAVALENT COMPOUNDS)	mg/kg	--	0.59	--	0.92	--	0.62	--	0.89	0.99
COBALT	mg/kg	22.2	16	28	26.6	5.6 J	0.45 J	612	501	404
COPPER	mg/kg	33.8	30.6	105	97.9	34.8	56	398	316	211
CYANIDE	mg/kg	0.73 U	0.68 U	1.5 U	1.1 U	0.99 U	0.69 U	0.96 U	1.1 U	1.1 U
IRON	mg/kg	10700	7430	29900	26100	22600	10000	27500	31900	29800
LEAD	mg/kg	75.7 J	64.4 J	158 J	157 J	72.7 J	73.9 J	269 J	281	323
MAGNESIUM	mg/kg	1650	1040	4080	3470	3640	1420	3170	4550	4790
MANGANESE	mg/kg	81.1	57.9	174	153	178	65.7	214	290	255
MERCURY	mg/kg	0.24	0.15	0.45	0.39	0.35	0.15	0.38	0.63	0.7
NICKEL	mg/kg	23.9	16	38.1	37	16.3	5.3	942	871	645
POTASSIUM	mg/kg	1180	787	2240	2020	2320	981	1850	2540 J	2760 J
SELENIUM	mg/kg	3.7 U	3.6 U	7.7 U	6.2 U	4.8 U	3.9 U	4.9 U	5.3 UJ	6 UJ
SILVER	mg/kg	0.86 J	0.64 J	2.5	2.1	1.7	0.75 J	2.5	2.9	2.4
SODIUM	mg/kg	2270 J	1620 J	8110 J	6020 J	4500 J	1740 J	4760 J	6220	6870
THALLIUM	mg/kg	0.68 J-	0.31 J-	1.4 J	1.2 J	1.3 J	0.6 J-	3.5 UJ	3.8 U	4.3 U
VANADIUM	mg/kg	16.1	10.1	34.2	32	26.5	12.9	55.3	34.2	35.1
ZINC	mg/kg	160	137	443	423	142	61.4	1480	1390	733

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SED DUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Polychlorinated Biphenyls										
AROCLOR-1262	µg/kg	54 U	52 U	97 U	75 U	58 U	64 U	67 U	72 U	73 U
AROCLOR-1016	µg/kg	54 U	52 U	97 U	75 U	58 U	64 U	67 U	72 U	73 U
AROCLOR-1221	µg/kg	54 U	52 U	97 U	75 U	58 U	64 U	67 U	72 U	73 U
AROCLOR-1232	µg/kg	54 U	52 U	97 U	75 U	58 U	64 U	67 U	72 U	73 U
AROCLOR-1242	µg/kg	54 U	52 U	97 U	75 U	58 U	64 U	67 U	72 U	73 U
AROCLOR-1248	µg/kg	54 U	52 U	97 U	75 U	58 U	64 U	67 U	520 J	73 U
AROCLOR-1254	µg/kg	54 U	52 U	97 U	75 U	58 U	64 U	67 U	72 U	73 U
AROCLOR-1260	µg/kg	15 J	52 U	44 J	27 J	49 J	64 U	67 U	150 J	76 J
AROCLOR-1268	µg/kg	54 U	52 U	44 J	75 U	58 U	64 U	67 U	72 U	73 U
TOTAL AROCLORS	µg/kg	54 U	52 U	97 U	75 U	49 J	64 U	67 U	670 J	76 J
Polychlorinated Biphenyl Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	927	--	--	--	3760	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	1180	--	--	--	15100	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	115	--	--	--	1160	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	638	--	--	--	8620	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	379	--	--	--	6510	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	2360	--	--	--	37500	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	ng/kg	--	--	12400	--	--	--	154000	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	392	--	--	--	1880	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	398	--	--	--	6310	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	183	--	--	--	4720	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	1440	--	--	--	20500	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	103	--	--	--	3570	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	2330	--	--	--	35900	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SED DUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	594	--	--	--	7640	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	294	--	--	--	4590	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	3150	--	--	--	47700	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	106	--	--	--	4380	--	--
2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	554	--	--	--	9370	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	401	--	--	--	2710	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	567	--	--	--	6920	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	150	--	--	--	4590	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	1060	--	--	--	11800	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	ng/kg	--	--	383	--	--	--	7010	--	--
2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	364	--	--	--	5670	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	998	--	--	--	16800	--	--
2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	1360	--	--	--	28300	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	984	--	--	--	10400	--	--
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	272	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	725	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	420	--	--	--	6980	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	59.9	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	3900	--	--	--	44700	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	1590	--	--	--	25400	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	1370	--	--	--	16700	--	--
2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	562	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	39.5	--	--	--	1140	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	1810	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SEDDUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	369	--	--	--	5980	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	89.9	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	48.6	--	--	--	1130	--	--
2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	79.6	--	--	--	1920	--	--
2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	664	--	--	--	5260	--	--
2,2',3,4-Tetrachlorobiphenyl	ng/kg	--	--	101	--	--	--	2770	--	--
2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	1220	--	--	--	19900	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	40.3	--	--	--	4760	--	--
2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	4480	--	--	--	86500	--	--
2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	95.4	--	--	--	3900	--	--
2,2',3,5-Tetrachlorobiphenyl	ng/kg	--	--	150	--	--	--	2910	--	--
2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	49.1	--	--	--	2490	--	--
2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	170	--	--	--	2940	--	--
2,2',3-Trichlorobiphenyl	ng/kg	--	--	193	--	--	--	4670	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	146	--	--	--	4520	--	--
2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	2980	--	--	--	59400	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	285	--	--
2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	90.6	--	--	--	2660	--	--
2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	334	--	--	--	2750	--	--
2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	3400	--	--
2,2',4-Trichlorobiphenyl	ng/kg	--	--	376	--	--	--	3720	--	--
2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	3190	--	--	--	58200	--	--
2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	48.5	--	--	--	3200	--	--
2,2',6-Trichlorobiphenyl	ng/kg	--	--	122	--	--	--	3400	--	--
2,2'-Dichlorobiphenyl	ng/kg	--	--	144	--	--	--	1390	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SEDDUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	61.2	--	--	--	2100	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	116	--	--	--	4440	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	422	--	--	--	7180	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	86.4	--	--	--	3490	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	961	--	--	--	13600	--	--
2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	2900	--	--	--	40000 J	--	--
2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	42.8	--	--	--	1250	--	--
2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	763	--	--	--	8630	--	--
2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
2',3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	49.7	--	--	--	1910	--	--
2,3,3',4',5-Pentachlorobiphenyl	ng/kg	--	--	417	--	--	--	5740 J	--	--
2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	952	--	--	--	8890	--	--
2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	41.8	--	--	--	1630	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	200	--	--
2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	114	--	--
2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	1900	--	--
2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	638	--	--
2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	331	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	471	--	--	--	6450	--	--
2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	102	--	--	--	5210	--	--
2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	89.7	--	--	--	3340	--	--
2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	6810	--	--	--	101000 J	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SEDDUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	444	--	--	--	2980	--	--
2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	2150	--	--	--	23900	--	--
2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	992	--	--
2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	491	--	--
2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	2540	--	--
2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	58.9	--	--	--	2740	--	--
2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	69.2	--	--	--	1990	--	--
2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	928	--	--	--	8380	--	--
2,3',4-Trichlorobiphenyl	ng/kg	--	--	160	--	--	--	2980	--	--
2,3,4'-Trichlorobiphenyl	ng/kg	--	--	478	--	--	--	2290	--	--
2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	40.6	--	--	--	2770	--	--
2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	99.9	--	--	--	4840	--	--
2,3,5-Trichlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
2',3,5-Trichlorobiphenyl	ng/kg	--	--	38 U	--	--	--	210	--	--
2,3,6-Trichlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
2,3',6-Trichlorobiphenyl	ng/kg	--	--	85.2	--	--	--	1680	--	--
2,3'-Dichlorobiphenyl	ng/kg	--	--	81.6	--	--	--	814	--	--
2,3-Dichlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
2,4',5-Trichlorobiphenyl	ng/kg	--	--	1080	--	--	--	6110	--	--
2,4',6-Trichlorobiphenyl	ng/kg	--	--	367	--	--	--	9650	--	--
2,4'-Dichlorobiphenyl	ng/kg	--	--	278	--	--	--	2700	--	--
2,4-Dichlorobiphenyl	ng/kg	--	--	38 U	--	--	--	133	--	--
2,5-Dichlorobiphenyl	ng/kg	--	--	38 U	--	--	--	211	--	--
2,6-Dichlorobiphenyl	ng/kg	--	--	38 U	--	--	--	121	--	--
2-Monochlorobiphenyl	ng/kg	--	--	45.5	--	--	--	254	--	--
3 -Monochlorobiphenyl	ng/kg	--	--	38 U	--	--	--	95.7	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SED DUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	49	--	--	--	901	--	--
3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	332	--	--	--	6900	--	--
3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	40.2	--	--	--	377	--	--
3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	44.8	--	--	--	4890	--	--
3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	94.6	--	--
3,3',4-Trichlorobiphenyl	ng/kg	--	--	38 U	--	--	--	2780	--	--
3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	156	--	--
3,3',5-Trichlorobiphenyl	ng/kg	--	--	38 U	--	--	--	915	--	--
3,3'-Dichlorobiphenyl	ng/kg	--	--	285	--	--	--	969	--	--
3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
3,4,4'-Trichlorobiphenyl	ng/kg	--	--	621	--	--	--	4910	--	--
3,4,5-Trichlorobiphenyl	ng/kg	--	--	38 U	--	--	--	47.7	--	--
3,4',5-Trichlorobiphenyl	ng/kg	--	--	38 U	--	--	--	690	--	--
3,5-Dichlorobiphenyl	ng/kg	--	--	38 U	--	--	--	26.4 U	--	--
4,4'-DICHLOROBIPHENYL	ng/kg	--	--	505	--	--	--	4960	--	--
4-Monochlorobiphenyl	ng/kg	--	--	63	--	--	--	193	--	--
BZ#139 & BZ#140	ng/kg	--	--	170	--	--	--	5800	--	--
BZ#153 & BZ#168	ng/kg	--	--	9550	--	--	--	132000	--	--
BZ#156 & BZ#157	ng/kg	--	--	1270	--	--	--	19100	--	--
Co-elute: PCB#44, PCB#47, PCB#65	ng/kg	--	--	2960	--	--	--	68900	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	ng/kg	--	--	227	--	--	--	5610	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and	ng/kg	--	--	3850	--	--	--	61200	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	ng/kg	--	--	1080	--	--	--	15000	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	ng/kg	--	--	6990	--	--	--	123000	--	--
coelute: Tetrachlorobiphenyl; 2,2',3,6/2,2',4,6'	ng/kg	--	--	655	--	--	--	29800	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SED DUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	ng/kg	--	--	173	--	--	--	8600	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	ng/kg	--	--	2000	--	--	--	30900	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	ng/kg	--	--	446	--	--	--	27700	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	ng/kg	--	--	600	--	--	--	3830	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	ng/kg	--	--	1810	--	--	--	12300	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	ng/kg	--	--	564	--	--	--	10000	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	ng/kg	--	--	256	--	--	--	6040	--	--
DECACHLOROBIPHENYL	ng/kg	--	--	892	--	--	--	1280	--	--
DICHLOROBIPHENYL: 3,4/ 3,4'	ng/kg	--	--	80.4	--	--	--	1310	--	--
PCB108 & 0124	ng/kg	--	--	213	--	--	--	8580	--	--
PCB110 & 115	ng/kg	--	--	8810	--	--	--	122000 J	--	--
PCB128 & 166	ng/kg	--	--	1650	--	--	--	20600	--	--
PCB135 & 151	ng/kg	--	--	3110	--	--	--	43600	--	--
PCB147 & 149	ng/kg	--	--	7890	--	--	--	113000	--	--
PCB171 & 173	ng/kg	--	--	737	--	--	--	12200	--	--
PCB180 & 193	ng/kg	--	--	5900	--	--	--	88900	--	--
PCB183 & 185	ng/kg	--	--	1860	--	--	--	28500	--	--
PCB197 & 200	ng/kg	--	--	212	--	--	--	6440	--	--
PCB198 & 199	ng/kg	--	--	1560	--	--	--	15800	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SED DUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
PCB-40/PCB-71	ng/kg	--	--	1110	--	--	--	41800	--	--
PCB-86/87/97/108/119/125	ng/kg	--	--	4340	--	--	--	75500	--	--
PCB-98/PCB-102	ng/kg	--	--	232	--	--	--	10400	--	--
PENTACHLOROBIPHENYL: 2,2',3,4,6/2,2'3,4',6	ng/kg	--	--	1060	--	--	--	14300	--	--
TEQ WHO2005 ND=0 (PCB Congeners)	ng/kg	--	--	5.3	--	--	--	45.9	--	--
Calculated PCB TEQs and Congener Sum										
Bird TEQ (Dioxin Like PCBs)	ng/kg	--	--	22	--	--	--	443	--	--
Fish TEQ (Dioxin Like PCBs)	ng/kg	--	--	0.337	--	--	--	6.09	--	--
Human TEQ (Dioxin Like PCBs)	ng/kg	--	--	5.29	--	--	--	96.2	--	--
Mammal TEQ (Dioxin Like PCBs)	ng/kg	--	--	5.29	--	--	--	96.2	--	--
Sum of All PCB Congeners	ng/kg	--	--	151000	--	--	--	2340000	--	--
High Risk PCB Congeners	ng/kg	--	--	143000	--	--	--	2250000	--	--
Dioxins/Furans										
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	--	11.9	--	24.9	--	0.134 U	--	54.6	54.6
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	ng/kg	--	43.6	--	102	--	18	--	240	178
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	--	0.945 J	--	2 J	--	0.198 U	--	3.99 J	4.18 J
1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	--	1.38 J	--	2.85 J	--	0.131 J	--	10.5	7.7
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	0.756 J	--	1.79 J	--	0.385 J	--	10.2	3.95 J
1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	--	1.5 J	--	3.13 J	--	0.162 J	--	10.1	9.06
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	1.84 J	--	4.23 J	--	0.683 J	--	15.4	8.22
1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	--	0.336 U	--	0.61 J	--	0.144 U	--	1.92 J	1.94 J
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	1.46 J	--	3.82 J	--	1.02 J	--	15.1	7.46
1,2,3,7,8-PENTACHLORODIBENZOFURAN	ng/kg	--	0.271 U	--	0.141 U	--	0.125 U	--	5.06	0.913 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SED DUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	ng/kg	--	0.646 J	--	1.62 J	--	0.225 U	--	6.7	3.64 J
2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	--	2.49 J	--	4.3 J	--	0.246 J	--	14.2	15.4
2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	--	0.28 U	--	0.143 U	--	0.128 U	--	11.9	10.7
2,3,7,8-TCDD	ng/kg	--	0.219 U	--	0.359 J	--	0.16 U	--	1.04	0.818 J
2,3,7,8-TETRACHLORODIBENZOFURAN	ng/kg	--	0.949	--	2.19	--	0.333 J	--	8.55	6.5
HEXACHLORODIBENZOFURAN	ng/kg	--	33.8 J	--	56.7 J	--	2.53 J	--	232	246 J
HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	34 J	--	67.8	--	21.7 J	--	201	134
Octachlorodibenzofuran	ng/kg	--	20.1	--	42.7	--	1.74 J	--	59.7	54.8
OCTACHLORODIBENZO-P-DIOXIN	ng/kg	--	466	--	1110	--	436	--	1820	1750
PENTACHLORO DIBENZOFURAN	ng/kg	--	38.7 J	--	56.1 J	--	0.071 U	--	194 J	153 J
PENTACHLORODIBENSO-P-DIOXIN	ng/kg	--	7.21 J	--	18	--	3.79 J	--	77.6 J	31.2 J
TEQ WHO2005 ND=0	ng/kg	--	2.39	--	5.91	--	0.608	--	23.6	16.6
TETRACHLORODIBENZO-P-DIOXIN	ng/kg	--	3.86	--	9.38 J	--	1.42 J	--	43.9	29.2 J
Total Heptachlorodibenzofuran	ng/kg	--	29.2 J	--	61.4	--	0.134 U	--	117	120
Total Heptachlorodibenzo-p-dioxin	ng/kg	--	136	--	297	--	61.8	--	546	504
Total TCDF	ng/kg	--	21.6 J	--	39 J	--	2.26 J	--	145	99.8 J
Dioxin TEQ for Birds	ng/kg	--	5.34	--	10.1	--	1.13	--	35.2	27.3
Dioxin TEQ for Fish	ng/kg	--	3.34	--	6.46	--	0.819	--	24.4	16.8
Calculated Dioxin/Furan TEQs										
Bird TEQ (Dioxins)	ng/kg	--	2.55	--	6.26	--	0.577	--	35.6	27
Fish TEQ (Dioxins)	ng/kg	--	1.86	--	4.64	--	0.342	--	24.5	16.6
Human TEQ (Dioxins)	ng/kg	--	2.39	--	5.91	--	0.607	--	23.6	16.6
Mammal TEQ (Dioxins)	ng/kg	--	2.39	--	5.91	--	0.607	--	23.6	16.6

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SEDDUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Pesticides										
4,4'-DDD	µg/kg	6.7	5.186 U	12	7.45 U	5.713 U	6.449 U	6.646 U	7.103 U	7.261 U
4,4'-DDE	µg/kg	5.339 U	5.186 U	9.674 U	7.45 U	13 J	6.449 U	6.646 U	7.103 U	7.261 U
4,4'-DDT	µg/kg	5.339 U	5.186 U	6.3 J	7.45 U	5.713 U	6.449 U	6.646 U	7 J	7.261 U
ALDRIN	µg/kg	2.75 U	2.672 U	4.983 U	3.838 U	2.943 U	3.322 U	3.424 U	3.659 U	3.74 U
ALPHA-BHC	µg/kg	2.75 U	2.672 U	4.983 U	3.838 U	2.943 U	3.322 U	3.424 U	3.659 U	3.74 U
ALPHA-CHLORDANE	µg/kg	2.75 U	2.672 U	4.983 U	3.838 U	2.943 U	3.322 U	3.424 U	3.659 U	3.74 U
BETA-BHC	µg/kg	2.75 U	2.672 U	4.983 U	3.838 U	2.943 U	3.322 U	3.424 U	3.659 U	3.74 U
DELTA-BHC	µg/kg	2.75 U	2.672 U	4.983 U	3.838 U	2.943 U	3.322 U	3.424 U	3.659 U	3.74 U
DIELDRIN	µg/kg	5.339 U	5.186 U	9.674 U	7.45 U	5.713 U	6.449 U	6.646 U	7.103 U	7.261 U
ENDOSULFAN I	µg/kg	2.75 U	2.672 U	4.983 U	3.838 U	2.943 U	3.322 U	3.424 U	3.659 U	3.74 U
ENDOSULFAN II	µg/kg	5.339 U	5.186 U	9.674 U	7.45 U	5.713 U	6.449 U	6.646 U	7.103 U	7.261 U
ENDOSULFAN SULFATE	µg/kg	5.339 U	5.186 U	9.674 U	7.45 U	5.713 U	6.449 U	6.646 U	7.103 U	7.261 U
ENDRIN	µg/kg	5.339 U	5.186 U	9.674 U	7.45 U	5.713 U	6.449 U	6.646 U	7.103 U	7.261 U
ENDRIN ALDEHYDE	µg/kg	5.339 U	5.186 U	9.674 U	7.45 U	5.713 U	6.449 U	6.646 U	7.103 U	7.261 U
ENDRIN KETONE	µg/kg	5.339 U	5.186 U	9.674 U	7.45 U	5.713 U	6.449 U	6.646 U	7.103 U	7.261 U
GAMMA-BHC (LINDANE)	µg/kg	2.75 U	2.672 U	4.983 U	3.838 U	2.943 U	3.322 U	3.424 U	3.659 U	3.74 U
GAMMA-CHLORDANE	µg/kg	2.75 U	2.672 U	4.983 U	3.838 U	2.943 U	3.322 U	3.424 U	3.659 U	3.74 U
HEPTACHLOR	µg/kg	2.75 U	2.672 U	4.983 U	3.838 U	2.943 U	3.322 U	3.424 U	3.659 U	3.74 U
HEPTACHLOR EPOXIDE	µg/kg	2.75 U	2.672 U	4.983 U	3.838 U	2.943 U	3.322 U	3.424 U	3.659 U	3.74 U
METHOXYCHLOR	µg/kg	27.502 U	26.717 U	49.834 U	38.38 U	29.432 U	33.223 U	34.237 U	36.591 U	37.404 U
TOXAPHENE	µg/kg	275.022 U	267.17 U	498.339 U	383.805 U	294.321 U	332.226 U	342.374 U	365.906 U	374.037 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SEDDUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Semivolatile Organic Compounds										
1,2,4,5-TETRACHLOROBENZENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
1,4-DIOXANE	µg/kg	110 U	100 U	190 U	150 U	120 U	130 U	130 U	140 U	150 U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
2,3,4,6-TETRACHLOROPHENOL	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
2,4,5-TRICHLOROPHENOL	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
2,4,6-TRICHLOROPHENOL	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
2,4-DICHLOROPHENOL	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
2,4-DIMETHYLPHENOL	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
2,4-DINITROPHENOL	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
2,4-DINITROTOLUENE	µg/kg	280 U	250 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
2,6-DINITROTOLUENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
2-CHLORONAPHTHALENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
2-CHLOROPHENOL	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
2-METHLYPHENOL	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
2-METHYLNAPHTHALENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
2-NITROANILINE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
2-NITROPHENOL	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
3,3`-DICHLOROBENZIDINE	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
3-NITROANILINE	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
4,6-DINITRO-2-METHYLPHENOL	µg/kg	540 U	520 U	960 UJ	740 U	580 U	640 U	670 U	710 U	730 U
4-BROMOPHENYL PHENYL ETHER	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
4-CHLORO-3-METHYLPHENOL	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
4-CHLOROANILINE	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
4-CHLOROPHENYL PHENYL ETHER	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SED DUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
4-METHLYPHENOL	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
4-NITROANILINE	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
4-NITROPHENOL	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
ACENAPHTHENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
ACENAPHTHYLENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
ACETOPHENONE	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
ANTHRACENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	570	370 U	380 U
ATRAZINE	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
BENZALDEHYDE	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
BENZO[A]ANTHRACENE	µg/kg	280 U	270 U	500 U	270 J	300 U	330 U	1500	560	450
BENZO[A]PYRENE	µg/kg	180 J	270 U	350 J	310 J	300 U	330 U	1100	820	590
BENZO[B]FLUORANTHENE	µg/kg	200 J	270 U	450 J	390	300 U	330 U	940	1200	880
BENZO[G,H,I]PERYLENE	µg/kg	280 U	270 U	320 J	250 J	300 U	330 U	630	420	390
BENZO[K]FLUORANTHENE	µg/kg	190 J	270 U	410 J	310 J	300 U	330 U	860	870	540
BENZYL BUTYL PHTHALATE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
BIPHENYL	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
BIS(2-CHLOROETHOXY)METHANE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
BIS(2-CHLOROETHYL) ETHER	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
BIS(2-ETHYLHEXYL) PHTHALATE	µg/kg	180 J	270 U	350 J	440	300 U	330 U	340 U	240 J	1300
CAPROLACTAM	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
CARBAZOLE	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
CHRYSENE	µg/kg	280 U	270 U	320 J	350 J	300 U	330 U	1400	860	570
DIBENZ[A,H]ANTHRACENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
DIBENZOFURAN	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
DIETHYL PHTHALATE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SEDDUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
DIMETHYL PHTHALATE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
DI-N-BUTYL PHTHALATE	µg/kg	280 U	270 U	550	380 U	300 U	330 U	1600	370 U	380 U
DI-N-OCTYL PHTHALATE	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
FLUORANTHENE	µg/kg	320 J	520 U	680 J	740	580 U	640 U	4000	520 J	1100
FLUORENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
HEXACHLOROBENZENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
HEXACHLOROBUTADIENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
HEXACHLOROCYCLOPENTADIENE	µg/kg	540 U	520 UJ	960 U	740 UJ	580 U	640 U	670 UJ	710 UJ	730 U
HEXACHLOROETHANE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
INDENO[1,2,3-CD]PYRENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	550	420	350 J
ISOPHORONE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
NAPHTHALENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
NITROBENZENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
N-NITROSODI-N-PROPYLAMINE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
N-NITROSODIPHENYLAMINE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	340 U	370 U	380 U
PENTACHLOROPHENOL	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
PHENANTHRENE	µg/kg	280 U	270 U	500 U	380 U	300 U	330 U	3200	370 U	470
PHENOL	µg/kg	540 U	520 U	960 U	740 U	580 U	640 U	670 U	710 U	730 U
PYRENE	µg/kg	230 J	270 U	410 J	450	300 U	330 U	3300	400	1000

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SEDDUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds										
1,1,1-TRICHLOROETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,1,2,2-TETRACHLOROETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,1,2-TRICHLOROETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,1-DICHLOROETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,1-DICHLOROETHYLENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,2,3-TRICHLOROBENZENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,2,4-TRICHLOROBENZENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,2-DIBROMOETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,2-DICHLOROBENZENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,2-DICHLOROETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,2-DICHLOROPROPANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,3-DICHLOROBENZENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
1,4-DICHLOROBENZENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
2-BUTANONE	µg/kg	15 U	14 U	27 U	22 U	15 U	18 U	19 U	20 U	20 U
2-HEXANONE	µg/kg	15 U	14 U	27 U	22 U	15 U	18 U	19 U	20 U	20 U
4-METHYL-2-PENTANONE	µg/kg	15 U	14 U	27 U	22 U	15 U	18 U	19 U	20 U	20 U
ACETONE	µg/kg	15 U	14 U	27 U	22 U	15 U	18 U	19 U	20 U	20 U
BENZENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
BROMODICHLOROMETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
BROMOFORM	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
BROMOMETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
CARBON DISULFIDE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SEDDUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
CARBON TETRACHLORIDE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
CHLOROBENZENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
CHLOROBROMOMETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
CHLOROETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
CHLOROFORM	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
CHLOROMETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
CIS-1,2-DICHLOROETHENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
CIS-1,3-DICHLOROPROPYLENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
CYCLOHEXANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
DIBROMOCHLOROMETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
DICHLORODIFLUOROMETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
ETHYLBENZENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
ISOPROPYLBENZENE (CUMENE)	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
m,p-Xylene	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
METHYL ACETATE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
METHYL TERT-BUTYL ETHER	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
METHYLCYLOHEXANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
METHYLENE CHLORIDE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
o-Xylene	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
STYRENE (MONOMER)	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
TETRACHLOROETHYLENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
TOLUENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
TRANS-1,2-DICHLOROETHENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
TRANS-1,3-DICHLOROPROPENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
TRICHLOROETHYLENE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SEDDUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
TRICHLOROFLUOROMETHANE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
VINYL CHLORIDE	µg/kg	7.6 U	7.2 U	14 U	11 U	7.6 U	8.9 U	9.6 U	10 U	10 U
Explosives										
1,3,5-TRINITROBENZENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U	240 U
2,4,6-TRINITROTOLUENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U	240 U
2-AMINO-4,6-DINITROTOLUENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U	240 U
2-NITROTOLUENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U	240 U
3-NITROTOLUENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U	240 U
4-AMINO-2,6-DINITROTOLUENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U	240 U
4-NITROTOLUENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U	240 U
M-DINITROBENZENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U	240 U
OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U	240 U
RDX	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U	240 U
Isotopes										
BISMUTH-212	pci/g	0.531 J	0.439 J	0.97 J	0.712 J	0.845 J	0.668 J	0.881 J	0.982 J	1.07 J
BISMUTH-214	pci/g	0.341 J	0.295 J	0.561 J	0.448 J	0.416 J	0.372 J	0.908 J	0.846 J	0.965 J
CESIUM-137	pci/g	0.0582	0.0477	0.114	0.101	0.0154	--	0.0639	0.0509	0.0521
LEAD-212	pci/g	0.384 J	0.375 J	0.725 J	0.596 J	0.614 J	0.519 J	0.729 J	0.819 J	0.892 J
LEAD-214	pci/g	0.351 J	0.342 J	0.671 J	0.511 J	0.493 J	0.429 J	0.991 J	0.979 J	1.11 J
POTASSIUM-40	pci/g	7.03	6.43	13	10.7	10.1	7.84	9.78	11.5	12.4
RADIUM-228	pci/g	0.428	0.394	0.752	0.642	0.665	0.602	0.843	0.922	0.983
STRONTIUM-90	pci/g	--	--	--	--	--	--	--	--	--
THALLIUM-208	pci/g	0.139 J	0.118 J	0.227 J	0.187 J	0.217 J	0.176 J	0.244 J	0.264 J	0.312 J
URANIUM-235	pci/g	--	--	0.143 J	0.0667 J	--	--	0.144 J	--	0.1 J

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD01		PCSD02		PCSD03		PCSD04		
	Field Sample ID	PCSD01-000005	PCSD01-005020	PCSD02-000005	PCSD02-005020	PCSD03-000005	PCSD03-005020	PCSD04-000005	PCSD04-005020	FE05SED DUP02
	Date Collected	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015	6/18/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Grain Size										
Clay	% by wt	--	8	--	14.9	--	21.2	--	33.7	--
SAND	% by wt	--	80.1	--	41.9	--	51.8	--	41.8	--
SILT	% by wt	--	11.9	--	43.2	--	27.1	--	24.5	--
Miscellaneous Chemistry										
PH	su	7.78	7.04	7.24	7.8	7.79	7.24	7.94	7.76	7.97
TOTAL ORGANIC CARBON	mg/kg	--	13000	--	--	--	17000	--	--	--
SOLIDS, TOTAL	% by wt	--	67.5	--	42.3	--	62.7	--	43.4	43.3

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Metals									
ALUMINUM	mg/kg	14700 J	14000 J	17500	19200	19300	14900	17000	17400
ANTIMONY	mg/kg	11.2 UJ	10.3 UJ	12.1 U	12.6 U	11.4 UJ	13.2 U	13.4 UJ	13.3 U
ARSENIC	mg/kg	22.1 J	21.8 J	15.7	14.3	11.1	13.1	14.5	15.3
BARIUM	mg/kg	76.2 J	69.7 J	71.4	61.9	52.5	57.5	65.9	68.3
BERYLLIUM	mg/kg	1.1	1	1.2	1.2	1.1	1.1 J	1.1 J	1.2
CADMIUM	mg/kg	3.8	2.9	3.6	2.5	1.7	3.7	3.9	4.2
CALCIUM	mg/kg	2640	2350	33400	3120	2960	2900	2940	2860
CHROMIUM	mg/kg	512 J	391 J	200	187	101	128	136	175
CHROMIUM (HEXAVALENT COMPOUNDS)	mg/kg	--	2.18	--	1.14	1.1	--	--	1.21
COBALT	mg/kg	391	342	141	160	71.3	62.9	66.8	97.9
COPPER	mg/kg	149	126	169	98	54.2	158	174	173
CYANIDE	mg/kg	1.4 U	1.2 U	1.3 U	1.4 U	1.3 U	1.5 U	1.5 U	1.4 U
IRON	mg/kg	32100	29200	37300	39200	35000	35500	38100	38000
LEAD	mg/kg	266	226	220 J	145 J	87.9	240 J	268	296 J
MAGNESIUM	mg/kg	4870	4450	5910	6940	6490	5180	5530	5570
MANGANESE	mg/kg	219	193	283	330	302	231	252	259
MERCURY	mg/kg	0.94	1.5	0.93	0.71	0.44	0.66	0.79	0.83
NICKEL	mg/kg	290	212	137	145	68.5	71.1	77.3	97.8
POTASSIUM	mg/kg	3180 J	2730 J	3870	4350	4040	3150	3480	3740
SELENIUM	mg/kg	6.5 UJ	6 UJ	7.1 U	7.4 U	6.7 UJ	7.7 U	7.8 UJ	7.8 U
SILVER	mg/kg	2.9	2.5	3.2	3.2	2.7	3	3.3	3.3
SODIUM	mg/kg	8600	7660	9660 J	9670 J	8620	9390 J	9730	8660 J
THALLIUM	mg/kg	4.7 U	4.3 U	1.4 J	1.4 J	1.5 J	1.7 J	1.8 J	1.9 J
VANADIUM	mg/kg	39	34.3	51.2	49.9	45.1	47.5	51.5	55.6
ZINC	mg/kg	586	443	539	358	215	605	642	684

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Polychlorinated Biphenyls									
AROCLOR-1262	µg/kg	89 U	82 U	87 U	96 U	91 U	110 U	100 U	100 U
AROCLOR-1016	µg/kg	89 U	82 U	87 U	96 U	91 U	110 U	100 U	100 U
AROCLOR-1221	µg/kg	89 U	82 U	87 U	96 U	91 U	110 U	100 U	100 U
AROCLOR-1232	µg/kg	89 U	82 U	87 U	96 U	91 U	110 U	100 U	100 U
AROCLOR-1242	µg/kg	89 U	82 U	87 U	96 U	91 U	110 U	100 U	100 U
AROCLOR-1248	µg/kg	89 U	82 U	87 U	96 U	91 U	110 U	100 U	100 U
AROCLOR-1254	µg/kg	89 U	82 U	87 U	96 U	91 U	110 U	100 U	100 U
AROCLOR-1260	µg/kg	88 J	87 J	120 J	110 J	91 U	100 J	83 J	110 J
AROCLOR-1268	µg/kg	89 U	82 U	87 U	96 U	91 U	110 U	100 U	100 U
TOTAL AROCLORS	µg/kg	88 J	87 J	120 J	110 J	91 U	100 J	100 U	110 J
Polychlorinated Biphenyl Congeners									
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	2630	--	--	2510	2220	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	5050	--	--	4100	3950	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	378	--	--	323	299	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	2890	--	--	2350	2090	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	1760	--	--	1400	1250	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	10500	--	--	8890	7860	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	ng/kg	--	--	49100	--	--	44000	35200	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	976	--	--	830	818	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	1870	--	--	1470	1260	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	850	--	--	656	533	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	6660	--	--	5380	4300	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	502	--	--	429	322	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	11600	--	--	9330	7200	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	2420	--	--	1860	1580	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	1450	--	--	1270	922	--
2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	14500	--	--	12200	9130	--
2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	494	--	--	415	337	--
2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	2240	--	--	1800	1780	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	1450	--	--	1140	1100	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	2430	--	--	2180	1680	--
2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	540	--	--	518	397	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	4900	--	--	4440	3170	--
2,2',3,3',5,6-Hexachlorobiphenyl	ng/kg	--	--	1930	--	--	1680	1370	--
2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	1050	--	--	843	1080	--
2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	4720	--	--	4620	3160	--
2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	4940	--	--	4230	4330	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	3860	--	--	3270	3050	--
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	77.4	--	--	107	85	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	77.6	--	--	75.6	69	--
2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	1540	--	--	1270	1300	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	16000	--	--	14700	11300	--
2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	8620	--	--	6960	5040	--
2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	5540	--	--	5020	4220	--
2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	60.3	--	--	115	109	--
2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	133	--	--	129	96.4	--
2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	64.1	--	--	101	83.7	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	1780	--	--	1610	1220	--
2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	98.6	--	--	184	133	--
2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	209	--	--	292	257	--
2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	1610	--	--	1800	1670	--
2,2',3,4-Tetrachlorobiphenyl	ng/kg	--	--	440	--	--	353	331	--
2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	4440	--	--	4030	3950	--
2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	58.4	--	--	138	94.6	--
2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	16800	--	--	15700	14600	--
2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	139	--	--	249	209	--
2,2',3,5-Tetrachlorobiphenyl	ng/kg	--	--	371	--	--	431	335	--
2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	89.2	--	--	128	116	--
2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	248	--	--	466	323	--
2,2',3-Trichlorobiphenyl	ng/kg	--	--	677	--	--	686	584	--
2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	379	--	--	395	347	--
2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	10100	--	--	8640	8870	--
2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	178	--	--	221	205	--
2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	999	--	--	989	899	--
2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,2',4-Trichlorobiphenyl	ng/kg	--	--	967	--	--	1070	943	--
2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	9690	--	--	9840	9560	--
2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	37.4	--	--	91.2	42.7 U	--
2,2',6-Trichlorobiphenyl	ng/kg	--	--	217	--	--	273	233	--
2,2'-Dichlorobiphenyl	ng/kg	--	--	347	--	--	289	335	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	254	--	--	227	201	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	510	--	--	462	385	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	1820	--	--	1590	1490	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	379	--	--	347	296	--
2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	4050	--	--	3580	2890	--
2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	10800	--	--	8890	9060	--
2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	180	--	--	111	112	--
2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	3260	--	--	2870	2030	--
2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2',3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	196	--	--	147	166	--
2,3,3',4',5-Pentachlorobiphenyl	ng/kg	--	--	1500	--	--	1150	1250	--
2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	3250	--	--	2690	2650	--
2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	273	--	--	276	235	--
2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	1880	--	--	1550	1510	--
2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	467	--	--	331	377	--
2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	347	--	--	294	291	--
2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	25200	--	--	20500	21000	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	1640	--	--	1290	1310	--
2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	6430	--	--	5350	5520	--
2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	60.3	--	--	56.5	56.3	--
2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	66	--	--	68.5	60.9	--
2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	196	--	--	169	167	--
2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	219	--	--	193	196	--
2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	2820	--	--	2650	2500	--
2,3',4-Trichlorobiphenyl	ng/kg	--	--	354	--	--	567	340	--
2,3,4'-Trichlorobiphenyl	ng/kg	--	--	1610	--	--	1650	1380	--
2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	86.4	--	--	95.7	79.6	--
2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	235	--	--	288	229	--
2,3,5-Trichlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2',3,5-Trichlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,3,6-Trichlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,3',6-Trichlorobiphenyl	ng/kg	--	--	178	--	--	214	189	--
2,3'-Dichlorobiphenyl	ng/kg	--	--	191	--	--	203	192	--
2,3-Dichlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2,4',5-Trichlorobiphenyl	ng/kg	--	--	3490	--	--	3420	3090	--
2,4',6-Trichlorobiphenyl	ng/kg	--	--	770	--	--	1290	786	--
2,4'-Dichlorobiphenyl	ng/kg	--	--	919	--	--	798	829	--
2,4-Dichlorobiphenyl	ng/kg	--	--	48.5	--	--	41.5 U	42.7	--
2,5-Dichlorobiphenyl	ng/kg	--	--	53	--	--	51.5	52.7	--
2,6-Dichlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
2-Monochlorobiphenyl	ng/kg	--	--	151	--	--	128	145	--
3 -Monochlorobiphenyl	ng/kg	--	--	45.8	--	--	41.7	46.3	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	158	--	--	108	125	--
3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	1020	--	--	812	887	--
3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	81.3	--	--	110	116	--
3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	151	--	--	121	111	--
3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
3,3',4-Trichlorobiphenyl	ng/kg	--	--	129	--	--	116	106	--
3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
3,3',5-Trichlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
3,3'-Dichlorobiphenyl	ng/kg	--	--	174	--	--	221	184	--
3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	49.9	--	--	41.5 U	44.3	--
3,4,4'-Trichlorobiphenyl	ng/kg	--	--	1980	--	--	1940	1930	--
3,4,5-Trichlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
3,4',5-Trichlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
3,5-Dichlorobiphenyl	ng/kg	--	--	37.3 U	--	--	41.5 U	42.7 U	--
4,4'-DICHLOROBIPHENYL	ng/kg	--	--	1810	--	--	1630	1540	--
4-Monochlorobiphenyl	ng/kg	--	--	194	--	--	162	194	--
BZ#139 & BZ#140	ng/kg	--	--	614	--	--	620	531	--
BZ#153 & BZ#168	ng/kg	--	--	39200	--	--	35200	27300	--
BZ#156 & BZ#157	ng/kg	--	--	5590	--	--	4450	4300	--
Co-elute: PCB#44, PCB#47, PCB#65	ng/kg	--	--	7240	--	--	7430	6850	--
Co-elute: PCB#59, PCB#62, and PCB#75	ng/kg	--	--	536	--	--	563	533	--
Co-elute: PCB#61, PCB#70, PCB#74, and	ng/kg	--	--	14200	--	--	11500	11600	--
Co-elute: PCB#85, PCB#116 and PCB#117	ng/kg	--	--	3700	--	--	3330	3390	--
Co-elute: PCB#90, PCB#101, and PCB#113	ng/kg	--	--	26200	--	--	23000	21900	--
coelute: Tetrachlorobiphenyl; 2,2',3,6/2,2',4,6'	ng/kg	--	--	942	--	--	1470	1000	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	ng/kg	--	--	282	--	--	313	292	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	ng/kg	--	--	4530	--	--	5250	4660	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	ng/kg	--	--	635	--	--	1250	809	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	ng/kg	--	--	1780	--	--	1940	1650	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	ng/kg	--	--	5240	--	--	5370	4900	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	ng/kg	--	--	2060	--	--	1760	1750	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	ng/kg	--	--	672	--	--	1250	652	--
DECACHLOROBIPHENYL	ng/kg	--	--	1840	--	--	1640	1510	--
DICHLOROBIPHENYL: 3,4/ 3,4’	ng/kg	--	--	195	--	--	199	179	--
PCB108 & 0124	ng/kg	--	--	868	--	--	659	744	--
PCB110 & 115	ng/kg	--	--	30700	--	--	26200	25700	--
PCB128 & 166	ng/kg	--	--	6220	--	--	4950	4430	--
PCB135 & 151	ng/kg	--	--	14100	--	--	13500	9800	--
PCB147 & 149	ng/kg	--	--	33200	--	--	31800	24000	--
PCB171 & 173	ng/kg	--	--	3440	--	--	3080	2390	--
PCB180 & 193	ng/kg	--	--	25900	--	--	22700	19800	--
PCB183 & 185	ng/kg	--	--	8630	--	--	7900	5930	--
PCB197 & 200	ng/kg	--	--	944	--	--	758	597	--
PCB198 & 199	ng/kg	--	--	6590	--	--	5080	4610	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
PCB-40/PCB-71	ng/kg	--	--	2640	--	--	2730	2620	--
PCB-86/87/97/108/119/125	ng/kg	--	--	16200	--	--	13200	13700	--
PCB-98/PCB-102	ng/kg	--	--	608	--	--	607	595	--
PENTACHLOROBIPHENYL: 2,2',3,4,6/2,2'3,4',6	ng/kg	--	--	2930	--	--	3280	3150	--
TEQ WHO2005 ND=0 (PCB Congeners)	ng/kg	--	--	17.3	--	--	12	13.7	--
Calculated PCB TEQs and Congener Sum									
Bird TEQ (Dioxin Like PCBs)	ng/kg	--	--	73.8	--	--	53	62.9	--
Fish TEQ (Dioxin Like PCBs)	ng/kg	--	--	1.14	--	--	0.804	0.92	--
Human TEQ (Dioxin Like PCBs)	ng/kg	--	--	17.3	--	--	12	13.7	--
Mammal TEQ (Dioxin Like PCBs)	ng/kg	--	--	17.3	--	--	12	13.7	--
Sum of All PCB Congeners	ng/kg	--	--	572000	--	--	510000	446000	--
High Risk PCB Congeners	ng/kg	--	--	548000	--	--	485000	424000	--
Dioxins/Furans									
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	--	60	--	103	23	--	--	118
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	ng/kg	--	188	--	408	134	--	--	519
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	--	3.5 J	--	5.97	0.22 U	--	--	7.91
1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	--	4.82 J	--	8.46	0.156 U	--	--	11.2
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	2.47 J	--	4.57 J	1.74 J	--	--	8.34
1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	--	4.84	--	10.9	0.146 U	--	--	12.9
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	8.01	--	13.6	4.18 J	--	--	20.3
1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	--	1.35 J	--	0.296 U	0.167 U	--	--	0.338 U
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	6.59	--	11.2	4.75 J	--	--	17.2
1,2,3,7,8-PENTACHLORODIBENZOFURAN	ng/kg	--	0.269 U	--	0.119 U	0.106 U	--	--	5.61

