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# Sediment Quality in the Green River Watershed

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**FINAL**

February 2014



**King County**

Department of Natural Resources and Parks  
Water and Land Resources Division

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# **Sediment Quality in the Green River Watershed**

## **FINAL**

### **Prepared for:**

King County Department of Natural Resources and Parks  
Wastewater Treatment Division

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**King County**

Department of  
Natural Resources and Parks

**Water and Land Resources Division**

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# Acronyms

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ANOVA	analysis of variance
AVS	acid volatile sulfides
BNAs	base/neutral/acid extractable semivolatile compounds
CSL	cleanup screening levels
CVAA	cold vapor atomic absorption
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
EPA	Environmental Protection Agency
GIS	geographic information system
HPAH	high molecular weight polycyclic aromatic hydrocarbon
KCEL	King County Environmental Laboratory
LDW	Lower Duwamish Waterway
LPAH	low molecular weight polycyclic aromatic hydrocarbons
MDL	method detection limit
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyls
PSD	particle size distribution
QC	quality control
SAP	sampling and analysis plan
SCO	sediment cleanup objective
SEM	simultaneously extractable metals
SEM/AVS	simultaneously extractable metals/acid volatile sulfides
TEF	toxicity equivalent factor
TEQ	toxicity equivalent
TOC	total organic carbon
WAC	Washington Administrative Code

# EXECUTIVE SUMMARY

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King County is currently conducting several studies to characterize potential sources of contaminants of concern identified in the Lower Duwamish Waterway (LDW) Superfund site. These studies evaluate chemical concentrations in water, sediment and suspended solids in the Green River Watershed and in atmospheric deposition within the Green/Duwamish River Watershed that may contribute chemical inputs to the LDW. One of these is the streams sediment study presented here.

This study presents an assessment of sediment quality in the Green River Watershed to characterize chemical concentrations and to better understand the relative differences of sediment quality between tributary basins and the Green River. The sediment data will also provide information to assist in understanding upstream sources of chemicals to the Lower Duwamish Waterway, as inputs of sediments from the Green River Watershed are one of the long-term sources of contaminants to the Lower Duwamish Waterway.

Stream basins sampled included Mill Creek in Auburn, Mill Creek in Kent, Jenkins Creek, and Covington Creek in 2012 and Soos, Newaukum, and Springbrook Creeks in 2008-2010. Stream basin sampling sites were placed approximately every creek mile, where possible. Four Green River main stem locations were also sampled in 2012 and included an upstream location at Flaming Geyser State Park (upriver of the major tributaries being sampled), a downstream location at Foster Links Golf Course (downstream of the tributaries), and just upstream of Soos Creek and Mill Creek in Auburn. A total of 58 samples were analyzed. All sampling sites were located in depositional areas where fine sediments were present. All samples were analyzed for metals (including mercury) and organic chemicals such as polycyclic aromatic hydrocarbons, phthalates, polychlorinated biphenyls as Aroclors, and chlorinated pesticides. All samples were also analyzed for total organic carbon (TOC), total solids, particle size distribution, and simultaneously extractable metals/acid volatile sulfides (SEM/AVS) and a subset of samples were analyzed for dioxins/furans.

Overall, the relative differences between stream tributary basins as well as the Green River main stem locations shows that the more urbanized basins—Springbrook Creek, Mill Creek in Kent and to a lesser extent Mill Creek in Auburn—generally had higher concentrations of metals and organics and more exceedances of the Sediment Management Standards freshwater benthic sediment cleanup objective (SCO) criteria compared to less developed tributary basins and the Green River main stem locations.

Additional findings of this Green River Watershed sediment quality study are:

- All metals analyzed were detected in every sample; however, many organic compounds were infrequently or never detected.
- In all sediment samples, all chemical concentrations were below the Washington State Sediment Management Standards freshwater benthic cleanup screening level (CSL; the level expected to result in minor adverse effects to benthic [sediment-dwelling] organisms).

- Twenty-four of 58 samples had at least one chemical concentration above the Sediment Management Standards freshwater benthic SCO criteria, below which no adverse effects are expected for benthic organisms. Most SCO exceedances occurred at Mill Creek in Kent, followed by Springbrook Creek, then Mill Creek in Auburn. These three creek basins are more urbanized in comparison to other basins.
- In samples with metals concentrations above the SCO, SEM/AVS ratios indicated that metals were not bioavailable at about half the sampling locations. At locations where metals were not bioavailable they would not be expected to cause adverse effects to aquatic organisms.
- For most metals, Springbrook Creek followed by Mill Creek in Kent had the highest mean concentrations; however, significant differences in metal concentrations were not always observed between basins. In addition, Springbrook Creek and Mill Creek in Kent had more individual locations with higher organic compound concentrations, when detected, relative to other stream basins<sup>1</sup>.
- PCBs were detected most often in Springbrook Creek, Mill Creek in Kent, and Mill Creek in Auburn. PCBs were either rarely or never detected in the remaining stream basins and Green River main stem sites. The highest concentrations were detected in Springbrook Creek and Mill Creek in Kent.
- With the exception of mercury, metal concentrations at all four Green River main stem sites were within a factor of two of each other. The five organic compounds detected in Green River main stem sites were within a factor of two of their respective detection limits; other organic compounds were not detected. This suggests very little difference between the four main stem sites.
- On average, sediment samples consisted of 50% or more sand particle sizes for all locations with the exception of Jenkins Creek, where sediment samples consisted of nearly 50% fine particles. Samples from the Green River locations generally had the lowest TOC and highest percent sand while samples from Jenkins Creek had the highest TOC and highest percent fines. Samples containing higher percentage of sand and lower TOC tend to have lower chemical concentrations.

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<sup>1</sup> Statistical significance was not tested due to lower frequency of detection for organic compounds.

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# 1 INTRODUCTION

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This study presents an assessment of sediment quality in the Green River Watershed to characterize chemical concentrations and to better understand the relative differences of sediment quality between tributary basins and the Green River. King County collected sediment samples to characterize bulk sediment chemical concentrations in seven stream basins that drain to the Green River and four locations on the Green River main stem. These sediments were characterized to evaluate sediment quality, to better understand the relative differences of sediment quality within streams in the Green River Watershed, and to allow comparison to other sample types collected in similar locations to determine usefulness in characterizing and tracking contaminant sources. The sediment data will also provide information to assist in understanding upstream sources to the Lower Duwamish Waterway (LDW), as inputs from the Green River Watershed are one of the long-term sources of contaminants to the Lower Duwamish Waterway.

This report is organized as follows: study background and study area (Section 1.0); sample collection and processing methods (Section 2.0); laboratory analytical methods (Section 3.0); data analysis (Section 4.0); data results (Section 5.0); discussion of the data (Section 6.0); and conclusions (Section 7.0). Referenced maps follow the report references. Supporting appendices include chain of custody forms, laboratory data results, and chemistry data validation reports. Sampling design, background, field and analytical methods, quality goals and objectives are documented in the study project sampling and analysis plan (SAP) (King County 2012).

## 1.1 Study Background

Understanding what is in sediments is important because chemical contaminants can be washed into streams and lakes from upland areas and attach to sediments, which then can settle to the bottom of a lake or stream. In this way, sediments can act as record of both historical and recent contaminants that have been discharged into surface waters. Once contaminants are in these bottom sediments they can persist where aquatic life (e.g., benthic or bottom-dwelling organisms) and people can be exposed to them directly or indirectly through consumption of fish or benthic organisms.

In 2004, King County began a ten-year stream sediment monitoring program to both characterize sediment quality and assess sediment quality trends in various creek basins in the King County wastewater service area, which includes the Green River Watershed and the Lake Washington Watershed. Stream basins where sediments were characterized were sampled approximately every creek mile from their mouth to their headwaters. Stream basins that were sampled for trends were sampled at a site near their mouth once every year. However, the stream sediment monitoring program was discontinued after 2010 due to budget reductions. Three creek basins in the Green River Watershed were sampled during this program and these data are being used in this current assessment of sediment quality in the Green River Watershed.

King County is a member of the Source Control Work Group for the LDW Superfund site. Other members include Washington Department of Ecology (Ecology; lead agency), the

Environmental Protection Agency (EPA), City of Seattle, and the Port of Seattle. The Source Control Work Group collaborates to understand potential sources of contaminants to the LDW Superfund site and works to control and reduce sources that can contaminate sediments in the waterway. King County wants to better understand the potential sources of contaminants of concern identified in the LDW Superfund site that may contribute chemical inputs to the LDW and is currently conducting several studies to evaluate chemical concentrations in water, sediment and suspended solids in the Green River Watershed (King County 2011a, King County 2013) and in atmospheric deposition within the Green/Duwamish River watershed (King County 2011b). The streams sediment study presented here is one of these studies and is intended to complement data from these other studies as well as present a characterization of stream sediments within the Green River Watershed. The bulk sediment chemical concentrations will also provide information to better understand the potential sources of sediment-associated chemicals to the Green and Duwamish Rivers.

## 1.2 Study Area Streams

The 58 stream locations sampled in this sediment quality assessment are shown in Map 1. Samples were collected in 2012 in Mill Creek in Auburn, Mill Creek in Kent, Jenkins Creek, and Covington Creek, and at four locations on the main stem Green River. The most upstream location on the Green River (upriver of the major tributaries being sampled) is at Flaming Geyser State Park, while the most downstream location on the Green River (downstream of the tributaries) is at the Foster Links Golf Course in Tukwila. The other two locations on the Green River are just upstream of Soos Creek and just upstream of Mill Creek in Auburn. Samples were also collected from Soos, Newaukum, and Springbrook Creeks in 2008-2010; these creeks were sampled, as noted earlier, as part of a now discontinued stream sediment monitoring program. Data collected to characterize the creek basins are included but sediment data collected to assess trends, a component of the stream sediment monitoring program, are not included. This is because the program was discontinued before there were sufficient samples to evaluate chemistry trends in the stream sediments sampled.

Map 2 shows land use categories for the Green/Duwamish River Watershed. Land use varies for tributary basins and the main stem of the Green River from highly urbanized (mix of commercial/industrial/residential urban) to predominantly residential rural and natural resources.

## 2 FIELD COLLECTION METHODS

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This section provides an overview of the field collection methods used in this study. All field collection was conducted by the King County Environmental Laboratory (KCEL). The sampling collection and processing methods are summarized in Section 2.1, and the sample locations and station identifiers are described in Section 2.2. Copies of completed chain of custody forms used to track sample custody are included in Appendix A.

The sampling collection and processing methods summarized below were also used during the 2008-2010 stream sampling events.

### 2.1 Sample Collection and Processing

Samples were collected using a pre-cleaned PVC core tube to penetrate stream bottom sediments to a depth of 5 to 10 centimeters. A stainless steel spatula or gloved hand was inserted under the core tube mouth to trap the sediment inside, and the tube was removed from the stream. Water was slowly drained so as not to allow any fines to escape. The sediment in the tube was then transferred into a stainless steel bowl for compositing. This process was repeated a minimum of five times for each sampling station to acquire an appropriate amount of material to fill all sample containers after compositing and to obtain sediment from a depositional area of at least two to three meters in diameter when it was possible. If core tube penetration was poor or streambed was rocky or gravelly, or if additional sediment volume was needed to fill all sample containers, additional core tubes were collected. If fine sediments at the sampling site were present but were confined to an area smaller than approximately 3"x 3", a pre-cleaned stainless steel spoon was used to acquire sediment for compositing instead of the core tube method. A stainless steel spoon or spatula was used to homogenize the sample by stirring. Rocks or other debris a half inch in diameter or larger were removed and discarded. All sampling equipment (PVC core tube, stainless steel spatulas, spoons, and bowls) were all pre-cleaned<sup>2</sup> and a set was dedicated to each sampling station.