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	ng/kg	--	1.85 J	--	0.121 U	0.158 U	--	--	7.57
2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	--	9.25	--	22.1	0.155 U	--	--	18.1
2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	--	15.1	--	13.3	3.13 J	--	--	12.6
2,3,7,8-TCDD	ng/kg	--	0.518 U	--	0.632 J	0.245 J	--	--	1.04
2,3,7,8-TETRACHLORODIBENZOFURAN	ng/kg	--	3.51	--	5.21	1.45	--	--	6.85
HEXACHLORODIBENZOFURAN	ng/kg	--	158 J	--	376	67.8 J	--	--	287
HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	136 J	--	244	131	--	--	289
Octachlorodibenzofuran	ng/kg	--	129	--	158	32.5	--	--	196
OCTACHLORODIBENZO-P-DIOXIN	ng/kg	--	2610	--	4010	2110	--	--	4610
PENTACHLORO DIBENZOFURAN	ng/kg	--	141 J	--	276 J	59.9 J	--	--	215 J
PENTACHLORODIBENSO-P-DIOXIN	ng/kg	--	22 J	--	49.7	23.9 J	--	--	79.8 J
TEQ WHO2005 ND=0	ng/kg	--	13.8	--	18.6	4.61	--	--	29.9
TETRACHLORODIBENZO-P-DIOXIN	ng/kg	--	17.2	--	35.4	16.7 J	--	--	45.2 J
Total Heptachlorodibenzofuran	ng/kg	--	160	--	259	54.9	--	--	296
Total Heptachlorodibenzo-p-dioxin	ng/kg	--	627	--	1180	448	--	--	1330
Total TCDF	ng/kg	--	96.4 J	--	114 J	29.7 J	--	--	134 J
Dioxin TEQ for Birds	ng/kg	--	24.8	--	30.1	8.41	--	--	36.9
Dioxin TEQ for Fish	ng/kg	--	14.6	--	19.8	5.84	--	--	26.7
Calculated Dioxin/Furan TEQs									
Bird TEQ (Dioxins)	ng/kg	--	24.4	--	26.7	6.01	--	--	37.4
Fish TEQ (Dioxins)	ng/kg	--	14.1	--	16.1	3.42	--	--	26.6
Human TEQ (Dioxins)	ng/kg	--	13.8	--	18.6	4.61	--	--	29.9
Mammal TEQ (Dioxins)	ng/kg	--	13.8	--	18.6	4.61	--	--	29.9

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Pesticides									
4,4'-DDD	µg/kg	8.889 U	8.195 U	8.655 U	9.578 U	9.136 U	10.575 U	10.177 U	10.21 U
4,4'-DDE	µg/kg	8.889 U	35 J	8.655 U	9.578 U	9.136 U	20 J	10.177 U	23 J
4,4'-DDT	µg/kg	8.889 U	8.195 U	8.655 U	9.578 U	9.136 U	10.575 U	10.177 U	10.21 U
ALDRIN	µg/kg	4.579 U	4.222 U	4.459 U	4.934 U	4.707 U	5.448 U	5.243 U	5.26 U
ALPHA-BHC	µg/kg	4.579 U	4.222 U	4.459 U	4.934 U	4.707 U	5.448 U	5.243 U	5.26 U
ALPHA-CHLORDANE	µg/kg	4.579 U	4.222 U	4.459 U	4.934 U	4.707 U	5.448 U	5.243 U	5.26 U
BETA-BHC	µg/kg	4.579 U	4.222 U	4.459 U	4.934 U	4.707 U	5.448 U	5.243 U	5.26 U
DELTA-BHC	µg/kg	4.579 U	4.222 U	4.459 U	4.934 U	4.707 U	5.448 U	5.243 U	5.26 U
DIELDRIN	µg/kg	8.889 U	8.195 U	8.655 U	9.578 U	9.136 U	10.575 U	10.177 U	10.21 U
ENDOSULFAN I	µg/kg	4.579 U	4.222 U	4.459 U	4.934 U	4.707 U	5.448 U	5.243 U	5.26 U
ENDOSULFAN II	µg/kg	8.889 U	8.195 U	8.655 U	9.578 U	9.136 U	10.575 U	10.177 U	10.21 U
ENDOSULFAN SULFATE	µg/kg	8.889 U	8.195 U	8.655 U	9.578 U	9.136 U	10.575 U	10.177 U	10.21 U
ENDRIN	µg/kg	8.889 U	8.195 U	8.655 U	9.578 U	9.136 U	10.575 U	10.177 U	10.21 U
ENDRIN ALDEHYDE	µg/kg	8.889 U	8.195 U	8.655 U	9.578 U	9.136 U	10.575 U	10.177 U	10.21 U
ENDRIN KETONE	µg/kg	8.889 U	8.195 U	8.655 U	9.578 U	9.136 U	10.575 U	10.177 U	10.21 U
GAMMA-BHC (LINDANE)	µg/kg	4.579 U	4.222 U	4.459 U	4.934 U	4.707 U	5.448 U	5.243 U	5.26 U
GAMMA-CHLORDANE	µg/kg	4.579 U	4.222 U	4.459 U	4.934 U	4.707 U	5.448 U	5.243 U	5.26 U
HEPTACHLOR	µg/kg	4.579 U	4.222 U	4.459 U	4.934 U	4.707 U	5.448 U	5.243 U	5.26 U
HEPTACHLOR EPOXIDE	µg/kg	4.579 U	4.222 U	4.459 U	4.934 U	4.707 U	5.448 U	5.243 U	5.26 U
METHOXYCHLOR	µg/kg	45.793 U	42.219 U	44.588 U	49.342 U	47.065 U	54.476 U	52.426 U	52.599 U
TOXAPHENE	µg/kg	457.933 U	422.185 U	445.882 U	493.421 U	470.653 U	544.755 U	524.26 U	525.99 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Semivolatile Organic Compounds									
1,2,4,5-TETRACHLOROBENZENE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
1,4-DIOXANE	µg/kg	180 U	160 U	170 U	190 U	180 U	210 U	200 U	210 U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
2,3,4,6-TETRACHLOROPHENOL	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
2,4,5-TRICHLOROPHENOL	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
2,4,6-TRICHLOROPHENOL	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
2,4-DICHLOROPHENOL	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
2,4-DIMETHYLPHENOL	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
2,4-DINITROPHENOL	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
2,4-DINITROTOLUENE	µg/kg	460 U	420 U	440 U	500 U	250 UJ	540 U	530 U	530 U
2,6-DINITROTOLUENE	µg/kg	460 U	420 U	440 U	500 U	250 U	540 U	530 U	530 U
2-CHLORONAPHTHALENE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
2-CHLOROPHENOL	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
2-METHLYPHENOL	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
2-METHYLNAPHTHALENE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
2-NITROANILINE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
2-NITROPHENOL	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
3,3`-DICHLOROBENZIDINE	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
3-NITROANILINE	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
4,6-DINITRO-2-METHYLPHENOL	µg/kg	890 UJ	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
4-BROMOPHENYL PHENYL ETHER	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
4-CHLORO-3-METHYLPHENOL	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
4-CHLOROANILINE	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
4-CHLOROPHENYL PHENYL ETHER	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
4-METHLYPHENOL	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
4-NITROANILINE	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
4-NITROPHENOL	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
ACENAPHTHENE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
ACENAPHTHYLENE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
ACETOPHENONE	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
ANTHRACENE	µg/kg	320 J	420 U	440 U	500 U	470 U	540 U	530 U	530 U
ATRAZINE	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
BENZALDEHYDE	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
BENZO[A]ANTHRACENE	µg/kg	520	450	360 J	500 U	470 U	540 U	430 J	530 U
BENZO[A]PYRENE	µg/kg	290 J	400 J	400 J	400 J	470 U	370 J	510 J	530 U
BENZO[B]FLUORANTHENE	µg/kg	320 J	420 J	480	520	470 U	510 J	660	530 U
BENZO[G,H,I]PERYLENE	µg/kg	460 U	420 U	380 J	330 J	470 U	390 J	490 J	530 U
BENZO[K]FLUORANTHENE	µg/kg	350 J	350 J	440 J	430 J	470 U	440 J	530	530 U
BENZYL BUTYL PHTHALATE	µg/kg	460 U	330 J	440 U	500 U	470 U	540 U	530 U	280 J
BIPHENYL	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
BIS(2-CHLOROETHOXY)METHANE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
BIS(2-CHLOROETHYL) ETHER	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
BIS(2-ETHYLHEXYL) PHTHALATE	µg/kg	460 U	420 U	390 J	360 J	470 U	600	1200	370 J
CAPROLACTAM	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
CARBAZOLE	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
CHRYSENE	µg/kg	520	520	360 J	500 U	470 U	370 J	500 J	530 U
DIBENZ[A,H]ANTHRACENE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
DIBENZOFURAN	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
DIETHYL PHTHALATE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
DIMETHYL PHTHALATE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
DI-N-BUTYL PHTHALATE	µg/kg	460 U	420	440 U	500 U	470 U	540 U	530 U	530 U
DI-N-OCTYL PHTHALATE	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
FLUORANTHENE	µg/kg	2000	1000 U	790 J	550 J	910 U	760 J	1000	390 J
FLUORENE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
HEXACHLOROBENZENE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
HEXACHLOROBUTADIENE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
HEXACHLOROCYCLOPENTADIENE	µg/kg	890 U	810 U	860 UJ	970 UJ	910 U	1100 UJ	1000 U	1000 UJ
HEXACHLOROETHANE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
INDENO[1,2,3-CD]PYRENE	µg/kg	460 U	420 U	300 J	500 U	470 U	340 J	440 J	530 U
ISOPHORONE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
NAPHTHALENE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
NITROBENZENE	µg/kg	460 U	250 U	440 U	500 U	250 UJ	540 U	530 U	530 U
N-NITROSODI-N-PROPYLAMINE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
N-NITROSODIPHENYLAMINE	µg/kg	460 U	420 U	440 U	500 U	470 U	540 U	530 U	530 U
PENTACHLOROPHENOL	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
PHENANTHRENE	µg/kg	450 J	420 U	310 J	500 U	470 U	540 U	400 J	530 U
PHENOL	µg/kg	890 U	810 U	860 U	970 U	910 U	1100 U	1000 U	1000 U
PYRENE	µg/kg	980	750	640	640	470 U	580	700 J	530 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds									
1,1,1-TRICHLOROETHANE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
1,1,2,2-TETRACHLOROETHANE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
1,1,2-TRICHLOROETHANE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
1,1-DICHLOROETHANE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
1,1-DICHLOROETHYLENE	µg/kg	12 U	12 U	12 U	14 R	--	15 U	14 U	15 U
1,2,3-TRICHLOROBENZENE	µg/kg	12 UJ	12 UJ	12 U	14 U	--	15 U	14 UJ	15 U
1,2,4-TRICHLOROBENZENE	µg/kg	12 UJ	12 UJ	12 U	14 U	--	15 U	14 UJ	15 U
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 UJ	15 U
1,2-DIBROMOETHANE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
1,2-DICHLOROBENZENE	µg/kg	12 UJ	12 UJ	12 U	14 U	--	15 U	14 UJ	15 U
1,2-DICHLOROETHANE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
1,2-DICHLOROPROPANE	µg/kg	12 U	12 U	12 U	14 UJ	--	15 U	14 U	15 U
1,3-DICHLOROBENZENE	µg/kg	12 UJ	12 UJ	12 U	14 U	--	15 U	14 UJ	15 U
1,4-DICHLOROBENZENE	µg/kg	12 UJ	12 UJ	12 U	14 U	--	15 U	14 UJ	15 U
2-BUTANONE	µg/kg	24 U	25 U	25 U	27 U	--	29 U	29 U	31 U
2-HEXANONE	µg/kg	24 U	25 U	25 U	27 U	--	29 U	29 U	31 U
4-METHYL-2-PENTANONE	µg/kg	24 U	25 U	25 U	27 U	--	29 U	29 U	31 U
ACETONE	µg/kg	24 U	25 U	25 U	27 U	--	29 U	29 U	31 U
BENZENE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
BROMODICHLOROMETHANE	µg/kg	12 U	12 U	12 U	14 UJ	--	15 U	14 U	15 U
BROMOFORM	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 UJ	15 U
BROMOMETHANE	µg/kg	12 U	12 U	12 U	14 R	--	15 U	14 U	15 U
CARBON DISULFIDE	µg/kg	12 U	12 U	12 U	14 R	--	15 U	14 U	15 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
CARBON TETRACHLORIDE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
CHLOROBENZENE	µg/kg	12 UJ	12 UJ	12 U	14 U	--	15 U	14 U	15 U
CHLOROBROMOMETHANE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
CHLOROETHANE	µg/kg	12 U	12 U	12 U	14 R	--	15 U	14 U	15 U
CHLOROFORM	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
CHLOROMETHANE	µg/kg	12 U	12 U	12 U	14 R	--	15 U	14 U	15 U
CIS-1,2-DICHLOROETHENE	µg/kg	12 U	12 U	12 U	14 R	--	15 U	14 U	15 U
CIS-1,3-DICHLOROPROPYLENE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
CYCLOHEXANE	µg/kg	12 U	12 U	12 U	14 UJ	--	15 U	14 U	15 U
DIBROMOCHLOROMETHANE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
DICHLORODIFLUOROMETHANE	µg/kg	12 U	12 U	12 U	14 R	--	15 U	14 U	15 U
ETHYLBENZENE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
ISOPROPYLBENZENE (CUMENE)	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
m,p-Xylene	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
METHYL ACETATE	µg/kg	12 U	12 U	12 U	14 U	--	32	14 U	15 U
METHYL TERT-BUTYL ETHER	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
METHYLCYLOHEXANE	µg/kg	12 U	12 U	12 U	14 UJ	--	15 U	14 U	15 U
METHYLENE CHLORIDE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
o-Xylene	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
STYRENE (MONOMER)	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
TETRACHLOROETHYLENE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
TOLUENE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
TRANS-1,2-DICHLOROETHENE	µg/kg	12 U	12 U	12 U	14 R	--	15 U	14 U	15 U
TRANS-1,3-DICHLOROPROPENE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
TRICHLOROETHYLENE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
TRICHLOROFLUOROMETHANE	µg/kg	12 U	12 U	12 U	14 U	--	15 U	14 U	15 U
VINYL CHLORIDE	µg/kg	12 U	12 U	12 U	14 R	--	15 U	14 U	15 U
Explosives									
1,3,5-TRINITROBENZENE	µg/kg	--	250 U	--	250 U	250 U	--	--	250 U
2,4,6-TRINITROTOLUENE	µg/kg	--	250 U	--	250 U	250 U	--	--	250 U
2-AMINO-4,6-DINITROTOLUENE	µg/kg	--	250 U	--	250 U	250 U	--	--	250 U
2-NITROTOLUENE	µg/kg	--	250 U	--	250 U	250 U	--	--	250 U
3-NITROTOLUENE	µg/kg	--	250 U	--	250 U	250 U	--	--	250 U
4-AMINO-2,6-DINITROTOLUENE	µg/kg	--	250 U	--	250 U	250 U	--	--	250 U
4-NITROTOLUENE	µg/kg	--	250 U	--	250 U	250 U	--	--	250 U
M-DINITROBENZENE	µg/kg	--	250 U	--	250 U	250 UJ	--	--	250 U
OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE	µg/kg	--	250 U	--	250 U	250 U	--	--	250 U
RDX	µg/kg	--	250 U	--	250 U	250 U	--	--	250 U
Isotopes									
BISMUTH-212	pci/g	1.21 J	1.29 J	1.19 J	1.51 J	1.41 J	1.32 J	1.13 J	1.26 J
BISMUTH-214	pci/g	0.764 J	0.8 J	0.718 J	0.727 J	0.75 J	0.756 J	0.679 J	0.765 J
CESIUM-137	pci/g	0.467	0.404	0.151	0.129	0.108	0.189	0.2	0.241
LEAD-212	pci/g	1.07 J	1.14 J	1.03 J	1.26 J	1.15 J	0.97 J	0.939 J	1.05 J
LEAD-214	pci/g	0.847 J	0.884 J	0.86 J	0.84 J	0.81 J	0.851 J	0.827 J	0.857 J
POTASSIUM-40	pci/g	15.5	14.5	17.3	18.3	17.8	15.6	15.7	15.4
RADIUM-228	pci/g	1.1	1.11	1.29	1.3	1.26	1.09	1.11	1.22
STRONTIUM-90	pci/g	--	--	--	--	--	--	--	--
THALLIUM-208	pci/g	0.322 J	0.366 J	0.363 J	0.404 J	0.397 J	0.361 J	0.336 J	0.349 J
URANIUM-235	pci/g	0.0809 J	0.0939 J	--	0.0995 J	0.131 J	0.139 J	--	0.101 J

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD05		PCSD06			PCSD07		
	Field Sample ID	PCSD05-000005	PCSD05-005020	PCSD06-000005	PCSD06-005020	FE05SEDDUP03	PCSD07-000005	FE05SEDDUP01	PCSD07-005020
	Date Collected	6/18/2015	6/18/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Duplicate	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Grain Size									
Clay	% by wt	--	34.9	--	51	--	--	--	28.8
SAND	% by wt	--	25.7	--	7.8	--	--	--	14.2
SILT	% by wt	--	39.4	--	41.2	--	--	--	57
Miscellaneous Chemistry									
PH	su	8.06	7.83 H	--	--	--	--	--	--
TOTAL ORGANIC CARBON	mg/kg	--	65000	--	--	--	--	--	--
SOLIDS, TOTAL	% by wt	--	38.6	--	34.5	35.8	--	--	32.8

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Metals									
ALUMINUM	mg/kg	15100	18100	13100	13900	17700	20000	13900	13300
ANTIMONY	mg/kg	13.4 UJ	11.6 UJ	13.4 UJ	12.3 UJ	9.2 UJ	10.2 UJ	12.5 UJ	11.7 UJ
ARSENIC	mg/kg	12.2	14.6	13.5	14.5	11.1	12.8	11.1	11.4
BARIUM	mg/kg	59.8	57.9	56.4	59.6	46.5	51.1	53.8	50.8
BERYLLIUM	mg/kg	1 J	1.1	0.94 J	0.99 J	1	1.2	1 J	0.97 J
CADMIUM	mg/kg	3.7	3.2	3.5	3.6	1.5	1.6	2.9	2.9
CALCIUM	mg/kg	3350	2740	4160	3400	6050	7650	3040	3840
CHROMIUM	mg/kg	116	148	147	178	43.4	50.1	89.8	82.9
CHROMIUM (HEXAVALENT COMPOUNDS)	mg/kg	--	1.16	--	1.14	--	0.88	--	1.18
COBALT	mg/kg	48.1	86	67.5	86.7	7.1 J	7.5 J	33.7	30.4
COPPER	mg/kg	169	114	159	172	56.8	44.8	146	139
CYANIDE	mg/kg	1.5 U	1.3 U	1.4 U	1.4 U	1.1 U	1 J	1.4 U	1.3 U
IRON	mg/kg	36900	37200	33100	35000	33800	39300	34600	32600
LEAD	mg/kg	212	185	235	258	92	60.4	163	167
MAGNESIUM	mg/kg	5400	5920	4690	4980	5560	6930	5230	4620
MANGANESE	mg/kg	238	281	206	228	251	345	205	188
MERCURY	mg/kg	0.82	0.62	0.6	0.63	0.51	0.69	0.76	0.6
NICKEL	mg/kg	66.6	97.4	86.3	115	28.5	30.6	48.8	45.4
POTASSIUM	mg/kg	3180	3950	2740	3010	3410	4180	2850	2570
SELENIUM	mg/kg	7.8 UJ	6.7 UJ	7.8 UJ	7.2 UJ	5.4 UJ	5.9 UJ	7.3 UJ	6.8 UJ
SILVER	mg/kg	3.1	3	2.8	2.9	2.5	3	2.8	2.7
SODIUM	mg/kg	11600	8740	10300	9940	7060	8300	11000	8850
THALLIUM	mg/kg	1.5 J	1.6 J	1.4 J	1.6 J	1.5 J	1.8 J	1.9 J	1.5 J
VANADIUM	mg/kg	42.2	52.7	44.7	46.6	42.3	49.1	39.4	38.4
ZINC	mg/kg	578	441	595	606	296	209	512	475

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Polychlorinated Biphenyls									
AROCLOR-1262	µg/kg	94 U	96 U	100 U	86 U	70 U	75 U	93 U	87 U
AROCLOR-1016	µg/kg	94 U	96 U	100 U	86 U	70 U	75 U	93 U	87 U
AROCLOR-1221	µg/kg	94 U	96 U	100 U	86 U	70 U	75 U	93 U	87 U
AROCLOR-1232	µg/kg	94 U	96 U	100 U	86 U	70 U	75 U	93 U	87 U
AROCLOR-1242	µg/kg	94 U	96 U	100 U	86 U	70 U	75 U	93 U	87 U
AROCLOR-1248	µg/kg	94 U	96 U	100 U	86 U	70 U	75 U	93 U	87 U
AROCLOR-1254	µg/kg	94 U	96 U	100 U	86 U	70 U	75 U	93 U	87 U
AROCLOR-1260	µg/kg	100 J	82 J	140 J	120 J	35 J	34 J	69 J	100
AROCLOR-1268	µg/kg	94 U	96 U	100 U	120 J	70 U	75 U	69 J	87 U
TOTAL AROCLORS	µg/kg	100 J	82 J	140 J	86 U	35 J	34 J	93 U	100 U
Polychlorinated Biphenyl Congeners									
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',3-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,2'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2',3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,3-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,4',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,4-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2,6-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
2-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3 -Monochlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,3',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
3,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
4,4'-DICHLOROBIPHENYL	ng/kg	--	--	--	--	--	--	--	--
4-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--
BZ#139 & BZ#140	ng/kg	--	--	--	--	--	--	--	--
BZ#153 & BZ#168	ng/kg	--	--	--	--	--	--	--	--
BZ#156 & BZ#157	ng/kg	--	--	--	--	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	ng/kg	--	--	--	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	ng/kg	--	--	--	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and	ng/kg	--	--	--	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	ng/kg	--	--	--	--	--	--	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	ng/kg	--	--	--	--	--	--	--	--
coelute: Tetrachlorobiphenyl; 2,2',3,6/2,2',4,6'	ng/kg	--	--	--	--	--	--	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	ng/kg	--	--	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	ng/kg	--	--	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	ng/kg	--	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	ng/kg	--	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	ng/kg	--	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	ng/kg	--	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	ng/kg	--	--	--	--	--	--	--	--
DECACHLOROBIPHENYL	ng/kg	--	--	--	--	--	--	--	--
DICHLOROBIPHENYL: 3,4/ 3,4’	ng/kg	--	--	--	--	--	--	--	--
PCB108 & 0124	ng/kg	--	--	--	--	--	--	--	--
PCB110 & 115	ng/kg	--	--	--	--	--	--	--	--
PCB128 & 166	ng/kg	--	--	--	--	--	--	--	--
PCB135 & 151	ng/kg	--	--	--	--	--	--	--	--
PCB147 & 149	ng/kg	--	--	--	--	--	--	--	--
PCB171 & 173	ng/kg	--	--	--	--	--	--	--	--
PCB180 & 193	ng/kg	--	--	--	--	--	--	--	--
PCB183 & 185	ng/kg	--	--	--	--	--	--	--	--
PCB197 & 200	ng/kg	--	--	--	--	--	--	--	--
PCB198 & 199	ng/kg	--	--	--	--	--	--	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
PCB-40/PCB-71	ng/kg	--	--	--	--	--	--	--	--
PCB-86/87/97/108/119/125	ng/kg	--	--	--	--	--	--	--	--
PCB-98/PCB-102	ng/kg	--	--	--	--	--	--	--	--
PENTACHLOROBIPHENYL: 2,2',3,4,6/2,2'3,4',6	ng/kg	--	--	--	--	--	--	--	--
TEQ WHO2005 ND=0 (PCB Congeners)	ng/kg	--	--	--	--	--	--	--	--
Calculated PCB TEQs and Congener Sum									
Bird TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--	--	--
Sum of All PCB Congeners	ng/kg	--	--	--	--	--	--	--	--
High Risk PCB Congeners	ng/kg	--	--	--	--	--	--	--	--
Dioxins/Furans									
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	--	82.7	--	94.8	--	6.32	--	62.9
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	ng/kg	--	420	--	421	--	54.8	--	288
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	--	5.79	--	6.5	--	0.115 U	--	0.233 U
1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	--	7.57	--	10.3	--	0.12 U	--	6.87
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	5.56	--	6.39	--	1.05 J	--	4.6 J
1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	--	9.3	--	11.6	--	0.119 U	--	8.09
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	15.3	--	16.4	--	1.97 J	--	11.6
1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	--	0.328 UJ	--	0.353 UJ	--	0.337 UJ	--	0.32 U
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	12.6	--	13.4	--	2.65 J	--	9.58
1,2,3,7,8-PENTACHLORODIBENZOFURAN	ng/kg	--	0.105 U	--	5.42	--	0.104 U	--	0.212 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	ng/kg	--	0.187 U	--	5.2	--	0.122 U	--	0.204 U
2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	--	14.3	--	16.7	--	0.13 U	--	10.4
2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	--	9.14	--	13.5	--	1.41 J	--	8.2
2,3,7,8-TCDD	ng/kg	--	0.694 J	--	0.997	--	0.174 J	--	0.73 J
2,3,7,8-TETRACHLORODIBENZOFURAN	ng/kg	--	4.39	--	6.68	--	0.819 J	--	4.98
HEXACHLORODIBENZOFURAN	ng/kg	--	228 J	--	256 J	--	17.6	--	154 J
HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	242	--	239	--	70.9	--	179
Octachlorodibenzofuran	ng/kg	--	140	--	151	--	0.21 U	--	109
OCTACHLORODIBENZO-P-DIOXIN	ng/kg	--	4260	--	3910	--	1140	--	2940
PENTACHLORO DIBENZOFURAN	ng/kg	--	171 J	--	220 J	--	19.6 J	--	130 J
PENTACHLORODIBENSO-P-DIOXIN	ng/kg	--	56.6	--	63.2	--	13.9 J	--	47.1 J
TEQ WHO2005 ND=0	ng/kg	--	16.75	--	24.99	--	2.2	--	13.3
TETRACHLORODIBENZO-P-DIOXIN	ng/kg	--	33	--	34.9	--	10.9	--	27.4
Total Heptachlorodibenzofuran	ng/kg	--	217	--	234	--	14.9	--	158
Total Heptachlorodibenzo-p-dioxin	ng/kg	--	1060	--	1160	--	193	--	822
Total TCDF	ng/kg	--	90.3 J	--	138 J	--	13.2 J	--	91.7 J
Dioxin TEQ for Birds	ng/kg	--	25.6	--	34.6	--	4.09	--	22.6
Dioxin TEQ for Fish	ng/kg	--	17.9	--	22.9	--	2.8	--	13.3
Calculated Dioxin/Furan TEQs									
Bird TEQ (Dioxins)	ng/kg	--	20.8	--	34.4	--	2.97	--	19
Fish TEQ (Dioxins)	ng/kg	--	13.4	--	22.7	--	1.72	--	11.3
Human TEQ (Dioxins)	ng/kg	--	16.7	--	25	--	2.2	--	13.2
Mammal TEQ (Dioxins)	ng/kg	--	16.7	--	25	--	2.2	--	13.2

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Pesticides									
4,4'-DDD	µg/kg	9.397 U	9.642 U	20 J	9.9 J	6.929 U	7.475 U	9.335 U	8.655 U
4,4'-DDE	µg/kg	18 J	11	29 J	18	6.929 U	7.475 U	9.335 U	8.655 U
4,4'-DDT	µg/kg	12 J	9.642 U	15 J	8.2 J	6.929 U	7.475 U	9.335 U	8.655 U
ALDRIN	µg/kg	4.841 U	4.967 U	5.101 U	4.415 U	3.569 U	3.851 U	4.809 U	4.459 U
ALPHA-BHC	µg/kg	4.841 U	4.967 U	5.101 U	4.415 U	3.569 U	3.851 U	4.809 U	4.459 U
ALPHA-CHLORDANE	µg/kg	4.841 U	4.967 U	5.101 U	4.415 U	3.569 U	3.851 U	4.809 U	4.459 U
BETA-BHC	µg/kg	4.841 U	4.967 U	5.101 U	4.415 U	3.569 U	3.851 U	4.809 U	4.459 U
DELTA-BHC	µg/kg	4.841 U	4.967 U	5.101 U	4.415 U	3.569 U	3.851 U	4.809 U	4.459 U
DIELDRIN	µg/kg	9.397 U	9.642 U	9.901 U	8.57 U	6.929 U	7.475 U	9.335 U	8.655 U
ENDOSULFAN I	µg/kg	4.841 U	4.967 U	5.101 U	4.415 U	3.569 U	3.851 U	4.809 U	4.459 U
ENDOSULFAN II	µg/kg	9.397 U	9.642 U	9.901 U	8.57 U	6.929 U	7.475 U	9.335 U	8.655 U
ENDOSULFAN SULFATE	µg/kg	9.397 U	9.642 U	9.901 U	8.57 U	6.929 U	7.475 U	9.335 U	8.655 U
ENDRIN	µg/kg	9.397 U	9.642 U	9.901 U	8.57 U	6.929 U	7.475 U	9.335 U	8.655 U
ENDRIN ALDEHYDE	µg/kg	9.397 U	9.642 U	9.901 U	8.57 U	6.929 U	7.475 U	9.335 U	8.655 U
ENDRIN KETONE	µg/kg	9.397 U	9.642 U	9.901 U	8.57 U	6.929 U	7.475 U	9.335 U	8.655 U
GAMMA-BHC (LINDANE)	µg/kg	4.841 U	4.967 U	5.101 U	4.415 U	3.569 U	3.851 U	4.809 U	4.459 U
GAMMA-CHLORDANE	µg/kg	4.841 U	4.967 U	5.101 U	4.415 U	3.569 U	3.851 U	4.809 U	4.459 U
HEPTACHLOR	µg/kg	4.841 U	4.967 U	5.101 U	4.415 U	3.569 U	3.851 U	4.809 U	4.459 U
HEPTACHLOR EPOXIDE	µg/kg	4.841 U	4.967 U	5.101 U	4.415 U	3.569 U	3.851 U	4.809 U	4.459 U
METHOXYCHLOR	µg/kg	48.41 U	49.669 U	51.005 U	44.148 U	35.694 U	38.508 U	48.091 U	44.588 U
TOXAPHENE	µg/kg	484.101 U	496.689 U	510.051 U	441.482 U	356.943 U	385.08 U	480.905 U	445.882 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Semivolatile Organic Compounds									
1,2,4,5-TETRACHLOROBENZENE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
1,4-DIOXANE	µg/kg	190 U	190 U	200 U	170 UJ	140 U	150 U	190 U	170 U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/kg	930 U	970 U	1000 U	870 UJ	700 U	740 U	940 U	860 U
2,3,4,6-TETRACHLOROPHENOL	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
2,4,5-TRICHLOROPHENOL	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
2,4,6-TRICHLOROPHENOL	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
2,4-DICHLOROPHENOL	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
2,4-DIMETHYLPHENOL	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
2,4-DINITROPHENOL	µg/kg	930 U	970 U	1000 U	870 U	700 U	740 U	940 U	860 U
2,4-DINITROTOLUENE	µg/kg	480 U	500 U	510 U	450 U	360 U	250 U	480 U	250 U
2,6-DINITROTOLUENE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
2-CHLORONAPHTHALENE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
2-CHLOROPHENOL	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
2-METHLYPHENOL	µg/kg	930 U	970 U	1000 U	870 UJ	700 U	740 U	940 U	860 U
2-METHYLNAPHTHALENE	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
2-NITROANILINE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
2-NITROPHENOL	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
3,3`-DICHLOROBENZIDINE	µg/kg	930 U	970 U	1000 U	870 U	700 U	740 U	940 U	860 U
3-NITROANILINE	µg/kg	930 U	970 U	1000 U	870 U	700 U	740 U	940 U	860 U
4,6-DINITRO-2-METHYLPHENOL	µg/kg	930 U	970 U	1000 U	870 U	700 U	740 U	940 U	860 U
4-BROMOPHENYL PHENYL ETHER	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
4-CHLORO-3-METHYLPHENOL	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
4-CHLOROANILINE	µg/kg	930 U	970 U	1000 U	870 UJ	700 U	740 U	940 U	860 U
4-CHLOROPHENYL PHENYL ETHER	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
4-METHLYPHENOL	µg/kg	930 U	970 U	1000 U	870 UJ	700 U	740 U	940 U	860 U
4-NITROANILINE	µg/kg	930 U	970 U	1000 U	870 U	700 U	740 U	940 U	860 U
4-NITROPHENOL	µg/kg	930 U	970 U	1000 U	870 U	700 U	740 U	940 U	860 U
ACENAPHTHENE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
ACENAPHTHYLENE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
ACETOPHENONE	µg/kg	930 U	970 U	1000 U	870 UJ	700 U	740 U	940 U	860 U
ANTHRACENE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
ATRAZINE	µg/kg	930 U	970 U	1000 U	870 U	700 U	740 U	940 U	860 U
BENZALDEHYDE	µg/kg	930 U	970 U	1000 U	870 UJ	700 U	740 U	940 U	860 U
BENZO[A]ANTHRACENE	µg/kg	480 U	500 U	420 J	450 U	360 U	380 U	370 J	380 J
BENZO[A]PYRENE	µg/kg	480 U	500 U	460 J	340 J	360 U	380 U	520	470
BENZO[B]FLUORANTHENE	µg/kg	480 U	500 U	550	440 J	360 U	380 U	680	610
BENZO[G,H,I]PERYLENE	µg/kg	480 U	500 U	460 J	330 J	360 U	380 U	520	440 J
BENZO[K]FLUORANTHENE	µg/kg	480 U	500 U	500 J	320 J	360 U	380 U	470 J	500
BENZYL BUTYL PHTHALATE	µg/kg	270 J	500 U	280 J	450 U	360 U	380 U	480 U	440 U
BIPHENYL	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
BIS(2-CHLOROETHOXY)METHANE	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
BIS(2-CHLOROETHYL) ETHER	µg/kg	930 U	970 U	1000 U	870 UJ	700 U	740 U	940 U	860 U
BIS(2-ETHYLHEXYL) PHTHALATE	µg/kg	480 U	260 J	450 J	790 J	360 U	380 U	510	530
CAPROLACTAM	µg/kg	930 U	970 U	1000 U	870 UJ	700 U	740 U	940 U	480 J
CARBAZOLE	µg/kg	930 U	970 U	1000 U	870 U	700 U	740 U	940 U	860 U
CHRYSENE	µg/kg	480 U	500 U	510 J	340 J	360 U	380 U	520	490
DIBENZ[A,H]ANTHRACENE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
DIBENZOFURAN	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
DIETHYL PHTHALATE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
DIMETHYL PHTHALATE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
DI-N-BUTYL PHTHALATE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
DI-N-OCTYL PHTHALATE	µg/kg	930 U	970 U	1000 U	870 U	700 U	740 U	940 U	860 U
FLUORANTHENE	µg/kg	930 U	970 U	760 J	620 J	300 J	280 J	910 J	840 J
FLUORENE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
HEXACHLOROBENZENE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
HEXACHLOROBUTADIENE	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
HEXACHLOROCYCLOPENTADIENE	µg/kg	930 U	970 U	1000 UJ	870 UJ	700 U	740 U	940 UJ	860 UJ
HEXACHLOROETHANE	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
INDENO[1,2,3-CD]PYRENE	µg/kg	480 U	500 U	340 J	450 U	360 U	380 U	430 J	380 J
ISOPHORONE	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
NAPHTHALENE	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
NITROBENZENE	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
N-NITROSODI-N-PROPYLAMINE	µg/kg	480 U	500 U	510 U	450 UJ	360 U	380 U	480 U	440 U
N-NITROSODIPHENYLAMINE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
PENTACHLOROPHENOL	µg/kg	930 U	970 U	1000 U	870 U	700 U	740 U	940 U	860 U
PHENANTHRENE	µg/kg	480 U	500 U	510 U	450 U	360 U	380 U	480 U	440 U
PHENOL	µg/kg	930 U	970 U	1000 U	870 UJ	700 U	740 U	940 U	860 U
PYRENE	µg/kg	480 U	500 U	700	460	250 J	380 U	660	620

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds									
1,1,1-TRICHLOROETHANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,1,2,2-TETRACHLOROETHANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,1,2-TRICHLOROETHANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,1-DICHLOROETHANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,1-DICHLOROETHYLENE	µg/kg	13 R	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,2,3-TRICHLOROBENZENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,2,4-TRICHLOROBENZENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,2-DIBROMOETHANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,2-DICHLOROBENZENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,2-DICHLOROETHANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,2-DICHLOROPROPANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,3-DICHLOROBENZENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
1,4-DICHLOROBENZENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
2-BUTANONE	µg/kg	27 U	27 U	28 U	26 U	21 U	21 U	26 U	26 U
2-HEXANONE	µg/kg	27 U	27 U	28 U	26 U	21 U	21 U	26 U	26 U
4-METHYL-2-PENTANONE	µg/kg	27 U	27 U	28 U	26 U	21 U	21 U	26 U	26 U
ACETONE	µg/kg	27 U	27 U	28 U	26 U	21 U	21 U	26 U	26 U
BENZENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
BROMODICHLOROMETHANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
BROMOFORM	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
BROMOMETHANE	µg/kg	13 UJ	13 U	14 U	13 U	10 U	11 U	13 U	13 U
CARBON DISULFIDE	µg/kg	13 UJ	13 U	14 U	13 U	10 U	11 U	13 U	13 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
CARBON TETRACHLORIDE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
CHLOROBENZENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
CHLOROBROMOMETHANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
CHLOROETHANE	µg/kg	13 UJ	13 U	14 U	13 U	10 U	11 U	13 U	13 U
CHLOROFORM	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
CHLOROMETHANE	µg/kg	13 UJ	13 U	14 U	13 U	10 U	11 U	13 U	13 U
CIS-1,2-DICHLOROETHENE	µg/kg	13 R	13 U	14 U	13 U	10 U	11 U	13 U	13 U
CIS-1,3-DICHLOROPROPYLENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
CYCLOHEXANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
DIBROMOCHLOROMETHANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
DICHLORODIFLUOROMETHANE	µg/kg	13 UJ	13 U	14 U	13 U	10 U	11 U	13 U	13 U
ETHYLBENZENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
ISOPROPYLBENZENE (CUMENE)	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
m,p-Xylene	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
METHYL ACETATE	µg/kg	130	13 U	46	24	10 U	11 U	13 U	13 U
METHYL TERT-BUTYL ETHER	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
METHYLCYLOHEXANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
METHYLENE CHLORIDE	µg/kg	13 U	13 U	14 U	13 U	10 U	12	13 U	13 U
o-Xylene	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
STYRENE (MONOMER)	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
TETRACHLOROETHYLENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
TOLUENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
TRANS-1,2-DICHLOROETHENE	µg/kg	13 R	13 U	14 U	13 U	10 U	11 U	13 U	13 U
TRANS-1,3-DICHLOROPROPENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
TRICHLOROETHYLENE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
TRICHLOROFLUOROMETHANE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
VINYL CHLORIDE	µg/kg	13 U	13 U	14 U	13 U	10 U	11 U	13 U	13 U
Explosives									
1,3,5-TRINITROBENZENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U
2,4,6-TRINITROTOLUENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U
2-AMINO-4,6-DINITROTOLUENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U
2-NITROTOLUENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U
3-NITROTOLUENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U
4-AMINO-2,6-DINITROTOLUENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U
4-NITROTOLUENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U
M-DINITROBENZENE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U
OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U
RDX	µg/kg	--	250 U	--	250 U	--	250 U	--	250 U
Isotopes									
BISMUTH-212	pci/g	1.13 J	1.58 J	1.11 J	1.12 J	0.956 J	1.54 J	1.01 J	0.977 J
BISMUTH-214	pci/g	0.733 J	0.802 J	0.621 J	0.727 J	0.592 J	0.758 J	0.581 J	0.621 J
CESIUM-137	pci/g	0.155	0.13	0.144	0.187	0.0524	0.0214	0.14	0.131
LEAD-212	pci/g	1 J	1.23 J	0.923 J	0.969 J	0.78 J	1.2 J	0.739 J	0.773 J
LEAD-214	pci/g	0.837 J	0.973 J	0.739 J	0.848 J	0.696 J	0.878 J	0.714 J	0.696 J
POTASSIUM-40	pci/g	15.1	18.8	14.1	15.3	12.3	16.8	14.1	13.1
RADIUM-228	pci/g	1.2	1.38	0.934	1.05	0.838	1.26	0.778	0.863
STRONTIUM-90	pci/g	--	--	--	--	--	--	--	--
THALLIUM-208	pci/g	0.351 J	0.414 J	0.292 J	0.315 J	0.252 J	0.394 J	0.253 J	0.242 J
URANIUM-235	pci/g	0.164 J	--	--	0.1 J	0.141 J	--	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD08		PCSD09		PCSD10		PCSD11	
	Field Sample ID	PCSD08-000005	PCSD08-005020	PCSD09-000005	PCSD09-005020	PCSD10-000005	PCSD10-005020	PCSD11-000005	PCSD11-005020
	Date Collected	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Grain Size									
Clay	% by wt	--	42.7	--	30.8	--	38.3	--	27.6
SAND	% by wt	--	9.1	--	29	--	22.6	--	23.6
SILT	% by wt	--	48.2	--	40.2	--	39.1	--	48.8
Miscellaneous Chemistry									
PH	su	--	--	--	--	--	--	--	--
TOTAL ORGANIC CARBON	mg/kg	--	--	--	--	--	--	--	--
SOLIDS, TOTAL	% by wt	--	34.5	--	34.7	--	45.2	--	33.1

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
Metals			
ALUMINUM	mg/kg	13100	17800
ANTIMONY	mg/kg	10.1 UJ	10.1 UJ
ARSENIC	mg/kg	10.4	13
BARIUM	mg/kg	39.4	40.3
BERYLLIUM	mg/kg	0.79 J	0.88
CADMIUM	mg/kg	1.7	1.4
CALCIUM	mg/kg	2740	2070
CHROMIUM	mg/kg	56.5	38.4
CHROMIUM (HEXAVALENT COMPOUNDS)	mg/kg	--	0.93
COBALT	mg/kg	20.3	4.2 J
COPPER	mg/kg	82.7	43.4
CYANIDE	mg/kg	1 U	1.1 U
IRON	mg/kg	29000	33700
LEAD	mg/kg	96.6	82.4
MAGNESIUM	mg/kg	4300	5600
MANGANESE	mg/kg	192	252
MERCURY	mg/kg	0.67	0.47
NICKEL	mg/kg	30.9	19.9
POTASSIUM	mg/kg	2720	3520
SELENIUM	mg/kg	5.9 UJ	5.9 UJ
SILVER	mg/kg	2.3	2.5
SODIUM	mg/kg	7120	8050
THALLIUM	mg/kg	1.3 J	2 J
VANADIUM	mg/kg	32.8	37.7
ZINC	mg/kg	265	161

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
Polychlorinated Biphenyls			
AROCLOR-1262	µg/kg	78 U	74 U
AROCLOR-1016	µg/kg	78 U	74 U
AROCLOR-1221	µg/kg	78 U	74 U
AROCLOR-1232	µg/kg	78 U	74 U
AROCLOR-1242	µg/kg	78 U	74 U
AROCLOR-1248	µg/kg	78 U	74 U
AROCLOR-1254	µg/kg	78 U	74 U
AROCLOR-1260	µg/kg	67 J	74 U
AROCLOR-1268	µg/kg	78 U	74 U
TOTAL AROCLORS	µg/kg	67 J	74 U
Polychlorinated Biphenyl Congeners			
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	ng/kg	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--
2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--
2,2',3,4-Tetrachlorobiphenyl	ng/kg	--	--
2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--
2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--
2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--
2,2',3,5-Tetrachlorobiphenyl	ng/kg	--	--
2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--
2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--
2,2',3-Trichlorobiphenyl	ng/kg	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--
2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--
2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--
2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--
2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--
2,2',4-Trichlorobiphenyl	ng/kg	--	--
2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--
2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--
2,2',6-Trichlorobiphenyl	ng/kg	--	--
2,2'-Dichlorobiphenyl	ng/kg	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--
2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--
2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--
2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--
2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--
2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--
2',3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--
2,3,3',4',5-Pentachlorobiphenyl	ng/kg	--	--
2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--
2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--
2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--
2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--
2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--
2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--
2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--
2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--
2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--
2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--
2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--
2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--
2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--
2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--
2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--
2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--
2,3',4-Trichlorobiphenyl	ng/kg	--	--
2,3,4'-Trichlorobiphenyl	ng/kg	--	--
2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--
2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--
2,3,5-Trichlorobiphenyl	ng/kg	--	--
2',3,5-Trichlorobiphenyl	ng/kg	--	--
2,3,6-Trichlorobiphenyl	ng/kg	--	--
2,3',6-Trichlorobiphenyl	ng/kg	--	--
2,3'-Dichlorobiphenyl	ng/kg	--	--
2,3-Dichlorobiphenyl	ng/kg	--	--
2,4',5-Trichlorobiphenyl	ng/kg	--	--
2,4',6-Trichlorobiphenyl	ng/kg	--	--
2,4'-Dichlorobiphenyl	ng/kg	--	--
2,4-Dichlorobiphenyl	ng/kg	--	--
2,5-Dichlorobiphenyl	ng/kg	--	--
2,6-Dichlorobiphenyl	ng/kg	--	--
2-Monochlorobiphenyl	ng/kg	--	--
3 -Monochlorobiphenyl	ng/kg	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--
3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--
3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--
3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--
3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--
3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--
3,3',4-Trichlorobiphenyl	ng/kg	--	--
3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--
3,3',5-Trichlorobiphenyl	ng/kg	--	--
3,3'-Dichlorobiphenyl	ng/kg	--	--
3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--
3,4,4'-Trichlorobiphenyl	ng/kg	--	--
3,4,5-Trichlorobiphenyl	ng/kg	--	--
3,4',5-Trichlorobiphenyl	ng/kg	--	--
3,5-Dichlorobiphenyl	ng/kg	--	--
4,4'-DICHLOROBIPHENYL	ng/kg	--	--
4-Monochlorobiphenyl	ng/kg	--	--
BZ#139 & BZ#140	ng/kg	--	--
BZ#153 & BZ#168	ng/kg	--	--
BZ#156 & BZ#157	ng/kg	--	--
Co-elute: PCB#44, PCB#47, PCB#65	ng/kg	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	ng/kg	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and	ng/kg	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	ng/kg	--	--
Co-elute: PCB#90, PCB#101, and PCB#113	ng/kg	--	--
coelute: Tetrachlorobiphenyl; 2,2',3,6/2,2',4,6'	ng/kg	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	ng/kg	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	ng/kg	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	ng/kg	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	ng/kg	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	ng/kg	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	ng/kg	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	ng/kg	--	--
DECACHLOROBIPHENYL	ng/kg	--	--
DICHLOROBIPHENYL: 3,4/ 3,4’	ng/kg	--	--
PCB108 & 0124	ng/kg	--	--
PCB110 & 115	ng/kg	--	--
PCB128 & 166	ng/kg	--	--
PCB135 & 151	ng/kg	--	--
PCB147 & 149	ng/kg	--	--
PCB171 & 173	ng/kg	--	--
PCB180 & 193	ng/kg	--	--
PCB183 & 185	ng/kg	--	--
PCB197 & 200	ng/kg	--	--
PCB198 & 199	ng/kg	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
PCB-40/PCB-71	ng/kg	--	--
PCB-86/87/97/108/119/125	ng/kg	--	--
PCB-98/PCB-102	ng/kg	--	--
PENTACHLOROBIPHENYL: 2,2',3,4,6/2,2'3,4',6	ng/kg	--	--
TEQ WHO2005 ND=0 (PCB Congeners)	ng/kg	--	--
Calculated PCB TEQs and Congener Sum			
Bird TEQ (Dioxin Like PCBs)	ng/kg	--	--
Fish TEQ (Dioxin Like PCBs)	ng/kg	--	--
Human TEQ (Dioxin Like PCBs)	ng/kg	--	--
Mammal TEQ (Dioxin Like PCBs)	ng/kg	--	--
Sum of All PCB Congeners	ng/kg	--	--
High Risk PCB Congeners	ng/kg	--	--
Dioxins/Furans			
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	--	17.8
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	ng/kg	--	69.1
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	--	0.175 U
1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	--	0.134 U
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	1.45 J
1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	--	0.126 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	2.55 J
1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	--	0.207 U
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	3.5 J
1,2,3,7,8-PENTACHLORODIBENZOFURAN	ng/kg	--	0.118 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	ng/kg	--	0.173 U
2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	--	0.15 U
2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	--	1.79 J
2,3,7,8-TCDD	ng/kg	--	0.229 J
2,3,7,8-TETRACHLORODIBENZOFURAN	ng/kg	--	1.4
HEXACHLORODIBENZOFURAN	ng/kg	--	28.8 J
HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	90.8
Octachlorodibenzofuran	ng/kg	--	14
OCTACHLORODIBENZO-P-DIOXIN	ng/kg	--	1660
PENTACHLORO DIBENZOFURAN	ng/kg	--	27.7 J
PENTACHLORODIBENSO-P-DIOXIN	ng/kg	--	19.6
TEQ WHO2005 ND=0	ng/kg	--	3.02
TETRACHLORODIBENZO-P-DIOXIN	ng/kg	--	14.3 J
Total Heptachlorodibenzofuran	ng/kg	--	28.3
Total Heptachlorodibenzo-p-dioxin	ng/kg	--	230
Total TCDF	ng/kg	--	28.9 J
Dioxin TEQ for Birds	ng/kg	--	5.99
Dioxin TEQ for Fish	ng/kg	--	4.25
Calculated Dioxin/Furan TEQs			
Bird TEQ (Dioxins)	ng/kg	--	4.28
Fish TEQ (Dioxins)	ng/kg	--	2.39
Human TEQ (Dioxins)	ng/kg	--	3.03
Mammal TEQ (Dioxins)	ng/kg	--	3.03

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
Pesticides			
4,4'-DDD	µg/kg	7.779 U	7.475 U
4,4'-DDE	µg/kg	7.779 U	7.475 U
4,4'-DDT	µg/kg	7.779 U	7.475 U
ALDRIN	µg/kg	4.008 U	3.851 U
ALPHA-BHC	µg/kg	4.008 U	3.851 U
ALPHA-CHLORDANE	µg/kg	4.008 U	3.851 U
BETA-BHC	µg/kg	4.008 U	3.851 U
DELTA-BHC	µg/kg	4.008 U	3.851 U
DIELDRIN	µg/kg	7.779 U	7.475 U
ENDOSULFAN I	µg/kg	4.008 U	3.851 U
ENDOSULFAN II	µg/kg	7.779 U	7.475 U
ENDOSULFAN SULFATE	µg/kg	7.779 U	7.475 U
ENDRIN	µg/kg	7.779 U	7.475 U
ENDRIN ALDEHYDE	µg/kg	7.779 U	7.475 U
ENDRIN KETONE	µg/kg	7.779 U	7.475 U
GAMMA-BHC (LINDANE)	µg/kg	4.008 U	3.851 U
GAMMA-CHLORDANE	µg/kg	4.008 U	3.851 U
HEPTACHLOR	µg/kg	4.008 U	3.851 U
HEPTACHLOR EPOXIDE	µg/kg	4.008 U	3.851 U
METHOXYCHLOR	µg/kg	40.075 U	38.508 U
TOXAPHENE	µg/kg	400.754 U	385.08 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
Semivolatile Organic Compounds			
1,2,4,5-TETRACHLOROBENZENE	µg/kg	400 U	380 U
1,4-DIOXANE	µg/kg	160 U	150 U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/kg	780 U	740 U
2,3,4,6-TETRACHLOROPHENOL	µg/kg	400 U	380 U
2,4,5-TRICHLOROPHENOL	µg/kg	400 U	380 U
2,4,6-TRICHLOROPHENOL	µg/kg	400 U	380 U
2,4-DICHLOROPHENOL	µg/kg	400 U	380 U
2,4-DIMETHYLPHENOL	µg/kg	400 U	380 U
2,4-DINITROPHENOL	µg/kg	780 U	740 U
2,4-DINITROTOLUENE	µg/kg	400 U	240 U
2,6-DINITROTOLUENE	µg/kg	400 U	240 U
2-CHLORONAPHTHALENE	µg/kg	400 U	380 U
2-CHLOROPHENOL	µg/kg	400 U	380 U
2-METHLYPHENOL	µg/kg	780 U	740 U
2-METHYLNAPHTHALENE	µg/kg	400 U	380 U
2-NITROANILINE	µg/kg	400 U	380 U
2-NITROPHENOL	µg/kg	400 U	380 U
3,3`-DICHLOROBENZIDINE	µg/kg	780 U	740 U
3-NITROANILINE	µg/kg	780 U	740 U
4,6-DINITRO-2-METHYLPHENOL	µg/kg	780 U	740 U
4-BROMOPHENYL PHENYL ETHER	µg/kg	400 U	380 U
4-CHLORO-3-METHYLPHENOL	µg/kg	400 U	380 U
4-CHLOROANILINE	µg/kg	780 U	740 U
4-CHLOROPHENYL PHENYL ETHER	µg/kg	400 U	380 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
4-METHLYPHENOL	µg/kg	780 U	740 U
4-NITROANILINE	µg/kg	780 U	740 U
4-NITROPHENOL	µg/kg	780 U	740 U
ACENAPHTHENE	µg/kg	400 U	380 U
ACENAPHTHYLENE	µg/kg	400 U	380 U
ACETOPHENONE	µg/kg	780 U	740 U
ANTHRACENE	µg/kg	400 U	380 U
ATRAZINE	µg/kg	780 U	740 U
BENZALDEHYDE	µg/kg	780 U	740 U
BENZO[A]ANTHRACENE	µg/kg	400 U	380 U
BENZO[A]PYRENE	µg/kg	280 J	380 U
BENZO[B]FLUORANTHENE	µg/kg	340 J	380 U
BENZO[G,H,I]PERYLENE	µg/kg	260 NJ	380 U
BENZO[K]FLUORANTHENE	µg/kg	310 J	380 U
BENZYL BUTYL PHTHALATE	µg/kg	400 U	380 U
BIPHENYL	µg/kg	400 U	380 U
BIS(2-CHLOROETHOXY)METHANE	µg/kg	400 U	380 U
BIS(2-CHLOROETHYL) ETHER	µg/kg	780 U	740 U
BIS(2-ETHYLHEXYL) PHTHALATE	µg/kg	260 J	380 U
CAPROLACTAM	µg/kg	780 U	740 U
CARBAZOLE	µg/kg	780 U	740 U
CHRYSENE	µg/kg	270 J	380 U
DIBENZ[A,H]ANTHRACENE	µg/kg	400 U	380 U
DIBENZOFURAN	µg/kg	400 U	380 U
DIETHYL PHTHALATE	µg/kg	400 U	380 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
DIMETHYL PHTHALATE	µg/kg	400 U	380 U
DI-N-BUTYL PHTHALATE	µg/kg	400 U	380 U
DI-N-OCTYL PHTHALATE	µg/kg	780 U	740 U
FLUORANTHENE	µg/kg	420 J	740 U
FLUORENE	µg/kg	400 U	380 U
HEXACHLOROBENZENE	µg/kg	400 U	380 U
HEXACHLOROBUTADIENE	µg/kg	400 U	380 U
HEXACHLOROCYCLOPENTADIENE	µg/kg	780 UJ	740 U
HEXACHLOROETHANE	µg/kg	400 U	380 U
INDENO[1,2,3-CD]PYRENE	µg/kg	400 U	380 U
ISOPHORONE	µg/kg	400 U	380 U
NAPHTHALENE	µg/kg	400 U	380 U
NITROBENZENE	µg/kg	400 U	380 U
N-NITROSODI-N-PROPYLAMINE	µg/kg	400 U	380 U
N-NITROSODIPHENYLAMINE	µg/kg	400 U	380 U
PENTACHLOROPHENOL	µg/kg	780 U	740 U
PHENANTHRENE	µg/kg	400 U	380 U
PHENOL	µg/kg	780 U	740 U
PYRENE	µg/kg	370 J	380 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
Volatile Organic Compounds			
1,1,1-TRICHLOROETHANE	µg/kg	11 U	11 U
1,1,2,2-TETRACHLOROETHANE	µg/kg	11 U	11 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	µg/kg	11 U	11 U
1,1,2-TRICHLOROETHANE	µg/kg	11 U	11 U
1,1-DICHLOROETHANE	µg/kg	11 U	11 U
1,1-DICHLOROETHYLENE	µg/kg	11 U	11 U
1,2,3-TRICHLOROBENZENE	µg/kg	11 U	11 U
1,2,4-TRICHLOROBENZENE	µg/kg	11 U	11 U
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	µg/kg	11 U	11 U
1,2-DIBROMOETHANE	µg/kg	11 U	11 U
1,2-DICHLOROBENZENE	µg/kg	11 U	11 U
1,2-DICHLOROETHANE	µg/kg	11 U	11 U
1,2-DICHLOROPROPANE	µg/kg	11 U	11 U
1,3-DICHLOROBENZENE	µg/kg	11 U	11 U
1,4-DICHLOROBENZENE	µg/kg	11 U	11 U
2-BUTANONE	µg/kg	23 U	21 U
2-HEXANONE	µg/kg	23 U	21 U
4-METHYL-2-PENTANONE	µg/kg	23 U	21 U
ACETONE	µg/kg	23 U	21 U
BENZENE	µg/kg	11 U	11 U
BROMODICHLOROMETHANE	µg/kg	11 U	11 U
BROMOFORM	µg/kg	11 U	11 U
BROMOMETHANE	µg/kg	11 U	11 U
CARBON DISULFIDE	µg/kg	11 U	11 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
CARBON TETRACHLORIDE	µg/kg	11 U	11 U
CHLOROBENZENE	µg/kg	11 U	11 U
CHLOROBROMOMETHANE	µg/kg	11 U	11 U
CHLOROETHANE	µg/kg	11 U	11 U
CHLOROFORM	µg/kg	11 U	11 U
CHLOROMETHANE	µg/kg	11 U	11 U
CIS-1,2-DICHLOROETHENE	µg/kg	11 U	11 U
CIS-1,3-DICHLOROPROPYLENE	µg/kg	11 U	11 U
CYCLOHEXANE	µg/kg	11 U	11 U
DIBROMOCHLOROMETHANE	µg/kg	11 U	11 U
DICHLORODIFLUOROMETHANE	µg/kg	11 U	11 U
ETHYLBENZENE	µg/kg	11 U	11 U
ISOPROPYLBENZENE (CUMENE)	µg/kg	11 U	11 U
m,p-Xylene	µg/kg	11 U	11 U
METHYL ACETATE	µg/kg	11 U	27
METHYL TERT-BUTYL ETHER	µg/kg	11 U	11 U
METHYLCYLOHEXANE	µg/kg	11 U	11 U
METHYLENE CHLORIDE	µg/kg	11 U	11 U
o-Xylene	µg/kg	11 U	11 U
STYRENE (MONOMER)	µg/kg	11 U	11 U
TETRACHLOROETHYLENE	µg/kg	11 U	11 U
TOLUENE	µg/kg	11 U	11 U
TRANS-1,2-DICHLOROETHENE	µg/kg	11 U	11 U
TRANS-1,3-DICHLOROPROPENE	µg/kg	11 U	11 U
TRICHLOROETHYLENE	µg/kg	11 U	11 U

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
TRICHLOROFLUOROMETHANE	µg/kg	11 U	11 U
VINYL CHLORIDE	µg/kg	11 U	11 U
Explosives			
1,3,5-TRINITROBENZENE	µg/kg	--	240 U
2,4,6-TRINITROTOLUENE	µg/kg	--	240 U
2-AMINO-4,6-DINITROTOLUENE	µg/kg	--	240 U
2-NITROTOLUENE	µg/kg	--	240 U
3-NITROTOLUENE	µg/kg	--	240 U
4-AMINO-2,6-DINITROTOLUENE	µg/kg	--	240 U
4-NITROTOLUENE	µg/kg	--	240 U
M-DINITROBENZENE	µg/kg	--	240 U
OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE	µg/kg	--	240 U
RDX	µg/kg	--	240 U
Isotopes			
BISMUTH-212	pci/g	1.13 J	1.39 J
BISMUTH-214	pci/g	0.594 J	0.618 J
CESIUM-137	pci/g	0.0672	--
LEAD-212	pci/g	0.938 J	1.06 J
LEAD-214	pci/g	0.749 J	0.771 J
POTASSIUM-40	pci/g	14.7	16.6
RADIUM-228	pci/g	0.987	1.17
STRONTIUM-90	pci/g	--	--
THALLIUM-208	pci/g	0.286 J	0.36 J
URANIUM-235	pci/g	--	--

Table A.3
Paradise Creek Sediment Analytical Data

Analyte	Location ID	PCSD12	
	Field Sample ID	PCSD12-000005	PCSD12-005020
	Date Collected	6/19/2015	6/19/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal
	Units	Result	Result
Grain Size			
Clay	% by wt	--	48.7
SAND	% by wt	--	12
SILT	% by wt	--	39.3
Miscellaneous Chemistry			
PH	su	7.69 H	--
TOTAL ORGANIC CARBON	mg/kg	--	--
SOLIDS, TOTAL	% by wt	--	42.6

Note: 2,4-dinitrotoluene, 2,6-dinitrotoluene, and nitrobenzene were analyzed under SVOCs and explosives. Both results for each compound have been provided.

µg/kg = micrograms per kilograms
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
pci/g = picocuries per gram
% by wt = percent by weight
su = standard pH unit
ID = idnetification
ft = feet
bgs = below ground surface
-- = not analyzed, not provided, not calculated
J = positive detect; value estimated
J- = positive detect; value estimated and biased low
U = not detected; value shown equals the reporting limit
UJ = not detected; value shown equals the estimated reporting limit
NJ = Tentatively identified compound
PCB = polychlorinated biphenyls
TCDF = Tetrachlorodibenzofuran
TCDD = Tetrachlorodibenzodioxin
TEQ = Toxic Equivalent
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
BHC = hexachlorocyclohexane

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Metals									
ALUMINUM	mg/kg	17700 J	21800 J	25600	19400	19400 J	15300 J	21100	19100
ANTIMONY	mg/kg	0.96 J-	0.79 J-	13.9 U	10.6 U	13.9 UJ	15.1 UJ	12.8 U	12.3 U
ARSENIC	mg/kg	18.7 J	16.9 J	9.8	7.8	17.1 J	18.7 J	15.4	12.2
BARIUM	mg/kg	43.1 J	47.1 J	68.7	43.1	52.3 J	46.1 J	58.5	46.3
BERYLLIUM	mg/kg	1.1	1.3	1.1 J	0.91	1.3	1.1 J	1.1 J	1.2
CADMIUM	mg/kg	2.6	2.3	0.8 J	0.88 J	1.8	2	1.3	1.3
CALCIUM	mg/kg	2720	2490	2150	1880	2340	2310	2230	2270
CHROMIUM	mg/kg	112 J	100 J	60	34.4	126 J	240 J	56.3	39.2
CHROMIUM (HEXAVALENT COMPOUNDS)	mg/kg	--	--	--	--	--	--	--	1.17
COBALT	mg/kg	69	87	53.9	2.9 J	62.5	191	34.2	5.4 J
COPPER	mg/kg	116	79.2	47.4	15.7	102	128	45.7	26.3
CYANIDE	mg/kg	0.49 U	0.49 U	1.5 U	1.2 U	1.5 U	1.5 U	1.5 U	1.4 U
IRON	mg/kg	36300	38100	28900	29800	40200	37000	34900	35900
LEAD	mg/kg	256	148	69.5 J	278 J	198	235	76.8 J	53.5 J
MAGNESIUM	mg/kg	5740	6650	7820	5830	6600	5240	7310	6390
MANGANESE	mg/kg	217	279	200	215	329	298	201	237
MERCURY	mg/kg	0.92	1.2	0.78	0.073 J	0.71	0.78	1.3	0.35
NICKEL	mg/kg	70.9	84	55.6	18.3	58.5	130	41	24.5
POTASSIUM	mg/kg	3330 J	4040 J	5710	3850	4080 J	3300 J	4770	3880
SELENIUM	mg/kg	3.2 UJ	3.1 UJ	8.1 U	6.2 U	8.1 UJ	8.8 UJ	7.5 U	7.2 U
SILVER	mg/kg	3	3.1	2.2 J	2.2	3.1	3	2.7	2.7
SODIUM	mg/kg	14400	11200	11700 J	9370 J	11200	11600	12700 J	11100 J
THALLIUM	mg/kg	1.6 J	1.3 J	5.8 U	4.4 U	2.2 J	1.6 J	5.3 U	5.1 U
VANADIUM	mg/kg	63	55.9	58.6	41.7	59.9	56.4	52.6	42.8
ZINC	mg/kg	388	266	105	71.8	269	318	179	169