At the Foster Links site on the Green River main stem, sediment was collected from the top 5 to 10 centimeters using a petite ponar sampler lowered from the golf cart bridge over the river. Three casts were collected and composited before the sample was homogenized and split.

Once the sediment was collected, composited, and homogenized in a stainless steel bowl, sample jars for individual analyses were filled in the field from the composited sample using a pre-cleaned stainless steel spoon. Sample jars were pre-labeled and once they were filled they were capped and placed in coolers on ice for transport to the KCEL. Chain of custody was maintained at all times. Chain of custody documentation appears in Appendix A.

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<sup>2</sup> Equipment was pre-cleaned with detergent 8, soaking in a 5 % acid solution, and finally rinsed with deionized water; stainless steel equipment did not include the acid solution rinse.

## 2.2 Sample Locations and Station Identifiers

Likely sampling stations were identified using King County's GIS aerial photos and streams coverage. Access logistics and property ownership of a likely sampling site were screened and driving directions were developed. Access permission was obtained from property owners where appropriate. Sampling sites were placed every creek mile, where possible, based on King County's GIS creek mile coverage. Project staff then visited each site during a field reconnaissance trip. Sampling sites were located in depositional areas where fine sediments were present. Actual sampling locations were shifted upstream or downstream based on the presence of fine sediment availability. If a site turned out to be inaccessible, an attempt was made to add another site within the same creek mile. If no access was available along that creek mile then that creek mile was not sampled. Once likely sites were identified, a GIS locator (Washington state plane North NAD 83) was recorded for each site and a unique station locator was created. Where possible, existing station locators were used. Project staff returned later to each site to collect sediment samples using information collected during the field reconnaissance. Locators, location coordinates and sample collection dates for both the 2012 samples and the previously collected samples in 2008-2010 are listed in Table 1. Locations of all 58 sampling stations are shown on Map 1.

**Table 1. Stream Sediment Station Locations and Sample Collection Dates**

Station Locator	Creek <sup>a</sup>	State Plane Easting	State Plane Northing	Sample Collection Date
0320 <sup>b</sup>	Big Soos Creek	1309035	115400	7/26/2010
A320	Big Soos Creek	1309972	116821	7/26/2010
AA320	Big Soos Creek	1317684	125229	7/26/2010
GG320	Big Soos Creek	1317645	128035	7/26/2010
HH320	Big Soos Creek	1315790	137405	7/26/2010
II320	Big Soos Creek	1315845	143630	7/26/2010
L320	Big Soos Creek	1311576	155792	7/26/2010
P320	Big Soos Creek	1316205	140841	7/26/2010
Q320	Big Soos Creek	1319226	133287	7/26/2010
RR320	Big Soos Creek	1312470	149220	7/26/2010
SS320	Big Soos Creek	1312305	154955	7/26/2010
AB320	Covington Creek	1321350	119105	8/14/2012
C320	Covington Creek	1327045	116490	8/14/2012
CC320	Covington Creek	1324280	116570	8/14/2012
CD320	Covington Creek	1329470	113590	8/15/2012
PT320	Covington Creek	1338290	122575	8/15/2012
S320	Covington Creek	1346550	126070	8/15/2012
Z320	Covington Creek	1339866	124875	8/15/2012
0318	Green River	1294280	134927	8/29/2012
A319	Green River	1307302	113108	8/27/2012
FG319	Green River	1341097	104038	8/14/2012

Station Locator	Creek <sup>a</sup>	State Plane Easting	State Plane Northing	Sample Collection Date
FL319	Green River	1288012	177997	8/29/2012
D320	Jenkins Creek	1319039	126881	8/15/2012
FR320	Jenkins Creek	1326790	137155	8/27/2012
JK320	Jenkins Creek	1325834	133151	8/27/2012
LW320	Jenkins Creek	1339395	140055	8/27/2012
WX320	Jenkins Creek	1322235	129990	8/27/2012
A315	Mill Creek (Auburn)	1289725	137218	8/13/2012
ED315	Mill Creek (Auburn)	1290545	122530	8/13/2012
FR315	Mill Creek (Auburn)	1290680	129960	8/29/2012
PC315	Mill Creek (Auburn)	1281940	117340	8/14/2012
PR315	Mill Creek (Auburn)	1287170	113555	8/14/2012
SD315	Mill Creek (Auburn)	1289415	133275	8/13/2012
TS315	Mill Creek (Auburn)	1290765	127160	8/13/2012
UH315	Mill Creek (Auburn)	1281775	118130	8/14/2012
AA318	Mill Creek (Kent)	1294800	146780	8/28/2012
CS318	Mill Creek (Kent)	1292480	150045	8/28/2012
DT318	Mill Creek (Kent)	1291450	158960	8/27/2012
EG318	Mill Creek (Kent)	1301075	135305	8/28/2012
EP318	Mill Creek (Kent)	1295940	142700	8/28/2012
FS318	Mill Creek (Kent)	1291205	155285	8/28/2012
IT318	Mill Creek (Kent)	1292010	163195	8/30/2012
SH318	Mill Creek (Kent)	1299685	137710	8/28/2012
0322 <sup>b</sup>	Newaukum Creek	1334258	105523	8/10/2009
E322	Newaukum Creek	1340907	90871	8/10/2009
X322	Newaukum Creek	1334258	105523	8/10/2009
F322	Newaukum Creek	1342797	85546	8/10/2009
FF322	Newaukum Creek	1342468	82948	8/10/2009
G322	Newaukum Creek	1351043	82823	8/10/2009
QQ322	Newaukum Creek	1357235	85390	8/10/2009
BB322	Newaukum Creek	1341445	93565	8/10/2009
AD322	Newaukum Creek	1346405	79610	8/10/2009
AE322	Newaukum Creek	1347765	80264	8/10/2009
0317 <sup>b</sup>	Springbrook Creek	1294315	173079	7/28/2008
K317	Springbrook Creek	1295535	169340	8/5/2008
L317	Springbrook Creek	1292645	164190	8/5/2008
M317	Springbrook Creek	1294345	161415	8/5/2008
N317	Springbrook Creek	1295325	160440	8/5/2008

<sup>a</sup> Samples from Soos, Newaukum and Springbrook Creeks collected in 2008-10

<sup>b</sup> Re-sampled for dioxin/furans in August 2012

### 3 LABORATORY ANALYSIS AND METHODS

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All samples were analyzed for metals (including mercury), base/neutral/acid extractable semivolatile compounds, four endocrine disrupting compounds (4-nonylphenol, bisphenol A, bis(2-ethylhexyl)adipate, coprostanol), polychlorinated biphenyls as Aroclors, chlorinated pesticides, total organic carbon (TOC), total solids, particle size distribution, and simultaneously extractable metals/acid volatile sulfides (SEM/AVS). A subset of samples collected four stations (Mill Creek in Auburn and Mill Creek in Kent at the stations closest to the mouths of the streams, and from the Green River at the station farthest upstream [Flaming Geyser] and the farthest downstream [Foster Links golf course]) were analyzed for dioxins/furans. The samples that were previously collected from Soos, Newaukum, and Springbrook Creeks in 2008-2010 were analyzed for all of the parameters listed above except dioxins/furans. Therefore, a sample was collected at the mouths of each these streams (Soos, Newaukum, and Springbrook) for analysis of dioxins/furans.

Laboratory analyses were conducted by KCEL except dioxin/furan congeners, which were analyzed by AXYS Analytical Services, Ltd.

Conventional parameters that were analyzed included particle size distribution (PSD), pH, total solids, total organic carbon (TOC) and acid volatile sulfides (AVS). Analytical methods are listed in Table 2.

**Table 2. Conventional Analysis Methods**

Parameter	Method
PSD (gravel and sand)	ASTM D422
PSD (silt and clay)	ASTM D422
Total Organic Carbon	EPA 9060, PSEP 1996
pH	SW846 9045D
Total Solids	SM 2540-G
Acid Volatile Sulfide	EPA 1991

Metals parameters analyzed for this study included simultaneously extractable metals (SEM for arsenic, cadmium, copper, lead, mercury, nickel, silver, and zinc) and total metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc). The total metals analysis method for metals not including mercury was inductively couple plasma mass spectroscopy method SW846 3050B/6020A. Total mercury analysis was done by cold vapor atomic absorption (CVAA) method EPA 7471B. SEM metals, except mercury, were analyzed by inductively coupled plasma atomic emission spectroscopy method EPA 821 1991/200.7. SEM mercury was analyzed by CVAA method MT EPA 821 1991/245.1\*SW846 7470A

Organic parameters analyzed for this study included base/neutral/acid extractable semivolatile compounds (BNAs), endocrine disrupting compounds (4-nonylphenol, bisphenol A, bis(2-ethylhexyl)adipate, coprostanol), chlorinated pesticides, and PCBs (as

Aroclors). BNA analysis included compounds such as high and low molecular weight polyaromatic hydrocarbons (LPAHs and HPAHs). BNA compounds were analyzed using EPA method SW 846 3550C/8270D. Chlorinated pesticides, such as DDT, and PCBs were analyzed using EPA method SW 846 3550C/8081B/8082A. Endocrine disrupting compounds were analyzed using method SW846 3550B/ 8270D.

A total of seventeen dioxin/furan congeners were analyzed by EPA method 1613b, which is a high-resolution gas chromatography/high-resolution mass spectroscopy method using an isotope dilution internal standard quantification.

All analytical laboratory methods followed those described in the SAP with the following exception: SEM mercury was analyzed by method MT EPA 821 1991/245.1\*SW846 7470A. The method listed in the SAP was a clerical error.

## 4 DATA ANALYSIS

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The analytical concentration data were prepared for data analysis by calculating sums for certain analyte groups (e.g., PAH, PCB and DDT) and dioxin toxicity equivalents or TEQs. In addition, SEM/AVS ratios were calculated. The method used for these calculations are described in this section. In addition, the 2013 Washington State Sediment Management Standards for protection of freshwater benthic invertebrates are also presented for those analytes with criteria. Finally, a description of the statistical analysis performed is provided.

### 4.1 Summation for PAHs, PCBs and Organo-Chlorine Pesticides

For certain compounds, total concentrations were calculated for comparison to sediment standards and to summarize and compare data among stream sampling locations. These include total PAHs, total PCBs, total DDTs, total DDEs and total DDDs. Total PAHs were calculated by summing detected concentrations of 17 individual PAH results. The PAHs summed were: 1-methylnaphthalene, 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benz(a)anthracene, benzo(a)pyrene, benzo(ghi)perylene, chrysene, dibenz(ah)anthracene, fluoranthene, fluorene, indeno(123-cd)pyrene, naphthalene, phenanthrene, pyrene, total benzofluoranthenes (b.+k.+j). Total PCBs were calculated summing detected Aroclors, and total DDT, DDE and DDD were also calculated by summing the detected isomers. When all results are nondetect, the total is based on the single highest nondetect value (U-flagged).

### 4.2 Dioxin TEQs

Dioxin and furan congener data were converted to toxicity equivalents (TEQs) because TEQs provide a toxicity-based approach to interpreting the dioxin and furan congener data. Dioxin and furan congener concentrations were converted to TEQs based on 2,3,7,8-Tetrachlorodibenzodioxin (2,3,7,8-TCDD) toxicity by multiplying the concentration of an individual congener by its toxicity equivalent factor (TEF) for mammals from Van den Berg et al. (2006) (see Table 3) to result in a TEQ concentration. The total dioxin TEQ was based on summing the 17 TEQ values. Whenever a dioxin or furan was not detected, the TEF was applied to the full non-detect value (or U qualified value)<sup>[1]</sup>.

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<sup>[1]</sup> For laboratory results qualified as “K” by AXYS, which were re-qualified as U by data validation, the dioxin and furan congener based on the result value (rather than sample specific detection limit) was multiplied by the respective TEF.

**Table 3. TEFs Applied in Calculation of Dioxin TEQs**

Compound	TEF
<b>Dioxins</b>	
2,3,7,8-TCDD	1
OCDD	0.0003
1,2,3,4,6,7,8-HPCDD	0.01
1,2,3,4,7,8-HXCDD	0.1
1,2,3,6,7,8-HXCDD	0.1
1,2,3,7,8,9-HXCDD	0.1
1,2,3,7,8-PECDD	1
<b>Furans</b>	
2,3,7,8-TCDF	0.1
1,2,3,4,6,7,8-HPCDF	0.01
1,2,3,4,7,8,9-HPCDF	0.01
1,2,3,4,7,8-HXCDF	0.1
1,2,3,6,7,8-HXCDF	0.1
1,2,3,7,8,9-HXCDF	0.1
1,2,3,7,8-PECDF	0.03
2,3,4,6,7,8-HXCDF	0.1
2,3,4,7,8-PECDF	0.3
OCDF	0.0003

### 4.3 SEM/AVS Ratios

SEM/AVS metals ratios were calculated to better understand the bioavailability of metals in sediment samples (DiToro et al., 1990 and Hansen et al., 2005). The bioavailability of metals is influenced by the presence of AVS. AVS binds to metals in sediments and sequesters them, making the bound metal unavailable for biological uptake. Basically, to calculate SEM/AVS ratios, the molar concentration of SEM metals (cadmium, copper, lead, nickel, silver and zinc) present in a sample are added together and divided by the molar concentration of AVS present in that same sample. If less SEM metals than AVS are present (ratio of less than 1), then the metals in the sample are likely to not be bioavailable. This SEM/AVS ratio was calculated for each sample and the bioavailability of metals in each sample was assessed. SEM/AVS calculation tables appear in Appendix B and discussion of SEM/AVS analyses are presented in Section 6.2.

## 4.4 Washington State Freshwater Sediment Management Standards

Data results were compared to Washington State Sediment Management Standards, table VI, Freshwater Sediment Cleanup Objectives (SCO) and Cleanup Screening Levels (CSL) Chemical Criteria (WAC 173-204-563; Ecology 2013). Table 4 presents the numeric benthic criteria; these freshwater standards became effective September 1, 2013.

**Table 4. Freshwater Sediment Numeric Chemical Criteria for Benthic Organisms**

Chemical Parameter	Dry Weight	
	Sediment Cleanup Objective	Cleanup Screening Level
<b>Conventional Chemicals (mg/kg)</b>		
Ammonia	230	300
Total sulfides	39	61
<b>Metals (mg/kg)</b>		
Arsenic	14	120
Cadmium	2.1	5.4
Chromium	72	88
Copper	400	1200
Lead	360	> 1300
Mercury	0.66	0.8
Nickel	26	110
Selenium	11	> 20
Silver	0.57	1.7
Zinc	3200	> 4200
<b>Organic Chemicals (µg/kg)</b>		
4-Methylphenol	260	2000
Benzoic acid	2900	3800
Beta-Hexachlorocyclohexane	7.2	11
Bis(2-ethylhexyl) phthalate	500	22000
Carbazole	900	1100
Dibenzofuran	200	680
Dibutyltin	910	130000
Dieldrin	4.9	9.3
Di-n-butyl phthalate	380	1000
Di-n-octyl phthalate	39	> 1100
Endrin Ketone	8.5	> 8.5
Monobutyltin	540	> 4800
Pentachlorophenol	1200	> 1200
Phenol	120	210
Tetrabutyltin	97	> 97
Total PCB Aroclors	110	2500
Total DDDs	310	860

Chemical Parameter	Dry Weight	
	Sediment Cleanup Objective	Cleanup Screening Level
Total DDEs	21	33
Total DDTs	100	8100
Total PAHs	17000	30000
Tributyltin	47	320
<b>Bulk Petroleum Hydrocarbons (mg/kg)</b>		
Total Petroleum Hydrocarbon (TPH)-Diesel	340	510
Total Petroleum Hydrocarbon (TPH)-Residual	3600	4400

Spatial analysis of sediment data was conducted by plotting potential effects codes at each sampling location on a map (see Section 6.1). Effects codes were developed by comparing chemical data results to sediment management standards shown in Table 4. If a sample had one or more chemical concentrations that exceeded the SCO, then the locator was colored yellow. If a sample had one or more chemical concentrations that exceeded the CSL then the locator was colored red. If a sample had no chemical concentrations that exceeded the SCO then the locator was colored green. Chemical concentrations at or below the SCO correspond to sediment quality that results in no adverse effects to the benthic community, whereas the CSL establish at least minor adverse effects level to the benthic community (WAC 173-204-563).

## 4.5 Statistical Methods

Metal concentrations for each basin were statistically compared using Sigma Plot 12.0 software. Parametric tests were used when data passed both the Shapiro-Wilk Normality test ( $p < 0.05$ ) and Equal Variance test ( $p < 0.05$ ). Parametric tests included analysis of variance (ANOVA) followed by Holm-Sidak comparison method ( $p < 0.05$ ). Nonparametric tests included ANOVA on Ranks followed by Dunn's comparison method ( $p < 0.05$ ). Organic compounds were not included in statistical tests because frequency of detection was less than 100% and sample sizes per stream basin were too small to reliably perform any estimates for the non-detected organic compounds for statistical analysis. Graphical results of the statistical analyses are presented in Section 6.3.

## 5 RESULTS

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This section provides a summary of the analytical results and summary of data validation findings for 2012 chemistry analyses. All analytical data as reported by the laboratories are presented in Appendix C and data validation reports are included in Appendix D.

A total of 58 sediment samples were collected from seven creeks and the Green River for this assessment. The creeks sampled were Newaukum, Covington, Jenkins, Big Soos, Mill (in Auburn), Mill (in Kent), and Springbrook. A total of ten samples were collected in Newaukum, seven were collected from Covington, five were collected from Jenkins, eleven samples were collected in Big Soos, eight were collected from Mill Creek in Auburn, eight were collected in Mill Creek in Kent, five were collected in Springbrook, and four were collected in the Green River.

### 5.1 Data Summaries

Data summaries are presented for metals, total PCBs, PAHs, phthalates, particle size distribution, total organic carbon, and dioxin TEQs. Summaries include minimum and maximum detected concentrations and mean and median concentrations by creek basin and all sites combined. Summaries were not compiled for chlorinated pesticides and endocrine disrupting compounds because there were too few detections.

The most frequently detected endocrine disrupting chemical was 4-nonylphenol. This compound was detected in 20% of the samples with the majority of detections at Mill Creek in Kent, Mill Creek in Auburn and Springbrook Creek. Bis(2-ethylhexyl)adipate was the next most frequently detected, but was only found in Newaukum Creek. No endocrine disrupting chemicals were detected in Jenkins Creek or Soos Creek.

The most commonly detected pesticide compounds were DDD and DDT, but both were detected in less than 7% of samples. The majority of pesticide detections occurred at Mill Creek in Kent and Springbrook Creek. No pesticide compounds were detected in Covington Creek, Soos Creek or the Green River.

Table 5 summarizes sediment metal concentrations by creek/river basin. Metals were detected in all samples. Springbrook Creek had the highest observed concentrations of chromium, copper, nickel, silver, and zinc while the maximum concentrations of cadmium and lead were found in Mill Creek in Kent. Soos Creek had the highest maximum concentration of arsenic and the Green River had the highest mercury concentration. Map 3 illustrates the spatial distribution of arsenic concentrations. This map is intended to provide spatial context for the concentration of arsenic, which is a key contaminant of concern for the Lower Duwamish Waterway based on human health risks.

**Table 5. Green River Watershed Sediment Metals Concentrations (mg/kg dry weight) Summary Statistics**

<b>Metal</b>	<b>Creek</b>	<b>FOD</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Median</b>
Arsenic	Newaukum Creek	10/10	2.41	7.33	4.42	4.51
	Covington Creek	7/7	0.706	19.5	5.17	3.12
	Jenkins Creek	5/5	2.53	10.7	5.77	4.64
	Soos Creek	11/11	2.93	63.6	14.2	7.12
	Mill Creek Auburn	8/8	4.13	26.4	12.6	12.2
	Mill Creek Kent	8/8	2.92	17.6	8.01	5.82
	Springbrook Creek	5/5	11.5	56.6	25.5	22.1
	Green River	4/4	3.22	4.84	4.08	4.14
	All Sites Combined	58/58	0.706	63.6	9.89	4.99
Cadmium	Newaukum Creek	10/10	0.0758	0.278	0.146	0.143
	Covington Creek	7/7	0.030	0.165	0.075	0.060
	Jenkins Creek	5/5	0.229	0.579	0.432	0.497
	Soos Creek	11/11	0.0518	0.738	0.170	0.075
	Mill Creek Auburn	8/8	0.119	0.684	0.327	0.334
	Mill Creek Kent	8/8	0.259	3.94	1.14	0.782
	Springbrook Creek	5/5	1.16	3.42	2.22	2.28
	Green River	4/4	0.054	0.0777	0.0666	0.0673
	All Sites Combined	58/58	0.030	3.94	0.501	0.193
Chromium	Newaukum Creek	10/10	9.57	29.4	18.4	18.5
	Covington Creek	7/7	3.10	30.3	13.3	12.5
	Jenkins Creek	5/5	6.91	20.1	13.1	12.4
	Soos Creek	11/11	8.18	27.5	18.9	21.0
	Mill Creek Auburn	8/8	9.29	32.9	16.8	13.2
	Mill Creek Kent	8/8	8.41	40.9	21.4	21.0
	Springbrook Creek	5/5	22.9	46.2	34.8	36.4
	Green River	4/4	9.00	14.9	11.6	11.2
	All Sites Combined	58/58	3.10	46.2	18.5	16.6
Copper	Newaukum Creek	10/10	11.6	37.0	20.7	20.2
	Covington Creek	7/7	1.93	13.9	9.10	10.1
	Jenkins Creek	5/5	8.59	26.7	18.4	18.8
	Soos Creek	11/11	4.71	25.8	11.6	10.2
	Mill Creek Auburn	8/8	8.26	36.7	20.0	18.6
	Mill Creek Kent	8/8	11.3	52.9	34.7	33.7
	Springbrook Creek	5/5	31.1	112	56.4	52.2
	Green River	4/4	10.6	17.2	13.9	13.9
	All Sites Combined	58/58	1.93	112	21.8	17.5