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Polychlorinated Biphenyls									
AROCLOR-1262	ug/kg	130 UJ	96 U	150 UJ	110 U	130 UJ	96 U	110 U	91 U
AROCLOR-1016	ug/kg	130 UJ	96 U	150 UJ	110 U	130 UJ	96 U	110 U	91 U
AROCLOR-1221	ug/kg	130 UJ	96 U	150 UJ	110 U	130 UJ	96 U	110 U	91 U
AROCLOR-1232	ug/kg	130 UJ	96 U	150 UJ	110 U	130 UJ	96 U	110 U	91 U
AROCLOR-1242	ug/kg	130 UJ	96 U	150 UJ	110 U	130 UJ	96 U	110 U	91 U
AROCLOR-1248	ug/kg	130 UJ	96 U	150 UJ	110 U	130 UJ	96 U	110 U	91 U
AROCLOR-1254	ug/kg	130 UJ	96 U	150 UJ	110 U	130 UJ	96 U	110 U	91 U
AROCLOR-1260	ug/kg	49 J	96 U	150 UJ	110 U	38 J	32 J	110 U	91 U
AROCLOR-1268	ug/kg	130 UJ	96 U	150 UJ	110 U	130 UJ	96 U	110 U	91 U
TEQ WHO2005 ND=0 (PCB Congeners)	ng/kg	9	--	--	--	--	--	--	--
Total Aroclor	ug/kg	130	96 U	150 UJ	110 U	130	96 U	110 U	91 U
Polychlorinated Biphenyl Congeners									
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	1050	--	--	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	1820	--	--	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	174	--	--	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	963	--	--	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	629	--	--	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	3520	--	--	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	ng/kg	15600	--	--	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	407	--	--	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	608	--	--	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	269	--	--	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	2140	--	--	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	143	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	3510	--	--	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	852	--	--	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	370	--	--	--	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	3980	--	--	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	134	--	--	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	ng/kg	732	--	--	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	585	--	--	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	815	--	--	--	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	183	--	--	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	1320	--	--	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	ng/kg	615	--	--	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	ng/kg	387	--	--	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	983	--	--	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	ng/kg	1250	--	--	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	1400	--	--	--	--	--	--	--
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	37	--	--	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	36.9	--	--	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	544	--	--	--	--	--	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	4950	--	--	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	2030	--	--	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	1640	--	--	--	--	--	--	--
2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	451	--	--	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	139	--	--	--	--	--	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	69.4	--	--	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	ng/kg	409	--	--	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	ng/kg	78.4	--	--	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	1370	--	--	--	--	--	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	ng/kg	4150	--	--	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	37.7	--	--	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	ng/kg	94.6	--	--	--	--	--	--	--
2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	ng/kg	70.6	--	--	--	--	--	--	--
2,2',3-Trichlorobiphenyl	ng/kg	143	--	--	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	132	--	--	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	ng/kg	3210	--	--	--	--	--	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	ng/kg	51.2	--	--	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	ng/kg	199	--	--	--	--	--	--	--
2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,2',4-Trichlorobiphenyl	ng/kg	185	--	--	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	ng/kg	2680	--	--	--	--	--	--	--
2,2',6,6'-Tetrachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,2',6-Trichlorobiphenyl	ng/kg	64.2	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
2,2'-Dichlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	85.9	--	--	--	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	172	--	--	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	586	--	--	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	119	--	--	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	1180	--	--	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	3480	--	--	--	--	--	--	--
2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	110	--	--	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	41.5	--	--	--	--	--	--	--
2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	972	--	--	--	--	--	--	--
2,3,3',4,5-Pentachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	ng/kg	57.8	--	--	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	ng/kg	471	--	--	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	ng/kg	900	--	--	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	ng/kg	71.7	--	--	--	--	--	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3,3',5,6-Pentachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3,3',5'-Tetrachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3,3',5-Tetrachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	634	--	--	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	ng/kg	110	--	--	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	ng/kg	156	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
2,3',4,4',5-Pentachlorobiphenyl	ng/kg	7620	--	--	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	ng/kg	421	--	--	--	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	ng/kg	2010	--	--	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	40.3	--	--	--	--	--	--	--
2,3',4,5',6-Pentachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3',4,5'-Tetrachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	ng/kg	48.6	--	--	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	ng/kg	79.7	--	--	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	ng/kg	764	--	--	--	--	--	--	--
2,3',4-Trichlorobiphenyl	ng/kg	104	--	--	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	ng/kg	405	--	--	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	ng/kg	47.4	--	--	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	ng/kg	79.2	--	--	--	--	--	--	--
2,3,5-Trichlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2',3,5-Trichlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3,6-Trichlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,3',6-Trichlorobiphenyl	ng/kg	49.1	--	--	--	--	--	--	--
2,3'-Dichlorobiphenyl	ng/kg	63.7	--	--	--	--	--	--	--
2,3-Dichlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,4',5-Trichlorobiphenyl	ng/kg	875	--	--	--	--	--	--	--
2,4',6-Trichlorobiphenyl	ng/kg	214	--	--	--	--	--	--	--
2,4'-Dichlorobiphenyl	ng/kg	269	--	--	--	--	--	--	--
2,4-Dichlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,5-Dichlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2,6-Dichlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
2-Monochlorobiphenyl	ng/kg	132	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
3 -Monochlorobiphenyl	ng/kg	58	--	--	--	--	--	--	--
3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	ng/kg	85.2	--	--	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	ng/kg	390	--	--	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	32.5	--	--	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	ng/kg	77.1	--	--	--	--	--	--	--
3,3',4,5-Tetrachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
3,3',4-Trichlorobiphenyl	ng/kg	46.5	--	--	--	--	--	--	--
3,3',5,5'-Tetrachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
3,3',5-Trichlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
3,3'-Dichlorobiphenyl	ng/kg	331	--	--	--	--	--	--	--
3,4,4',5-Tetrachlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	ng/kg	829	--	--	--	--	--	--	--
3,4,5-Trichlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
3,4',5-Trichlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
3,5-Dichlorobiphenyl	ng/kg	26.7 U	--	--	--	--	--	--	--
4,4'-DICHLOROBIPHENYL	ng/kg	816	--	--	--	--	--	--	--
4-Monochlorobiphenyl	ng/kg	152	--	--	--	--	--	--	--
BZ#139 & BZ#140	ng/kg	183	--	--	--	--	--	--	--
BZ#153 & BZ#168	ng/kg	11700	--	--	--	--	--	--	--
BZ#156 & BZ#157	ng/kg	1630	--	--	--	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	ng/kg	1780	--	--	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	ng/kg	164	--	--	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	ng/kg	3500	--	--	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	ng/kg	1170	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Co-elute: PCB#90, PCB#101, and PCB#113	ng/kg	7450	--	--	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	ng/kg	245	--	--	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	ng/kg	100	--	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	ng/kg	1130	--	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	ng/kg	172	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	ng/kg	319	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	ng/kg	1680	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	ng/kg	464	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	ng/kg	191	--	--	--	--	--	--	--
DECACHLOROBIPHENYL	ng/kg	1500	--	--	--	--	--	--	--
DICHLOROBIPHENYL: 3,4/ 3,4'	ng/kg	53.4 U	--	--	--	--	--	--	--
PCB108 & 0124	ng/kg	262	--	--	--	--	--	--	--
PCB110 & 115	ng/kg	10100	--	--	--	--	--	--	--
PCB128 & 166	ng/kg	2250	--	--	--	--	--	--	--
PCB135 & 151	ng/kg	3560	--	--	--	--	--	--	--
PCB147 & 149	ng/kg	9240	--	--	--	--	--	--	--
PCB171 & 173	ng/kg	1090	--	--	--	--	--	--	--
PCB180 & 193	ng/kg	8090	--	--	--	--	--	--	--
PCB183 & 185	ng/kg	2540	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
PCB197 & 200	ng/kg	313	--	--	--	--	--	--	--
PCB198 & 199	ng/kg	2340	--	--	--	--	--	--	--
PCB-40/PCB-71	ng/kg	739	--	--	--	--	--	--	--
PCB-86/87/97/108/119/125	ng/kg	4810	--	--	--	--	--	--	--
PCB-98/PCB-102	ng/kg	206	--	--	--	--	--	--	--
PENTACHLOROBIPHENYL:2,2',3,4,6/2,2'3,4',6	ng/kg	784	--	--	--	--	--	--	--
Calculated PCB TEQs and Total PCBs									
Bird TEQ (Dioxin Like PCBs)	ng/kg	28.6	--	--	--	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	ng/kg	0.534	--	--	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	ng/kg	8.97	--	--	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	ng/kg	8.97	--	--	--	--	--	--	--
High Risk PCB Congeners	ng/kg	165000	--	--	--	--	--	--	--
Sum of All PCB Congeners	ng/kg	172000	--	--	--	--	--	--	--
Dioxins/Furans									
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	--	--	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	--	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--	--	--
1,2,3,7,8-PENTACHLORODIBENZOFURAN	ng/kg	--	--	--	--	--	--	--	--
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	--	--	--	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--	--	--
2,3,7,8-TETRACHLORODIBENZOFURAN	ng/kg	--	--	--	--	--	--	--	--
HEXACHLORODIBENZOFURAN	ng/kg	--	--	--	--	--	--	--	--
HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--	--	--
Octachlorodibenzofuran	ng/kg	--	--	--	--	--	--	--	--
OCTACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--	--	--
PENTACHLORO DIBENZOFURAN	ng/kg	--	--	--	--	--	--	--	--
PENTACHLORODIBENSO-P-DIOXIN	ng/kg	--	--	--	--	--	--	--	--
TEQ WHO2005 ND=0	ng/kg	--	--	--	--	--	--	--	--
TETRACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--	--	--
Total Heptachlorodibenzofuran	ng/kg	--	--	--	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin	ng/kg	--	--	--	--	--	--	--	--
Total TCDF	ng/kg	--	--	--	--	--	--	--	--
Dioxin TEQ for Birds	ng/kg	--	--	--	--	--	--	--	--
Dioxin TEQ for Fish	ng/kg	--	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Calculated Dioxin/Furan TEQs									
Bird TEQ (Dioxins)	ng/kg	--	--	--	--	--	--	--	--
Fish TEQ (Dioxins)	ng/kg	--	--	--	--	--	--	--	--
Human TEQ (Dioxins)	ng/kg	--	--	--	--	--	--	--	--
Mammal TEQ (Dioxins)	ng/kg	--	--	--	--	--	--	--	--
Pesticides									
4,4'-DDD	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U	10.505 U	9.106 U
4,4'-DDE	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U	10.505 U	9.106 U
4,4'-DDT	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U	10.505 U	9.106 U
ALDRIN	µg/kg	6.474 U	4.983 U	7.651 UJ	5.466 U	6.755 UJ	4.95 U	5.412 U	4.691 U
ALPHA-BHC	µg/kg	6.474 U	4.983 U	7.651 UJ	5.466 U	6.755 UJ	4.95 U	5.412 U	4.691 U
ALPHA-CHLORDANE	µg/kg	6.474 U	4.983 U	7.651 UJ	5.466 U	6.755 UJ	4.95 U	5.412 U	4.691 U
BETA-BHC	µg/kg	6.474 U	4.983 U	7.651 UJ	5.466 U	6.755 UJ	4.95 U	5.412 U	4.691 U
DELTA-BHC	µg/kg	6.474 U	4.983 U	7.651 UJ	5.466 U	6.755 UJ	4.95 U	5.412 U	4.691 U
DIELDRIN	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U	10.505 U	9.106 U
ENDOSULFAN I	µg/kg	6.474 U	4.983 U	7.651 UJ	5.466 U	6.755 UJ	4.95 U	5.412 U	4.691 U
ENDOSULFAN II	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U	10.505 U	9.106 U
ENDOSULFAN SULFATE	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U	10.505 U	9.106 U
ENDRIN	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U	10.505 U	9.106 U
ENDRIN ALDEHYDE	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U	10.505 U	9.106 U
ENDRIN KETONE	µg/kg	12.567 U	9.674 U	14.851 UJ	10.61 U	13.113 UJ	9.61 U	10.505 U	9.106 U
GAMMA-BHC (LINDANE)	µg/kg	6.474 U	4.983 U	7.651 UJ	5.466 U	6.755 UJ	4.95 U	5.412 U	4.691 U
GAMMA-CHLORDANE	µg/kg	6.474 U	4.983 U	7.651 UJ	5.466 U	6.755 UJ	4.95 U	5.412 U	4.691 U
HEPTACHLOR	µg/kg	6.474 U	4.983 U	7.651 UJ	5.466 U	6.755 UJ	4.95 U	5.412 U	4.691 U
HEPTACHLOR EPOXIDE	µg/kg	6.474 U	4.983 U	7.651 UJ	5.466 U	6.755 UJ	4.95 U	5.412 U	4.691 U
METHOXYCHLOR	µg/kg	64.737 U	49.834 U	76.508 UJ	54.657 U	67.55 UJ	49.505 U	54.117 U	46.909 U
TOXAPHENE	µg/kg	647.372 U	498.339 U	765.077 UJ	546.565 U	675.497 UJ	495.05 U	541.171 U	469.095 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Semivolatile Organic Compounds									
1,2,4,5-TETRACHLOROBENZENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
1,4-DIOXANE	µg/kg	250 UJ	190 U	300 UJ	210 U	260 UJ	190 UJ	210 U	180 U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
2,3,4,6-TETRACHLOROPHENOL	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 U	550 U	470 U
2,4,5-TRICHLOROPHENOL	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
2,4,6-TRICHLOROPHENOL	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
2,4-DICHLOROPHENOL	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
2,4-DIMETHYLPHENOL	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
2,4-DINITROPHENOL	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
2,4-DINITROTOLUENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	--
2,6-DINITROTOLUENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	--
2-CHLORONAPHTHALENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
2-CHLOROPHENOL	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
2-METHLYPHENOL	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
2-METHYLNAPHTHALENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
2-NITROANILINE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
2-NITROPHENOL	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
3,3`-DICHLOROBENZIDINE	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 U	1100 U	910 U
3-NITROANILINE	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
4,6-DINITRO-2-METHYLPHENOL	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
4-BROMOPHENYL PHENYL ETHER	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
4-CHLORO-3-METHYLPHENOL	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
4-CHLOROANILINE	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
4-CHLOROPHENYL PHENYL ETHER	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
4-METHLYPHENOL	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
4-NITROANILINE	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
4-NITROPHENOL	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
ACENAPHTHENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
ACENAPHTHYLENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
ACETOPHENONE	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
ANTHRACENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
ATRAZINE	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
BENZALDEHYDE	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
BENZO[A]ANTHRACENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 U	550 U	470 U
BENZO[A]PYRENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 U	550 U	470 U
BENZO[B]FLUORANTHENE	µg/kg	650 UJ	500 U	770 UJ	540 U	380 J	500 U	550 U	470 U
BENZO[G,H,I]PERYLENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 U	550 U	470 U
BENZO[K]FLUORANTHENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 U	550 U	470 U
BENZYL BUTYL PHTHALATE	µg/kg	350 J	500 U	770 UJ	540 U	680 UJ	300 J	550 U	470 U
BIPHENYL	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
BIS(2-CHLOROETHOXY)METHANE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
BIS(2-CHLOROETHYL) ETHER	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
BIS(2-ETHYLHEXYL) PHTHALATE	µg/kg	370 J	500 U	770 UJ	540 U	680 UJ	280 J	550 U	470 U
CAPROLACTAM	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
CARBAZOLE	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
CHRYSENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 U	550 U	470 U
DIBENZ[A,H]ANTHRACENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 U	550 U	470 U
DIBENZOFURAN	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
DIETHYL PHTHALATE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
DIMETHYL PHTHALATE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
DI-N-BUTYL PHTHALATE	µg/kg	460 J	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
DI-N-OCTYL PHTHALATE	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 U	1100 U	910 U
FLUORANTHENE	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1000 J	610 J+	1100 U	910 U
FLUORENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
HEXACHLOROBENZENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
HEXACHLOROBUTADIENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
HEXACHLOROCYCLOPENTADIENE	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
HEXACHLOROETHANE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
INDENO[1,2,3-CD]PYRENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 U	550 U	470 U
ISOPHORONE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
NAPHTHALENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
NITROBENZENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	--
N-NITROSODI-N-PROPYLAMINE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
N-NITROSODIPHENYLAMINE	µg/kg	650 U	500 U	770 U	540 U	680 U	500 U	550 U	470 U
PENTACHLOROPHENOL	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
PHENANTHRENE	µg/kg	650 UJ	500 U	770 UJ	540 U	680 UJ	500 UJ	550 U	470 U
PHENOL	µg/kg	1300 UJ	960 U	1500 UJ	1100 U	1300 UJ	960 UJ	1100 U	910 U
PYRENE	µg/kg	650 UJ	500 U	770 UJ	540 U	550 J	300 J	550 U	470 U
Volatile Organic Compounds									
1,1,1-TRICHLOROETHANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,1,2,2-TETRACHLOROETHANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,1,2-TRICHLOROETHANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
1,1-DICHLOROETHANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,1-DICHLOROETHYLENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,2,3-TRICHLOROBENZENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,2,4-TRICHLOROBENZENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,2-DIBROMOETHANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,2-DICHLOROBENZENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,2-DICHLOROETHANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,2-DICHLOROPROPANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,3-DICHLOROBENZENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
1,4-DICHLOROBENZENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
2-BUTANONE	µg/kg	--	28 UJ	--	29 U	--	26 U	--	25 U
2-HEXANONE	µg/kg	--	28 UJ	--	29 U	--	26 U	--	25 U
4-METHYL-2-PENTANONE	µg/kg	--	28 UJ	--	29 U	--	26 U	--	25 U
ACETONE	µg/kg	--	28 UJ	--	29 U	--	26 U	--	25 U
BENZENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
BROMODICHLOROMETHANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
BROMOFORM	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
BROMOMETHANE	µg/kg	--	14 UJ	--	15 UJ	--	13 U	--	13 U
CARBON DISULFIDE	µg/kg	--	14 UJ	--	15 UJ	--	13 U	--	13 U
CARBON TETRACHLORIDE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
CHLOROBENZENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
CHLOROBROMOMETHANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
CHLOROETHANE	µg/kg	--	14 UJ	--	15 UJ	--	13 U	--	13 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
CHLOROFORM	µg/kg	--	30 UJ	--	15 U	--	13 U	--	13 U
CHLOROMETHANE	µg/kg	--	14 UJ	--	15 UJ	--	13 U	--	13 U
CIS-1,2-DICHLOROETHENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
CIS-1,3-DICHLOROPROPYLENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
CYCLOHEXANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
DIBROMOCHLOROMETHANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
DICHLORODIFLUOROMETHANE	µg/kg	--	14 UJ	--	15 UJ	--	13 U	--	13 U
ETHYLBENZENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
ISOPROPYLBENZENE (CUMENE)	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
m,p-Xylene	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
METHYL ACETATE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
METHYL TERT-BUTYL ETHER	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
METHYLCYLOHEXANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
METHYLENE CHLORIDE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
o-Xylene	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
STYRENE (MONOMER)	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
TETRACHLOROETHYLENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
TOLUENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
TRANS-1,2-DICHLOROETHENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
TRANS-1,3-DICHLOROPROPENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
TRICHLOROETHYLENE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
TRICHLOROFLUOROMETHANE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U
VINYL CHLORIDE	µg/kg	--	14 UJ	--	15 U	--	13 U	--	13 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Explosives									
1,3,5-TRINITROBENZENE	µg/kg	--	--	--	--	--	--	--	250 U
2,4,6-TRINITROTOLUENE	µg/kg	--	--	--	--	--	--	--	250 U
2-AMINO-4,6-DINITROTOLUENE	µg/kg	--	--	--	--	--	--	--	250 U
2-NITROTOLUENE	µg/kg	--	--	--	--	--	--	--	250 U
3-NITROTOLUENE	µg/kg	--	--	--	--	--	--	--	250 U
4-AMINO-2,6-DINITROTOLUENE	µg/kg	--	--	--	--	--	--	--	250 U
4-NITROTOLUENE	µg/kg	--	--	--	--	--	--	--	250 U
M-DINITROBENZENE	µg/kg	--	--	--	--	--	--	--	250 U
OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE	µg/kg	--	--	--	--	--	--	--	250 U
RDX	µg/kg	--	--	--	--	--	--	--	250 U
Isotopes									
BISMUTH-212	pci/g	1.09 J	1.39 J	1.19 J	1.22 J	1.29 J	1.34 J	1.21 J	1.42 J
BISMUTH-214	pci/g	0.587 J	0.626 J	0.546 J	0.571 J	0.661 J	0.635 J	0.576 J	0.619 J
CESIUM-137	pci/g	0.241	0.0731	0.376	0.0246	0.238	0.13	0.165	0.053
LEAD-212	pci/g	1.02 J	1.05 J	0.868 J	0.969 J	0.995 J	1.17 J	0.868 J	1.11 J
LEAD-214	pci/g	0.695 J	0.727 J	0.603 J	0.64 J	0.814 J	0.765 J	0.675 J	0.715 J
POTASSIUM-40	pci/g	14.5	17.2	13.9	16.3	16.6	17.2	14.4	15.7
RADIUM-228	pci/g	1.09	1.27	1.06	1.11	1.26	1.26	1.05	1.24
THALLIUM-208	pci/g	0.296 J	0.361 J	0.315 J	0.339 J	0.342 J	0.371 J	0.309 J	0.375 J
URANIUM-235	pci/g	--	--	--	0.146 J	--	0.14 J	0.167 J	0.0747 J
Grain Size									
Clay	% by wt	--	--	--	--	57.4	--	--	--
SAND	% by wt	--	--	--	--	5	--	--	--
SILT	% by wt	--	--	--	--	37.6	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD01		PCWLSD02		PCWLSD03		PCWLSD04	
	Field Sample ID	PCWLSD01-000005	PCWLSD01-005020	PCWLSD02-000005	PCWLSD02-005020	PCWLSD03-000005	PCWLSD03-005020	PCWLSD04-000005	PCWLSD04-005020
	Date Collected	6/22/2015	6/22/2015	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/17/2015	6/17/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result
Miscellaneous Chemistry									
PH	su	6.38 H	7.33 H	7.32 H	7.48 H	7.07 H	7.24 H	7.29 H	7.67 H
TOTAL ORGANIC CARBON	mg/kg	--	42000	--	--	--	37000	--	--
Solids, Total	% by wt	--	--	--	--	--	--	--	33.8

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Metals										
ALUMINUM	mg/kg	18900	2900	19900 J	19300 J	13200 J	16400 J	13500	13700	17400
ANTIMONY	mg/kg	10.3 U	7.2 U	13.7 UJ	13.4 UJ	10.2 UJ	10.2 UJ	11.4 UJ	12.5 UJ	1.6 J-
ARSENIC	mg/kg	10.1	2.7	13.5 J	8.9 J	10.3 J	7.2 J	17.5	15.9	13.3
BARIUM	mg/kg	42	11.9 J	46.1 J	43.9 J	37.1 J	39 J	92.9	71.7	69.9
BERYLLIUM	mg/kg	0.98	0.2 J	1.2	1.1 J	0.7 J	0.87	1	1.2	1.1
CADMIUM	mg/kg	1.1	0.18 J-	1.2	1.1 J	0.77 J	1.1	2.1	2.3	2.9
CALCIUM	mg/kg	2370	800	2030	2060	1660	1590	2460	3010	3000
CHROMIUM	mg/kg	37.4	10.2	50.3 J	39.9 J	28.6 J	31.3 J	79.5	74.3	55.5
CHROMIUM (HEXAVALENT COMPOUNDS)	mg/kg	--	--	1.24	1.38	--	--	--	--	--
COBALT	mg/kg	2.3 J	14.3	16.7	6.1 J	1.8 J	3 J	55.8	56.2	37
COPPER	mg/kg	26.4	9	42.8	33.2	19.6	19.6	119	132	88.2
CYANIDE	mg/kg	1.2 U	0.83 U	1.6 U	1.5 U	1.2 U	1 U	1.3 U	1.3 U	0.33 J
IRON	mg/kg	32900	4930	34900	29500	25900	30200	36800	40600	61800
LEAD	mg/kg	54 J	19.2 J	83.7	89.4	41.2	36.9	209	221	131
MAGNESIUM	mg/kg	6480	1340	7050	6380	4540	5130	4580	4770	5530
MANGANESE	mg/kg	278	26.8	250	196	142	191	181	227	381
MERCURY	mg/kg	0.3	0.064 J	0.62	0.13 J	0.2 J	0.25	2.5	5.4	3.1
NICKEL	mg/kg	19.7	15.2	31.4	22.8	13.7	17.6	58	65.3	54.4
POTASSIUM	mg/kg	3860	660	4580 J	4090 J	2940 J	3340 J	2760	3020	3810
SELENIUM	mg/kg	6 U	4.2 U	8 UJ	7.8 UJ	6 UJ	5.9 UJ	6.7 UJ	7.3 UJ	6.6 UJ
SILVER	mg/kg	2.4	0.41 J	2.5	2.1 J	1.9	2.1	2.9	3.1	4.5
SODIUM	mg/kg	8880 J	3990 J	13000	12800	9030	7940	10500	9480	8180
THALLIUM	mg/kg	4.3 U	3 U	1.9 J	1.5 J	1.7 J	1.2 J	1.3 J	1.5 J	2.5 J
VANADIUM	mg/kg	38.9	11	47.1	44.3	34.8	33.4	41.5	42.4	44.1
ZINC	mg/kg	129	63	135	129	59	89.2	290	242	179

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Polychlorinated Biphenyls										
AROCLOR-1262	ug/kg	54 U	80 U	110 UJ	110 UJ	76 U	76 U	84 U	79 U	88 U
AROCLOR-1016	ug/kg	54 U	80 U	110 UJ	110 UJ	76 U	76 U	84 U	79 U	88 U
AROCLOR-1221	ug/kg	54 U	80 U	110 UJ	110 UJ	76 U	76 U	84 U	79 U	88 U
AROCLOR-1232	ug/kg	54 U	80 U	110 UJ	110 UJ	76 U	76 U	84 U	79 U	88 U
AROCLOR-1242	ug/kg	54 U	80 U	110 UJ	110 UJ	76 U	76 U	84 U	79 U	88 U
AROCLOR-1248	ug/kg	54 U	80 U	110 UJ	110 UJ	76 U	76 U	84 U	79 U	88 U
AROCLOR-1254	ug/kg	54 U	80 U	110 UJ	110 UJ	76 U	76 U	84 U	79 U	88 U
AROCLOR-1260	ug/kg	54 U	80 U	110 UJ	110 UJ	76 U	76 U	49 J	79 U	88 U
AROCLOR-1268	ug/kg	54 U	80 U	110 UJ	110 UJ	76 U	76 U	84 U	79 U	88 U
TEQ WHO2005 ND=0 (PCB Congeners)	ng/kg	--	--	--	--	--	--	--	--	--
Total Aroclor	ug/kg	54 U	80 U	110 UJ	110 UJ	76 U	76 U	49 J	79 U	88 U
Polychlorinated Biphenyl Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',3-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,2',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
2,2'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2',3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,3-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,4',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,4-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2,6-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
2-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
3 -Monochlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,3',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
3,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
4,4'-DICHLOROBIPHENYL	ng/kg	--	--	--	--	--	--	--	--	--
4-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--	--	--	--
BZ#139 & BZ#140	ng/kg	--	--	--	--	--	--	--	--	--
BZ#153 & BZ#168	ng/kg	--	--	--	--	--	--	--	--	--
BZ#156 & BZ#157	ng/kg	--	--	--	--	--	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	ng/kg	--	--	--	--	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	ng/kg	--	--	--	--	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	ng/kg	--	--	--	--	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	ng/kg	--	--	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Co-elute: PCB#90, PCB#101, and PCB#113	ng/kg	--	--	--	--	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	ng/kg	--	--	--	--	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	ng/kg	--	--	--	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	ng/kg	--	--	--	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	ng/kg	--	--	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	ng/kg	--	--	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	ng/kg	--	--	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	ng/kg	--	--	--	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	ng/kg	--	--	--	--	--	--	--	--	--
DECACHLOROBIPHENYL	ng/kg	--	--	--	--	--	--	--	--	--
DICHLOROBIPHENYL: 3,4/ 3,4'	ng/kg	--	--	--	--	--	--	--	--	--
PCB108 & 0124	ng/kg	--	--	--	--	--	--	--	--	--
PCB110 & 115	ng/kg	--	--	--	--	--	--	--	--	--
PCB128 & 166	ng/kg	--	--	--	--	--	--	--	--	--
PCB135 & 151	ng/kg	--	--	--	--	--	--	--	--	--
PCB147 & 149	ng/kg	--	--	--	--	--	--	--	--	--
PCB171 & 173	ng/kg	--	--	--	--	--	--	--	--	--
PCB180 & 193	ng/kg	--	--	--	--	--	--	--	--	--
PCB183 & 185	ng/kg	--	--	--	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
PCB197 & 200	ng/kg	--	--	--	--	--	--	--	--	--
PCB198 & 199	ng/kg	--	--	--	--	--	--	--	--	--
PCB-40/PCB-71	ng/kg	--	--	--	--	--	--	--	--	--
PCB-86/87/97/108/119/125	ng/kg	--	--	--	--	--	--	--	--	--
PCB-98/PCB-102	ng/kg	--	--	--	--	--	--	--	--	--
PENTACHLOROBIPHENYL:2,2',3,4,6/2,2'3,4',6	ng/kg	--	--	--	--	--	--	--	--	--
Calculated PCB TEQs and Total PCBs										
Bird TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--	--	--	--
High Risk PCB Congeners	ng/kg	--	--	--	--	--	--	--	--	--
Sum of All PCB Congeners	ng/kg	--	--	--	--	--	--	--	--	--
Dioxins/Furans										
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	--	--	9.21	0.0573 U	--	--	--	--	--
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	59.7	56.4	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	--	--	0.0907 U	0.0772 U	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	--	--	0.079 U	0.0556 U	--	--	--	--	--
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	0.93 J	0.85 J	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	--	--	0.0792 U	0.0546 U	--	--	--	--	--
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	2.42 J	1.71 J	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	--	--	0.0913 UJ	0.0632 UJ	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	2.26 J	2.79 J	--	--	--	--	--
1,2,3,7,8-PENTACHLORODIBENZOFURAN	ng/kg	--	--	0.0708 U	0.0745 U	--	--	--	--	--
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	0.0917 U	0.0821 U	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	--	--	0.0836 U	0.0608 U	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	--	--	2.01 J	0.429 J	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	0.228 J	0.146 J	--	--	--	--	--
2,3,7,8-TETRACHLORODIBENZOFURAN	ng/kg	--	--	2.32	0.644 J	--	--	--	--	--
HEXACHLORODIBENZOFURAN	ng/kg	--	--	21.8	0.0546 U	--	--	--	--	--
HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	52.2	80.8	--	--	--	--	--
Octachlorodibenzofuran	ng/kg	--	--	0.2 U	0.207 U	--	--	--	--	--
OCTACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	735	1370	--	--	--	--	--
PENTACHLORO DIBENZOFURAN	ng/kg	--	--	25.4 J	5.49	--	--	--	--	--
PENTACHLORODIBENSO-P-DIOXIN	ng/kg	--	--	13	13.4	--	--	--	--	--
TEQ WHO2005 ND=0	ng/kg	--	--	2.83	1.86	--	--	--	--	--
TETRACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	10.3	9.29	--	--	--	--	--
Total Heptachlorodibenzofuran	ng/kg	--	--	17.8	0.0573 U	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin	ng/kg	--	--	162	184	--	--	--	--	--
Total TCDF	ng/kg	--	--	31.3 J	8.49	--	--	--	--	--
Dioxin TEQ for Birds	ng/kg	--	--	6.33	2.51	--	--	--	--	--
Dioxin TEQ for Fish	ng/kg	--	--	3.28	1.78	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Calculated Dioxin/Furan TEQs										
Bird TEQ (Dioxins)	ng/kg	--	--	5.08	1.75	--	--	--	--	--
Fish TEQ (Dioxins)	ng/kg	--	--	2.09	1.06	--	--	--	--	--
Human TEQ (Dioxins)	ng/kg	--	--	2.53	1.85	--	--	--	--	--
Mammal TEQ (Dioxins)	ng/kg	--	--	2.53	1.85	--	--	--	--	--
Pesticides										
4,4'-DDD	µg/kg	5.446 U	8.022 U	11.23 UJ	11.304 UJ	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U
4,4'-DDE	µg/kg	5.446 U	8.022 U	11.23 UJ	11.304 UJ	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U
4,4'-DDT	µg/kg	5.446 U	8.022 U	11.23 UJ	11.304 UJ	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U
ALDRIN	µg/kg	2.805 U	4.133 U	5.785 UJ	5.823 UJ	3.94 U	3.927 U	4.316 U	4.133 U	4.564 U
ALPHA-BHC	µg/kg	2.805 U	4.133 U	5.785 UJ	5.823 UJ	3.94 U	3.927 U	4.316 U	4.133 U	4.564 U
ALPHA-CHLORDANE	µg/kg	2.805 U	4.133 U	5.785 UJ	5.823 UJ	3.94 U	3.927 U	4.316 U	4.133 U	4.564 U
BETA-BHC	µg/kg	2.805 U	4.133 U	5.785 UJ	5.823 UJ	3.94 U	3.927 U	4.316 U	4.133 U	4.564 U
DELTA-BHC	µg/kg	2.805 U	4.133 U	5.785 UJ	5.823 UJ	3.94 U	3.927 U	4.316 U	4.133 U	4.564 U
DIELDRIN	µg/kg	5.446 U	8.022 U	11.23 UJ	11.304 UJ	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U
ENDOSULFAN I	µg/kg	2.805 U	4.133 U	5.785 UJ	5.823 UJ	3.94 U	3.927 U	4.316 U	4.133 U	4.564 U
ENDOSULFAN II	µg/kg	5.446 U	8.022 U	11.23 UJ	11.304 UJ	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U
ENDOSULFAN SULFATE	µg/kg	5.446 U	8.022 U	11.23 UJ	11.304 UJ	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U
ENDRIN	µg/kg	5.446 U	8.022 U	11.23 UJ	11.304 UJ	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U
ENDRIN ALDEHYDE	µg/kg	5.446 U	8.022 U	11.23 UJ	11.304 UJ	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U
ENDRIN KETONE	µg/kg	5.446 U	8.022 U	11.23 UJ	11.304 UJ	7.649 U	7.624 U	8.378 U	8.022 U	8.86 U
GAMMA-BHC (LINDANE)	µg/kg	2.805 U	4.133 U	5.785 UJ	5.823 UJ	3.94 U	3.927 U	4.316 U	4.133 U	4.564 U
GAMMA-CHLORDANE	µg/kg	2.805 U	4.133 U	5.785 UJ	5.823 UJ	3.94 U	3.927 U	4.316 U	4.133 U	4.564 U
HEPTACHLOR	µg/kg	2.805 U	4.133 U	5.785 UJ	5.823 UJ	3.94 U	3.927 U	4.316 U	4.133 U	4.564 U
HEPTACHLOR EPOXIDE	µg/kg	2.805 U	4.133 U	5.785 UJ	5.823 UJ	3.94 U	3.927 U	4.316 U	4.133 U	4.564 U
METHOXYCHLOR	µg/kg	28.053 U	41.326 U	57.849 UJ	58.232 UJ	39.404 U	39.273 U	43.158 U	41.326 U	45.642 U
TOXAPHENE	µg/kg	280.528 U	413.257 U	578.494 UJ	582.325 UJ	394.035 U	392.731 U	431.582 U	413.257 U	456.417 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Semivolatile Organic Compounds										
1,2,4,5-TETRACHLOROBENZENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
1,4-DIOXANE	µg/kg	110 U	160 U	220 UJ	230 UJ	150 U	150 U	170 U	160 U	180 UJ
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
2,3,4,6-TETRACHLOROPHENOL	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 U
2,4,5-TRICHLOROPHENOL	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
2,4,6-TRICHLOROPHENOL	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
2,4-DICHLOROPHENOL	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
2,4-DIMETHYLPHENOL	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
2,4-DINITROPHENOL	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
2,4-DINITROTOLUENE	µg/kg	280 U	410 U	--	580 UJ	390 U	390 U	430 U	410 U	450 UJ
2,6-DINITROTOLUENE	µg/kg	280 U	410 U	580 UJ	--	390 U	390 U	430 U	410 U	450 UJ
2-CHLORONAPHTHALENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
2-CHLOROPHENOL	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
2-METHLYPHENOL	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
2-METHYLNAPHTHALENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
2-NITROANILINE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
2-NITROPHENOL	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
3,3`-DICHLOROBENZIDINE	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
3-NITROANILINE	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
4,6-DINITRO-2-METHYLPHENOL	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
4-BROMOPHENYL PHENYL ETHER	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
4-CHLORO-3-METHYLPHENOL	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
4-CHLOROANILINE	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
4-CHLOROPHENYL PHENYL ETHER	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
4-METHLYPHENOL	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
4-NITROANILINE	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
4-NITROPHENOL	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
ACENAPHTHENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
ACENAPHTHYLENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
ACETOPHENONE	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
ANTHRACENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
ATRAZINE	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
BENZALDEHYDE	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
BENZO[A]ANTHRACENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	320 J	570 J+
BENZO[A]PYRENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	260 J	760
BENZO[B]FLUORANTHENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	320 J	730
BENZO[G,H,I]PERYLENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	490
BENZO[K]FLUORANTHENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	620
BENZYL BUTYL PHTHALATE	µg/kg	280 U	410 U	350 J	580 UJ	240 J	290 J	430 U	410 U	450 UJ
BIPHENYL	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
BIS(2-CHLOROETHOXY)METHANE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
BIS(2-CHLOROETHYL) ETHER	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
BIS(2-ETHYLHEXYL) PHTHALATE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	200 J	430 U	240 J	450 UJ
CAPROLACTAM	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
CARBAZOLE	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
CHRYSENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	310 J	730 J+
DIBENZ[A,H]ANTHRACENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 U
DIBENZOFURAN	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
DIETHYL PHTHALATE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
DIMETHYL PHTHALATE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
DI-N-BUTYL PHTHALATE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
DI-N-OCTYL PHTHALATE	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 U
FLUORANTHENE	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	370 J	730 J	1400 J+
FLUORENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
HEXACHLOROBENZENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
HEXACHLOROBUTADIENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
HEXACHLOROCYCLOPENTADIENE	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 UJ	880 UJ
HEXACHLOROETHANE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
INDENO[1,2,3-CD]PYRENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 U
ISOPHORONE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
NAPHTHALENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
NITROBENZENE	µg/kg	280 U	410 U	580 UJ	--	390 U	390 U	430 U	410 U	450 UJ
N-NITROSODI-N-PROPYLAMINE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 U	450 UJ
N-NITROSODIPHENYLAMINE	µg/kg	280 U	410 U	580 U	580 U	390 U	390 U	430 U	410 U	450 UJ
PENTACHLOROPHENOL	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
PHENANTHRENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	430 U	410 J	620 J+
PHENOL	µg/kg	540 U	800 U	1100 UJ	1100 UJ	760 U	760 U	840 U	800 U	880 UJ
PYRENE	µg/kg	280 U	410 U	580 UJ	580 UJ	390 U	390 U	280 J	740	1100 J+
Volatile Organic Compounds										
1,1,1-TRICHLOROETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
1,1,2,2-TETRACHLOROETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
1,1,2-TRICHLOROETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
1,1-DICHLOROETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
1,1-DICHLOROETHYLENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
1,2,3-TRICHLOROBENZENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 UJ
1,2,4-TRICHLOROBENZENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 UJ
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 UJ
1,2-DIBROMOETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
1,2-DICHLOROBENZENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 UJ
1,2-DICHLOROETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
1,2-DICHLOROPROPANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
1,3-DICHLOROBENZENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 UJ
1,4-DICHLOROBENZENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 UJ
2-BUTANONE	µg/kg	--	23 U	--	32 UJ	--	22 U	--	23 U	26 U
2-HEXANONE	µg/kg	--	23 U	--	32 UJ	--	22 U	--	23 U	26 U
4-METHYL-2-PENTANONE	µg/kg	--	23 U	--	32 UJ	--	22 U	--	23 U	26 U
ACETONE	µg/kg	--	23 U	--	32 UJ	--	22 U	--	23 U	26 U
BENZENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
BROMODICHLOROMETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
BROMOFORM	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 UJ
BROMOMETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
CARBON DISULFIDE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
CARBON TETRACHLORIDE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
CHLOROBENZENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
CHLOROBROMOMETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
CHLOROETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
CHLOROFORM	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
CHLOROMETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
CIS-1,2-DICHLOROETHENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
CIS-1,3-DICHLOROPROPYLENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
CYCLOHEXANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
DIBROMOCHLOROMETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
DICHLORODIFLUOROMETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
ETHYLBENZENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
ISOPROPYLBENZENE (CUMENE)	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
m,p-Xylene	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
METHYL ACETATE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
METHYL TERT-BUTYL ETHER	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
METHYLCYLOHEXANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
METHYLENE CHLORIDE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
o-Xylene	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
STYRENE (MONOMER)	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
TETRACHLOROETHYLENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
TOLUENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
TRANS-1,2-DICHLOROETHENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
TRANS-1,3-DICHLOROPROPENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
TRICHLOROETHYLENE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
TRICHLOROFLUOROMETHANE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U
VINYL CHLORIDE	µg/kg	--	12 U	--	16 UJ	--	11 U	--	11 U	13 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Explosives										
1,3,5-TRINITROBENZENE	µg/kg	--	--	250 U	250 U	--	--	--	--	--
2,4,6-TRINITROTOLUENE	µg/kg	--	--	250 U	250 U	--	--	--	--	--
2-AMINO-4,6-DINITROTOLUENE	µg/kg	--	--	250 U	250 U	--	--	--	--	--
2-NITROTOLUENE	µg/kg	--	--	250 U	250 U	--	--	--	--	--
3-NITROTOLUENE	µg/kg	--	--	250 U	250 U	--	--	--	--	--
4-AMINO-2,6-DINITROTOLUENE	µg/kg	--	--	250 U	250 U	--	--	--	--	--
4-NITROTOLUENE	µg/kg	--	--	250 U	250 U	--	--	--	--	--
M-DINITROBENZENE	µg/kg	--	--	250 U	250 U	--	--	--	--	--
OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE	µg/kg	--	--	250 U	250 U	--	--	--	--	--
RDX	µg/kg	--	--	250 U	250 U	--	--	--	--	--
Isotopes										
BISMUTH-212	pci/g	0.887 J	0.591 J	1.29 J	1.32 J	1.21 J	1.25 J	1.19 J	1.61 J	1.12 J
BISMUTH-214	pci/g	0.51 J	0.401 J	0.578 J	0.618 J	0.668 J	0.573 J	0.882 J	1.39 J	0.966 J
CESIUM-137	pci/g	--	0.105	0.0807	0.0193	--	--	0.162	0.128	0.0772
LEAD-212	pci/g	0.734 J	0.462 J	1.19 J	1.24 J	0.964 J	1.11 J	0.923 J	1.28 J	0.96 J
LEAD-214	pci/g	0.58 J	0.451 J	0.685 J	0.729 J	0.76 J	0.654 J	1.12 J	1.66 J	1.13 J
POTASSIUM-40	pci/g	10.8	4.85	17.5	17.7	15.8	16.6	13.1	15	11.4
RADIUM-228	pci/g	0.84	0.535	1.25	1.28	1.09	1.23	1.04	1.48	0.971
THALLIUM-208	pci/g	0.26 J	0.156 J	0.349 J	0.386 J	0.338 J	0.35 J	0.307 J	0.448 J	0.32 J
URANIUM-235	pci/g	0.0845 J	0.0441 J	--	--	--	--	--	--	0.108 J
Grain Size										
Clay	% by wt	--	--	--	--	--	--	--	37.2	--
SAND	% by wt	--	--	--	--	--	--	--	30.7	--
SILT	% by wt	--	--	--	--	--	--	--	32.1	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD05		PCWLSD06		PCWLSD07		PCWLSD08		
	Field Sample ID	PCWLSD05-000005	PCWLSD05-005020	PCWLSD06-000005	PCWLSD06-005020	PCWLSD07-000005	PCWLSD07-005020	PCWLSD08-000005	PCWLSD08-005020	FE05SEDDUP08
	Date Collected	6/17/2015	6/17/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Miscellaneous Chemistry										
PH	su	7.66 H	7.43 H	7.31 H	7.22 H	7.42 H	7.63 H	--	--	--
TOTAL ORGANIC CARBON	mg/kg	--	41000	--	--	--	49000	--	--	--
Solids, Total	% by wt	--	--	31.2	29.3	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Metals										
ALUMINUM	mg/kg	19200 J	19400 J	11800 J	10000 J	19700 J	20300 J	18500	12300 J	12500 J
ANTIMONY	mg/kg	0.72 J-	12.6 UJ	0.74 J-	0.68 J-	13.5 UJ	12 UJ	11.9 U	4.7 UJ	8.6 UJ
ARSENIC	mg/kg	11.9 J	12 J	10.5 J	8.8 J	9.8 J	10.1 J	10.3 J	7.9 J	6.7 J
BARIUM	mg/kg	37.4 J	41.4 J	37.9 J	31.6 J	42.4 J	42.3 J	38.9 J	43.1 J	28.4 J
BERYLLIUM	mg/kg	0.95	1 J	1.2	1.1	1.2	1.1	0.93 J	0.71	0.7 J
CADMIUM	mg/kg	1.6	1.2	2.8	2.3	1.2	1.2	0.96 J	1.1	0.78
CALCIUM	mg/kg	2340	2340	1820	1620	2160	2220	2770	2330	4970
CHROMIUM	mg/kg	34.5 J	35.7 J	28 J	24.8 J	42.2 J	38.3 J	35.1	27.5 J	24.7 J
CHROMIUM (HEXAVALENT COMPOUNDS)	mg/kg	1.39	1.23	--	--	1.09	1.09	1.07	--	--
COBALT	mg/kg	7.6	2.9 J	21.8	21.3	7.2 J	3.6 J	2.9 J	7.4	1.7 J
COPPER	mg/kg	48.8	46.6	46.7	39	34	36.2	28.6	45.3	19.7
CYANIDE	mg/kg	0.48 U	1.4 U	0.49 U	0.49 U	1.5 U	1.4 U	1.3 U	0.49 U	1 U
IRON	mg/kg	29300	32200	27100	24000	33300	33700	36000	20600	23100
LEAD	mg/kg	118	91.1	108	86.6	64.5	87.5	61	178	44
MAGNESIUM	mg/kg	5820	6200	3980	3570	6950	6620	5940	4150	4210
MANGANESE	mg/kg	208	226	259	248	274	279	253	146	171
MERCURY	mg/kg	0.51	0.6	0.66	0.62	0.46	0.25 J	0.29	0.5	0.28
NICKEL	mg/kg	22.1	18.9	48	43.4	24	20.4	19.5	18.1	13.2
POTASSIUM	mg/kg	3320 J	3800 J	2130 J	1860 J	4420 J	4150 J	3310	2380 J	2570 J
SELENIUM	mg/kg	2.8 UJ	7.3 UJ	2.9 UJ	2.9 UJ	7.9 UJ	7 UJ	7 U	2.7 UJ	5 UJ
SILVER	mg/kg	2.3	2.4	2.1	1.9	2.3 J	2.4	2.2	1.7	1.6
SODIUM	mg/kg	10900	11200	9620	9910	11800	10500	10500	8740	6250
THALLIUM	mg/kg	1.5 J	1.8 J	0.37 J	2.1 U	1.6 J	2.1 J	2 J	1 J	0.98 J
VANADIUM	mg/kg	36.9	41.3	32.3	26.8	43.9	43.3	40.6 J	27.7	26.9
ZINC	mg/kg	163	143	276	205	139	130	112	202	83.9