<b>Metal</b>	<b>Creek</b>	<b>FOD</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Median</b>
<b>Lead</b>	Newaukum Creek	10/10	3.48	17.8	8.29	7.14
	Covington Creek	7/7	1.78	11.4	5.63	3.11
	Jenkins Creek	5/5	11.5	25.5	18.3	16.3
	Soos Creek	11/11	2.79	37.5	12.2	5.51
	Mill Creek Auburn	8/8	8.09	48.9	19.9	14.7
	Mill Creek Kent	8/8	21.0	66.5	40.2	33.5
	Springbrook Creek	5/5	25.6	60.5	40.1	43.1
	Green River	4/4	2.30	5.28	3.68	3.58
	All Sites Combined	58/58	1.78	66.5	18.0	12.1
<b>Mercury</b>	Newaukum Creek	10/10	0.015	0.073	0.035	0.033
	Covington Creek	7/7	0.014	0.065	0.036	0.027
	Jenkins Creek	5/5	0.063	0.19	0.12	0.11
	Soos Creek	11/11	0.017	0.210	0.053	0.031
	Mill Creek Auburn	8/8	0.015	0.13	0.070	0.071
	Mill Creek Kent	8/8	0.063	0.11	0.090	0.095
	Springbrook Creek	5/5	0.069	0.16	0.11	0.096
	Green River	4/4	0.011	0.540	0.17	0.062
	All Sites Combined	58/58	0.011	0.540	0.074	0.063
<b>Nickel</b>	Newaukum Creek	10/10	5.88	25.8	13.9	12.7
	Covington Creek	7/7	2.33	24.0	12.7	14.4
	Jenkins Creek	5/5	5.49	12.1	9.83	11.1
	Soos Creek	11/11	9.87	36.4	20.5	19.0
	Mill Creek Auburn	8/8	7.20	28.9	16.3	12.3
	Mill Creek Kent	8/8	5.96	19.4	13.7	14.3
	Springbrook Creek	5/5	16.2	38.4	25.6	21.7
	Green River	4/4	10.5	20.0	13.9	12.7
	All Sites Combined	58/58	2.33	38.4	16.0	14.1
<b>Silver</b>	Newaukum Creek	10/10	0.038	0.14	0.074	0.074
	Covington Creek	7/7	0.0096	0.043	0.027	0.030
	Jenkins Creek	5/5	0.046	0.091	0.074	0.074
	Soos Creek	11/11	0.018	0.12	0.042	0.032
	Mill Creek Auburn	8/8	0.028	0.13	0.080	0.0825
	Mill Creek Kent	8/8	0.051	0.227	0.125	0.140
	Springbrook Creek	5/5	0.131	0.365	0.217	0.178
	Green River	4/4	0.023	0.0450	0.036	0.039
	All Sites Combined	58/58	0.0096	0.365	0.080	0.055

Metal	Creek	FOD	Min	Max	Mean	Median
Zinc	Newaukum Creek	10/10	42.3	126	77.7	71.7
	Covington Creek	7/7	7.02	81.0	34.7	34.5
	Jenkins Creek	5/5	42.8	113	79.5	80.8
	Soos Creek	11/11	29.4	189	68.1	46.3
	Mill Creek Auburn	8/8	50.1	180	123	129
	Mill Creek Kent	8/8	108	532	307	297
	Springbrook Creek	5/5	173	954	462	397
	Green River	4/4	33.0	66.5	47.2	44.7
	All Sites Combined	58/58	7.02	954	140	83.0

FOD = Frequency of Detection

Table 6 summarizes sediment total PCB concentrations by creek/river basin. PCBs were not detected in Green River and Newaukum Creek and were infrequently detected in Covington, Jenkins and Soos Creeks. PCBs were detected in all five samples of Springbrook Creek and most samples from Mill Creeks in Auburn and Kent. Detected PCB concentrations in individual samples ranged from 1.9 µg/kg dry weight in Soos Creek to 128 µg/kg dry weight in Mill Creek in Kent. Mill Creek in Kent and Springbrook Creek had samples with the highest concentrations of total PCBs at 128 and 117 µg/kg dry weight, respectively. Map 4 illustrates the spatial distribution of total PCB concentrations. This map is intended to provide spatial context for the concentration of total PCBs, which is a key contaminant of concern for the Lower Duwamish Waterway based on human health and ecological risks.

**Table 6. Green River Watershed Sediment Total PCB Concentrations (µg/kg dry weight) Summary Statistics**

	Creek	FOD	Min	Max	Mean <sup>a</sup>	Median <sup>a</sup>
Total PCBs (as Aroclors)	Newaukum Creek	0/10	n/a	4U	n/a	n/a
	Covington Creek	1/7	n/a	3.8	n/a	n/a
	Jenkins Creek	1/5	n/a	63.0	n/a	n/a
	Soos Creek	1/11	n/a	1.9	n/a	n/a
	Mill Creek Auburn	4/8	9.3	31	19	17
	Mill Creek Kent	7/8	17.4	128	56.9	51.8
	Springbrook Creek	5/5	12.8	117	59.0	54.0
	Green River	0/4	n/a	5.5U	n/a	n/a
	All Sites Combined	19/58	1.90	128	44.0	29.7

<sup>a</sup>Mean and median calculations do not include nondetects.

FOD = Frequency of Detection; n/a = not applicable; U = Not detected; highest method detection limit of Aroclor for the sample is presented when no detected Aroclors.

Table 7 summarizes sediment low-molecular weight PAH (LPAH)<sup>3</sup> concentrations by compound and by creek/river basin; only those LPAHs detected at least once were included (see Appendix C for all LPAH data). Naphthalene and acenaphthylene were not detected in any sediment samples. No LPAHs were detected in Covington Creek and Green River samples. Highest frequency of detection was generally at Mill Creek in Kent. Of the LPAH compounds detected in at least one sample, acenaphthene was detected least often and phenanthrene was detected most often. The highest concentration of individual LPAH compounds were generally found in Soos Creek, but these also had the most variable LPAH concentrations.

**Table 7. Green River Watershed Sediment LPAH Concentrations (µg/kg dry weight) Summary Statistics**

Compound	Creek	FOD	Min	Max	Mean <sup>a</sup>	Median <sup>a</sup>
Acenaphthene	Newaukum Creek	1/10	n/a	11.2	n/a	n/a
	Covington Creek	0/7	n/a	13U	n/a	n/a
	Jenkins Creek	1/5	n/a	186	n/a	n/a
	Soos Creek	1/11	n/a	207	n/a	n/a
	Mill Creek Auburn	0/8	n/a	13U	n/a	n/a
	Mill Creek Kent	2/8	13	29.8	21	n/a
	Springbrook Creek	2/5	6.0	11	8.5	n/a
	Green River	0/4	n/a	11U	n/a	n/a
	All Sites Combined	7/58	6.0	207	66.3	13.0
Anthracene	Newaukum Creek	4/10	7.5	17.0	13	14
	Covington Creek	0/7	n/a	13U	n/a	n/a
	Jenkins Creek	2/5	25.8	52.5	39.2	n/a
	Soos Creek	4/11	4.9	461	129	25
	Mill Creek Auburn	3/8	11	14	12	12
	Mill Creek Kent	8/8	14	106	55	47.8
	Springbrook Creek	3/5	24.1	42.3	34.8	38.0
	Green River	0/4	n/a	11U	n/a	n/a
	All Sites Combined	24/58	4.9	461	51.0	25

<sup>3</sup> LPAHs include acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene.

Compound	Creek	FOD	Min	Max	Mean <sup>a</sup>	Median <sup>a</sup>
Fluorene	Newaukum Creek	1/10	n/a	18.9	n/a	n/a
	Covington Creek	0/7	n/a	13U	n/a	n/a
	Jenkins Creek	1/5	n/a	205	n/a	n/a
	Soos Creek	1/11	n/a	205	n/a	n/a
	Mill Creek Auburn	1/8	n/a	20	n/a	n/a
	Mill Creek Kent	7/8	12	39.4	24	18
	Springbrook Creek	3/5	20.5	37.2	29.5	30.9
	Green River	0/4	n/a	11U	n/a	n/a
	All Sites Combined	14/58	12	205	50.3	25.7
Phenanthrene	Newaukum Creek	7/10	3.5	101	28.5	16.9
	Covington Creek	0/7	n/a	13U	n/a	n/a
	Jenkins Creek	4/5	20	208	86.9	59.8
	Soos Creek	8/11	3.1	994	140	10.4
	Mill Creek Auburn	7/8	43.0	94.5	65.8	58.6
	Mill Creek Kent	8/8	92.9	643	338	270
	Springbrook Creek	4/5	21	294	190	224
	Green River	0/4	n/a	11U	n/a	n/a
	All Sites Combined	38/58	3.1	994	147	59.2

<sup>a</sup>Mean and median calculations do not include nondetects.

FOD = Frequency of Detection. n/a = not applicable. U = Not detected; highest method detection limit of samples summarized.

Table 8 summarizes sediment high molecular weight PAH (HPAH)<sup>4</sup> concentrations by compound and by creek/river basin. All individual HPAHs were detected in at least one sample, but the number of HPAH compounds detected in each sample varied greatly. Green River samples had the lowest frequency of detection for all HPAHs followed by Covington and Jenkins Creek. Mill Creek in Kent had the highest frequency of detection for all HPAHs. On average, both Springbrook Creek and Mill Creek in Kent had the highest concentrations of individual HPAH compounds.

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<sup>4</sup> HPAHs include benzo(a)anthracene, benzo (g,h,i)perylene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(b,j,k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno (1,2,3-cd)perylene, and pyrene

**Table 8. Green River Watershed Sediment HPAH Concentrations (µg/kg dry weight) Summary Statistics**

Compound	Creek	FOD	Min	Max	Mean <sup>a</sup>	Median <sup>a</sup>
Benzo(a)anthracene	Newaukum Creek	7/10	3.7	54.5	21.0	16.9
	Covington Creek	1/7	n/a	8.2	n/a	n/a
	Jenkins Creek	1/5	n/a	21	n/a	n/a
	Soos Creek	6/11	4.2	608	120	22.1
	Mill Creek Auburn	7/8	39.0	102	61.0	56.6
	Mill Creek Kent	8/8	95.1	790	379	328
	Springbrook Creek	3/5	185	327	278	322
	Green River	0/4	n/a	11U	n/a	n/a
	All Sites Combined	33/58	3.7	790	158	56.6
Benzo(a)pyrene	Newaukum Creek	9/10	3.5	62.9	21.0	12.7
	Covington Creek	0/7	n/a	45U	n/a	n/a
	Jenkins Creek	2/5	21	69	45	n/a
	Soos Creek	4/11	4.3	290	78.6	31.6
	Mill Creek Auburn	7/8	9.6	152	74.4	74.0
	Mill Creek Kent	8/8	122	1030	494	517
	Springbrook Creek	3/5	248	487	333	265
	Green River	0/4	n/a	11U	n/a	n/a
	All Sites Combined	34/58	3.5	1030	181	67.5
Benzo(b)fluoranthene	Newaukum Creek	8/10	4.5	93.5	29.6	16.2
	Soos Creek	7/11	3.5	292	63.8	9.82
	Springbrook Creek	3/5	435	824	606	559
	Sites Combined	18/26	3.5	824	139	22
Benzo(k)fluoranthene	Newaukum Creek	9/10	3.4	68.9	22.0	10
	Soos Creek	4/11	8.41	341	117	59.8
	Springbrook Creek	3/5	388	771	516	390
	Sites Combined	16/26	3.4	771	138	29
Benzo(b,j,k)fluoranthene	Covington Creek	6/7	14	23	18	18
	Jenkins Creek	3/5	78.6	174	130	138
	Mill Creek Auburn	8/8	23.3	424	210	201
	Mill Creek Kent	8/8	323	2830	1410	1510
	Green River	1/4	n/a	14	n/a	n/a
	Sites Combined	26/32	14	2830	518	183

Compound	Creek	FOD	Min	Max	Mean <sup>a</sup>	Median <sup>a</sup>
Benzo(g,h,i)perylene	Newaukum Creek	7/10	3.5	45.5	14	7.3
	Covington Creek	0/7	n/a	45U	n/a	n/a
	Jenkins Creek	0/5	n/a	64U	n/a	n/a
	Soos Creek	4/11	4.0	137	59.0	47.6
	Mill Creek Auburn	3/8	39.4	110	63	41
	Mill Creek Kent	8/8	71	351	220	237
	Springbrook Creek	3/5	267	537	371	310
	Green River	0/4	n/a	11U	n/a	n/a
	All Sites Combined	25/58	3.5	537	135	71
Chrysene	Newaukum Creek	9/10	4.3	86.9	26	9.6
	Covington Creek	1/7	n/a	17.9	n/a	n/a
	Jenkins Creek	3/5	47.4	91.9	75.2	86.4
	Soos Creek	8/11	3.1	731	119	12
	Mill Creek Auburn	8/8	9.2	199	98.9	103
	Mill Creek Kent	8/8	173	1240	657	654
	Springbrook Creek	3/5	335	630	531	628
	Green River	0/4	n/a	11U	n/a	n/a
	All Sites Combined	40/58	3.1	1240	227	86.7
Dibenzo(a,h)anthracene	Newaukum Creek	1/10	n/a	15.2	n/a	n/a
	Covington Creek	0/7	n/a	45U	n/a	n/a
	Jenkins Creek	0/5	n/a	64U	n/a	n/a
	Soos Creek	1/11	n/a	51.8	n/a	n/a
	Mill Creek Auburn	0/8	n/a	64U	n/a	n/a
	Mill Creek Kent	5/8	66	115	87	84
	Springbrook Creek	3/5	75.8	174	110	79.6
	Green River	0/4	n/a	11U	n/a	n/a
	All Sites Combined	10/58	15.2	174	83.2	79.8
Fluoranthene	Newaukum Creek	8/10	5.6	152	43.3	21.9
	Covington Creek	2/7	17.1	23	20	n/a
	Jenkins Creek	5/5	17	193	88.5	74.3
	Soos Creek	9/11	4.5	1010	157	17.5
	Mill Creek Auburn	8/8	15.6	265	134	128
	Mill Creek Kent	8/8	230	1950	933	800
	Springbrook Creek	3/5	372	697	554	592
	Green River	1/4	n/a	11	n/a	n/a
	All Sites Combined	44/58	4.5	1950	283	98.3

Compound	Creek	FOD	Min	Max	Mean <sup>a</sup>	Median <sup>a</sup>
Indeno(1,2,3-Cd)Pyrene	Newaukum Creek	6/10	3.5	42.2	15	9.3
	Covington Creek	0/7	n/a	45U	n/a	n/a
	Jenkins Creek	0/5	n/a	64U	n/a	n/a
	Soos Creek	1/11	n/a	123	n/a	n/a
	Mill Creek Auburn	2/8	45.7	96.0	70.9	n/a
	Mill Creek Kent	8/8	63.0	384	227	237
	Springbrook Creek	3/5	243	518	340	258
	Green River	0/4	n/a	11U	n/a	n/a
	All Sites Combined	20/58	3.5	518	160	122
Pyrene	Newaukum Creek	9/10	5.3	169	42.3	14.9
	Covington Creek	2/7	15.9	17	16	n/a
	Jenkins Creek	5/5	15	168	79	60.5
	Soos Creek	8/11	5.5	916	154	17.3
	Mill Creek Auburn	8/8	15.8	280	149	142
	Mill Creek Kent	8/8	254	2150	1170	974
	Springbrook Creek	3/5	432	877	722	856
	Green River	1/4	n/a	10	n/a	n/a
	All Sites Combined	44/58	5.3	2150	336	103

<sup>a</sup>Mean and median calculations do not include nondetects.

FOD = Frequency of Detection.; n/a = not applicable. U = Not detected; highest method detection limit of samples summarized.

Note: After 2010, KCEL began reporting benzo(b)fluoranthene and benzo(k)fluoranthene as benzo(b,j,k)fluoranthenes.

Table 9 summarizes sediment phthalate concentrations by compound and by creek/river basin. At least one phthalate compound was detected in every sample, but the number of phthalates detected in each sample varied greatly. Di-n-octyl phthalate had the lowest number of detections. Bis(2-ethylehexyl)phthalate was detected in the majority of the samples and had the highest detected concentrations of the phthalates. Dimethyl phthalate was the compound with the lowest detected sediment concentrations. Bis(2-ethylhexyl)phthalate was the only phthalate detected in the Green River and was only observed in one sample at a relatively low concentration compared to other detected results. With the exception of di-n-butyl phthalate and diethyl phthalate, Mill Creek in Auburn or Mill Creek in Kent had the highest maximum concentrations of phthalate compounds.

**Table 9. Green River Watershed Sediment Phthalate Concentrations (µg/kg dry weight)  
Summary Statistics**

Compound	Creek	FOD	Min	Max	Mean <sup>a</sup>	Median <sup>a</sup>
Benzyl Butyl Phthalate	Newaukum Creek	6/10	57.2	121	85.2	78.8
	Covington Creek	0/7	n/a	19U	n/a	n/a
	Jenkins Creek	1/5	n/a	34.8	n/a	n/a
	Soos Creek	2/11	14	54	34	n/a
	Mill Creek Auburn	4/8	52.9	1320	453	220
	Mill Creek Kent	8/8	75.9	460	215	172
	Springbrook Creek	4/5	70.7	178	117	110
	Green River	0/4	n/a	16U	n/a	n/a
	All Sites Combined	25/58	14	1320	185	121
Bis(2-Ethylhexyl) Phthalate	Newaukum Creek	10/10	51.7	418	123	83.9
	Covington Creek	5/7	27	50.8	42	46
	Jenkins Creek	3/5	71.1	336	216	241
	Soos Creek	11/11	8.8	203	44.1	18.4
	Mill Creek Auburn	8/8	39.4	2060	820	691
	Mill Creek Kent	8/8	1420	8010	3150	1930
	Springbrook Creek	5/5	32.6	3520	2010	2180
	Green River	1/4	n/a	20	n/a	n/a
	All Sites Combined	51/58	8.8	8010	871	101
Di-N-Butyl Phthalate	Newaukum Creek	10/10	7.7	39.0	17.9	14
	Covington Creek	0/7	n/a	26U	n/a	n/a
	Jenkins Creek	0/5	n/a	26U	n/a	n/a
	Soos Creek	8/11	12	35.0	18	16
	Mill Creek Auburn	3/8	23	51.3	36	34
	Mill Creek Kent	2/8	28	81.7	54.9	n/a
	Springbrook Creek	3/5	33.5	325	152	96.8
	Green River	0/4	n/a	22U	n/a	n/a
	All Sites Combined	26/58	7.7	325	38	20
Di-N-Octyl Phthalate	Newaukum Creek	0/10	n/a	19U	n/a	n/a
	Covington Creek	0/7	n/a	89U	n/a	n/a
	Jenkins Creek	0/5	n/a	127U	n/a	n/a
	Soos Creek	0/11	n/a	45U	n/a	n/a
	Mill Creek Auburn	1/8	n/a	252	n/a	n/a
	Mill Creek Kent	2/8	245	602	424	n/a
	Springbrook Creek	0/5	n/a	37U	n/a	n/a
	Green River	0/4	n/a	22U	n/a	n/a
	All Sites Combined	3/58	245	602	366	252

Compound	Creek	FOD	Min	Max	Mean <sup>a</sup>	Median <sup>a</sup>
Diethyl Phthalate	Newaukum Creek	5/10	6.6	16	11	12
	Covington Creek	2/7	34	49.0	42	n/a
	Jenkins Creek	2/5	64.6	328	196	n/a
	Soos Creek	0/11	n/a	45U	n/a	n/a
	Mill Creek Auburn	0/8	n/a	25U	n/a	n/a
	Mill Creek Kent	0/8	n/a	25U	n/a	n/a
	Springbrook Creek	1/5	n/a	86.1	n/a	n/a
	Green River	0/4	n/a	22U	n/a	n/a
	All Sites Combined	10/58	6.6	328	61.6	25
Dimethyl Phthalate	Newaukum Creek	0/10	n/a	19U	n/a	n/a
	Covington Creek	0/7	n/a	26U	n/a	n/a
	Jenkins Creek	1/5	n/a	34.9	n/a	n/a
	Soos Creek	0/11	n/a	45U	n/a	n/a
	Mill Creek Auburn	2/8	135	159	147	n/a
	Mill Creek Kent	2/8	29.7	45.0	37.4	n/a
	Springbrook Creek	2/5	49.3	55.9	52.6	n/a
	Green River	0/4	n/a	22U	n/a	n/a
	All Sites Combined	7/58	29.7	159	72.7	49.3

<sup>a</sup>Mean and median calculations do not include nondetects.

FOD = Frequency of Detection. U = Not detected; highest method detection limit of samples summarized.  
n/a = not applicable

Table 10 summarizes dioxin TEQ concentrations for each location sampled. Dioxin TEQ concentrations were highest in Springbrook Creek followed by Mill Creek in Kent. Lowest concentrations were found at the sites in the Green River followed by Soos Creek. Map 5 illustrates the spatial distribution of dioxin TEQ concentrations. This map is intended to provide spatial context for the concentration of dioxins, which are key contaminants of concern for the Lower Duwamish Waterway based on human health risks.

**Table 10. Green River Watershed Sediment Dioxin TEQ Concentrations (ng TEQ/kg dry weight) and Summary Statistics**

Creek	Station Locator	Dioxin TEQ Concentration
Green River at Flaming Geyser	FG319	0.18
Newaukum Creek	X322	6.50
Soos Creek	0320	0.64
Mill Creek in Auburn	A315	2.21
Mill Creek in Kent	IT318	16.2
Springbrook Creek	0317	20.5
Green River at Foster Links	FL319	0.12
<b>Mean</b>		<b>6.62</b>
<b>Median</b>		<b>2.21</b>

Table 11 summarizes grain size distribution of the sediment samples. Sediment consisted of 50% or more sand particle sizes on average for all locations with the exception of Jenkins Creek where sediment consisted of nearly 50% fine particles on average. The Green River locations had the highest fraction of sands with mean of 83.8% sand. Fines tended to have more silt than clay except at Mill Creek in Auburn, Covington Creek, and Jenkins Creek where silt and clay fraction were similar.