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Polychlorinated Biphenyls										
AROCLOR-1262	ug/kg	160 UJ	100 U	110 U	82 U	84 U	91 U	86 U	110 UJ	76 U
AROCLOR-1016	ug/kg	160 UJ	100 U	110 U	82 U	84 U	91 U	86 U	110 UJ	76 U
AROCLOR-1221	ug/kg	160 UJ	100 U	110 U	82 U	84 U	91 U	86 U	110 UJ	76 U
AROCLOR-1232	ug/kg	160 UJ	100 U	110 U	82 U	84 U	91 U	86 U	110 UJ	76 U
AROCLOR-1242	ug/kg	160 UJ	100 U	110 U	82 U	84 U	91 U	86 U	110 UJ	76 U
AROCLOR-1248	ug/kg	160 UJ	100 U	110 U	82 U	84 U	91 U	86 U	110 UJ	76 U
AROCLOR-1254	ug/kg	160 UJ	100 U	110 U	82 U	84 U	91 U	86 U	110 UJ	76 U
AROCLOR-1260	ug/kg	160 UJ	100 U	110 U	82 U	84 U	91 U	86 U	110 UJ	76 U
AROCLOR-1268	ug/kg	160 UJ	100 U	110 U	82 U	84 U	91 U	86 U	110 UJ	76 U
TEQ WHO2005 ND=0 (PCB Congeners)	ng/kg	--	--	--	--	0.4	--	--	--	--
Total Aroclor	ug/kg	160 UJ	100 U	110 U	82 U	84 U	91 U	86 U	110 UJ	76 U
Polychlorinated Biphenyl Congeners										
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	--	--	48.8	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	--	--	58.8	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	9.7	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	41.3	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	--	--	16.8	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	--	--	65.6	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	ng/kg	--	--	--	--	316	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	23.4	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	19.3	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	17.7	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	57.9	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	5.1	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	117	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	18.5	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	13.5	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	89.9	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	--	--	15.8	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	45.6	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	31.5	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	5.1	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	61	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	13.6	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	7.4	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	23.9	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	28.7	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	55.8	--	--	--	--
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	--	--	13.7	--	--	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	192	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	48.5	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	38.1	--	--	--	--
2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	9.3	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.8	--	--	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	5.5	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	26.6	--	--	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	77.7	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',3-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	4.4	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	66.2	--	--	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',4-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	46.7	--	--	--	--
2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,2',6-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
2,2'-Dichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	4	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	12.4	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	20.9	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	--	--	70.5	--	--	--	--
2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	20.1	--	--	--	--
2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	13	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	14.7	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	13.6	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	149	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	6.4	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	29.3	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	11.2	--	--	--	--
2,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	5.2	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2',3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3,6-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3',6-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,3-Dichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	11	--	--	--	--
2,4',6-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,4-Dichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,5-Dichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2,6-Dichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
2-Monochlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
3 -Monochlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.9	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	10.2	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
3,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
3,3',5-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
3,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	17.5	--	--	--	--
3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
3,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	11.7	--	--	--	--
3,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
3,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
3,5-Dichlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
4,4'-DICHLOROBIPHENYL	ng/kg	--	--	--	--	9.5	--	--	--	--
4-Monochlorobiphenyl	ng/kg	--	--	--	--	3.7 U	--	--	--	--
BZ#139 & BZ#140	ng/kg	--	--	--	--	7.4 U	--	--	--	--
BZ#153 & BZ#168	ng/kg	--	--	--	--	245	--	--	--	--
BZ#156 & BZ#157	ng/kg	--	--	--	--	33.1	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	ng/kg	--	--	--	--	26	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	ng/kg	--	--	--	--	11.1 U	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	ng/kg	--	--	--	--	62.8	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	ng/kg	--	--	--	--	25.3	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Co-elute: PCB#90, PCB#101, and PCB#113	ng/kg	--	--	--	--	132	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	ng/kg	--	--	--	--	7.4 U	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	ng/kg	--	--	--	--	7.4 U	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	ng/kg	--	--	--	--	13.3	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	ng/kg	--	--	--	--	7.4 U	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	ng/kg	--	--	--	--	7.4 U	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	ng/kg	--	--	--	--	18.3	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	ng/kg	--	--	--	--	7.4 U	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	ng/kg	--	--	--	--	7.4 U	--	--	--	--
DECACHLOROBIPHENYL	ng/kg	--	--	--	--	44.1	--	--	--	--
DICHLOROBIPHENYL: 3,4/ 3,4'	ng/kg	--	--	--	--	7.4 U	--	--	--	--
PCB108 & 0124	ng/kg	--	--	--	--	7.7	--	--	--	--
PCB110 & 115	ng/kg	--	--	--	--	210	--	--	--	--
PCB128 & 166	ng/kg	--	--	--	--	44.7	--	--	--	--
PCB135 & 151	ng/kg	--	--	--	--	92.4	--	--	--	--
PCB147 & 149	ng/kg	--	--	--	--	225	--	--	--	--
PCB171 & 173	ng/kg	--	--	--	--	23.1	--	--	--	--
PCB180 & 193	ng/kg	--	--	--	--	211	--	--	--	--
PCB183 & 185	ng/kg	--	--	--	--	83	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
PCB197 & 200	ng/kg	--	--	--	--	19	--	--	--	--
PCB198 & 199	ng/kg	--	--	--	--	134	--	--	--	--
PCB-40/PCB-71	ng/kg	--	--	--	--	8.14	--	--	--	--
PCB-86/87/97/108/119/125	ng/kg	--	--	--	--	101	--	--	--	--
PCB-98/PCB-102	ng/kg	--	--	--	--	7.4 U	--	--	--	--
PENTACHLOROBIPHENYL:2,2',3,4,6/2,2'3,4',6	ng/kg	--	--	--	--	7.4 U	--	--	--	--
Calculated PCB TEQs and Total PCBs										
Bird TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	0.912	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	0.0219	--	--	--	--
Human TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	0.399	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	0.399	--	--	--	--
High Risk PCB Congeners	ng/kg	--	--	--	--	3860	--	--	--	--
Sum of All PCB Congeners	ng/kg	--	--	--	--	3930	--	--	--	--
Dioxins/Furans										
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	16.8	0.111 U	--	--	0.0707 U	0.0703 U	0.0572 U	--	--
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	ng/kg	263	60.3	--	--	37.8	42.4	86.2	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.29 UJ	0.145 U	--	--	0.102 U	0.098 U	0.0794 U	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.288 U	0.116 U	--	--	0.0668 U	0.0699 U	0.0562 U	--	--
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	4.8 J	1.17 J	--	--	0.625 J	0.699 J	1.5 J	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.278 U	0.114 U	--	--	0.0672 U	0.0682 U	0.0593 U	--	--
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	9.31	2.03 J	--	--	1.04 J	1.35 J	2.71 J	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.791 U	0.134 U	--	--	0.069 U	0.0827 UJ	0.0881 UJ	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	12	3.25 J	--	--	1.94 J	2.31 J	4.47 J	--	--
1,2,3,7,8-PENTACHLORODIBENZOFURAN	ng/kg	0.349 U	0.128 U	--	--	0.0729 U	0.0519 U	0.0622 U	--	--
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	ng/kg	4.98	0.185 U	--	--	0.0977 U	0.0727 U	0.0769 U	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	5.04	0.125 U	--	--	0.0711 U	0.0733 U	0.0655 U	--	--
2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	11.3	0.393 J	--	--	0.379 J	0.252 J	0.332 J	--	--
2,3,7,8-TCDD	ng/kg	0.602 J	0.219 J	--	--	0.0793 U	0.0884 U	0.153 J	--	--
2,3,7,8-TETRACHLORODIBENZOFURAN	ng/kg	6.28	0.526 J	--	--	0.516 J	0.504 J	0.555 J	--	--
HEXACHLORODIBENZOFURAN	ng/kg	65.7 J	0.114 U	--	--	0.0668 U	0.0682 U	0.0562 U	--	--
HEXACHLORODIBENZO-P-DIOXIN	ng/kg	339	90.4	--	--	58.4	59.7	116	--	--
Octachlorodibenzofuran	ng/kg	23.2	0.291 U	--	--	0.225 U	0.186 U	0.286 U	--	--
OCTACHLORODIBENZO-P-DIOXIN	ng/kg	6520	1470	--	--	973	1070	2130	--	--
PENTACHLORO DIBENZOFURAN	ng/kg	143 J	5.68	--	--	5.5	0.029 U	0.0307 U	--	--
PENTACHLORODIBENSO-P-DIOXIN	ng/kg	65.8 J	14.4	--	--	11.2	10.4	19.2	--	--
TEQ WHO2005 ND=0	ng/kg	17.33	2.1	--	--	1.15	1.31	2.68	--	--
TETRACHLORODIBENZO-P-DIOXIN	ng/kg	69.8	8.31	--	--	8.47	5.83	10.8	--	--
Total Heptachlorodibenzofuran	ng/kg	22.8	0.111 U	--	--	0.0707 U	0.0703 U	0.0572 U	--	--
Total Heptachlorodibenzo-p-dioxin	ng/kg	896	207	--	--	137	149	299	--	--
Total TCDF	ng/kg	182 J	10.1	--	--	7.97	6.39	9.56	--	--
Dioxin TEQ for Birds	ng/kg	27.4	2.67	--	--	1.9	1.87	2.99	--	--
Dioxin TEQ for Fish	ng/kg	16.6	2.17	--	--	1.3	1.34	2.53	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Calculated Dioxin/Furan TEQs										
Bird TEQ (Dioxins)	ng/kg	26.3	1.75	--	--	1.27	1.18	1.89	--	--
Fish TEQ (Dioxins)	ng/kg	15.7	1.29	--	--	0.693	0.687	1.47	--	--
Human TEQ (Dioxins)	ng/kg	17.5	2.08	--	--	1.2	1.31	2.68	--	--
Mammal TEQ (Dioxins)	ng/kg	17.5	2.08	--	--	1.2	1.31	2.68	--	--
Pesticides										
4,4'-DDD	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U
4,4'-DDE	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U
4,4'-DDT	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U
ALDRIN	µg/kg	8.068 U	5.26 U	5.466 U	4.194 U	4.316 U	4.707 U	4.444 U	5.785 UJ	3.927 U
ALPHA-BHC	µg/kg	8.068 U	5.26 U	5.466 U	4.194 U	4.316 U	4.707 U	4.444 U	5.785 UJ	3.927 U
ALPHA-CHLORDANE	µg/kg	8.068 U	5.26 U	5.466 U	4.194 U	4.316 U	4.707 U	4.444 U	5.785 UJ	3.927 U
BETA-BHC	µg/kg	8.068 U	5.26 U	5.466 U	4.194 U	4.316 U	4.707 U	4.444 U	5.785 UJ	3.927 U
DELTA-BHC	µg/kg	8.068 U	5.26 U	5.466 U	4.194 U	4.316 U	4.707 U	4.444 U	5.785 UJ	3.927 U
DIELDRIN	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U
ENDOSULFAN I	µg/kg	8.068 U	5.26 U	5.466 U	4.194 U	4.316 U	4.707 U	4.444 U	5.785 UJ	3.927 U
ENDOSULFAN II	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U
ENDOSULFAN SULFATE	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U
ENDRIN	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U
ENDRIN ALDEHYDE	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U
ENDRIN KETONE	µg/kg	15.662 U	10.21 U	10.61 U	8.141 U	8.378 U	9.136 U	8.627 U	11.23 UJ	7.624 U
GAMMA-BHC (LINDANE)	µg/kg	8.068 U	5.26 U	5.466 U	4.194 U	4.316 U	4.707 U	4.444 U	5.785 UJ	3.927 U
GAMMA-CHLORDANE	µg/kg	8.068 U	5.26 U	5.466 U	4.194 U	4.316 U	4.707 U	4.444 U	5.785 UJ	3.927 U
HEPTACHLOR	µg/kg	8.068 U	5.26 U	5.466 U	4.194 U	4.316 U	4.707 U	4.444 U	5.785 UJ	3.927 U
HEPTACHLOR EPOXIDE	µg/kg	8.068 U	5.26 U	5.466 U	4.194 U	4.316 U	4.707 U	4.444 U	5.785 UJ	3.927 U
METHOXYCHLOR	µg/kg	80.683 U	52.599 U	54.657 U	41.941 U	43.158 U	47.065 U	44.441 U	57.849 UJ	39.273 U
TOXAPHENE	µg/kg	806.834 U	525.99 U	546.565 U	419.408 U	431.582 U	470.653 U	444.406 U	578.494 UJ	392.731 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Semivolatile Organic Compounds										
1,2,4,5-TETRACHLOROBENZENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
1,4-DIOXANE	µg/kg	310 UJ	200 U	210 U	160 U	170 U	180 U	170 U	230 UJ	150 U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
2,3,4,6-TETRACHLOROPHENOL	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
2,4,5-TRICHLOROPHENOL	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
2,4,6-TRICHLOROPHENOL	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
2,4-DICHLOROPHENOL	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
2,4-DIMETHYLPHENOL	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
2,4-DINITROPHENOL	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
2,4-DINITROTOLUENE	µg/kg	800 UJ	--	550 U	420 U	--	470 U	--	580 UJ	390 U
2,6-DINITROTOLUENE	µg/kg	--	520 U	550 U	420 U	--	470 U	440 U	580 UJ	390 U
2-CHLORONAPHTHALENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
2-CHLOROPHENOL	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
2-METHLYPHENOL	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 UJ	1100 UJ	760 U
2-METHYLNAPHTHALENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
2-NITROANILINE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
2-NITROPHENOL	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
3,3`-DICHLOROBENZIDINE	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
3-NITROANILINE	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
4,6-DINITRO-2-METHYLPHENOL	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
4-BROMOPHENYL PHENYL ETHER	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
4-CHLORO-3-METHYLPHENOL	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
4-CHLOROANILINE	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
4-CHLOROPHENYL PHENYL ETHER	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
4-METHLYPHENOL	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
4-NITROANILINE	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
4-NITROPHENOL	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
ACENAPHTHENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
ACENAPHTHYLENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
ACETOPHENONE	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
ANTHRACENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
ATRAZINE	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
BENZALDEHYDE	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
BENZO[A]ANTHRACENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
BENZO[A]PYRENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
BENZO[B]FLUORANTHENE	µg/kg	800 UJ	520 U	550 U	210 J	430 U	470 U	440 U	580 UJ	390 U
BENZO[G,H,I]PERYLENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
BENZO[K]FLUORANTHENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
BENZYL BUTYL PHTHALATE	µg/kg	590 J	370 J	350 J	420 U	430 U	470 U	250 J	400 J	390 U
BIPHENYL	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
BIS(2-CHLOROETHOXY)METHANE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
BIS(2-CHLOROETHYL) ETHER	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
BIS(2-ETHYLHEXYL) PHTHALATE	µg/kg	500 J	510 J	370 J	230 J	430 U	470 U	440 U	580 UJ	390 U
CAPROLACTAM	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	330 J	440 J	760 U
CARBAZOLE	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
CHRYSENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
DIBENZ[A,H]ANTHRACENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
DIBENZOFURAN	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
DIETHYL PHTHALATE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
DIMETHYL PHTHALATE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
DI-N-BUTYL PHTHALATE	µg/kg	640 J	400 J	550 U	420 U	430 U	470 U	440 U	450 J	390 U
DI-N-OCTYL PHTHALATE	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
FLUORANTHENE	µg/kg	1600 UJ	1000 U	1100 U	560 J	840 U	900 U	860 UJ	1100 UJ	760 U
FLUORENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
HEXACHLOROBENZENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
HEXACHLOROBUTADIENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
HEXACHLOROCYCLOPENTADIENE	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 UJ	1100 UJ	760 U
HEXACHLOROETHANE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 UJ	580 UJ	390 U
INDENO[1,2,3-CD]PYRENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
ISOPHORONE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
NAPHTHALENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
NITROBENZENE	µg/kg	--	520 U	550 U	420 U	430 U	--	--	580 UJ	390 U
N-NITROSODI-N-PROPYLAMINE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
N-NITROSODIPHENYLAMINE	µg/kg	800 U	520 U	550 U	420 U	430 U	470 U	440 U	580 U	390 U
PENTACHLOROPHENOL	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
PHENANTHRENE	µg/kg	800 UJ	520 U	550 U	420 U	430 U	470 U	440 U	580 UJ	390 U
PHENOL	µg/kg	1600 UJ	1000 U	1100 U	820 U	840 U	900 U	860 U	1100 UJ	760 U
PYRENE	µg/kg	800 UJ	520 U	550 U	340 J	430 U	470 U	440 U	580 UJ	390 U
Volatile Organic Compounds										
1,1,1-TRICHLOROETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,1,2,2-TETRACHLOROETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,1,2-TRICHLOROETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
1,1-DICHLOROETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,1-DICHLOROETHYLENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,2,3-TRICHLOROBENZENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,2,4-TRICHLOROBENZENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,2-DIBROMOETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,2-DICHLOROBENZENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,2-DICHLOROETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,2-DICHLOROPROPANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,3-DICHLOROBENZENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
1,4-DICHLOROBENZENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
2-BUTANONE	µg/kg	--	31 U	--	25 U	--	26 U	24 U	--	22 U
2-HEXANONE	µg/kg	--	31 U	--	25 U	--	26 U	24 U	--	22 U
4-METHYL-2-PENTANONE	µg/kg	--	31 U	--	25 U	--	26 U	24 U	--	22 U
ACETONE	µg/kg	--	31 U	--	25 U	--	26 U	24 U	--	22 U
BENZENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
BROMODICHLOROMETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
BROMOFORM	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
BROMOMETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
CARBON DISULFIDE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
CARBON TETRACHLORIDE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
CHLOROBENZENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
CHLOROBROMOMETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
CHLOROETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
CHLOROFORM	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
CHLOROMETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
CIS-1,2-DICHLOROETHENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
CIS-1,3-DICHLOROPROPYLENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
CYCLOHEXANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
DIBROMOCHLOROMETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
DICHLORODIFLUOROMETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
ETHYLBENZENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
ISOPROPYLBENZENE (CUMENE)	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
m,p-Xylene	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
METHYL ACETATE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
METHYL TERT-BUTYL ETHER	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
METHYLCYLOHEXANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
METHYLENE CHLORIDE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	5.3 J
o-Xylene	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
STYRENE (MONOMER)	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
TETRACHLOROETHYLENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
TOLUENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
TRANS-1,2-DICHLOROETHENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
TRANS-1,3-DICHLOROPROPENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
TRICHLOROETHYLENE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
TRICHLOROFLUOROMETHANE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U
VINYL CHLORIDE	µg/kg	--	15 U	--	12 U	--	13 U	12 U	--	11 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Explosives										
1,3,5-TRINITROBENZENE	µg/kg	--	--	--	--	250 U	250 U	250 U	--	--
2,4,6-TRINITROTOLUENE	µg/kg	--	--	--	--	250 U	250 U	250 U	--	--
2-AMINO-4,6-DINITROTOLUENE	µg/kg	--	--	--	--	250 U	250 U	250 U	--	--
2-NITROTOLUENE	µg/kg	--	--	--	--	250 U	250 U	250 U	--	--
3-NITROTOLUENE	µg/kg	--	--	--	--	250 U	250 U	250 U	--	--
4-AMINO-2,6-DINITROTOLUENE	µg/kg	--	--	--	--	250 U	250 U	250 U	--	--
4-NITROTOLUENE	µg/kg	--	--	--	--	250 U	250 U	250 U	--	--
M-DINITROBENZENE	µg/kg	--	--	--	--	250 U	250 U	250 U	--	--
OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE	µg/kg	--	--	--	--	250 U	250 U	250 U	--	--
RDX	µg/kg	--	--	--	--	250 U	250 U	250 U	--	--
Isotopes										
BISMUTH-212	pci/g	1.28 J	1.06 J	0.914 J	1.19 J	1.3 J	1.44 J	1.37 J	1.06 J	1.22 J
BISMUTH-214	pci/g	0.481 J	0.553 J	0.636 J	0.622 J	0.585 J	0.589 J	0.563 J	0.439 J	0.541 J
CESIUM-137	pci/g	0.019	--	0.128	0.0757	--	--	--	0.0858	--
LEAD-212	pci/g	1.08 J	0.952 J	0.903 J	1.04 J	1.18 J	1.2 J	1.03 J	0.741 J	0.874 J
LEAD-214	pci/g	0.592 J	0.628 J	0.746 J	0.759 J	0.68 J	0.66 J	0.661 J	0.534 J	0.604 J
POTASSIUM-40	pci/g	16.3	14.2	12.7	15.3	18.6	17	16.4	12.4	13.8
RADIUM-228	pci/g	1.15	1.06	0.991	1.06	1.3	1.25	1.23	0.889	1.01
THALLIUM-208	pci/g	0.339 J	0.322 J	0.276 J	0.332 J	0.363 J	0.351 J	0.363 J	0.253 J	0.315 J
URANIUM-235	pci/g	0.124 J	0.0973 J	--	--	--	0.151 J	--	--	--
Grain Size										
Clay	% by wt	--	49.5	--	53.3	--	--	--	--	--
SAND	% by wt	--	5.3	--	7.9	--	--	--	--	--
SILT	% by wt	--	45.3	--	38.8	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD09		PCWLSD10		PCWLSD11			PCWLSD12	
	Field Sample ID	PCWLSD09-000005	PCWLSD09-005020	PCWLSD10-000005	PCWLSD10-005020	PCWLSD11-000005	PCWLSD11-005020	FE05SEDDUP09	PCWLSD12-000005	PCWLSD12-005020
	Date Collected	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015	6/22/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result
Miscellaneous Chemistry										
PH	su	7.25 H	7.5 H	7.39 H	7.25 H	7.59 H	7.55 H	7.73 H	7.34 H	7.28 H
TOTAL ORGANIC CARBON	mg/kg	--	50000	--	--	--	52000	52000	--	--
Solids, Total	% by wt	28.4	32	--	--	35.7	36.1	36.5	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Metals							
ALUMINUM	mg/kg	17600	18500	12900	16200	15200	11800
ANTIMONY	mg/kg	12.5 U	11 U	14.2 U	15.2 U	8.6 UJ	7.4 U
ARSENIC	mg/kg	11.7 J	12.8 J	10.6 J	12.1 J	8	8.8
BARIUM	mg/kg	38.2 J	38.7	32 J	39.4 J	46	40.3
BERYLLIUM	mg/kg	1.1 J	1.1	1.2 J	1.3 J	0.88	0.72
CADMIUM	mg/kg	1.1 J	1.1	1.7	1.7	1.2	1.1
CALCIUM	mg/kg	2410	2240	2000	2410	1930	1340
CHROMIUM	mg/kg	47.7	41	60.8	74.9	37.1	27.8
CHROMIUM (HEXAVALENT COMPOUNDS)	mg/kg	--	--	--	--	0.77	0.59
COBALT	mg/kg	15.9	6.8 J	30.8	35.4	9.9	7.5
COPPER	mg/kg	40.9	29.1	89.7	70.5	33.2	28.7
CYANIDE	mg/kg	1.4 U	1.3 U	1.6 U	1.6 U	0.98 U	0.84 U
IRON	mg/kg	33800	35900	25400	29900	27300	22500
LEAD	mg/kg	68	53.2	132	131	61.4	59.3 J
MAGNESIUM	mg/kg	6070	6210	4180	5100	4940	3260
MANGANESE	mg/kg	262	281	166	215	250	188
MERCURY	mg/kg	0.48	0.52	0.46	1.5	0.29	0.49
NICKEL	mg/kg	31	24.7	40.4	46.3	22.7	17.3
POTASSIUM	mg/kg	3490	3690	2100	2870	3120	2230
SELENIUM	mg/kg	7.3 U	6.4 U	8.3 U	8.9 U	5 UJ	4.3 U
SILVER	mg/kg	2.2	2.2	1.6 J	1.9 J	2	1.9
SODIUM	mg/kg	11000	9230	12800	11600	5720	3200 J
THALLIUM	mg/kg	1.8 J	2 J	1.3 J	1.6 J	1.2 J	1 J
VANADIUM	mg/kg	48.3 J	43.4 J	53.6 J	50.6 J	34.3	27.4
ZINC	mg/kg	146	122	295	282	165	163

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Polychlorinated Biphenyls							
AROCLOR-1262	ug/kg	80 U	78 U	110 U	140 U	64 U	54 U
AROCLOR-1016	ug/kg	80 U	78 U	110 U	140 U	64 U	54 U
AROCLOR-1221	ug/kg	80 U	78 U	110 U	140 U	64 U	54 U
AROCLOR-1232	ug/kg	80 U	78 U	110 U	140 U	64 U	54 U
AROCLOR-1242	ug/kg	80 U	78 U	110 U	140 U	64 U	54 U
AROCLOR-1248	ug/kg	80 U	78 U	110 U	140 U	64 U	54 U
AROCLOR-1254	ug/kg	80 U	78 U	110 U	140 U	64 U	54 U
AROCLOR-1260	ug/kg	80 U	78 U	49 J	140 U	64 U	54 U
AROCLOR-1268	ug/kg	80 U	78 U	110 U	140 U	64 U	54 U
TEQ WHO2005 ND=0 (PCB Congeners)	ng/kg	--	--	--	--	--	--
Total Aroclor	ug/kg	80 U	78 U	49 J	140 U	64 U	54 U
Polychlorinated Biphenyl Congeners							
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
2,2'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2',3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,4',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,4-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,6-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
3 -Monochlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
3,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
3,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
3,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
4,4'-DICHLOROBIPHENYL	ng/kg	--	--	--	--	--	--
4-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--
BZ#139 & BZ#140	ng/kg	--	--	--	--	--	--
BZ#153 & BZ#168	ng/kg	--	--	--	--	--	--
BZ#156 & BZ#157	ng/kg	--	--	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	ng/kg	--	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	ng/kg	--	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	ng/kg	--	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Co-elute: PCB#90, PCB#101, and PCB#113	ng/kg	--	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	ng/kg	--	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	ng/kg	--	--	--	--	--	--
DECACHLOROBIPHENYL	ng/kg	--	--	--	--	--	--
DICHLOROBIPHENYL: 3,4/ 3,4'	ng/kg	--	--	--	--	--	--
PCB108 & 0124	ng/kg	--	--	--	--	--	--
PCB110 & 115	ng/kg	--	--	--	--	--	--
PCB128 & 166	ng/kg	--	--	--	--	--	--
PCB135 & 151	ng/kg	--	--	--	--	--	--
PCB147 & 149	ng/kg	--	--	--	--	--	--
PCB171 & 173	ng/kg	--	--	--	--	--	--
PCB180 & 193	ng/kg	--	--	--	--	--	--
PCB183 & 185	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
PCB197 & 200	ng/kg	--	--	--	--	--	--
PCB198 & 199	ng/kg	--	--	--	--	--	--
PCB-40/PCB-71	ng/kg	--	--	--	--	--	--
PCB-86/87/97/108/119/125	ng/kg	--	--	--	--	--	--
PCB-98/PCB-102	ng/kg	--	--	--	--	--	--
PENTACHLOROBIPHENYL:2,2',3,4,6/2,2'3,4',6	ng/kg	--	--	--	--	--	--
Calculated PCB TEQs and Total PCBs							
Bird TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--
High Risk PCB Congeners	ng/kg	--	--	--	--	--	--
Sum of All PCB Congeners	ng/kg	--	--	--	--	--	--
Dioxins/Furans							
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	--	--	--	--	0.0868 U	0.0569 U
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	32.1	22.9
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	--	--	--	--	0.116 U	0.0793 U
1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	--	--	--	--	0.0803 U	0.0852 U
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	0.678 J	0.406 J
1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	--	--	--	--	0.0777 U	0.0859 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	0.8 J	0.869 J
1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	--	--	--	--	0.0811 U	0.0931 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	1.41 J	1.21 J
1,2,3,7,8-PENTACHLORODIBENZOFURAN	ng/kg	--	--	--	--	0.0936 U	0.0572 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	0.0945 U	0.114 U
2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	--	--	--	--	0.08 U	0.088 U
2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	--	--	--	--	0.746 J	1.8 J
2,3,7,8-TCDD	ng/kg	--	--	--	--	0.0985 J	0.0958 U
2,3,7,8-TETRACHLORODIBENZOFURAN	ng/kg	--	--	--	--	0.386 J	0.436 J
HEXACHLORODIBENZOFURAN	ng/kg	--	--	--	--	6.36	13
HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	54.1	35
Octachlorodibenzofuran	ng/kg	--	--	--	--	0.203 U	0.212 U
OCTACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	1160	704
PENTACHLORO DIBENZOFURAN	ng/kg	--	--	--	--	8.84	21.2 J
PENTACHLORODIBENSO-P-DIOXIN	ng/kg	--	--	--	--	9.64 J	6.74
TEQ WHO2005 ND=0	ng/kg	--	--	--	--	1.32	1.27
TETRACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	9.17 J	4.75 J
Total Heptachlorodibenzofuran	ng/kg	--	--	--	--	5.93	7.18
Total Heptachlorodibenzo-p-dioxin	ng/kg	--	--	--	--	116	84.7
Total TCDF	ng/kg	--	--	--	--	5.31 J	11.7 J
Dioxin TEQ for Birds	ng/kg	--	--	--	--	2.05	3.14
Dioxin TEQ for Fish	ng/kg	--	--	--	--	1.47	1.88