**Table 11. Green River Watershed Sediment Grain Size Summary Statistics (% Composition)**

Creek	Grain Size	Min	Max	Mean	Median
Newaukum Creek n=10	Fines:	2.9	46.5	24.3	24.0
	Clay	7.3	13.9	10.6	10.6
	Silt	2.9	37.1	22.2	24.0
	Sand	42.9	80.5	60.6	63.6
	Gravel	0.9	42.0	14.7	10.0
Covington Creek n=7	Fines:	3.1	16.9	9.7	10.4
	Clay	2.4	9.6	5.3	5.0
	Silt	0.6	10.3	4.4	2.2
	Sand	28.8	83.1	56.6	63.2
	Gravel	7.7	70.0	32.6	27.4
Jenkins Creek n=5	Fines:	21.9	69.6	49.8	50.2
	Clay	8.8	30.9	23.7	27.4
	Silt	13.2	41.0	26.1	22.8
	Sand	19.8	49.1	34.6	34.7
	Gravel	2.1	44.2	19.0	14.8

Creek	Grain Size	Min	Max	Mean	Median
Soos Creek n=11	Fines:	2.0	49.6	17.3	11.6
	Clay	0.7	24.8	6.1	4.0
	Silt	1.4	27.5	11.8	8.1
	Sand	46.7	87.8	68.2	65.7
	Gravel	0.7	48.9	18.0	12.9
Mill Creek Auburn n=8	Fines:	2.6	51.1	23.3	18.8
	Clay	1.9	28.7	12.2	7.35
	Silt	0.6	26.3	11	7.6
	Sand	38.9	92.6	54.3	48.2
	Gravel	6.8	57.2	22.7	15.2
Mill Creek Kent n=8	Fines:	9.4	61.0	33.7	32.0
	Clay	5.2	23.3	12.9	12.2
	Silt	4.2	45.2	20.8	18.4
	Sand	35.1	70.2	53.0	52.2
	Gravel	0.3	32.9	10	3.0
Springbrook Creek n=5	Fines:	18.2	64.7	38.4	33.8
	Clay	8.4	30.2	18.0	14.9
	Silt	3.3	34.5	20.4	25.3
	Sand	22.4	72.7	48.1	50.9
	Gravel	4.5	9.8	6.7	5.9
Green River n=4	Fines:	2.4	21.6	9.9	7.8
	Clay	2.4	7.6	4.4	3.9
	Silt	3.0	14.0	7.3	4.8
	Sand	67.5	90.3	83.8	88.7
	Gravel	0.4	12.2	7.3	9.4
All Sites Combined n=58	Fines:	2.0	69.6	24.9	21.6
	Clay	0.6	45.2	15.7	11.9
	Silt	0.7	30.9	11.3	8.1
	Sand	19.8	92.6	57.9	59.5
	Gravel	0.3	70.0	17.2	11.3

n = sample number

Table 12 summarizes sediment TOC. Median TOC ranged from 0.75 % in Green River sediment to 13.3 % in Jenkins Creek sediment. Green River sediment had the least variable TOC while the most variable TOC was found in Soos Creek sediment.

**Table 12. Green River Watershed Total Organic Carbon Summary Statistics (% dry weight)**

<b>Creek</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Median</b>
Newaukum Creek	0.92%	8.20%	3.22%	2.66%
Jenkins Creek	11.2%	16.8%	13.4%	13.3%
Covington Creek	0.89%	12.5%	4.79%	3.96%
Soos Creek	0.41%	16.8%	3.79%	2.43%
Mill Creek Auburn	0.96%	12.3%	3.75%	2.18%
Mill Creek Kent	1.71%	6.29%	3.83%	3.57%
Springbrook Creek	2.95%	11.3%	6.64%	5.32%
Green River	0.51%	1.04%	0.76%	0.75%
All Sites Combined	0.41%	16.8%	4.68%	3.56%

## 5.2 Data Validation

Metals, organics and conventional data from samples collected in 2012 were validated by King County using EPA National Functional Guidelines for Superfund data (EPA 2008 and 2010) and the study SAP.<sup>5</sup> Details of this validation are described in a data validation technical memorandum provided in Appendix D. Validation of dioxin/furan congener data was completed by Laboratory Data Consultants, Inc. in accordance with EPA Superfund guidance (EPA 2009). Dioxin/furan congener validation reports are also provided in Appendix D. This section summarizes the major findings of the chemistry data validations.

### 5.2.1 Metals, Organics, and Conventionals

KCEL reviewed the metals, organics and conventional parameter data by comparing the results to reference methods and SAP requirements, and flagging data with laboratory qualifiers where appropriate. Validation of these data was conducted by Water and Land Resources Division Science Unit staff. Materials reviewed for this data validation included Batch Reports and Analytical Quality Control (QC) Reports downloaded from the King County Laboratory Information System database, along with data anomaly forms. The QC parameters reviewed during this data validation include; holding time, method blanks, spike blanks, matrix spikes, matrix spike duplicates, laboratory control samples, standard reference materials, check standards, laboratory replicates, and surrogates.

Most QC specifications were met and, therefore, many analytes did not require qualifiers. However, some analytes were qualified with a J, indicating an estimated value. Data

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<sup>5</sup> Data quality reviews for the 2008-2010 sediment data are presented in the King County Laboratory Quality Assurance Reviews presented in Appendix A.

validation did not result in rejecting any data. Based on the information reviewed, all data are of acceptable quality. Issues that resulted in the qualification of data are summarized below.

Silt from the sample collected at station PR315 in Mill Creek in Auburn was qualified with a “J” (estimate) for relative standard deviation result outside of QC limits. Acid volatile sulfides was qualified with a “J” in the samples collected at stations TS315 and SH318 due to low matrix spike recoveries. Arsenic in the sample collected at station PR315 was qualified with a “J” for low matrix spike recoveries. Lead at station PR315 was qualified with a “J” for high matrix spike recoveries and high spike duplicate recoveries. Copper, chromium, and nickel were qualified with a “J” at station PT320 for low matrix spike recoveries. Bis(2-ethylhexyl)phthalate was qualified with a “U” in seven samples due to blank contamination. All 2,4 dimethylphenol results were qualified with a “UJ” due to low spike blank recoveries. Phenol and 2-methylphenol in several samples were flagged with a “UJ” due to low spike blank recoveries. All detected results for coprostanol and 4-nonylphenol were flagged with a “J” due to low matrix spike and spike blank recoveries. A subset of results for aldrin was qualified with a “UJ” due to low spike blank recoveries.

### 5.2.2 Dioxin/Furans

Dioxin/furan sediment data were validated to Level III by Laboratory Data Consultants. Level III validation includes verification of custody, holding times, reporting limits, sample QC and QC acceptance criteria, frequency of QC samples, instrument performance checks, along with initial and routine calibration checks.

Instrument performance fell within method specifications except for a few instances. All of the results for 2,3,7,8-TCDF on column DB-5 were rejected. 2,3,7,8-TCDF performed better on the second DB-225 column, and these results were used for 2,3,7,8-TCDF quantitation of all samples. Therefore, this performance issue did not result in unusable data for this compound; results from the second column were used. All samples were analyzed as one batch; method blanks were below method performance criteria for this workgroup.

Across the whole workgroup of seven samples, 11 dioxin/furan congeners were qualified by the analytical laboratory as “K” which means that not all identification and qualification criteria were met for these compounds. The maximum potential concentration was reported for “K” flagged congeners. These analytes were qualified as non-detects by the validator according to the EPA Region 10 validation requirements. All other analytical acceptance criteria were met.

## 6 DISCUSSION

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This section provides a comparison of sediment data to the Sediment Management Standards benthic chemical criteria, the SEM/AVS ratio analysis, and compares the sediment chemistry between stream basins and the Green River main stem locations.

### 6.1 Comparisons to Sediment Quality Guidelines

Sediment Management Standards freshwater benthic chemical criteria are available for 25 of the 71 chemicals<sup>6</sup> analyzed in stream sediment samples during this survey. Of the 58 samples analyzed, 24 exceeded at least one SCO but none exceeded a CSL. Mill Creek in Kent exceeded at least one SCO chemical criterion in every sample. Springbrook Creek exceeded at least one SCO in four of five samples while Mill Creek in Auburn exceeded at least one SCO in five of eight samples. Soos Creek exceeded at least one SCO in five of eleven samples and Covington Creek exceeded at least one SCO in one of seven samples whereas Jenkins, Newaukum, and the Green River did not exceed SCOs in any sample. One station, M317, on Springbrook Creek, had the most chemical exceedances at one location (five chemicals). However, most stations with an exceedance only had one or two chemical exceedances.

Among the 58 samples, a total of six different chemicals exceeded its SCO. Bis(2-ethylhexyl)phthalate exceeded the SCO most often, exceeding sixteen times. Arsenic exceeded thirteen times, nickel exceeded seven times, cadmium exceeded four times, di-n-octyl phthalate<sup>7</sup> exceeded three times, and total PCBs exceeded twice. Spatial results of sediment concentrations compared to sediment quality guidelines are shown in Maps 6 through 13. The maps indicate each chemical that exceeds its SCO at each station.

### 6.2 SEM/AVS Ratios

SEM/AVS ratios provide information on bioavailability of metals to aquatic biota, such as benthic organisms. If metals are bioavailable, they can result in exposure but toxicity depends on exceeding a toxicity threshold, such as the CSL. Therefore, the SEM/AVS ratio provides information about bioavailability but not toxicity. SEM/AVS calculations and results are presented in Appendix B.

In Mill Creek in Auburn, arsenic exceeded the SCO at stations TS315 and ED315. However, the SEM/AVS ratios suggest that metals, including arsenic, are not bioavailable at these stations. Both arsenic and nickel exceeded the SCO at station UH315. The SEM/AVS ratio also suggests that metals are not bioavailable at this station. Nickel exceeded the SCO at station PR315 and arsenic exceeded the SCO at station FR315. At both stations the SEM/AVS ratio suggests that metals are bioavailable.

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<sup>6</sup> PCB Aroclors and PAH compounds are included in the Sediment Management Standards as total PCB and total PAH sums, respectively.

<sup>7</sup> The MDL for di-n-octyl phthalate, which was not detected, exceeded at one location.

In Mill Creek in Kent, arsenic exceeded the SCO at stations DT318 and IT318 and cadmium at station IT318. The SEM/AVS ratios suggest that metals are bioavailable at these stations.

In Springbrook Creek, arsenic and cadmium exceeded the SCO at stations K317, L317, and M317. In addition, nickel exceeded the SCO at M317. SEM/AVS ratios suggest that metals are bioavailable at stations, K317 and M317, but not at L317. Nickel exceeded the SCO at N317 and arsenic exceeded at O317; however, the SEM/AVS ratios suggest that metals are not bioavailable at these stations.

In Soos Creek, nickel exceeded the SCO at stations O320, A320 and AA320, and arsenic exceeded the SCO at GG320, HH320, and Q320. SEM/AVS ratios suggest that metals are bioavailable at all of these stations.

In Covington Creek, arsenic exceeded the SCO at station PT320. The SEM/AVS ratio suggests that metals are not bioavailable at this station.

## 6.3 Relative Comparison of Sediment Chemical Concentrations between Locations

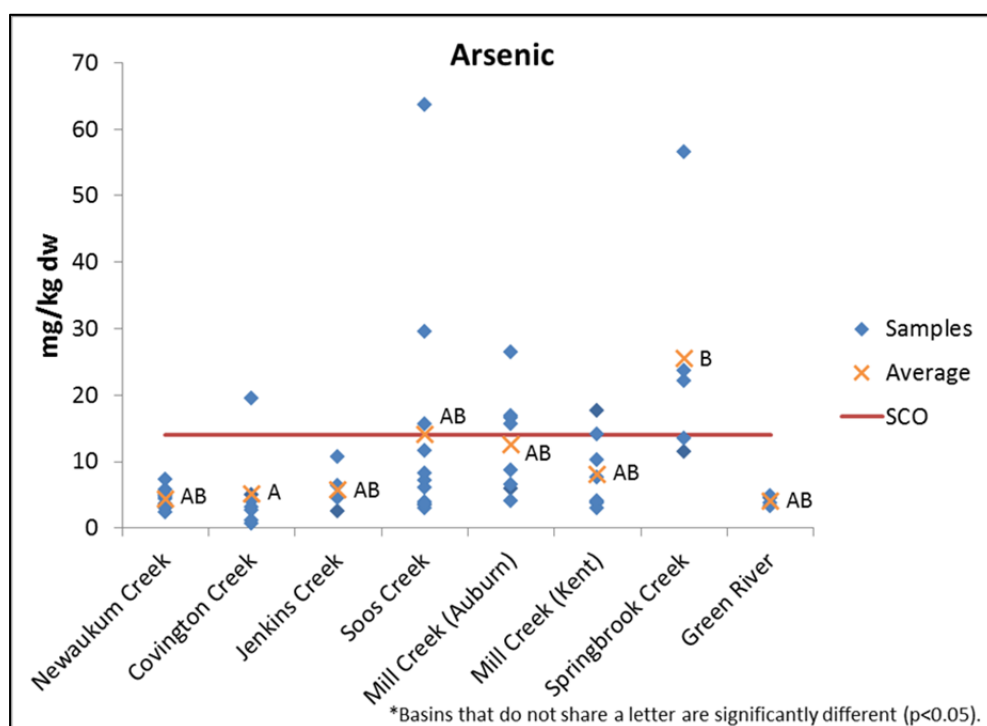
This section includes a comparison of chemicals by location. Chemicals discussed in this section were selected based on high frequencies of detection within chemical groupings. For figures in this section, locations are arranged roughly upstream to downstream, SCO levels are included where applicable and basin averages, based on detected concentrations only, are shown when there were three or more detections. Figures illustrating metal concentrations include letters indicating statistical difference between basins. The stream basins vary in numbers of samples (e.g., four to ten) and therefore it is unknown if statistical differences would change if more samples were available to characterize a basin with smaller sample sizes (i.e., Green River main stem, Jenkins Creek, and Springbrook Creek). When comparing basins it is useful to note the basins of Springbrook Creek, Mill Creek in Kent, and most of Mill Creek in Auburn are more highly developed and Newaukum, Covington, and Jenkins Creeks have the least development (see Map 2).

### 6.3.1 Stream Basins and Green River Main Stem Locations

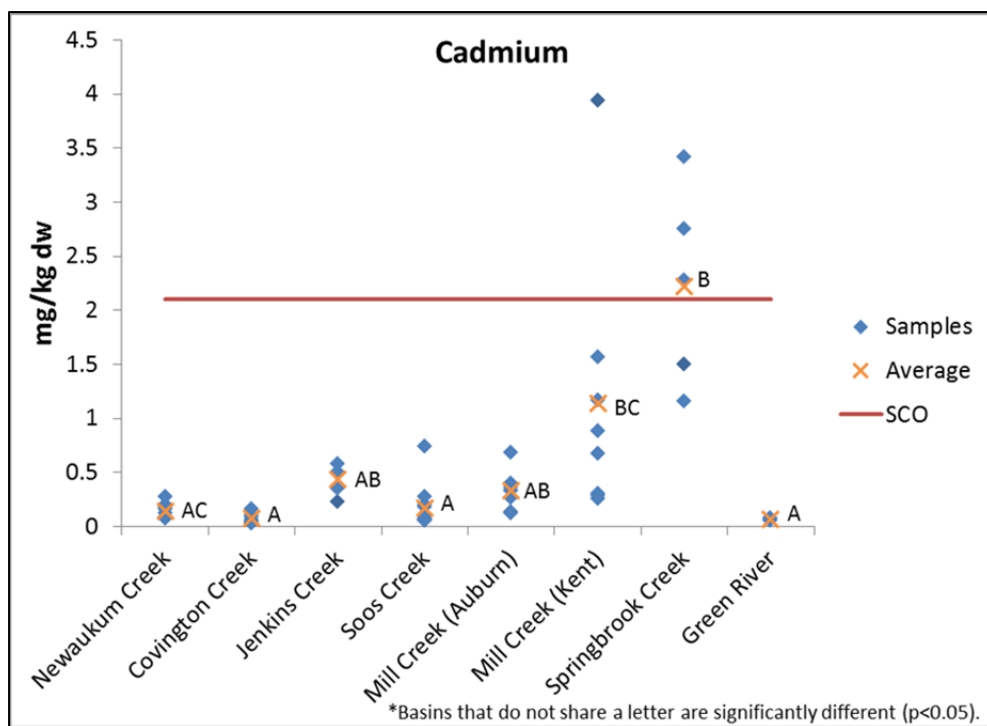
Metal concentrations in sediment are depicted by basin in Figures 1 through 9. Even with low sample size, there were some significant differences in metal concentration between basins.

The highest mean arsenic concentration was found in Springbrook Creek but concentrations were only significantly higher than Covington Creek (Figure 1). The highest mean cadmium concentration was in Springbrook Creek followed by Mill Creek in Kent. Cadmium concentrations in Springbrook Creek were significantly higher than Newaukum, Covington and Soos Creeks and Green River main stem sites. Mill Creek in Kent was significantly higher than Covington and Soos Creeks and Green River main stem sites (Figure 2). Springbrook Creek also had the highest mean chromium concentration and was significantly higher than all sites except Mill Creek in Kent (Figure 3). Mean copper concentrations were highest in Springbrook Creek and Mill Creek in Kent but concentrations were only significantly higher than Covington and Soos Creeks (Figure 4).

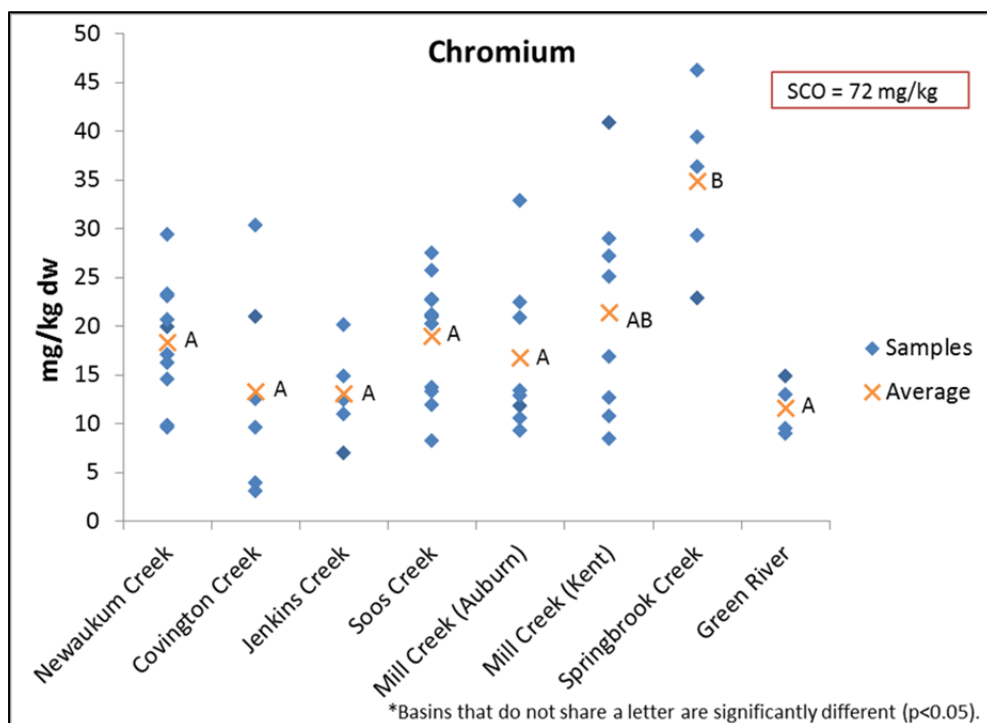
Lead similarly had the highest mean concentrations in Springbrook and Mill Creek in Kent, but these were only significantly higher than Covington and Newaukum Creeks and Green River main stem sites (Figure 5). Mercury was the only metal to show no differences between any basins (Figure 6). The highest mean nickel concentration was found in Springbrook Creek but concentrations were only found to be significantly higher than Jenkins Creek (Figure 7). Silver had highest mean concentrations in Springbrook Creek followed by Mill Creek in Kent. Silver concentrations in Springbrook Creek were significantly higher than Covington, Soos and Green River main stem sites; silver in Mill Creek in Kent was also significantly higher than Covington Creek (Figure 8). Lastly, zinc had the highest mean concentrations in Springbrook and Mill Creek in Kent but these were only significantly higher than Covington and Soos Creeks and Green River main stem sites (Figure 9).



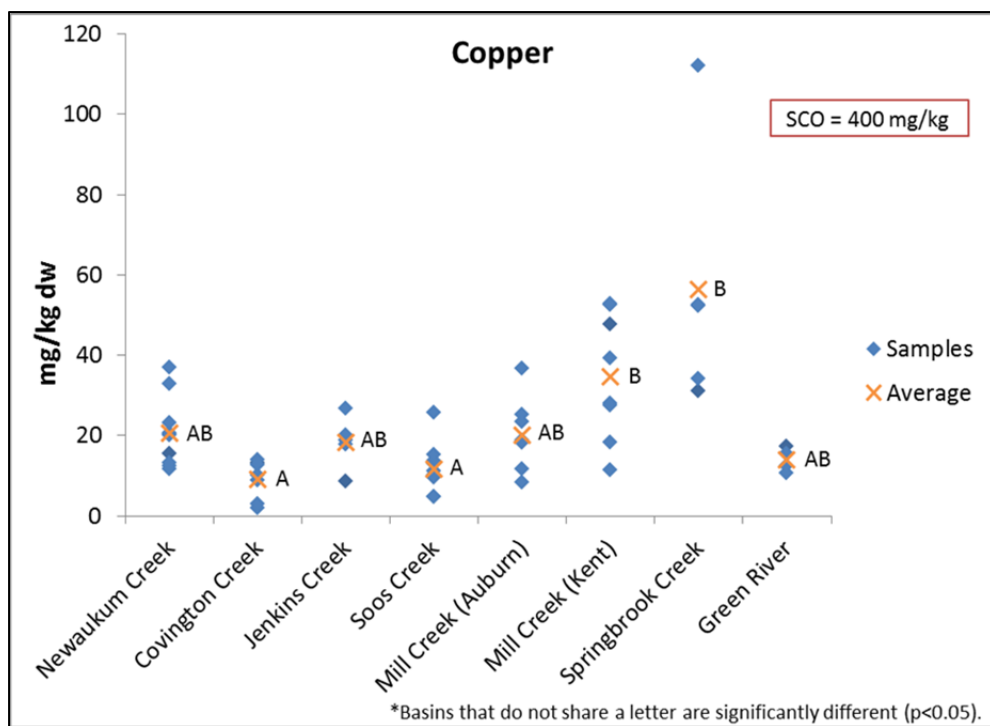
**Figure 1. Arsenic Concentrations by Location**