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Calculated Dioxin/Furan TEQs							
Bird TEQ (Dioxins)	ng/kg	--	--	--	--	1.56	2.48
Fish TEQ (Dioxins)	ng/kg	--	--	--	--	1	1.24
Human TEQ (Dioxins)	ng/kg	--	--	--	--	1.32	1.27
Mammal TEQ (Dioxins)	ng/kg	--	--	--	--	1.32	1.27
Pesticides							
4,4'-DDD	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	4.2 J	5.356 U
4,4'-DDE	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	6.449 U	4 J
4,4'-DDT	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	6.449 U	5.356 U
ALDRIN	µg/kg	4.119 U	4.021 U	5.785 U	7.06 U	3.322 U	2.759 U
ALPHA-BHC	µg/kg	4.119 U	4.021 U	5.785 U	7.06 U	3.322 U	2.759 U
ALPHA-CHLORDANE	µg/kg	4.119 U	4.021 U	5.785 U	7.06 U	3.322 U	2.759 U
BETA-BHC	µg/kg	4.119 U	4.021 U	5.785 U	7.06 U	3.322 U	2.759 U
DELTA-BHC	µg/kg	4.119 U	4.021 U	5.785 U	7.06 U	3.322 U	2.759 U
DIELDRIN	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	6.449 U	5.356 U
ENDOSULFAN I	µg/kg	4.119 U	4.021 U	5.785 U	7.06 U	3.322 U	2.759 U
ENDOSULFAN II	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	6.449 U	5.356 U
ENDOSULFAN SULFATE	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	6.449 U	5.356 U
ENDRIN	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	6.449 U	5.356 U
ENDRIN ALDEHYDE	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	6.449 U	5.356 U
ENDRIN KETONE	µg/kg	7.995 U	7.805 U	11.23 U	13.704 U	6.449 U	5.356 U
GAMMA-BHC (LINDANE)	µg/kg	4.119 U	4.021 U	5.785 U	7.06 U	3.322 U	2.759 U
GAMMA-CHLORDANE	µg/kg	4.119 U	4.021 U	5.785 U	7.06 U	3.322 U	2.759 U
HEPTACHLOR	µg/kg	4.119 U	4.021 U	5.785 U	7.06 U	3.322 U	2.759 U
HEPTACHLOR EPOXIDE	µg/kg	4.119 U	4.021 U	5.785 U	7.06 U	3.322 U	2.759 U
METHOXYCHLOR	µg/kg	41.189 U	40.208 U	57.849 U	70.598 U	33.223 U	27.593 U
TOXAPHENE	µg/kg	411.888 U	402.081 U	578.494 U	705.98 U	332.226 U	275.929 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Semivolatile Organic Compounds							
1,2,4,5-TETRACHLOROBENZENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
1,4-DIOXANE	µg/kg	160 U	160 U	230 U	270 U	130 U	110 U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
2,3,4,6-TETRACHLOROPHENOL	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
2,4,5-TRICHLOROPHENOL	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
2,4,6-TRICHLOROPHENOL	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
2,4-DICHLOROPHENOL	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
2,4-DIMETHYLPHENOL	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
2,4-DINITROPHENOL	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
2,4-DINITROTOLUENE	µg/kg	410 U	400 U	580 U	700 U	330 U	--
2,6-DINITROTOLUENE	µg/kg	620 J	400 U	580 U	700 U	--	--
2-CHLORONAPHTHALENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
2-CHLOROPHENOL	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
2-METHLYPHENOL	µg/kg	800 U	780 UJ	1100 UJ	1400 UJ	640 U	540 U
2-METHYLNAPHTHALENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
2-NITROANILINE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
2-NITROPHENOL	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
3,3`-DICHLOROBENZIDINE	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
3-NITROANILINE	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
4,6-DINITRO-2-METHYLPHENOL	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
4-BROMOPHENYL PHENYL ETHER	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
4-CHLORO-3-METHYLPHENOL	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
4-CHLOROANILINE	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
4-CHLOROPHENYL PHENYL ETHER	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
4-METHLYPHENOL	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
4-NITROANILINE	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
4-NITROPHENOL	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
ACENAPHTHENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
ACENAPHTHYLENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
ACETOPHENONE	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
ANTHRACENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
ATRAZINE	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
BENZALDEHYDE	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
BENZO[A]ANTHRACENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
BENZO[A]PYRENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
BENZO[B]FLUORANTHENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
BENZO[G,H,I]PERYLENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
BENZO[K]FLUORANTHENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
BENZYL BUTYL PHTHALATE	µg/kg	230 J	400 U	580 U	700 U	330 U	280 U
BIPHENYL	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
BIS(2-CHLOROETHOXY)METHANE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
BIS(2-CHLOROETHYL) ETHER	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
BIS(2-ETHYLHEXYL) PHTHALATE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
CAPROLACTAM	µg/kg	800 U	780 U	1100 U	420 J	640 U	540 U
CARBAZOLE	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
CHRYSENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
DIBENZ[A,H]ANTHRACENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
DIBENZOFURAN	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
DIETHYL PHTHALATE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
DIMETHYL PHTHALATE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
DI-N-BUTYL PHTHALATE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
DI-N-OCTYL PHTHALATE	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
FLUORANTHENE	µg/kg	800 U	780 UJ	450 J	1400 UJ	640 U	540 U
FLUORENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
HEXACHLOROBENZENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
HEXACHLOROBUTADIENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
HEXACHLOROCYCLOPENTADIENE	µg/kg	800 U	780 UJ	1100 UJ	1400 UJ	640 U	540 U
HEXACHLOROETHANE	µg/kg	410 U	400 UJ	580 UJ	700 UJ	330 U	280 U
INDENO[1,2,3-CD]PYRENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
ISOPHORONE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
NAPHTHALENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
NITROBENZENE	µg/kg	410 U	400 U	580 U	700 U	330 U	--
N-NITROSODI-N-PROPYLAMINE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
N-NITROSODIPHENYLAMINE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
PENTACHLOROPHENOL	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
PHENANTHRENE	µg/kg	410 U	400 U	580 U	700 U	330 U	280 U
PHENOL	µg/kg	800 U	780 U	1100 U	1400 U	640 U	540 U
PYRENE	µg/kg	410 U	400 U	340 J	700 U	330 U	280 U
Volatile Organic Compounds							
1,1,1-TRICHLOROETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
1,1,2,2-TETRACHLOROETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
1,1,2-TRICHLOROETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
1,1-DICHLOROETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
1,1-DICHLOROETHYLENE	µg/kg	--	11 U	--	20 U	--	7.6 U
1,2,3-TRICHLOROBENZENE	µg/kg	--	11 UJ	--	20 U	--	7.6 U
1,2,4-TRICHLOROBENZENE	µg/kg	--	11 UJ	--	20 U	--	7.6 U
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	µg/kg	--	11 U	--	20 U	--	7.6 U
1,2-DIBROMOETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
1,2-DICHLOROBENZENE	µg/kg	--	11 UJ	--	20 U	--	7.6 U
1,2-DICHLOROETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
1,2-DICHLOROPROPANE	µg/kg	--	11 U	--	20 U	--	7.6 U
1,3-DICHLOROBENZENE	µg/kg	--	11 UJ	--	20 U	--	7.6 U
1,4-DICHLOROBENZENE	µg/kg	--	11 UJ	--	20 U	--	7.6 U
2-BUTANONE	µg/kg	--	510	--	39 U	--	15 U
2-HEXANONE	µg/kg	--	23 U	--	39 U	--	15 U
4-METHYL-2-PENTANONE	µg/kg	--	23 U	--	39 U	--	15 U
ACETONE	µg/kg	--	96	--	39 U	--	15 U
BENZENE	µg/kg	--	11 U	--	20 U	--	7.6 U
BROMODICHLOROMETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
BROMOFORM	µg/kg	--	11 U	--	20 U	--	7.6 U
BROMOMETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
CARBON DISULFIDE	µg/kg	--	11 U	--	20 U	--	7.6 U
CARBON TETRACHLORIDE	µg/kg	--	11 U	--	20 U	--	7.6 U
CHLOROBENZENE	µg/kg	--	11 UJ	--	20 U	--	7.6 U
CHLOROBROMOMETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
CHLOROETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
CHLOROFORM	µg/kg	--	11 U	--	20 U	--	7.6 U
CHLOROMETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
CIS-1,2-DICHLOROETHENE	µg/kg	--	11 U	--	20 U	--	7.6 U
CIS-1,3-DICHLOROPROPYLENE	µg/kg	--	11 U	--	20 U	--	7.6 U
CYCLOHEXANE	µg/kg	--	11 U	--	20 U	--	7.6 U
DIBROMOCHLOROMETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
DICHLORODIFLUOROMETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
ETHYLBENZENE	µg/kg	--	11 U	--	20 U	--	7.6 U
ISOPROPYLBENZENE (CUMENE)	µg/kg	--	11 U	--	20 U	--	7.6 U
m,p-Xylene	µg/kg	--	11 U	--	20 U	--	7.6 U
METHYL ACETATE	µg/kg	--	11 U	--	20 U	--	7.6 U
METHYL TERT-BUTYL ETHER	µg/kg	--	11 U	--	20 U	--	7.6 U
METHYLCYLOHEXANE	µg/kg	--	11 U	--	20 U	--	7.6 U
METHYLENE CHLORIDE	µg/kg	--	11 U	--	20 U	--	7.6 U
o-Xylene	µg/kg	--	11 U	--	20 U	--	7.6 U
STYRENE (MONOMER)	µg/kg	--	11 U	--	20 U	--	7.6 U
TETRACHLOROETHYLENE	µg/kg	--	11 U	--	20 U	--	7.6 U
TOLUENE	µg/kg	--	11 U	--	20 U	--	7.6 U
TRANS-1,2-DICHLOROETHENE	µg/kg	--	11 U	--	20 U	--	7.6 U
TRANS-1,3-DICHLOROPROPENE	µg/kg	--	11 U	--	20 U	--	7.6 U
TRICHLOROETHYLENE	µg/kg	--	11 U	--	20 U	--	7.6 U
TRICHLOROFLUOROMETHANE	µg/kg	--	11 U	--	20 U	--	7.6 U
VINYL CHLORIDE	µg/kg	--	11 U	--	20 U	--	7.6 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Explosives							
1,3,5-TRINITROBENZENE	µg/kg	--	--	--	--	250 U	250 U
2,4,6-TRINITROTOLUENE	µg/kg	--	--	--	--	250 U	250 U
2-AMINO-4,6-DINITROTOLUENE	µg/kg	--	--	--	--	250 U	250 U
2-NITROTOLUENE	µg/kg	--	--	--	--	250 U	250 U
3-NITROTOLUENE	µg/kg	--	--	--	--	250 U	250 U
4-AMINO-2,6-DINITROTOLUENE	µg/kg	--	--	--	--	250 U	250 U
4-NITROTOLUENE	µg/kg	--	--	--	--	250 U	250 U
M-DINITROBENZENE	µg/kg	--	--	--	--	250 U	250 U
OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE	µg/kg	--	--	--	--	250 U	250 U
RDX	µg/kg	--	--	--	--	250 U	250 U
Isotopes							
BISMUTH-212	pci/g	1.21 J	1.32 J	1.18 J	1.39 J	0.774 J	0.667 J
BISMUTH-214	pci/g	0.545 J	0.571 J	0.559 J	0.6 J	0.432 J	0.373 J
CESIUM-137	pci/g	0.0963	0.0421	0.19	0.0475	0.107	0.0798
LEAD-212	pci/g	0.927 J	0.929 J	0.855 J	0.962 J	0.644 J	0.56 J
LEAD-214	pci/g	0.677 J	0.673 J	0.65 J	0.643 J	0.481 J	0.423 J
POTASSIUM-40	pci/g	16.5	16.7	14.6	15.3	8.48	6.84
RADIUM-228	pci/g	1.13	1.14	1.03	1.13	0.69	0.55
THALLIUM-208	pci/g	0.33 J	0.313 J	0.3 J	0.336 J	0.203 J	0.172 J
URANIUM-235	pci/g	--	--	--	0.17 J	--	0.0372 J
Grain Size							
Clay	% by wt	57.5	--	--	--	17.3	16.8
SAND	% by wt	8.3	--	--	--	54	57.1
SILT	% by wt	34.2	--	--	--	28.7	26.1

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD13		PCWLSD14		PCWLSD15	
	Field Sample ID	PCWLSD13-000005	PCWLSD13-005020	PCWLSD14-000005	PCWLSD14-005020	PCWLSD15-000005	PCWLSD15-005020
	Date Collected	6/23/2015	6/23/2015	6/23/2015	6/23/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Miscellaneous Chemistry							
PH	su	7.15 H	7.35 H	7.11 H	7.31 H	--	--
TOTAL ORGANIC CARBON	mg/kg	--	42000	--	--	--	--
Solids, Total	% by wt	--	--	--	--	50.9	66

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Metals							
ALUMINUM	mg/kg	18100	19800	10200	10300	7900	9310
ANTIMONY	mg/kg	11 U	9.8 UJ	8.3 UJ	6.9 UJ	8.5 U	9.5 UJ
ARSENIC	mg/kg	7.8	8.1	8.4	7.1	6.8	7.9
BARIUM	mg/kg	55.5	42.9	32.9	23.4	19.3 J	23.5 J
BERYLLIUM	mg/kg	0.64 J	0.92	0.74	0.6	0.49 J	0.63 J
CADMIUM	mg/kg	0.6 J	1	0.97	0.86	0.62 J	0.71 J
CALCIUM	mg/kg	4270	1990	1250	1410	1040	1200
CHROMIUM	mg/kg	42.4	38.2	21.2	21.9	19.7	23.4
CHROMIUM (HEXAVALENT COMPOUNDS)	mg/kg	--	--	--	--	--	--
COBALT	mg/kg	3.9 J	2.3	2.5 J	2.2 J	7.5	5.7 J
COPPER	mg/kg	44.8	17.5	25.8	19.8	20.2	24.4
CYANIDE	mg/kg	1.3 U	1.1 U	0.94 U	0.8 U	0.98 U	1 U
IRON	mg/kg	21000	34200	24200	25200	18600	21900
LEAD	mg/kg	93.5 J	33.2	73	62.5	32.8 J	36.6
MAGNESIUM	mg/kg	5210	6320	3570	3450	2910	3470
MANGANESE	mg/kg	110	261	147	203	166	184
MERCURY	mg/kg	0.34	0.13 J	0.58	0.98	0.11 J	0.17 J
NICKEL	mg/kg	17	20.3	13.3	13.5	12.5	13.9
POTASSIUM	mg/kg	3860	4090	2310	2290	1890	2180
SELENIUM	mg/kg	6.4 U	5.7 UJ	4.8 UJ	4 UJ	5 U	5.5 UJ
SILVER	mg/kg	1.6 J	2.4	1.8	1.9	1.4 J	1.6 J
SODIUM	mg/kg	11000 J	9920	6800	4470	5980 J	6640
THALLIUM	mg/kg	0.95 J	1.7 J	1 J	1.3 J	0.78 J-	1.1 J
VANADIUM	mg/kg	52.7	43.4	25.8	24.7	22.8	26.8
ZINC	mg/kg	118	71.9	136	82.5	76.7	82.9

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Polychlorinated Biphenyls							
AROCLOR-1262	ug/kg	84 U	79 U	86 U	74 U	62 U	64 U
AROCLOR-1016	ug/kg	84 U	79 U	86 U	74 U	62 U	64 U
AROCLOR-1221	ug/kg	84 U	79 U	86 U	74 U	62 U	64 U
AROCLOR-1232	ug/kg	84 U	79 U	86 U	74 U	62 U	64 U
AROCLOR-1242	ug/kg	84 U	79 U	86 U	74 U	62 U	64 U
AROCLOR-1248	ug/kg	84 U	79 U	86 U	74 U	62 U	64 U
AROCLOR-1254	ug/kg	84 U	79 U	86 U	74 U	62 U	64 U
AROCLOR-1260	ug/kg	84 U	79 U	86 U	74 U	62 U	64 U
AROCLOR-1268	ug/kg	84 U	79 U	86 U	74 U	62 U	64 U
TEQ WHO2005 ND=0 (PCB Congeners)	ng/kg	--	--	--	--	--	--
Total Aroclor	ug/kg	84 U	79 U	86 U	74 U	62 U	64 U
Polychlorinated Biphenyl Congeners							
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
2,2',3,3',4,5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',4-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,3',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,4',5-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
2,2',3,4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,5,6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,5,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',3-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4,4',5,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4,4',6,6'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4,6,6'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',6,6'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,2',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
2,2'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,4',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,4'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,5,5',6-Heptachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,5,6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4',5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2',3,3',4,5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',4-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',5,5',6-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',5,6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,3',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2',3,4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
2,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4,5',6-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,4',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',5',6-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2',3,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3,6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,3-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,4',6-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,4'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,4-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2,6-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
2-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
3 -Monochlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4,4',5,5'-Hexachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4,4',5-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4,4'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4,5,5'-Pentachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4,5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',4-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',5,5'-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
3,3'-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
3,4,4',5-Tetrachlorobiphenyl	ng/kg	--	--	--	--	--	--
3,4,4'-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
3,4,5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
3,4',5-Trichlorobiphenyl	ng/kg	--	--	--	--	--	--
3,5-Dichlorobiphenyl	ng/kg	--	--	--	--	--	--
4,4'-DICHLOROBIPHENYL	ng/kg	--	--	--	--	--	--
4-Monochlorobiphenyl	ng/kg	--	--	--	--	--	--
BZ#139 & BZ#140	ng/kg	--	--	--	--	--	--
BZ#153 & BZ#168	ng/kg	--	--	--	--	--	--
BZ#156 & BZ#157	ng/kg	--	--	--	--	--	--
Co-elute: PCB#44, PCB#47, PCB#65	ng/kg	--	--	--	--	--	--
Co-elute: PCB#59, PCB#62, and PCB#75	ng/kg	--	--	--	--	--	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	ng/kg	--	--	--	--	--	--
Co-elute: PCB#85, PCB#116 and PCB#117	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Co-elute: PCB#90, PCB#101, and PCB#113	ng/kg	--	--	--	--	--	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	ng/kg	--	--	--	--	--	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	ng/kg	--	--	--	--	--	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	ng/kg	--	--	--	--	--	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	ng/kg	--	--	--	--	--	--
DECACHLOROBIPHENYL	ng/kg	--	--	--	--	--	--
DICHLOROBIPHENYL: 3,4/ 3,4'	ng/kg	--	--	--	--	--	--
PCB108 & 0124	ng/kg	--	--	--	--	--	--
PCB110 & 115	ng/kg	--	--	--	--	--	--
PCB128 & 166	ng/kg	--	--	--	--	--	--
PCB135 & 151	ng/kg	--	--	--	--	--	--
PCB147 & 149	ng/kg	--	--	--	--	--	--
PCB171 & 173	ng/kg	--	--	--	--	--	--
PCB180 & 193	ng/kg	--	--	--	--	--	--
PCB183 & 185	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
PCB197 & 200	ng/kg	--	--	--	--	--	--
PCB198 & 199	ng/kg	--	--	--	--	--	--
PCB-40/PCB-71	ng/kg	--	--	--	--	--	--
PCB-86/87/97/108/119/125	ng/kg	--	--	--	--	--	--
PCB-98/PCB-102	ng/kg	--	--	--	--	--	--
PENTACHLOROBIPHENYL:2,2',3,4,6/2,2'3,4',6	ng/kg	--	--	--	--	--	--
Calculated PCB TEQs and Total PCBs							
Bird TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--
Fish TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--
Human TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--
Mammal TEQ (Dioxin Like PCBs)	ng/kg	--	--	--	--	--	--
High Risk PCB Congeners	ng/kg	--	--	--	--	--	--
Sum of All PCB Congeners	ng/kg	--	--	--	--	--	--
Dioxins/Furans							
1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	--	--	--	--	--	--
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	--	--	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	--	--	--	--	--	--
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	--	--	--	--	--	--
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--
1,2,3,7,8-PENTACHLORODIBENZOFURAN	ng/kg	--	--	--	--	--	--
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	--	--	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	--	--	--	--	--	--
2,3,7,8-TCDD	ng/kg	--	--	--	--	--	--
2,3,7,8-TETRACHLORODIBENZOFURAN	ng/kg	--	--	--	--	--	--
HEXACHLORODIBENZOFURAN	ng/kg	--	--	--	--	--	--
HEXACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--
Octachlorodibenzofuran	ng/kg	--	--	--	--	--	--
OCTACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--
PENTACHLORO DIBENZOFURAN	ng/kg	--	--	--	--	--	--
PENTACHLORODIBENSO-P-DIOXIN	ng/kg	--	--	--	--	--	--
TEQ WHO2005 ND=0	ng/kg	--	--	--	--	--	--
TETRACHLORODIBENZO-P-DIOXIN	ng/kg	--	--	--	--	--	--
Total Heptachlorodibenzofuran	ng/kg	--	--	--	--	--	--
Total Heptachlorodibenzo-p-dioxin	ng/kg	--	--	--	--	--	--
Total TCDF	ng/kg	--	--	--	--	--	--
Dioxin TEQ for Birds	ng/kg	--	--	--	--	--	--
Dioxin TEQ for Fish	ng/kg	--	--	--	--	--	--

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Calculated Dioxin/Furan TEQs							
Bird TEQ (Dioxins)	ng/kg	--	--	--	--	--	--
Fish TEQ (Dioxins)	ng/kg	--	--	--	--	--	--
Human TEQ (Dioxins)	ng/kg	--	--	--	--	--	--
Mammal TEQ (Dioxins)	ng/kg	--	--	--	--	--	--
Pesticides							
4,4'-DDD	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U
4,4'-DDE	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U
4,4'-DDT	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U
ALDRIN	µg/kg	4.302 U	4.119 U	4.429 U	3.851 U	3.165 U	3.3 U
ALPHA-BHC	µg/kg	4.302 U	4.119 U	4.429 U	3.851 U	3.165 U	3.3 U
ALPHA-CHLORDANE	µg/kg	4.302 U	4.119 U	4.429 U	3.851 U	3.165 U	3.3 U
BETA-BHC	µg/kg	4.302 U	4.119 U	4.429 U	3.851 U	3.165 U	3.3 U
DELTA-BHC	µg/kg	4.302 U	4.119 U	4.429 U	3.851 U	3.165 U	3.3 U
DIELDRIN	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U
ENDOSULFAN I	µg/kg	4.302 U	4.119 U	4.429 U	3.851 U	3.165 U	3.3 U
ENDOSULFAN II	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U
ENDOSULFAN SULFATE	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U
ENDRIN	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U
ENDRIN ALDEHYDE	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U
ENDRIN KETONE	µg/kg	8.35 U	7.995 U	8.598 U	7.475 U	6.144 U	6.407 U
GAMMA-BHC (LINDANE)	µg/kg	4.302 U	4.119 U	4.429 U	3.851 U	3.165 U	3.3 U
GAMMA-CHLORDANE	µg/kg	4.302 U	4.119 U	4.429 U	3.851 U	3.165 U	3.3 U
HEPTACHLOR	µg/kg	4.302 U	4.119 U	4.429 U	3.851 U	3.165 U	3.3 U
HEPTACHLOR EPOXIDE	µg/kg	4.302 U	4.119 U	4.429 U	3.851 U	3.165 U	3.3 U
METHOXYCHLOR	µg/kg	43.016 U	41.189 U	44.294 U	38.508 U	31.653 U	33.003 U
TOXAPHENE	µg/kg	430.162 U	411.888 U	442.939 U	385.08 U	316.534 U	330.033 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Semivolatile Organic Compounds							
1,2,4,5-TETRACHLOROBENZENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
1,4-DIOXANE	µg/kg	170 U	160 U	170 U	150 U	120 U	130 U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
2,3,4,6-TETRACHLOROPHENOL	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
2,4,5-TRICHLOROPHENOL	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
2,4,6-TRICHLOROPHENOL	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
2,4-DICHLOROPHENOL	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
2,4-DIMETHYLPHENOL	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
2,4-DINITROPHENOL	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
2,4-DINITROTOLUENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
2,6-DINITROTOLUENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
2-CHLORONAPHTHALENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
2-CHLOROPHENOL	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
2-METHLYPHENOL	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
2-METHYLNAPHTHALENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
2-NITROANILINE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
2-NITROPHENOL	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
3,3`-DICHLOROBENZIDINE	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
3-NITROANILINE	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
4,6-DINITRO-2-METHYLPHENOL	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
4-BROMOPHENYL PHENYL ETHER	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
4-CHLORO-3-METHYLPHENOL	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
4-CHLOROANILINE	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
4-CHLOROPHENYL PHENYL ETHER	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
4-METHLYPHENOL	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
4-NITROANILINE	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
4-NITROPHENOL	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
ACENAPHTHENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
ACENAPHTHYLENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
ACETOPHENONE	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
ANTHRACENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
ATRAZINE	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
BENZALDEHYDE	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
BENZO[A]ANTHRACENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
BENZO[A]PYRENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
BENZO[B]FLUORANTHENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
BENZO[G,H,I]PERYLENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
BENZO[K]FLUORANTHENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
BENZYL BUTYL PHTHALATE	µg/kg	430 U	410 U	400 J	240 J	290 J	580 J
BIPHENYL	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
BIS(2-CHLOROETHOXY)METHANE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
BIS(2-CHLOROETHYL) ETHER	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
BIS(2-ETHYLHEXYL) PHTHALATE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
CAPROLACTAM	µg/kg	840 U	800 U	250 J	750 U	620 U	180 J
CARBAZOLE	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
CHRYSENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
DIBENZ[A,H]ANTHRACENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
DIBENZOFURAN	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
DIETHYL PHTHALATE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
DIMETHYL PHTHALATE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
DI-N-BUTYL PHTHALATE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
DI-N-OCTYL PHTHALATE	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
FLUORANTHENE	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
FLUORENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
HEXACHLOROBENZENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
HEXACHLOROBUTADIENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
HEXACHLOROCYCLOPENTADIENE	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
HEXACHLOROETHANE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
INDENO[1,2,3-CD]PYRENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
ISOPHORONE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
NAPHTHALENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
NITROBENZENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
N-NITROSODI-N-PROPYLAMINE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
N-NITROSODIPHENYLAMINE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
PENTACHLOROPHENOL	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
PHENANTHRENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
PHENOL	µg/kg	840 U	800 U	860 U	750 U	620 U	640 U
PYRENE	µg/kg	430 U	410 U	440 U	390 U	320 U	330 U
Volatile Organic Compounds							
1,1,1-TRICHLOROETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
1,1,2,2-TETRACHLOROETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
1,1,2-TRICHLOROETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
1,1-DICHLOROETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
1,1-DICHLOROETHYLENE	µg/kg	--	11 U	--	11 U	--	8.9 U
1,2,3-TRICHLOROBENZENE	µg/kg	--	11 U	--	11 U	--	8.9 U
1,2,4-TRICHLOROBENZENE	µg/kg	--	11 U	--	11 U	--	8.9 U
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	µg/kg	--	11 U	--	11 U	--	8.9 U
1,2-DIBROMOETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
1,2-DICHLOROBENZENE	µg/kg	--	11 U	--	11 U	--	8.9 U
1,2-DICHLOROETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
1,2-DICHLOROPROPANE	µg/kg	--	11 U	--	11 U	--	8.9 U
1,3-DICHLOROBENZENE	µg/kg	--	11 U	--	11 U	--	8.9 U
1,4-DICHLOROBENZENE	µg/kg	--	11 U	--	11 U	--	8.9 U
2-BUTANONE	µg/kg	--	23 U	--	22 U	--	18 U
2-HEXANONE	µg/kg	--	23 U	--	22 U	--	18 U
4-METHYL-2-PENTANONE	µg/kg	--	23 U	--	22 U	--	18 U
ACETONE	µg/kg	--	23 U	--	22 U	--	18 U
BENZENE	µg/kg	--	11 U	--	11 U	--	8.9 U
BROMODICHLOROMETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
BROMOFORM	µg/kg	--	11 U	--	11 U	--	8.9 U
BROMOMETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
CARBON DISULFIDE	µg/kg	--	11 U	--	11 U	--	8.9 U
CARBON TETRACHLORIDE	µg/kg	--	11 U	--	11 U	--	8.9 U
CHLOROBENZENE	µg/kg	--	11 U	--	11 U	--	8.9 U
CHLOROBROMOMETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
CHLOROETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
CHLOROFORM	µg/kg	--	11 U	--	11 U	--	8.9 U
CHLOROMETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
CIS-1,2-DICHLOROETHENE	µg/kg	--	11 U	--	11 U	--	8.9 U
CIS-1,3-DICHLOROPROPYLENE	µg/kg	--	11 U	--	11 U	--	8.9 U
CYCLOHEXANE	µg/kg	--	11 U	--	11 U	--	8.9 U
DIBROMOCHLOROMETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
DICHLORODIFLUOROMETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
ETHYLBENZENE	µg/kg	--	11 U	--	11 U	--	8.9 U
ISOPROPYLBENZENE (CUMENE)	µg/kg	--	11 U	--	11 U	--	8.9 U
m,p-Xylene	µg/kg	--	11 U	--	11 U	--	8.9 U
METHYL ACETATE	µg/kg	--	11 U	--	11 U	--	8.9 U
METHYL TERT-BUTYL ETHER	µg/kg	--	11 U	--	11 U	--	8.9 U
METHYLCYLOHEXANE	µg/kg	--	11 U	--	11 U	--	8.9 U
METHYLENE CHLORIDE	µg/kg	--	19 J	--	19 J	--	8.9 U
o-Xylene	µg/kg	--	11 U	--	11 U	--	8.9 U
STYRENE (MONOMER)	µg/kg	--	11 U	--	11 U	--	8.9 U
TETRACHLOROETHYLENE	µg/kg	--	11 U	--	11 U	--	8.9 U
TOLUENE	µg/kg	--	11 U	--	11 U	--	8.9 U
TRANS-1,2-DICHLOROETHENE	µg/kg	--	11 U	--	11 U	--	8.9 U
TRANS-1,3-DICHLOROPROPENE	µg/kg	--	11 U	--	11 U	--	8.9 U
TRICHLOROETHYLENE	µg/kg	--	11 U	--	11 U	--	8.9 U
TRICHLOROFLUOROMETHANE	µg/kg	--	11 U	--	11 U	--	8.9 U
VINYL CHLORIDE	µg/kg	--	11 U	--	11 U	--	8.9 U

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Explosives							
1,3,5-TRINITROBENZENE	µg/kg	--	--	--	--	--	--
2,4,6-TRINITROTOLUENE	µg/kg	--	--	--	--	--	--
2-AMINO-4,6-DINITROTOLUENE	µg/kg	--	--	--	--	--	--
2-NITROTOLUENE	µg/kg	--	--	--	--	--	--
3-NITROTOLUENE	µg/kg	--	--	--	--	--	--
4-AMINO-2,6-DINITROTOLUENE	µg/kg	--	--	--	--	--	--
4-NITROTOLUENE	µg/kg	--	--	--	--	--	--
M-DINITROBENZENE	µg/kg	--	--	--	--	--	--
OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE	µg/kg	--	--	--	--	--	--
RDX	µg/kg	--	--	--	--	--	--
Isotopes							
BISMUTH-212	pci/g	1.2 J	1.33 J	0.825 J	0.951 J	0.716 J	0.823 J
BISMUTH-214	pci/g	0.58 J	0.562 J	0.588 J	0.524 J	0.401 J	0.464 J
CESIUM-137	pci/g	0.123	0.0677	0.0877	--	0.046	--
LEAD-212	pci/g	0.85 J	0.979 J	0.801 J	0.84 J	0.579 J	0.66 J
LEAD-214	pci/g	0.653 J	0.693 J	0.632 J	0.597 J	0.456 J	0.515 J
POTASSIUM-40	pci/g	15.4	17.1	14.4	12.8	11.5	11.9
RADIUM-228	pci/g	1.05	1.18	0.96	0.816	0.68	0.706
THALLIUM-208	pci/g	0.32 J	0.329 J	0.302 J	0.258 J	0.21 J	0.215 J
URANIUM-235	pci/g	0.0715 J	0.12 J	0.104 J	0.0593 J	--	0.0618 J
Grain Size							
Clay	% by wt	--	--	--	--	29.8	18.5
SAND	% by wt	--	--	--	--	50.2	45
SILT	% by wt	--	--	--	--	20	36.6

Table A.4
Paradise Creek Tidal Wetland Sediments

Analyte	Location ID	PCWLSD16		PCWLSD17		PCWLSD18	
	Field Sample ID	PCWLSD16-000005	PCWLSD16-005020	PCWLSD17-000005	PCWLSD17-005020	PCWLSD18-000005	PCWLSD18-005020
	Date Collected	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015	6/21/2015
	Sample Depth (bgs)	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft	0-0.5 ft	0.5-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result
Miscellaneous Chemistry							
PH	su	--	--	--	--	--	--
TOTAL ORGANIC CARBON	mg/kg	--	--	--	--	--	--
Solids, Total	% by wt	--	--	--	--	--	--

Note: 2,4-dinitrotoluene, 2,6-dinitrotoluene, and nitrobenzene were analyzed under SVOCs and explosives. Both results for each compound have been provided.

µg/kg = micrograms per kilograms
mg/kg = milligrams per kilogram
ng/kg = nanograms per kilogram
pci/g = picocuries per gram
% by wt = percent by weight
su = standard pH unit
ID = idnetification
ft = feet
bgs = below ground surface
-- = not analyzed, not provided, not calculated
J = positive detect; value estimated
J- = positive detect; value estimated and biased low
J+ = positive detect; value estimated and biased high
U = not detected; value shown equals the reporting limit
UJ = not detected; value shown equals the estimated reporting limit
H = Sample was prepped or analyzed beyond the specified holding time

PCB = polychlorinated biphenyls
TCDF = Tetrachlorodibenzofuran
TCDD = Tetrachlorodibenzodioxin
TEQ = Toxic Equivalent
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
BHC = hexachlorocyclohexane

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Metals								
ALUMINUM	µg/L	276	344	254	433	470	524	468
ANTIMONY	µg/L	60 U	60 U	60 U	60 U	60 U	60 U	60 U
ARSENIC	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
BARIUM	µg/L	46.6 J	48 J	45.9 J	50.3 J	49 J	47.1 J	39.1 J
BERYLLIUM	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CADMIUM	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CALCIUM	µg/L	181000	178000	181000	182000	179000	164000	192000
CHROMIUM	µg/L	1.7 J	2.4 J	1.4 J	1.6 J	1.8 J	2.6 J	3.4 J
CHROMIUM (HEXAVALENT COMPOUNDS)	µg/L	--	--	--	--	--	--	--
COBALT	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
COPPER	µg/L	4.4 J	3.7 J	4.6 J	3.9 J	4 J	5.6 J	25 U
CYANIDE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
IRON	µg/L	669 J	788 J	701 J	954 J	972 J	938 J	786 J
LEAD	µg/L	2.8 J	3.1 J	10 U	10 U	10 U	3.2 J	10 U
MAGNESIUM	µg/L	529000	515000	526000	523000	515000	468000	567000
MANGANESE	µg/L	108	108	108	121	118	98.7	111
MERCURY	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
NICKEL	µg/L	4 J	4.1 J	3.5 J	4 J	4.3 J	4 J	7.1 J
POTASSIUM	µg/L	179000	177000	181000	180000	178000	162000	195000
SELENIUM	µg/L	35 U	35 U	35 U	35 U	35 U	35 U	35 U
SILVER	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
SODIUM	µg/L	4261000	4188900	4106700	4090000	4097500	3956400	4538500
THALLIUM	µg/L	25 U	2.2 J	25 U	3 J	3.1 J	25 U	2.8 J
VANADIUM	µg/L	50 U	6.3 J	50 U	50 U	50 U	50 U	50 U
ZINC	µg/L	60 U	60 U	60 U	60 U	60 U	24.2 J	60 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	pg/L	--	--	--	1.5 U	2.04 U	--	1.08 U
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	pg/L	--	--	--	9.8 J	9.49 J	--	11.7 J
1,2,3,4,7,8,9-Heptachlorodibenzofuran	pg/L	--	--	--	2.84 U	2.24 U	--	1.96 U
1,2,3,4,7,8-Hexachlorodibenzofuran	pg/L	--	--	--	0.919 U	0.786 U	--	0.775 U
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	pg/L	--	--	--	1.29 U	1.51 U	--	1.94 U
1,2,3,6,7,8-Hexachlorodibenzofuran	pg/L	--	--	--	0.714 J	0.742 U	--	0.71 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	pg/L	--	--	--	1.27 U	1.38 U	--	1.89 U
1,2,3,7,8,9-Hexachlorodibenzofuran	pg/L	--	--	--	1.61 U	1.36 U	--	1.29 U
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	pg/L	--	--	--	1.34 U	1.51 U	--	2.01 U
1,2,3,7,8-PENTACHLORODIBENZOFURAN	pg/L	--	--	--	0.695 U	0.67 U	--	0.619 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	pg/L	--	--	--	0.78 U	0.886 U	--	0.998 U
2,3,4,6,7,8-Hexachlorodibenzofuran	pg/L	--	--	--	0.734 J	0.778 U	--	0.746 J
2,3,4,7,8-Pentachlorodibenzofuran	pg/L	--	--	--	0.574 U	0.579 U	--	0.533 U
2,3,7,8-TCDD	pg/L	--	--	--	0.536 J	0.85 U	--	0.565 J
2,3,7,8-TETRACHLORODIBENZOFURAN	pg/L	--	--	--	0.677 U	0.878 U	--	1.05 U
HEXACHLORODIBENZOFURAN	pg/L	--	--	--	0.871 U	0.742 U	--	0.71 U
HEXACHLORODIBENZO-P-DIOXIN	pg/L	--	--	--	3.73 J	3.36 J	--	8.53 J
Octachlorodibenzofuran	pg/L	--	--	--	3.12 J	2.46 J	--	1.57 J