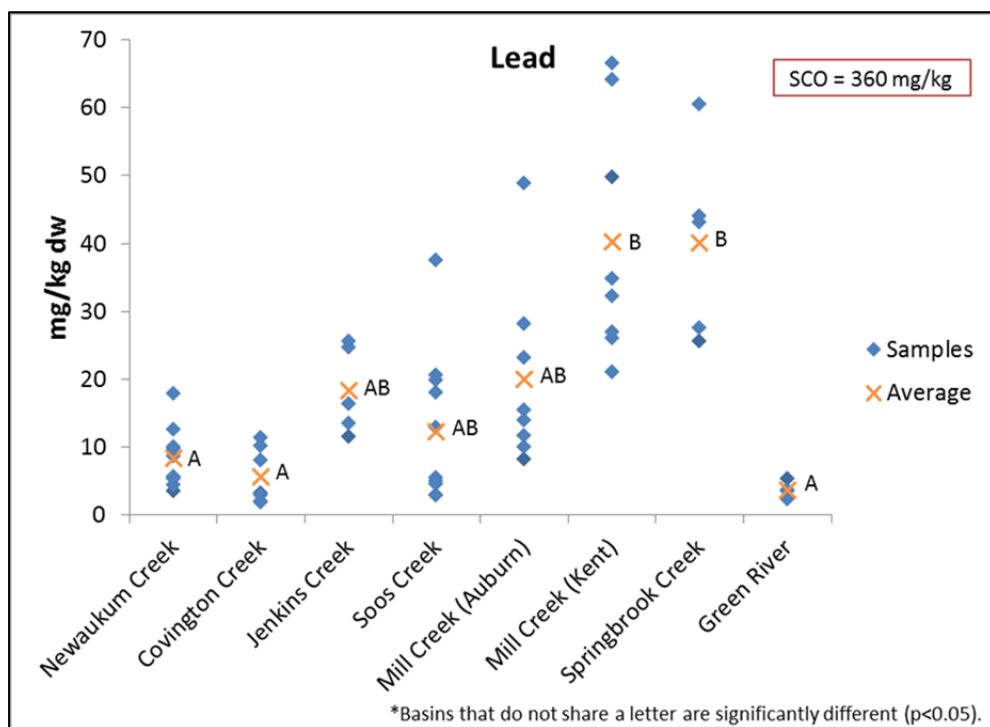
**Figure 2. Cadmium Concentrations by Location**



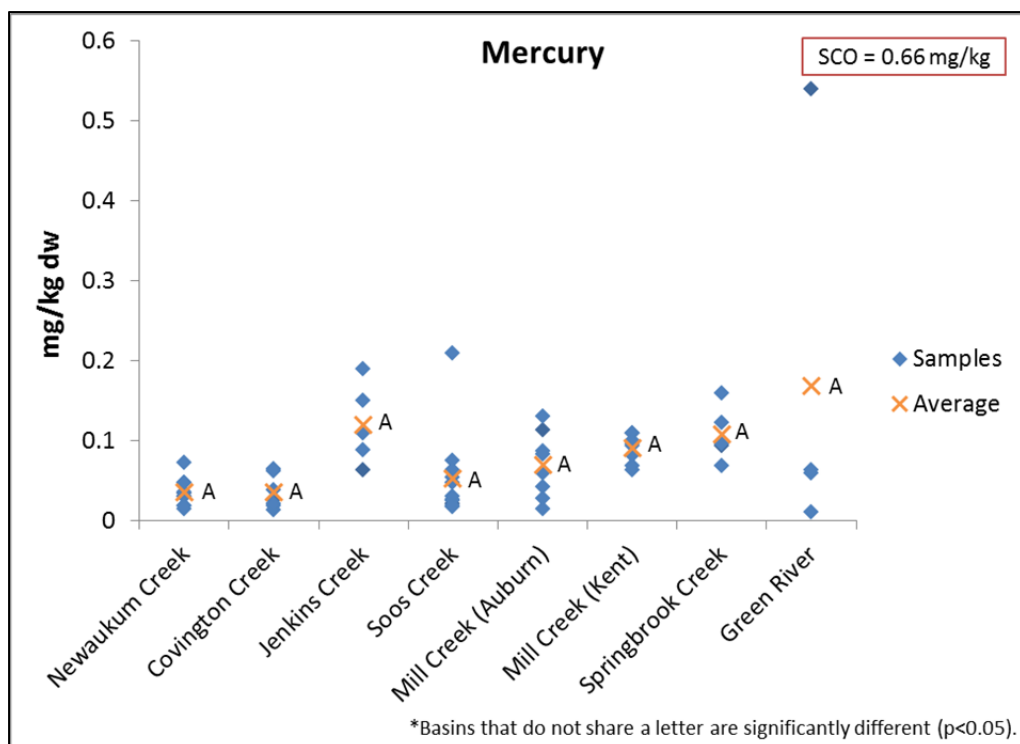
**Figure 3. Chromium Concentrations by Location**



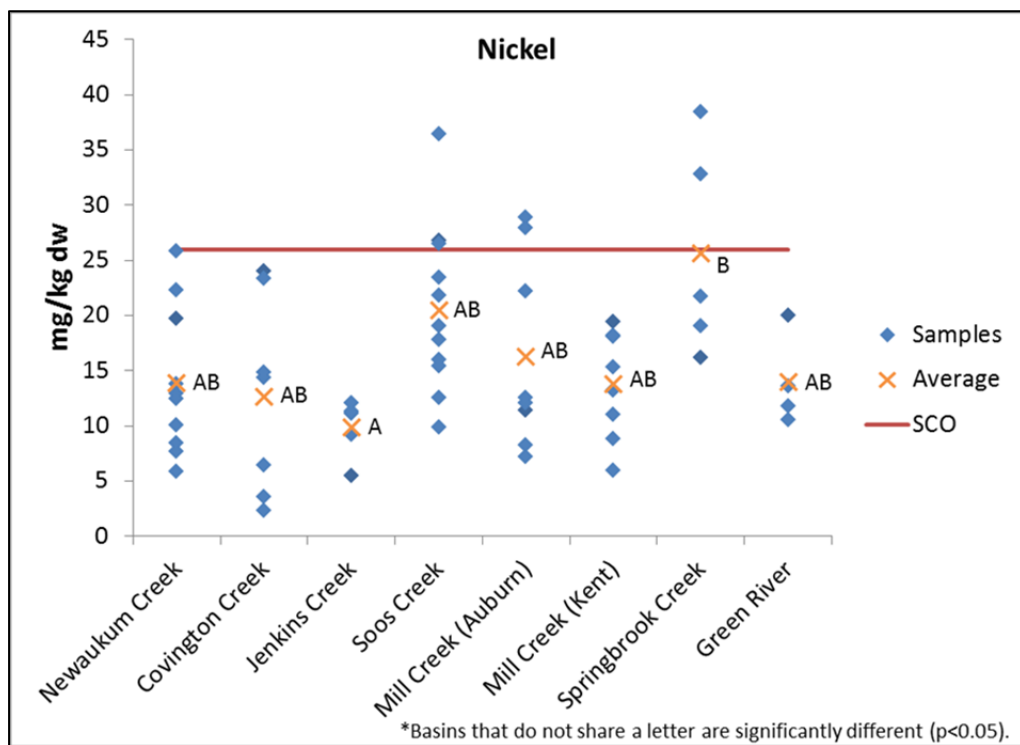
**Figure 4. Copper Concentrations by Location**



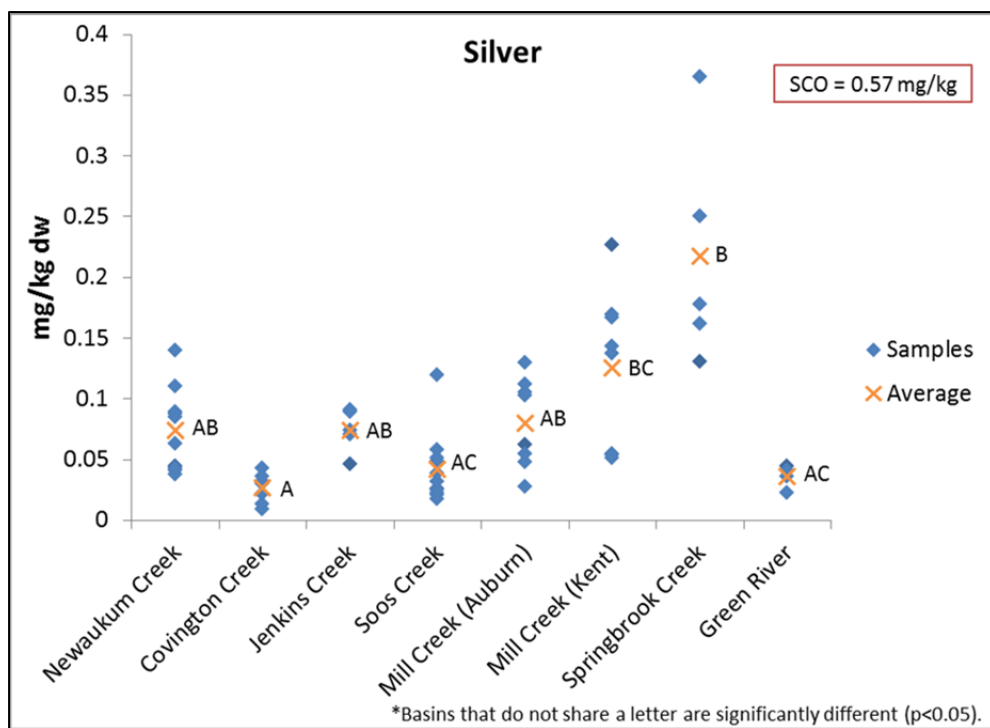
**Figure 5. Lead Concentrations by Location**



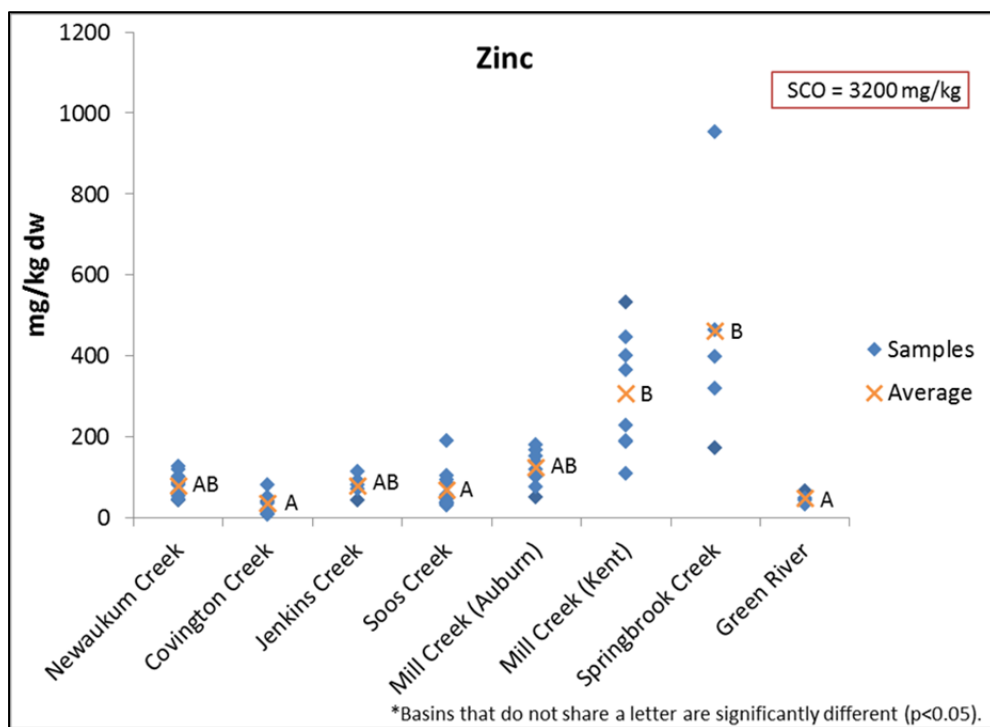
**Figure 6. Mercury Concentrations by Location**



**Figure 7. Nickel Concentrations by Location**



**Figure 8. Silver Concentrations by Location**



**Figure 9. Zinc Concentrations by Location**

Sediment concentrations of organics with the highest overall frequency of detection are depicted by basin in Figures 10 through 16. PCBs were frequently detected in samples collected in Mill Creek in Kent, Mill Creek in Auburn, and Springbrook Creek, but were rarely or not detected in the remaining stream basins and Green River main stem sites (Figure 10). Seven of the eight highest concentrations were detected in Springbrook Creek and Mill Creek in Kent.