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
OCTACHLORODIBENZO-P-DIOXIN	pg/L	--	--	--	120	117	--	135
PENTACHLORO DIBENZOFURAN	pg/L	--	--	--	0.312 U	0.373 U	--	0.349 U
PENTACHLORODIBENSO-P-DIOXIN	pg/L	--	--	--	0.78 U	0.471 J	--	0.998 U
TEQ WHO2005 ND=0	pg/L	--	--	--	0.816	0.131	--	0.797
TETRACHLORODIBENZO-P-DIOXIN	pg/L	--	--	--	0.536 J	0.354 J	--	0.565 J
Total Heptachlorodibenzofuran	pg/L	--	--	--	1.5 U	1.18 U	--	1.08 U
Total Heptachlorodibenzo-p-dioxin	pg/L	--	--	--	27.3 J	35.1 J	--	36.1 J
Total TCDF	pg/L	--	--	--	0.677 U	0.295 J	--	1.05 U
Laboratory Provided Dioxin TEQs								
Dioxin TEQ for Birds	pg/L	--	--	--	3.24	3.9	--	3.94
Dioxin TEQ for Fish	pg/L	--	--	--	2.74	3.28	--	3.34
Calculated Dioxin/Furan TEQs								
Bird TEQ (Dioxins)	pg/L	--	--	--	0.703	0.0214	--	0.665
Fish TEQ (Dioxins)	pg/L	--	--	--	0.703	0.0214	--	0.665
Human TEQ (Dioxins)	pg/L	--	--	--	0.816	0.131	--	0.798
Mammal TEQ (Dioxins)	pg/L	--	--	--	0.816	0.131	--	0.798
Polychlorinated Biphenyls								
AROCLOR-1262	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1221	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1232	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1242	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1248	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1254	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1260	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1268	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TEQ WHO2005 ND=0 (PCB Congeners)	pg/L	--	0.0033	--	0.0048	0.0052	--	0.0053
Total Aroclor	pg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Polychlorinated Biphenyl Congeners								
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	23.4	--	20.1 U
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	pg/L	--	21.4 U	--	29.1	30.8	--	32.7
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',4,4',5,6-Octachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',4,4',5-Heptachlorobiphenyl	pg/L	--	29.5	--	42.1	46.4	--	51.3
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	pg/L	--	144	--	202	220	--	248
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',4,5,5'-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',4',5,6-Heptachlorobiphenyl	pg/L	--	21.4 U	--	25.1	26.9	--	31.5
2,2',3,3',4,5',6-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',4,5,6'-Heptachlorobiphenyl	pg/L	--	29.6	--	38.7	43.7	--	51.3
2,2',3,3',4,5'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',4,6,6'-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',4,6'-Hexachlorobiphenyl	pg/L	--	39.9	--	52.3	59.8	--	68.8
2,2',3,3',4,6-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',4-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',5,5',6-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',5,5'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',5,6,6'-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	21.2	--	22.7
2,2',3,3',5,6-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,3',5-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,2',3,3',6,6'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	21.6
2,2',3,3',6-Pentachlorobiphenyl	pg/L	--	21.4 U	--	23	27.5	--	28.8
2,2',3,4,4',5,5',6-Octachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	22	--	21.3
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4,4',5,6'-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4,4',5,6-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4,4',5-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4,4',6,6'-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4',5,5',6-Heptachlorobiphenyl	pg/L	--	50.5	--	66.2	73.5	--	79.1
2,2',3,4,5,5'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	27.2	28.7	--	34.5
2,2',3,4',5,5'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	23.6	26.9	--	28.9
2,2',3,4,5,6,6'-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4',5,6,6'-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4,5,6'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4',5,6'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4,5,6-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4,5',6-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4,6,6'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4',6,6'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4,6'-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4'-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,4-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,5,5'-Pentachlorobiphenyl	pg/L	--	21.4 U	--	21.9	23.9	--	24.7
2,2',3,5,6,6'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,5',6-Pentachlorobiphenyl	pg/L	--	65.2	--	81.7	92	--	100
2,2',3,5,6'-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,2',3,5-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,6,6'-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3,6'-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',3-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',4,4',5,6'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',4,4',5-Pentachlorobiphenyl	pg/L	--	36.6	--	49.2	53.3	--	55.7
2,2',4,4',6,6'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',4,5',6-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',4,5-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',4,6,6'-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',4-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',5,5'-Tetrachlorobiphenyl	pg/L	--	70.4	--	84	90.4	--	89.3
2,2',6,6'-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2',6-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,2'-Dichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.7	--	20.1 U
2,3,3',4,4',5,5',6-Octachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',4,4',5,5'-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',4,4',5,6-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',4,4',5',6-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',4,4',6-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',4,4'-Pentachlorobiphenyl	pg/L	--	33.4	--	47.1	50.7	--	52.8
2,3,3',4,5,5',6-Heptachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',4,5,5'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',4',5,5'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',4,5,6-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',4,5',6-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,3,3',4',5',6-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',4,5-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2',3,3',4,5-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',4',5-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',4'-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.6	--	20.1 U
2,3,3',4-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',5,5',6-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',5,5'-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',5,6-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',5'-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,3',5-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3',4,4',5,5'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,4,4',5-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2',3,4,4',5-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3',4,4',5-Pentachlorobiphenyl	pg/L	--	77.8	--	113	122	--	123
2,3,4,4'-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3',4,4'-Tetrachlorobiphenyl	pg/L	--	35.1	--	47	48.7	--	47.3
2,3',4,5,5'-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3',4,5',6-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3',4,5'-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3',4,5-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,4',5-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,4',6-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	22	23.5	--	21.7
2,3',4-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,4'-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3',5,5'-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,3',5',6-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,5-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2',3,5-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3,6-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3',6-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3'-Dichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,3-Dichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,4',5-Trichlorobiphenyl	pg/L	--	27.6	--	31.1	33.6	--	32.4
2,4',6-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,4'-Dichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,4-Dichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,5-Dichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2,6-Dichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
2-Monochlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3 -Monochlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,3',4,4',5,5'-Hexachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,3',4,4',5-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,3',4,4'-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,3',4,5,5'-Pentachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,3',4,5'-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,3',4,5-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,3',4-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,3',5,5'-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,3',5-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,3'-Dichlorobiphenyl	pg/L	--	21.4 U	--	41	39.9	--	20.1 U
3,4,4',5-Tetrachlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
3,4,4'-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,4,5-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,4',5-Trichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
3,5-Dichlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
4,4'-DICHLOROBIPHENYL	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
4-Monochlorobiphenyl	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
BZ#139 & BZ#140	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
BZ#153 & BZ#168	pg/L	--	114	--	158	172	--	190
BZ#156 & BZ#157	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
Co-elute: PCB#44, PCB#47, PCB#65	pg/L	--	67.1	--	81	89.5	--	88.2
Co-elute: PCB#59, PCB#62, and PCB#75	pg/L	--	64.3 U	--	59.5 U	60.8 U	--	60.3 U
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	pg/L	--	85.7 U	--	79.3 U	85	--	80.4 U
Co-elute: PCB#85, PCB#116 and PCB#117	pg/L	--	64.3 U	--	59.5 U	60.8 U	--	60.3 U
Co-elute: PCB#90, PCB#101, and PCB#113	pg/L	--	90	--	118	131	--	137
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	pg/L	--	42.8 U	--	51.2	54.5	--	51.7
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	pg/L	--	43.7	--	50.6	52.8	--	51.7
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
DECACHLOROBIPHENYL	pg/L	--	21.4 U	--	19.8 U	20.3 U	--	20.1 U
DICHLOROBIPHENYL: 3,4/ 3,4'	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
PCB108 & 0124	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
PCB110 & 115	pg/L	--	112	--	148	163	--	181
PCB128 & 166	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
PCB135 & 151	pg/L	--	42.8 U	--	54.8	62	--	69.3
PCB147 & 149	pg/L	--	94.2	--	130	143	--	164
PCB171 & 173	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
PCB180 & 193	pg/L	--	70.6	--	98.6	110	--	121
PCB183 & 185	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
PCB197 & 200	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
PCB198 & 199	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
PCB-40/PCB-71	pg/L	--	42.8 U	--	38.7 U	40.5 U	--	40.2 U
PCB-86/87/97/108/119/125	pg/L	--	129 U	--	119 U	122 U	--	121 U
PCB-98/PCB-102	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U
PENTACHLOROBIPHENYL 2,2',3,4,6/2,2'3,4',6	pg/L	--	42.8 U	--	39.7 U	40.5 U	--	40.2 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Pesticides								
4,4'-DDD	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ALDRIN	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
ALPHA-BHC	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
ALPHA-CHLORDANE	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
BETA-BHC	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
DELTA-BHC	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
DIELDRIN	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDOSULFAN I	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
ENDOSULFAN II	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDOSULFAN SULFATE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDRIN	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDRIN ALDEHYDE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDRIN KETONE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
GAMMA-BHC (LINDANE)	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
GAMMA-CHLORDANE	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
HEPTACHLOR	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
HEPTACHLOR EPOXIDE	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
METHOXYCHLOR	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TOXAPHENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Calculated PCB TEQs and PCB Totals								
Bird TEQ (Dioxin Like PCBs)	pg/L	--	0.00412	--	0.00584	0.00629	--	0.00651
Fish TEQ (Dioxin Like PCBs)	pg/L	--	0.000556	--	0.000801	0.000864	--	0.000879
Human TEQ (Dioxin Like PCBs)	pg/L	--	0.00334	--	0.0048	0.00518	--	0.00527
Mammal TEQ (Dioxin Like PCBs)	pg/L	--	0.00334	--	0.0048	0.00518	--	0.00527
High Risk PCB Congeners	pg/L	--	1160	--	1830	2190	--	2240
Sum of All PCB Congeners	pg/L	--	1230	--	1960	2330	--	2320
Semivolatile Organic Compounds								
1,2,4,5-TETRACHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-DIOXANE	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,3,4,6-TETRACHLOROPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4,5-TRICHLOROPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4,6-TRICHLOROPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-DICHLOROPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-DIMETHYLPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-DINITROPHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-DINITROTOLUENE	µg/L	5 U	5 U	5 U	5 U	--	5 U	5 U
2,6-DINITROTOLUENE	µg/L	5 U	5 U	5 U	5 U	--	5 U	5 U
2-CHLORONAPHTHALENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-CHLOROPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-METHLYPHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-METHYLNAPHTHALENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-NITROANILINE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-NITROPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
3,3`-DICHLOROBENZIDINE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
3-NITROANILINE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4,6-DINITRO-2-METHYLPHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-BROMOPHENYL PHENYL ETHER	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-CHLORO-3-METHYLPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-CHLOROANILINE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-CHLOROPHENYL PHENYL ETHER	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-METHLYPHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-NITROANILINE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-NITROPHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
ACENAPHTHENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
ACENAPHTHYLENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
ACETOPHENONE	µg/L	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
ANTHRACENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
ATRAZINE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
BENZALDEHYDE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
BENZO[A]ANTHRACENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BENZO[A]PYRENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BENZO[B]FLUORANTHENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BENZO[G,H,I]PERYLENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BENZO[K]FLUORANTHENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BENZYL BUTYL PHTHALATE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BIPHENYL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BIS(2-CHLOROETHOXY)METHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BIS(2-CHLOROETHYL) ETHER	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
BIS(2-ETHYLHEXYL) PHTHALATE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
CAPROLACTAM	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CARBAZOLE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CHRYSENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DIBENZ[A,H]ANTHRACENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DIBENZOFURAN	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DIETHYL PHTHALATE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DIMETHYL PHTHALATE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DI-N-BUTYL PHTHALATE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DI-N-OCTYL PHTHALATE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
FLUORANTHENE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
FLUORENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
HEXACHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
HEXACHLOROBUTADIENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
HEXACHLOROCYCLOPENTADIENE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
HEXACHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
INDENO[1,2,3-CD]PYRENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
ISOPHORONE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
NAPHTHALENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
NITROBENZENE	µg/L	5 U	5 U	5 U	5 U	--	5 U	5 U
N-NITROSODI-N-PROPYLAMINE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-NITROSODIPHENYLAMINE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
PENTACHLOROPHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
PHENANTHRENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
PHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
PYRENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Explosives								
1,3,5-TRINITROBENZENE	µg/L	--	--	--	0.2 U	0.2 U	--	5 U
2,4,6-TRINITROTOLUENE	µg/L	--	--	--	0.2 U	0.2 U	--	0.2 U
2-AMINO-4,6-DINITROTOLUENE	µg/L	--	--	--	0.2 U	0.2 U	--	0.2 U
2-NITROTOLUENE	µg/L	--	--	--	0.5 U	0.5 U	--	0.2 U
3-NITROTOLUENE	µg/L	--	--	--	0.2 U	0.2 U	--	0.5 U
4-AMINO-2,6-DINITROTOLUENE	µg/L	--	--	--	0.2 U	0.2 U	--	0.2 U
4-NITROTOLUENE	µg/L	--	--	--	0.5 U	0.5 U	--	0.2 U
M-DINITROBENZENE	µg/L	--	--	--	0.2 U	0.2 U	--	0.5 U
OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE	µg/L	--	--	--	0.2 U	0.2 U	--	0.2 U
RDX	µg/L	--	--	--	0.2 U	0.2 U	--	0.2 U
Volatile Organic Compounds								
1,1,1-TRICHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-TETRACHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-TRICHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-DICHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-DICHLOROETHYLENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,3-TRICHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,4-TRICHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DIBROMOETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
1,2-DICHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DICHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DICHLOROPROPANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-DICHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-DICHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-BUTANONE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-HEXANONE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-METHYL-2-PENTANONE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
ACETONE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
BENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BROMODICHLOROMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BROMOFORM	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BROMOMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CARBON DISULFIDE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CARBON TETRACHLORIDE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROBROMOMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROFORM	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CIS-1,2-DICHLOROETHENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CIS-1,3-DICHLOROPROPYLENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CYCLOHEXANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DIBROMOCHLOROMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DICHLORODIFLUOROMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
ETHYLBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
ISOPROPYLBENZENE (CUMENE)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
m,p-Xylene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
METHYL ACETATE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
METHYL TERT-BUTYL ETHER	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
METHYLCYLOHEXANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
METHYLENE CHLORIDE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
o-Xylene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
STYRENE (MONOMER)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TETRACHLOROETHYLENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TOLUENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TRANS-1,2-DICHLOROETHENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TRANS-1,3-DICHLOROPROPENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TRICHLOROETHYLENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TRICHLOROFLUOROMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
VINYL CHLORIDE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW01	PCSW02	PCSW03	PCSW04		PCSW05	PCSW06
	Field Sample ID	PCSW01	PCSW02	PCSW03	PCSW04	FE05SWDUP01	PCSW05	PCSW06
	Date Collected	6/17/2015	6/17/2015	6/17/2015	6/16/2015	6/16/2015	6/20/2015	6/16/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Normal	Normal	Normal	Duplicate	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Isotopes								
BISMUTH-212	pg/L	-4.78 J	26.6 J	9.22 J	19.3 J	-24.7 J	-0.144 J	5.23 J
BISMUTH-214	pg/L	4.75 J	6.16 J	-1.83	2.83 J	1.23 J	0.684 J	4.87 J
LEAD-212	pg/L	3.13 J	-0.511 J	2.85 J	3.21 J	1.52 J	1.05 J	-0.0368 J
LEAD-214	pg/L	1.56 J	-2.7 J	1.24 J	2.2 J	-2.87 J	0.909 J	-0.541 J
POTASSIUM-40	pg/L	137	99.7	143	158	175	150	168
RADIUM-228	pg/L	1.83	-3.73	-0.341	4.59	6.53	5.75	3.65
STRONTIUM-90	pg/L	--	--	--	--	--	--	--
Miscellaneous Chemistry								
HARDNESS, AS CACO3	mg/L	2630	2570	2620	2610	2570	2340	2810

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Metals								
ALUMINUM	µg/L	419	454	137 J	412	392	321	217
ANTIMONY	µg/L	60 U	60 U	60 U	60 U	60 U	60 U	60 U
ARSENIC	µg/L	2.2 J	10 U	10 U	5.7 J	2.8 J	4.2 J	3 J
BARIUM	µg/L	40.8 J	40.6 J	38.3 J	36 J	26.6 J	23.2 J	20.4 J
BERYLLIUM	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CADMIUM	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CALCIUM	µg/L	176000	176000	196000	181000	195000	202000	202000
CHROMIUM	µg/L	3.7 J	4 J	1.1 J	2.2 J	1.6 J	1.2 J	10 U
CHROMIUM (HEXAVALENT COMPOUNDS)	µg/L	--	--	--	--	--	--	--
COBALT	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U
COPPER	µg/L	4.8 J	3.8 J	3.7 J	4.6 J	25 U	4.9 J	25 U
CYANIDE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
IRON	µg/L	727 J	744 J	380 J	648 J	532 J	448 J	335 J
LEAD	µg/L	3.8 J	3.5 J	10 U	10 U	10 U	2.6 J	10 U
MAGNESIUM	µg/L	514000	513000	584000	535000	589000	617000	617000
MANGANESE	µg/L	101	100	98.3	94.3	83.6	81.8	76.2
MERCURY	µg/L	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
NICKEL	µg/L	16.9 J	12.7 J	3.4 J	3.4 J	3 J	2.9 J	40 U
POTASSIUM	µg/L	179000	181000	201000	188000	206000	215000	215000
SELENIUM	µg/L	35 U	35 U	35 U	5 J	35 U	4.2 J	35 U
SILVER	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
SODIUM	µg/L	4231700	4332700	4754900	4467800	4758300	5117500	5109600
THALLIUM	µg/L	25 U	3.2 J	25 U	3.5 J	3.2 J	2 J	3.8 J
VANADIUM	µg/L	50 U	7.2 J	50 U	50 U	50 U	5.9 J	50 U
ZINC	µg/L	31.2 J	20.5 J	72.6	20.3 J	28.3 J	12.7 J	14.7 J

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Dioxins/Furans								
1,2,3,4,6,7,8-Heptachlorodibenzofuran	pg/L	--	--	0.923 U	--	--	--	--
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	pg/L	--	--	3.58 J	--	--	--	--
1,2,3,4,7,8,9-Heptachlorodibenzofuran	pg/L	--	--	1.68 U	--	--	--	--
1,2,3,4,7,8-Hexachlorodibenzofuran	pg/L	--	--	0.619 U	--	--	--	--
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	pg/L	--	--	1.11 U	--	--	--	--
1,2,3,6,7,8-Hexachlorodibenzofuran	pg/L	--	--	0.583 U	--	--	--	--
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	pg/L	--	--	1.07 U	--	--	--	--
1,2,3,7,8,9-Hexachlorodibenzofuran	pg/L	--	--	1.05 U	--	--	--	--
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	pg/L	--	--	1.14 U	--	--	--	--
1,2,3,7,8-PENTACHLORODIBENZOFURAN	pg/L	--	--	0.498 U	--	--	--	--
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	pg/L	--	--	0.871 U	--	--	--	--
2,3,4,6,7,8-Hexachlorodibenzofuran	pg/L	--	--	0.365 J	--	--	--	--
2,3,4,7,8-Pentachlorodibenzofuran	pg/L	--	--	0.173 J	--	--	--	--
2,3,7,8-TCDD	pg/L	--	--	0.756 U	--	--	--	--
2,3,7,8-TETRACHLORODIBENZOFURAN	pg/L	--	--	0.833 U	--	--	--	--
HEXACHLORODIBENZOFURAN	pg/L	--	--	0.583 U	--	--	--	--
HEXACHLORODIBENZO-P-DIOXIN	pg/L	--	--	0.827 J	--	--	--	--
Octachlorodibenzofuran	pg/L	--	--	4.06 U	--	--	--	--

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
OCTACHLORODIBENZO-P-DIOXIN	pg/L	--	--	12.1 U	--	--	--	--
PENTACHLORO DIBENZOFURAN	pg/L	--	--	0.365 U	--	--	--	--
PENTACHLORODIBENSO-P-DIOXIN	pg/L	--	--	0.871 U	--	--	--	--
TEQ WHO2005 ND=0	pg/L	--	--	0.124	--	--	--	--
TETRACHLORODIBENZO-P-DIOXIN	pg/L	--	--	0.756 U	--	--	--	--
Total Heptachlorodibenzofuran	pg/L	--	--	0.881 U	--	--	--	--
Total Heptachlorodibenzo-p-dioxin	pg/L	--	--	11.8 J	--	--	--	--
Total TCDF	pg/L	--	--	0.833 U	--	--	--	--
Laboratory Provided Dioxin TEQs								
Dioxin TEQ for Birds	pg/L	--	--	3.16	--	--	--	--
Dioxin TEQ for Fish	pg/L	--	--	2.65	--	--	--	--
Calculated Dioxin/Furan TEQs								
Bird TEQ (Dioxins)	pg/L	--	--	0.213	--	--	--	--
Fish TEQ (Dioxins)	pg/L	--	--	0.127	--	--	--	--
Human TEQ (Dioxins)	pg/L	--	--	0.124	--	--	--	--
Mammal TEQ (Dioxins)	pg/L	--	--	0.124	--	--	--	--
Polychlorinated Biphenyls								
AROCLOR-1262	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1016	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1221	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1232	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1242	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1248	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1254	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1260	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
AROCLOR-1268	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
TEQ WHO2005 ND=0 (PCB Congeners)	pg/L	0.0044	0.0038	--	--	--	0.0036	--
Total Aroclor	pg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Polychlorinated Biphenyl Congeners								
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	pg/L	31.8	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4,4',5,5'-Octachlorobiphenyl	pg/L	23.6	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4,4',5,6'-Octachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4,4',5,6-Octachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4,4',5-Heptachlorobiphenyl	pg/L	41.8	31.3	--	--	--	30.3	--
2,2',3,3',4,5-(PCB 129)/ 2,2',3,4,4',5'-(PCB 138)/ 2,3,3',4',5,6 (PCB 163)	pg/L	185	151	--	--	--	138	--
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4,5,5'-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4,5',6,6'-Octachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4',5,6-Heptachlorobiphenyl	pg/L	24	20.1	--	--	--	23.8 U	--
2,2',3,3',4,5',6-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4,5,6'-Heptachlorobiphenyl	pg/L	41	31.2	--	--	--	30.7	--
2,2',3,3',4,5'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4,6,6'-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4,6'-Hexachlorobiphenyl	pg/L	51.2	43.9	--	--	--	41.4	--
2,2',3,3',4,6-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',4-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',5,5',6,6'-Octachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',5,5',6-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',5,5'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',5,6,6'-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',5,6-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',5-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,2',3,3',6,6'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,3',6-Pentachlorobiphenyl	pg/L	22.1	21.7	--	--	--	23.8 U	--
2,2',3,4,4',5,5',6-Octachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4,4',5,6,6'-Octachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4,4',5,6'-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4,4',5,6-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4,4',5-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4,4',6,6'-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4',5,5',6-Heptachlorobiphenyl	pg/L	63.8	51.9	--	--	--	52.4	--
2,2',3,4,5,5'-Hexachlorobiphenyl	pg/L	25.8	22	--	--	--	23.8 U	--
2,2',3,4',5,5'-Hexachlorobiphenyl	pg/L	20.7	19.9 U	--	--	--	23.8 U	--
2,2',3,4,5,6,6'-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4',5,6,6'-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4,5,6'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4',5,6'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4,5,6-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4,5',6-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4,6,6'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4',6,6'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4,6'-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4'-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,4-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,5,5'-Pentachlorobiphenyl	pg/L	20.8	20	--	--	--	23.8 U	--
2,2',3,5,6,6'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,5',6-Pentachlorobiphenyl	pg/L	79.4	78.3	--	--	--	71.2	--
2,2',3,5,6'-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,2',3,5-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,6,6'-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3,6'-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',3-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',4,4',5,6'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',4,4',5-Pentachlorobiphenyl	pg/L	54	48.2	--	--	--	47	--
2,2',4,4',6,6'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',4,5',6-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',4,5-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',4,6,6'-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',4-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',5,5'-Tetrachlorobiphenyl	pg/L	79.1	82.3	--	--	--	74.7	--
2,2',6,6'-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2',6-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,2'-Dichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4,4',5,5',6-Octachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4,4',5,5'-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4,4',5,6-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4,4',5',6-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4,4',6-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4,4'-Pentachlorobiphenyl	pg/L	44.5	37.3	--	--	--	34.1	--
2,3,3',4,5,5',6-Heptachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4,5,5'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4',5,5'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4,5,6-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4,5',6-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,3,3',4',5',6-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4,5-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2',3,3',4,5-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4',5-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4'-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',4-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',5,5',6-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',5,5'-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',5,6-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',5'-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,3',5-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3',4,4',5,5'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,4,4',5-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2',3,4,4',5-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3',4,4',5-Pentachlorobiphenyl	pg/L	104	89.2	--	--	--	86.7	--
2,3,4,4'-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3',4,4'-Tetrachlorobiphenyl	pg/L	38.4	36.9	--	--	--	33.3	--
2,3',4,5,5'-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3',4,5',6-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3',4,5'-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3',4,5-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,4',5-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,4',6-Tetrachlorobiphenyl	pg/L	21.1	20.8	--	--	--	23.8 U	--
2,3',4-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,4'-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3',5,5'-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
2,3',5',6-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,5-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2',3,5-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3,6-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3',6-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3'-Dichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,3-Dichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,4',5-Trichlorobiphenyl	pg/L	31.7	30.1	--	--	--	24.8	--
2,4',6-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,4'-Dichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,4-Dichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,5-Dichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2,6-Dichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
2-Monochlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3 -Monochlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,3',4,4',5,5'-Hexachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,3',4,4',5-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,3',4,4'-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,3',4,5,5'-Pentachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,3',4,5'-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,3',4,5-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,3',4-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,3',5,5'-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,3',5-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,3'-Dichlorobiphenyl	pg/L	38.9	34.8	--	--	--	34.6	--
3,4,4',5-Tetrachlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
3,4,4'-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,4,5-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,4',5-Trichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
3,5-Dichlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
4,4'-DICHLOROBIPHENYL	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
4-Monochlorobiphenyl	pg/L	20.4 U	19.9 U	--	--	--	23.8 U	--
BZ#139 & BZ#140	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
BZ#153 & BZ#168	pg/L	149	123	--	--	--	118	--
BZ#156 & BZ#157	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
Co-elute: PCB#44, PCB#47, PCB#65	pg/L	76.2	79	--	--	--	71.5 U	--
Co-elute: PCB#59, PCB#62, and PCB#75	pg/L	61.2 U	59.6 U	--	--	--	71.5 U	--
Co-elute: PCB#61, PCB#70, PCB#74, and PCB#76	pg/L	81.6 U	79.4 U	--	--	--	95.4 U	--
Co-elute: PCB#85, PCB#116 and PCB#117	pg/L	61.2 U	59.6 U	--	--	--	71.5 U	--
Co-elute: PCB#90, PCB#101, and PCB#113	pg/L	118	109	--	--	--	100	--
coelute: Tetrachlorobiphenyl: 2,2',3,6/2,2',4,6'	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
colute: Pentachlorobiphenyls; 2,2',3,5,6-(PCB 93)/2,2',4,4',6-(PCB 100)	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
colute: Tetrachlorobiphenyls; 2,2',4,5'-(PCB 49)/ 2,3',4,6-(PCB 69)	pg/L	45.8	48	--	--	--	47.7 U	--
colute: Tetrachlorobiphenyls; 2,2',4,6-(PCB 50)/ 2,2',5,6'-(PCB 53)	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
colute: Trichlorobiphenyls; 2,2',5-(PCB 18)/ 2,4,6-(PCB 30)	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
colute: Trichlorobiphenyls; 2,3,3'-(PCB 20)/ 2,4,4'-(PCB 28)	pg/L	48.6	46.8	--	--	--	47.7 U	--
colute: Trichlorobiphenyls; 2,3,4-(PCB 21)/ 2,3',4'-(PCB 33)	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
colute: Trichlorobiphenyls; 2,3',5-(PCB 26)/ 2,4,5-(PCB 29)	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
DECACHLOROBIPHENYL	pg/L	37.5	19.9 U	--	--	--	23.8 U	--
DICHLOROBIPHENYL: 3,4/ 3,4’	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
PCB108 & 0124	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
PCB110 & 115	pg/L	143	129	--	--	--	124	--
PCB128 & 166	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
PCB135 & 151	pg/L	53.1	47.9	--	--	--	47.7 U	--
PCB147 & 149	pg/L	131	108	--	--	--	104	--
PCB171 & 173	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
PCB180 & 193	pg/L	95.6	76.1	--	--	--	75.1	--
PCB183 & 185	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
PCB197 & 200	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
PCB198 & 199	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
PCB-40/PCB-71	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
PCB-86/87/97/108/119/125	pg/L	122 U	119 U	--	--	--	143 U	--
PCB-98/PCB-102	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--
PENTACHLOROBIPHENYL 2,2',3,4,6/2,2'3,4',6	pg/L	40.8 U	39.7 U	--	--	--	47.7 U	--

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Pesticides								
4,4'-DDD	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ALDRIN	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
ALPHA-BHC	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
ALPHA-CHLORDANE	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
BETA-BHC	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
DELTA-BHC	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
DIELDRIN	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDOSULFAN I	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
ENDOSULFAN II	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDOSULFAN SULFATE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDRIN	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDRIN ALDEHYDE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
ENDRIN KETONE	µg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
GAMMA-BHC (LINDANE)	µg/L	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
GAMMA-CHLORDANE	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
HEPTACHLOR	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
HEPTACHLOR EPOXIDE	µg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
METHOXYCHLOR	µg/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TOXAPHENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Calculated PCB TEQs and PCB Totals								
Bird TEQ (Dioxin Like PCBs)	pg/L	0.00549	0.00462	--	--	--	0.00428	--
Fish TEQ (Dioxin Like PCBs)	pg/L	0.000743	0.000633	--	--	--	0.000604	--
Human TEQ (Dioxin Like PCBs)	pg/L	0.00446	0.0038	--	--	--	0.00362	--
Mammal TEQ (Dioxin Like PCBs)	pg/L	0.00446	0.0038	--	--	--	0.00362	--
High Risk PCB Congeners	pg/L	1820	1510	--	--	--	1160	--
Sum of All PCB Congeners	pg/L	1940	1620	--	--	--	1220	--
Semivolatile Organic Compounds								
1,2,4,5-TETRACHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-DIOXANE	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2,2'-OXYBIS(1-CHLOROPROPANE)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,3,4,6-TETRACHLOROPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4,5-TRICHLOROPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4,6-TRICHLOROPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-DICHLOROPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-DIMETHYLPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,4-DINITROPHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-DINITROTOLUENE	µg/L	5 U	5 U	--	5 U	5 U	5 U	5 U
2,6-DINITROTOLUENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-CHLORONAPHTHALENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-CHLOROPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-METHLYPHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-METHYLNAPHTHALENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-NITROANILINE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-NITROPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
3,3`-DICHLOROBENZIDINE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
3-NITROANILINE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4,6-DINITRO-2-METHYLPHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-BROMOPHENYL PHENYL ETHER	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-CHLORO-3-METHYLPHENOL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-CHLOROANILINE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-CHLOROPHENYL PHENYL ETHER	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-METHLYPHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-NITROANILINE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-NITROPHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
ACENAPHTHENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
ACENAPHTHYLENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
ACETOPHENONE	µg/L	10 UJ	10 U	10 UJ	10 UJ	10 U	10 U	10 U
ANTHRACENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
ATRAZINE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
BENZALDEHYDE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
BENZO[A]ANTHRACENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BENZO[A]PYRENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BENZO[B]FLUORANTHENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BENZO[G,H,I]PERYLENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BENZO[K]FLUORANTHENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BENZYL BUTYL PHTHALATE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BIPHENYL	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BIS(2-CHLOROETHOXY)METHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BIS(2-CHLOROETHYL) ETHER	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
BIS(2-ETHYLHEXYL) PHTHALATE	µg/L	5 U	5 U	8	5 U	5 U	5 U	5 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
CAPROLACTAM	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CARBAZOLE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
CHRYSENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DIBENZ[A,H]ANTHRACENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DIBENZOFURAN	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DIETHYL PHTHALATE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DIMETHYL PHTHALATE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DI-N-BUTYL PHTHALATE	µg/L	5 U	5 U	2.7 J	5 U	5 U	5 U	5 U
DI-N-OCTYL PHTHALATE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
FLUORANTHENE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
FLUORENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
HEXACHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
HEXACHLOROBUTADIENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
HEXACHLOROCYCLOPENTADIENE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
HEXACHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
INDENO[1,2,3-CD]PYRENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
ISOPHORONE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
NAPHTHALENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
NITROBENZENE	µg/L	5 U	5 U	--	5 U	5 U	5 U	5 U
N-NITROSODI-N-PROPYLAMINE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-NITROSODIPHENYLAMINE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
PENTACHLOROPHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
PHENANTHRENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
PHENOL	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
PYRENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Explosives								
1,3,5-TRINITROBENZENE	µg/L	--	--	0.2 U	--	--	--	--
2,4,6-TRINITROTOLUENE	µg/L	--	--	0.2 U	--	--	--	--
2-AMINO-4,6-DINITROTOLUENE	µg/L	--	--	0.2 U	--	--	--	--
2-NITROTOLUENE	µg/L	--	--	0.5 U	--	--	--	--
3-NITROTOLUENE	µg/L	--	--	0.2 U	--	--	--	--
4-AMINO-2,6-DINITROTOLUENE	µg/L	--	--	0.2 U	--	--	--	--
4-NITROTOLUENE	µg/L	--	--	0.5 U	--	--	--	--
M-DINITROBENZENE	µg/L	--	--	0.2 U	--	--	--	--
OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE	µg/L	--	--	0.2 U	--	--	--	--
RDX	µg/L	--	--	0.2 U	--	--	--	--
Volatile Organic Compounds								
1,1,1-TRICHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-TETRACHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-TRICHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-DICHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-DICHLOROETHYLENE	µg/L	5 UJ	5 UJ	5 U	5 U	5 U	5 U	5 UJ
1,2,3-TRICHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,4-TRICHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DIBROMOETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
1,2-DICHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DICHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-DICHLOROPROPANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3-DICHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,4-DICHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-BUTANONE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-HEXANONE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-METHYL-2-PENTANONE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
ACETONE	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U
BENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BROMODICHLOROMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BROMOFORM	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BROMOMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CARBON DISULFIDE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CARBON TETRACHLORIDE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROBROMOMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROFORM	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CHLOROMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CIS-1,2-DICHLOROETHENE	µg/L	5 UJ	5 UJ	5 U	5 U	5 U	5 U	5 UJ
CIS-1,3-DICHLOROPROPYLENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
CYCLOHEXANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DIBROMOCHLOROMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
DICHLORODIFLUOROMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
ETHYLBENZENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
ISOPROPYLBENZENE (CUMENE)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
m,p-Xylene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
METHYL ACETATE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
METHYL TERT-BUTYL ETHER	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
METHYLCYLOHEXANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
METHYLENE CHLORIDE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
o-Xylene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
STYRENE (MONOMER)	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TETRACHLOROETHYLENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TOLUENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TRANS-1,2-DICHLOROETHENE	µg/L	5 UJ	5 UJ	5 U	5 U	5 U	5 U	5 UJ
TRANS-1,3-DICHLOROPROPENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TRICHLOROETHYLENE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TRICHLOROFLUOROMETHANE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U
VINYL CHLORIDE	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Table A.5
Paradise Creek Surface Water Analytical Results

Analyte	Location ID	PCSW07		PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Field Sample ID	PCSW07	FE05SWDUP02	PCSW08	PCSW09	PCSW10	PCSW11	PCSW12
	Date Collected	6/20/2015	6/20/2015	6/16/2015	6/20/2015	6/20/2015	6/20/2015	6/20/2015
	Sample Depth (bws)	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft	1-2 ft
	Sample Type	Normal	Duplicate	Normal	Normal	Normal	Normal	Normal
	Units	Result	Result	Result	Result	Result	Result	Result
Isotopes								
BISMUTH-212	pg/L	13.7 J	11 J	5.12 J	-6.07 J	6.5 J	-7.98 J	-10.9 J
BISMUTH-214	pg/L	1.75 J	7.17 J	1.52 J	6.69 J	2.71 J	0.587 J	9.34 J
LEAD-212	pg/L	2.34 J	3.4 J	-0.102 J	-1.29 J	-0.153 J	0.959 J	0.0347 J
LEAD-214	pg/L	-0.0585 J	8.65 J	1.66 J	3.04 J	0.409 J	4.98 J	6.85 J
POTASSIUM-40	pg/L	135	173	171	162	156	170	194
RADIUM-228	pg/L	-4.32	5.08	-0.917	0.793	2.53	4.29	2.5
STRONTIUM-90	pg/L	--	--	--	--	--	--	--
Miscellaneous Chemistry								
HARDNESS, AS CACO3	mg/L	2560	2550	2890	2660	2910	3050	3050

Note: 2,4-dinitrotoluene, 2,6-dinitrotoluene, and nitrobenzene were analyzed under SVOCs and explosives. Both results for each compound have been provided.

µg/L = micrograms per liter
mg/L = milligrams per liter
pg/L = picograms per liter
ID = idnetification
ft = feet
bws = below water surface
-- = not analyzed, not provided, not calculated
J = positive detect; value estimated
U = not detected; value shown equals the reporting limit
UJ = not detected; value shown equals the estimated reporting limit

PCB = polychlorinated biphenyls
TCDF = Tetrachlorodibenzofuran
TCDD = Tetrachlorodibenzodioxin
TEQ = Toxic Equivalent
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethylene
DDT = Dichlorodiphenyltrichloroethane
BHC = hexachlorocyclohexane

APPENDIX B

SEEDED OYSTER CAGE SPECIFICATIONS

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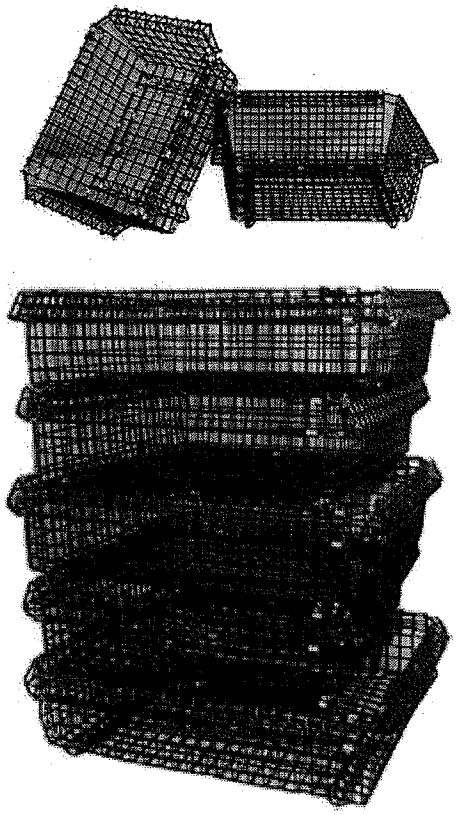
Figure A-1. Cage Type for Bivalve Monitoring

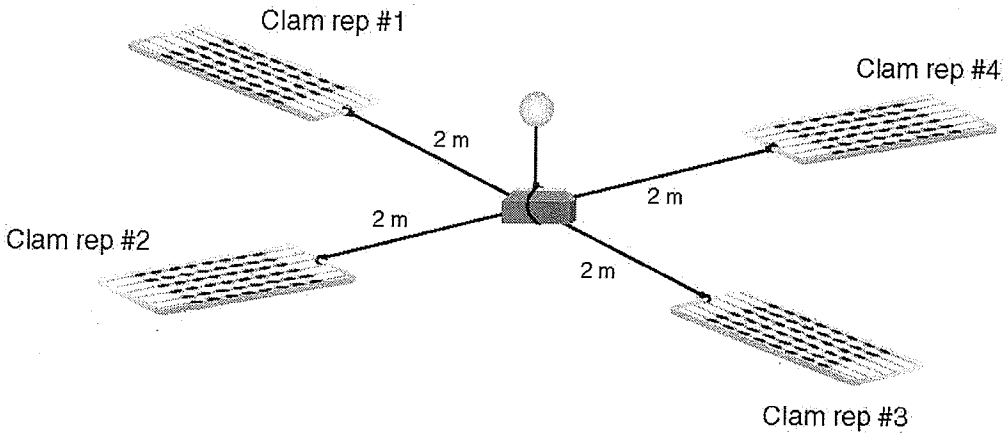


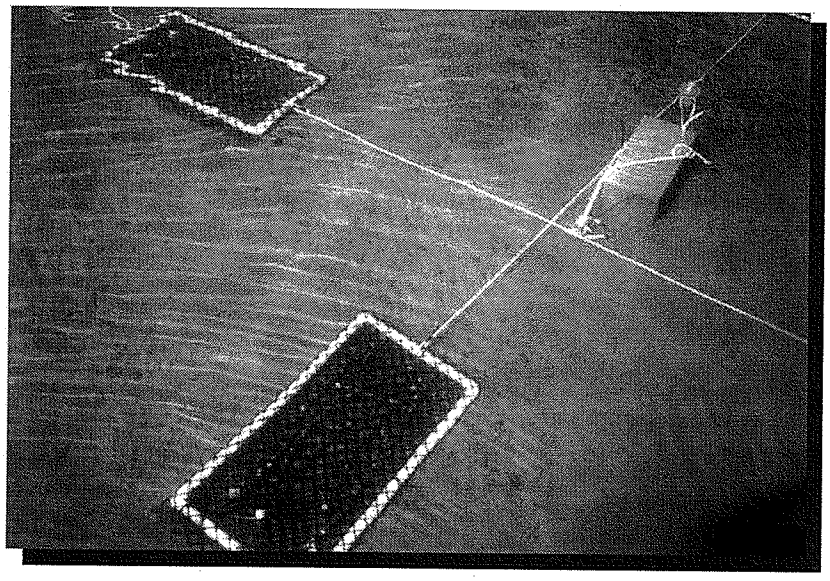
AQUA-STACKS™ Feature the following:

- Welded, galvanized , PVC coated steel mesh
- Maximum flow with minimum bio-fouling
- Greater strength with less surface area
- Stackable and nestable
- Repairable
- Predator-proof open or closed configuration
- Negative buoyancy with no ballast needed

AQUA-STACKS™ can be used for beach handling trays and totes, broodstock trays, remote setting tank containers, and Upweller trays and tray dividers.

Figure A-2. Example Cage Deployment Layout





APPENDIX C

APRIL 2015 SITE MANAGEMENT PLAN
SECTION 3.6.1

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3.6.1 Channel Morphology Investigation

Sediment discharges to Paradise Creek most likely occurs from the Site via the western drainage system including the channel's outfall and via overland surface water flow. Deposits of contaminated sediment, therefore, may have accumulated in Paradise Creek where surface water flow may have created deltas of contaminated sediment within Paradise Creek. To assess the potential deposition of contaminated sediments within Paradise Creek adjacent to the Site, the cross sectional depth of the channel will be measured along seven transects bisecting the creek and one transect paralleling the long axis of the creek (Figure 3.4). Channel depth measurements will be collected every 5 feet along transects crossing the creek. Channel depth measurements will be collected every 20 feet along the transect paralleling the long axis of the creek. The channel depth measurements will be utilized to select sediment sample locations within Paradise Creek for laboratory analysis along with providing locations for collecting creek flow measurements and providing data to be used in the collection of aquatic biota. To the extent practical, a multi-stage sludge sampler will be utilize to collect a sample core of the sediment at each channel bottom measurement location to determine sediment lithology and sediment thickness at each location. The samples will be visually inspected and lithologically logged. None of these samples will be submitted for laboratory analysis.

Surface water flow measurements will be collected approximately two feet from the channel bottom, mid channel, and within two feet of the surface at every other channel depth measurement location.

Before surface water flow measurements are taken, tidal charts from the closest measuring station will be evaluated to determine outgoing and incoming tides as well as high and low tides. Three series of surface water flow measurements will be collected from Paradise Creek:

- One during an outgoing tide and closest to low tide as practical;
- One during an incoming tide and closest to high tide as practical; and
- One during a slack tide.

The collection of these measurements should provide a range a range of low and high velocities present in Paradise Creek. This measurement collection approach may require three flow measurement series to be collected during different events depending on the local tidal chart.

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APPENDIX D

DRY ICE SHIPPING REQUIREMENTS

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Packaging Pointers: Perishable Shipments

Perishable shipments must be properly packaged to prevent spoilage and maintain product integrity. This packaging leave-behind will help you prepare your perishable shipments for the express shipping environment.

WHAT IS A PERISHABLE SHIPMENT?

The International Air Transport Association (IATA) defines a shipment as perishable if its contents deteriorate over a given period of time if exposed to harsh environmental conditions, such as excessive temperature or humidity. Some examples of perishable shipments include seafood, dairy, plants, meat and fruits, as well as medical and chemical products.

PRESERVING PERISHABLE SHIPMENTS

Perishable products may be subjected to extremes of heat and/or cold on the way to their destination. FedEx does not provide temperature-controlled transportation services. With careful packaging, you can protect your products by providing appropriate temperature protection or stability. Materials most commonly used for this purpose include insulation and coolants/refrigerants.

Insulation

Perishable product should be packaged with enough insulation to prevent or reduce the transfer of heat through the container walls.

The most common insulation materials are:

- Expanded Polystyrene Foam (EPS)
- Rigid High Density Polyurethane
- Reflecting Surface Material (Radiant Barrier Films)

Use insulation materials to:

- Maintain products within known allowable temperature ranges (chemicals, food, medical drugs)
- Keep products frozen (seafood, dairy products, medical specimens, meat)
- Prevent products from freezing (chemicals, blood specimens, seafood)
- Minimize effect of extreme temperature variations (plants, flowers, live lobsters, sensitive electronics, polymers)
- Prevent melting and thawing in hot weather (chocolates, ice cream)

Coolants/Refrigerants

Coolants/refrigerants, such as gel refrigerants and dry ice, keep perishable products cold or frozen. Wet ice (e.g., ice cubes) has many disadvantages, including weight, thawing, leaking, and the need for expensive water-resistant packaging.

The use of wet ice in perishable shipments must be approved in advance by the FedEx Packaging Design and Development Department.

Dry Ice

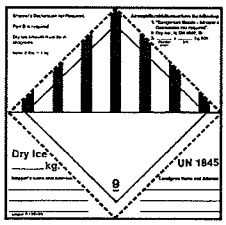
Dry ice, which is a solid form of carbon dioxide, has a surface temperature of -109° F (-78° C) and is used to help keep products frozen. Because it can change from a solid to gas in transit, space may be created in a package, allowing the product to shift. That's why it's best to place block dry ice in corrugated boxes.

When dry ice changes to carbon dioxide gas in enclosed spaces like aircraft cargo holds, it displaces oxygen. That's why it's a dangerous good for air transport and requires special handling and labeling.

FedEx requires that all dry ice shipments, including those within the U.S., comply with IATA regulations. Some countries don't allow dry ice shipments. Call FedEx International Customer Service at (800) 247-4747 for more information on a given country's restrictions.

IATA limits the amount of dry ice per package to 200 kg (400 lbs.). IATA requires the net weight of dry ice to be listed in kilograms and that the shipper use the miscellaneous class 9 label. If an airbill is included, certain airbill notations are required.

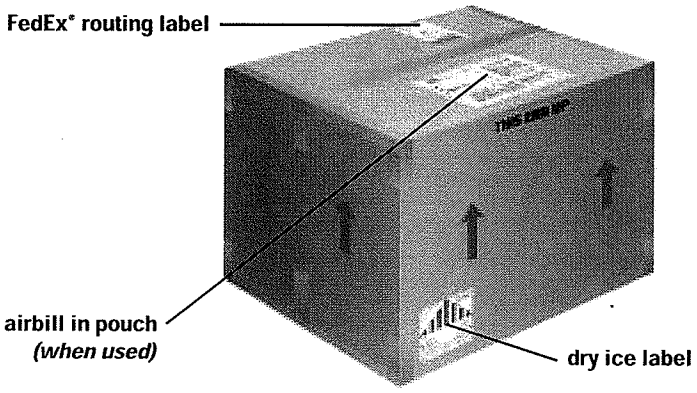
FedEx has designed a "dry ice" label (*see at right*) that satisfies the IATA marking and labeling requirements when accurately completed. Legally required package markings include:



FedEx Dry Ice Label

- "Dry Ice" or "Carbon Dioxide Solid"
- "UN 1845"
- Net quantity of dry ice in kilograms
- Name and address of BOTH the shipper and recipient. (The airbill does not fulfill that requirement)

These labels are provided free of charge; you may order them through our toll free number 1•800•Go•FedEx®, or (800-463-3339).

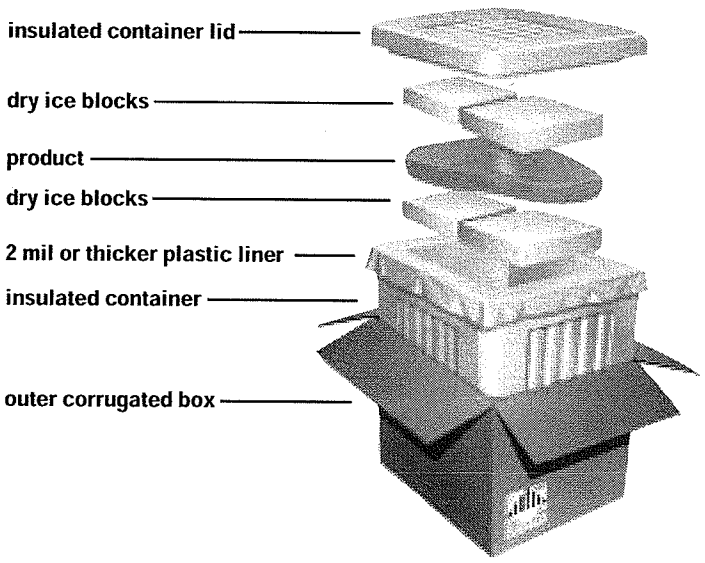


PACKAGING GUIDELINES FOR PERISHABLE SHIPMENTS

- Shipments must be packaged to withstand different orientations
- Use insulating container, e.g., Expanded Polystyrene (EPS) containers with 1-1/2" - to 3" -thick walls. Molded containers work best. The FedEx Packaging Design and Development Department, (800) 633-7019 can provide you with a list of suppliers
- Use a refrigerant that will keep products within the required temperature ranges. Gel refrigerants are suitable for refrigerating products within the 30° F (-1° C) to 60° F (16° C) range
- EPS containers *must be placed inside* sturdy outer corrugated containers. If you wish to apply for an exemption to ship without an outer box, submit your EPS containers and the products you intend to ship to the FedEx Packaging Design and Development Department, (800) 633-7019, for free package testing
- If your perishable products can melt or thaw, or if your shipment contains liquid, you must either *double bag* the products using 2 mil or thicker watertight plastic bags or line the inside of the EPS container with 2 mil or thicker plastic liner and absorbent material
- Shipping perishable products over a weekend is discouraged. We recommend that you package for a minimum of 30 hours transit time for any perishables shipped by FedEx Priority Overnight® or FedEx Standard Overnight®. For FedEx 2 Day®, FedEx 2 Day® Freight and FedEx Express Saver®, you should package shipments for at least 12 hours more than the delivery commitment time

HOW TO KEEP PRODUCTS FROZEN DURING TRANSIT

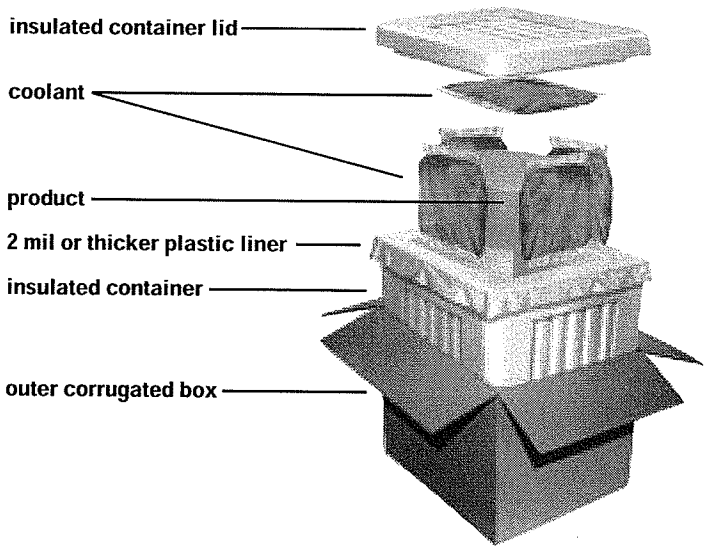
- Freeze products at or below 32° F (0° C)
- Precool the insulated container
- If the shipment contains liquid or perishable products that can melt or thaw, you must *double bag* the products using 2 mil or thicker watertight plastic bags. An alternative is to line the inside of an EPS container with 2 mil or thicker plastic liner and absorbent material
- Arrange products compactly, but leave space around the products for dry ice. Close the bag securely
- Place dry ice in the corrugated box at the bottom and around the products
- Pack tightly and fill empty air spaces with dunnage
- Place lid over insulated container. Do not seal completely. (Some venting is needed to allow carbon dioxide gas to escape)
- Place closed, insulated container inside an outer corrugated box
- Securely tape corrugated box with pressure-sensitive plastic tape. Complete the required paperwork and labeling



HOW TO KEEP PRODUCTS REFRIGERATED DURING TRANSIT

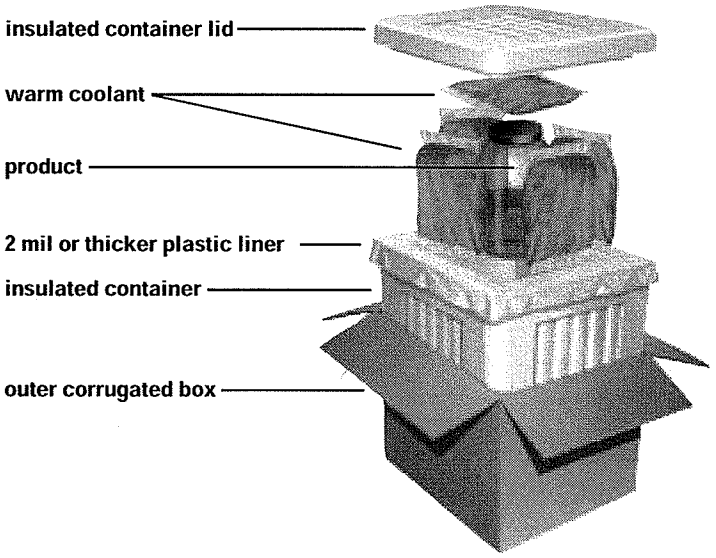
Refrigeration prolongs shelf life by lowering a product's temperature, which delays metabolic deterioration and decay by microorganisms. Chemical coolants (e.g., gel refrigerants) are the refrigerants of choice for most express carriers.

- Freeze the coolants (gel refrigerants) according to manufacturers' guidelines
- Precool the insulated container
- For shipments containing a liquid or perishable products that could melt or thaw, you must *double bag* the products using at a minimum 2 mil watertight plastic bags. Instead of double-bagging your products, you can line the inside of the EPS container with 2 mil or thicker plastic liner and absorbent material
- Arrange products compactly inside the insulated container, allowing space for coolants
- Place sufficient amount of coolants on top of and around the products. Fill all void space with dunnage to prevent product movement
- Close the bag securely
- Close and securely seal the insulated container with pressure-sensitive plastic tape
- Place the insulated container inside a corrugated outer box
- Close and securely seal the corrugated box with pressure-sensitive plastic tape. Apply the same tape over all box flaps and seams to restrict air infiltration



HOW TO PROTECT PRODUCTS FROM FREEZING

You can protect your products from extremely low temperatures and freezing by using heat sinks, which help maintain desired temperatures. A heat sink acts as a "sacrificial system" by absorbing thermal energy to keep it from affecting the products. Chemical refrigerants like gel refrigerants make good heat sinks. To reduce the risk of freezing, place your products inside an insulated container and surround them with unchilled gel refrigerants. If you're working in a cold environment, warm the gel refrigerants to around 68° F (20° C). Ship the insulated container inside a corrugated box. Use of heat sinks to protect products should be validated to ensure desired performance.



FREQUENTLY ASKED QUESTIONS

Following are the most frequently asked questions about perishable product shipments.

How much dry ice should I use?

The optimal amount of dry ice to keep products frozen depends on several factors, including the product mass, the internal volume of the insulated container, wall thickness and so on. For example, if you're using an EPS container with a 1 1/2-inch-thick wall and maximum volume of 4,725 cubic inches, we recommend 10 lbs. of dry ice for the first 24 hours and five lbs. for each additional three hours. To slow the rate at which dry ice changes to a gas, package the blocks or pellets in either corrugated containers or wrapping paper. Additional dry ice may be needed during hot weather.

How much gel refrigerant do I need?

Your product will stay at a constant temperature if you prevent thermal energy from reaching it. That's why we recommend placing frozen gel refrigerants around products to absorb heat entering from any direction.

TEST PROCEDURES FOR GEL AND DRY ICE

Objective: To determine the optimal amount of coolant (dry ice, gel refrigerant, etc.).

Samples: Products to be shipped, insulated containers, temperature recorders.

Method: Conduct the test in a constant-temperature, draft-free room.

- For each coolant you are going to test, select a number of same size containers
- Package the products in each container as you normally would for shipping
- Place temperature probes in direct contact with the products. If possible, place probes in multiple locations within the container (top, bottom, middle and corner). To prevent false readings, make sure the probes are not in direct contact with the coolants
- Place each container on a scale and load different amounts of coolant (by weight) in each box
- Record temperature of products in each package configuration in 2-4 hour intervals for 48 hours
- Determine which container with coolant is within required temperature range at the end of the test
- For dry ice, record the weight of each box at the same time intervals as the temperature (2-4 hour intervals for 48 hours) to determine the amount of dry ice that sublimated (i.e., changed to gaseous from)

Conclusion: At the end of the test, see which containers successfully kept the products within the required temperature range. For the gel refrigerant tests, the successful container with the least amount of sublimation will determine the minimum amount of dry ice to use.

For a more detailed test method, see ASTM Test Method D3103, "Standard Test Method for Thermal Quality of Packages." (American Society of Testing and Materials, 1916 Race St., Philadelphia, PA 19103.)

What environmental conditions will my products be exposed to during transit?

The variety of products that travel though the FedEx system make it impossible to provide controlled environments to meet the temperature requirements of all products.

When preparing your perishable shipments, take into account both the time of year and the transit location temperatures. Lows can reach -60°F (-51° C) in carrier vehicles and open dock areas during the winter in northern climates. Highs can reach 140° F (60° C) in closed, parked carrier vehicles during the summer in southern climates. For worldwide

applications, the U.S. military assumes a worst case low of -80°F (-62° C) and a high of 160° F (71° C).

Depending on the location, weather, and time of day, packages are generally exposed to greater temperature extremes during ground-handling operations than during flight. Packages are generally sorted or processed inside covered buildings under comfortable working conditions, but many areas are wide-open during operations.

Perishable products also face diverse environmental conditions aboard vans, trucks and aircraft.

Vans and Trucks

The outside temperature generally determines the temperature inside the van and cargo areas, so assume that your package will be exposed to various ambient temperatures at different locations. Temperatures inside enclosed vehicles and trucks are generally lower in colder months and higher in warmer months compared to ambient temperatures.

Aircraft

Temperatures on board FedEx aircraft vary depending on the type of aircraft, the location of each cargo compartment with respect to the fuselage, and a package's location within each compartment. Flight length and cruising altitude also affect temperature.

The following temperature ranges for aircraft transportation are provided for general reference only:

Main Cargo Compartment Temperature Ranges

Temperature ranges aboard most wide-body aircraft main cargo compartments may vary between 65° F (18° C) and 90° F (32° C).

Lower Cargo and Bulk Compartment Temperature Ranges

In any aircraft bulk compartment, packages positioned next to aircraft outer structure (worst case) may be exposed to temperatures during high altitudes as low as 0 degrees F (-18° C).

Aircraft Pressure Ranges

Most FedEx aircraft are pressurized throughout flight to a cabin pressure of approximately 8,000 feet during cruise, which corresponds to a pressure of approximately 11 psi (compared to 14.7 psi at sea level). During aircraft climb and descent, the pressure varies between 14.7 and 11 psi.

Some feeder aircraft, however, are not pressurized because they generally fly at an altitude of 12,000 to 15,000 feet, which corresponds to pressure between 9.3 psi and 8.3 psi.

CUSTOMER RESOURCES

- Perishable and Dry Ice Labels
- List of Perishable Packaging Suppliers
- "How to Pack Seafood for Overnight" brochure
- "Guidelines to Proper Packaging" brochure
- "Guidelines for Blood, Urine and Diagnostic Test Samples" brochure
- "Pointers on Packaging for Flower Shipments" brochure
- FedEx Packaging Design and Development Department (800) 633-7019

ADDITIONAL RESOURCES

- Your local Yellow Pages under "Packaging" and "Ice" for packaging suppliers
- "Protecting Perishable Foods During Transport by Truck" (Agricultural Handbook #669, U.S. Department of Agriculture)
- National weather reports on the Internet
- National Climatic Data Center CD-ROM, showing weather patterns throughout the world. Phone 704-271-4800. Internet address: Orders@NCDC.NOAA.GOV5
- "Principles of Cargo Handling and Perishable Cargo Handling Guide" Published by IATA for airline and freight forwarding industries

If you have questions or need more information on dry ice shipment, ask for the FedEx Dangerous Goods Hotline at 1•800•Go•FedEx® (800) 463-3339. For more information, advice, or to take advantage of free package testing and design service, call the FedEx Packaging Design and Development Department at (800) 633-7019.

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APPENDIX E

FIELD FORMS

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SAMPLING FIELD SAMPLING REPORT

Location: Portsmouth, VA **Project: RI/FS** **Site: Peck Iron and Metal**

Sample Information

Matrix: Aquatic Biota
Sample ID:_____ (CLP#:_____)
SAMPLING METHOD:_____
DUP/REP OF:_____ (CLP#:_____)
BEGINNING DEPTH:_____
MATRIX SPIKE/ MATRIX SPIKE DUPLICATE
END DEPTH:_____
YES ( ) NO ( )
GRAB (X) COMPOSITE ( )
DATE:_____ TIME:_____

CONTAINER SIZE/TYPE	#	PRESERVATIVE/ PREPARATION	ANALYSIS	Tag No.	TR/COC#	CASE #
Al Foil/Zip Top Bag	1		VOCs			
Al Foil/Zip Top Bag	1		SVOCs			
Al Foil/Zip Top Bag	1		Pest/PCBs			
Al Foil/Zip Top Bag	1		Total PCBs			
Al Foil/Zip Top Bag	1	none	Metals			
Al Foil/Zip Top Bag	1		Mercury			
Al Foil/Zip Top Bag	1		Cyanide			
Al Foil/Zip Top Bag	1		Gamma Spec			
Al Foil/Zip Top Bag	1		SR^{90}			
Al Foil/Zip Top Bag	1		PCDD/PCDF			
Al Foil/Zip Top Bag	1		Hexavalent Chromium			
Al Foil/Zip Top Bag	1		Explosives			
Al Foil/Zip Top Bag	1		Percent Lipids			
Al Foil/Zip Top Bag	1		Percent Moisture			

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	DESCRIPTION OF SITE LOCATION
1st: n/a	Color:	
2nd:	Odor:	
		LAST PRECIPITATION EVENT:
	Miscellaneous:	

pH: n/a Temperature: n/a Dissolved Oxygen: n/a Specific Conductivity: n/a

GENERAL INFORAMTION

Weather Sun/Clear:_____ Overcast/Rain:_____ Wind Direction: Ambient Temp:

Shipment VIA (Airbill#) FED-X _____ UPS_____

Shipped to:_____

Comments:

Sampler:_____ Observer:_____

MATRIX CODE TYPES		SAMPLING METHOD CODES	
DC=DRILL CUTTINGS	SL=SLUDGE	B=BAILER	G=GRAB
WG=GROUND WATER	SO=SOIL	BR=BRASS RING	HA=HAND AUGER
LH=HAZARDOUS LIQUID WASTE	GS=SOIL GAS	CS=COMPOSITE SAMPLE	H=HOLLOW STEM AUGER
SH=HAZARDOUS SOLID WASTE	WS=SURFACE WATER	C=CONTINUOUS FLIGHT AUGER	HP=HYDRO PUNCH
SE=SEDIMENT	SW=SWAP/WIPE	DT=DRIVEN TUBE	SS=SPLIT SPOON
		W=SWAB/WIPE	SP=SUBMERSIBLE PUMP

HGL HydroGeoLogic, Inc

Daily Equipment Calibration Log

Project Name: _____

Project Number: _____

Date	Time	Calibrated by	Instrument Make/Model/Serial Number	Standard/Manufacturer/Lots	Calibration Solution or Gas Concentration	Instrument Readings		Comments
						Before Calibration	After Calibration	

HGL
HydroGeoLogic, Inc
Exceeding Expectations

SAFETY MEETING/TRAINING LOG

- ☐ Tailgate (daily)
- ☐ Activity Hazard Analysis
- ☐ Pre-Task Hazard Analysis (prior to new task or operation)
- ☐ Site Safety Orientation (new personnel)
- ☐ Supervisor's (monthly)
- ☐ Supervisor's (weekly)
- ☐ UXO Awareness
- ☐ Asbestos Awareness
- ☐ Health and Safety Plan Addendum: _____
- ☐ Other: ___

Date/Time: _____ Client: _____

Location: _____ Job No.: _____

Meeting/training conducted by: _____

Work Activities: _____

Safety / Training Topics Presented

Chemical Hazards: _____

Physical Hazards: _____

Specific Safety Topic(s): _____

_____

Specific Training Covered: _____

_____

Attendees

Name Printed and Employee Number:	Signature:
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

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APPENDIX F

STANDARD OPERATING PROCEDURE 15
FLOW MEASUREMENT

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STANDARD OPERATING PROCEDURE

15. FLOW MEASUREMENT

1.0 PURPOSE

This procedure provides general guidance for the planning, method selection, and implementation of surface flow measurements for environmental field investigations that require information on flows for streams, rivers, or surface impoundments.

2.0 DEFINITIONS AND ABBREVIATIONS

2.1 Definitions

Flow (or Volumetric Flow Rate): The volume of water that passes through a cross-sectional plane of a channel in some unit of time.

Flow Measurement: The act or process of quantifying a flow rate.

2.2 Abbreviations

CFS	Cubic feet per second
gpm	Gallons per minute
SOP	Standard Operating Procedures
USGS	U.S. Geological Survey

3.0 RESPONSIBILITIES

Field personnel are responsible for performing the applicable tasks and procedures outlined herein when conducting work related to environmental projects.

The Project Leader or an approved designee is responsible for checking all work performance and verifying that the work satisfies the applicable tasks required by this procedure. This will be accomplished by reviewing all documents (Exhibits) and procedures.

4.0 PROCEDURES

4.1 General Considerations

The planning and implementation of flow measurements requires consideration of the data collection requirements. The accuracy and precision required of the flow measurement will determine the methodology employed in the field. Local site conditions, i.e., site access, stream bed geometry, and apparent flow rate, will determine how field procedures must be modified to obtain accurate and precise data.

The two major variables that are determined during flow measurements are:

$ The geometry of the cross-sectional plane through which the fluid passes; and

$ The velocity at which the fluid is moving through a particular cross section.

These variables are discussed in Section 4.2, General Methods and Applications.

The two major factors that cause variance in flow measurements are:

$ The variations in technical procedures introduced by the operator; and

$ The variations in fluid flow introduced by turbulence.

The variations in technical procedures introduced by the operator can be minimized by carefully following the procedures outlined in this Standard Operating Procedure (SOP).

The variance in flow measurement caused by fluid turbulence can be reduced by applying the following procedures. The more turbulent the flow the less accurate and reproducible the flow results.

$ Do not stand upstream or beside the flow measuring device and stand far enough downstream of the device so that no turbulence affects the device.

$ Avoid areas just downstream of a waterfalls, rapids, weir, sluice, dam, or any other structure that creates flow turbulence.

$ Avoid areas of the stream that have rocky bottoms, stepping stones, wetlands vegetation in the stream bed or braided channels caused by sandbars.

The more turbulent the flow the less accurate and reproducible the flow results. The ideal location has easy access, with uniform stream banks that are not obstructed by vegetation or debris and a uniform stream bed that is that is also free of vegetation and debris.

Health and safety considerations are also important factors to be considered in planning and execution of flow measurements. Some of these considerations are:

$ Accessibility of the site, i.e., bank steepness or obstacles;

$ Depth of the fluid to be measured;

$ Apparent flow rate of the fluid to be measured;

$ Condition of the steam bed, i.e., slipperiness, obstructions, debris, vegetation, etc.; and

$ Proximity of downstream structures such as dams, weirs, sluices, rapids and waterfalls.

4.2 General Methods and Applications

Selection and implementation of flow measurement practices require that consideration be given to the following issues which are common to all surface flow measurements at or near environmental sites:

- Preventing the spread of contamination;
- Minimizing the risk to health and safety;
- Maintaining a high level of accuracy in measuring flows;
- Causing the least possible disruption to on-site activities; and
- Reducing, where possible, any additional long- and short-term impacts.

Flow measurements are made in open channels that consist of a bed, two banks or sides, and a free or open water surface.

Most flow measurements are based on determining two key variables cited in Subsection 4.1: cross-sectional area and velocity across that area. For open channels, especially smaller ones, the cross section is often best measured directly using a tape. Care must be taken to find a location where the dimensions are constant during the time period in which flow measurements will be taken. Width and depth are expressed in terms of meters or feet, and the cross-sectional area is expressed as square meters or square feet.

Velocity is determined using one of the methods that follows, either directly or by calculation. Units are commonly given in meters per second or feet per second for most flow velocities. When cross-sectional area and flow velocity are multiplied, their product is the volumetric flow rate expressed as cubic meters per second or cubic feet per second (CFS) for large flows, and as liters per second or gallons per minute for small flows.

4.3 Direct Measurement

At times, the flow in a small stream can be caught in a collector of known volume, such as a 5-gallon can or 55-gallon drum. By clocking the amount of time needed to fill the vessel, one may obtain a direct measurement of volumetric flow rate without resorting to cross-sectional area and velocity measurements. A minimum of 10 seconds to fill the container is recommended. Several fill-ups should be timed, and the results should be averaged to improve the quality of this measurement. Other means of flow measurement will be used more often than this direct estimate, which is valid only for flows between 0.06 liter per second (one gallon per minute (gpm)) and about 6.3 liters per second (100 gpm).

4.4 Current Meter

A current meter can be a mechanical device with a rotating element that, when submerged in a flowing stream, rotates at a speed proportional to the velocity of the flow at that point below the surface. The rotating element may be either a vertical shaft or a horizontal shaft. Meter manufacturers usually provide the user with calibration tables to translate rotation into linear speed in meters per second or feet per second (Price undated).

Current meters can also be electromagnetic sensors where the passage of fluids between two electrodes in a bulb-shaped probe causes a disturbance of the electromagnetic field surrounding the electrodes. This disturbance generates a small voltage that can be made proportional to fluid velocity by internal electronic circuitry. A direct readout of velocity in meters per second or feet per second is provided for the user (Marsh-McBirney undated).

4.4.1 Applicability

Vertical axis meters are more commonly used because they are simpler, more rugged, and easier to maintain than horizontal shaft meters. They also have a lower threshold velocity of 0.03 meters/sec (0.1 feet/sec). The electromagnetic current meters can be used in making measurements in situations where mechanical meters cannot function, such as weedy streams where mechanical rotating elements would foul. However, the electromagnetic meters must always be carefully aligned to be normal to the stream cross section, since the meter measures only one velocity vector (the one parallel to the probe's longitudinal axis). Current meters will operate at depths ranging from 0.1 meter (0.3 foot) to any depth where the meter can be held rigidly in place using cables or extension poles. For most environmental investigations, depths rarely exceed two or three meters (6.5 to 10 feet). Since current meters provide readings at a single point, the mean velocity must be based on multiple readings along a vertical line, or on a single reading that can be converted to an estimated mean velocity using standard coefficients.

In many areas, the flow of waterways is monitored by local agencies. An effort should be made to incorporate flow readings from established gauge stations. At many locations, readings will be accurate and easy to obtain.

Methods for estimating mean velocity include the following:

$ Six-tenths Depth Method - Uses the observed velocity at a point 0.6 of the total depth below the surface as the mean velocity for the vertical. Flow is calculated for each subsection defined by the verticals and is the product of the depth times the mean velocity for that subsection. Total discharge flow is the sum of all individual subsection flows, while the average stream velocity is that sum (total discharge) divided by the total cross-sectional area. The number of readings to be taken to increase accuracy will depend on the width of the stream, from 2 or 3 readings for streams less than 5 feet across to 15 to 25 readings for streams wider than 50 feet across. Ideally, the stream should be partitioned into sections small enough so that less than 10 percent of the total stream flow passes through each section. In this manner, individual measurements that may be in error will have less impact on the overall average velocity determination. However, practical consideration, such as a rapidly changing stage or limited time available to conduct measurements, often may preclude the use of the ideal number of partial sections. Users must recognize the potential impact on the overall accuracy of velocity measurements from an inadequate number of verticals within a given cross section. This method works best at depths between 0.09 and 0.16 meters (0.3 to 2.5 feet) and is the method of choice when measurements must be made quickly.

$ Two-point Method - Measures velocities at 0.2 and 0.8 of the total depth below the surface. The average of the two readings is considered to be the average for the vertical. Several different verticals are averaged across the cross section. This method is more accurate than the six-tenths depth method, but it cannot be used at depths less than 0.76 meters (2.5 feet) because the observation points would be too near the surface and the streambed.

$ Three-point Method - Measures velocities at 0.2, 0.6, and 0.8 of the total depth below the surface. Readings at 0.2 and 0.8 are averaged; then that result is averaged with the reading at 0.6. This method provides a better mean value when velocities in the vertical are abnormally distributed, but it should not be used at depths less than 0.76 meters (2.5 feet).

$ Vertical-velocity Method - Primarily for deep channels, this method measures velocities at 0.1 depth increments between 0.1 and 0.9 of the total depth for several verticals. Because of the multiplicity of readings, this method is rarely used.

4.4.2 Current Meter Methods

A step-by-step summary of a typical flow or discharge measurement is as follows:

$ Assemble current meter and test for proper operation in accordance with the manufacturer's instructions. Collect data form or notebook, pencil, stopwatch, 50-foot tape, etc.

$ Partition stream into sections (with tag line or bridge railing), visually observing the velocity and general flow of the stream. An adequate number of stations should be established to prevent more than 10 percent of the total discharge from passing through any individual partial section. Note that the partial section in question is <u>not</u> the same as the interval between two successive stations. Mark stations appropriately. A check of measurements may indicate the need for readjustment of the partitioned sections to upgrade the quality of the readings.

$ Record stream stage as indicated by one of the staff gauges, and record this value on the water level recorder chart at the point of pen contact.

$ Record the following items and other data as appropriate in the field log book and on Exhibit 15-1, Surface Water Flow Measurement:

B Project;

B Site;

B Date;

B Time at start of measurements;

- Stream stage at start of measurements;
- Approximate wind direction and speed;
- General stream condition (e.g., turbid, clear, low level, floating debris, water temperature, type of streambed material, etc.);
- Other factors having a bearing on discharge measurements;
- Location of initial point;
- Total width of stream to be measured;
- Type of current meter and conversion factor, if applicable; and
- Name of investigator taking the readings.

- Determine the depth and mean velocity at the first station or Ainitial point,@ if appropriate, and record this information.
- Measure depth at the second station from initial point and record. Determine whether the velocity should be measured at the 0.6 depth from the surface (six-tenths depth method), at the 0.2 and 0.8 depths (two-point method), or by either of the other methods available. Calculate respective depths from the surface, measure the velocity at each point, and record these values.
- Follow the same method at each successive station and proceed as quickly as possible.
- Determine the depth and mean velocity at the last station, or endpoint, and record in the field log book and on Exhibit 15-1, Surface Water Flow Measurement.
- Record in the field log book and on Exhibit 15-1, Surface Water Flow Measurement, the ending time of this series of measurements and the stage, since the stage may have been changing during the measurements.
- Enter the ending stage value on the recorder chart at the point of pen contact. This information will illustrate the interval of time and stage variations during the cross-sectional measurements. also enter the date in the field log book and on Exhibit 15-1, Surface Water Flow Measurement, and indicate that a calibration has taken place over this interval.
- Remove the tag line (if used); rinse the current meter in clean water, if necessary; allow the current meter to dry; then pack it in its carrying case.

Other issues of concern regarding stream discharge calibrations include:

- Where practical, make the measurements with the investigator standing behind (downstream) and well to the side of the meter;

- Avoid disturbing or standing along the streambed beneath the cross-sectional measuring points. This location is part of the control area and should remain constant, if possible, from calibration to calibration of the stream. This step is especially important if soft, mucky sediment is encountered somewhere along the cross section;

- Where possible, attempt to use the same cross section (location) throughout the study period and during all of the stream calibrations. However, the number and position of stations within the cross section may be changed, if necessary, to accommodate changing flow conditions;

- Hold the wading rod vertically if it becomes necessary to switch meters during a calibration, and ascertain how V_{NORM} is determined with each of the various types of meters;

- Repeat the stream calibration at regular intervals throughout the study period to account for seasonal changes in stream bank vegetation and streambed alterations that may affect measurements.

Once the mean velocity for each stream subsection is determined, that value is multiplied by the area of the subsection; the product is the volumetric flow through the subsection per unit of time. The total discharge rate is the sum of all volumetric flows for each subsection across the entire cross section of the stream. Refer to U.S. Geological Survey (USGS) Water Supply Paper 2175 for additional information (U.S. Geological Survey (USGS) 1982). Customary units are CFS for large flows and liters per second (gallons per minute) for small flows.

4.5 Current Meters and Stage Gauges

Where repeated measurements of a volumetric flow rate at a certain cross-sectional area are required, install a permanent stage gauge along the stream's back or side wall to facilitate measurement of the depth. The gauge will be a rigid rod or board, precisely graduated and firmly mounted with the streambed serving as a possible reference point. Where stream characteristics are such that significant bed erosion from scouring may be expected, it is best not to set the streambed as a zero point. This could lead to confusion from generation of negative numbers for gauge height readings. An arbitrary datum plume should be selected that is below the elevation of zero flow expected for the stream site. Gauges may be mounted vertically (perpendicular to the stream surface) or may incline along the slope of the stream bank. Vertical gauges are simpler to construct and calibrate, while inclined gauges provide more accurate readings and are less likely to be damaged by material floating by. The gauge provides one of the measurements needed to estimate area. Width is fixed for channels with vertical sides and is readily determined for other configurations. Velocity is determined using a current meter as described above.

Discharge rating curves are used to define the relationship between stage and stream discharge, and to allow conversion of stage hydrographs to discharge hydrographs. The discharge calibration points are hand or machine plotted onto a log-log paper graph of stage versus stream discharge. Stream stage is plotted on the vertical Y axis, and stream discharge is plotted on the horizontal X axis. Ideally, adequate calibrations are conducted over the full range of stage variations to allow a smooth curve to be hand drawn through these points on the graph.

The slope and rate of change of slope may vary significantly over the length of this curve. At certain gauging stations, the slope of this curve may break sharply, or the distribution of points may require the construction of two partial curves rather than one continuous curve. These latter two situations apply to more complex stage discharge relationships. It is the task of the investigator to derive a mathematical relationship that describes this curve as closely as possible (i.e., an equation). The development of an equation allows calculation of discharge flow by simply plugging in the stream elevation. This equation allows computerization of the process of converting stage records into discharge and eventually allows conversion to volume by noting the time interval on the recorder chart at which this rate of flow applies.

More complicated rating relationships may be required at a particular gauging station. Discharge may be not only a function of stage but also a function of slope, rate of change of stage, or other variables specific to each site. Additionally, stage-discharge relationships are rarely permanent, and discharge calibrations are carried out at periodic intervals to define the effects of various factors including the following:

$ Scouring and deposition of sediment;

$ Alteration of streambed roughness as a result of the creation and dissemination of dunes, anti-dunes, ripples, and standing-wave features in sandy bottoms; the deposition of leaves and other debris during different seasons; and the seasonal variation in the growth of macrophytes;

$ Ice effects that may cause additional resistance to flow (if monitoring is carried out during the colder months, a complete ice-over and additional freeze will tend to constrict the stream channel with time and may increase the stage, when in fact the flow may not be increasing at all); and

$ Human-related activities, such as upstream construction, recreation, etc…

4.5.1 Applicability

This method applies to sites where many flow measurements will be made over a long period of time. Care must be taken to maintain a known zero reference point elevation. The point does not have to be the stream's bottom. Where bed erosion over the course of flow measurements may become a problem, provisions must be made to recalibrate the gauge at regular intervals (e.g., weekly). The gauge is lowered or raised as necessary to conform with changing bed conditions. Calculation of flow rate is the same as in the preceding subsection for current meters alone.

4.6 Review

The Project Leader or an approved designee shall check Exhibit 15-1, Surface Water Flow Measurement, for completeness and accuracy. Any discrepancies in the data will be noted and the Exhibits will be returned to the originator for correction. The reviewer will acknowledge that review comments have been incorporated by signing and dating the "Checked By" and "Date" blanks on Exhibit 15-1, Surface Water Flow Measurement.

5.0 REFERENCES

Marsh-McBirney, Inc. "Instruction Manual, Model 201 Portable Water Current Meter." Gaithersburg, Maryland: Marsh-McBirney, Inc. Undated.

U.S. Department of Interior. "Measurement and Computations of Streamflow: Volumes 1 and 2." Geological Survey Water Supply Paper 2175. Washington, DC: USDA. 1982.

U.S. Environmental Protection Agency (EPA). 1987. "A Compendium of Superfund Field Operations Methods." EPA/540/P-87/001. (OSWER Directive 9355.0-14.) December 1987.

U.S. Geological Survey (USGS). 1982. Water Supply Paper 2175.

6.0 EXHIBITS

Exhibit 15-1 Surface Water Flow Measurement

EXHIBIT 15-1
Surface Water Flow Measurement

HGL HydroGeoLogic, Inc.

Surface Water Flow Measurement

Records Management Data

Project Number	Project Name	Site
Flow Measurement Method		

Distance from Initial Point (ft.)	Depth of Meter (ft.)	Width of Measurement Unit (ft.)	Depth of Water (ft.)	Number of Revolutions	Elapsed Time of Reading (secs)	Velocity	Area	Discharge

Recorded By:	Date:	Checked By:	Date: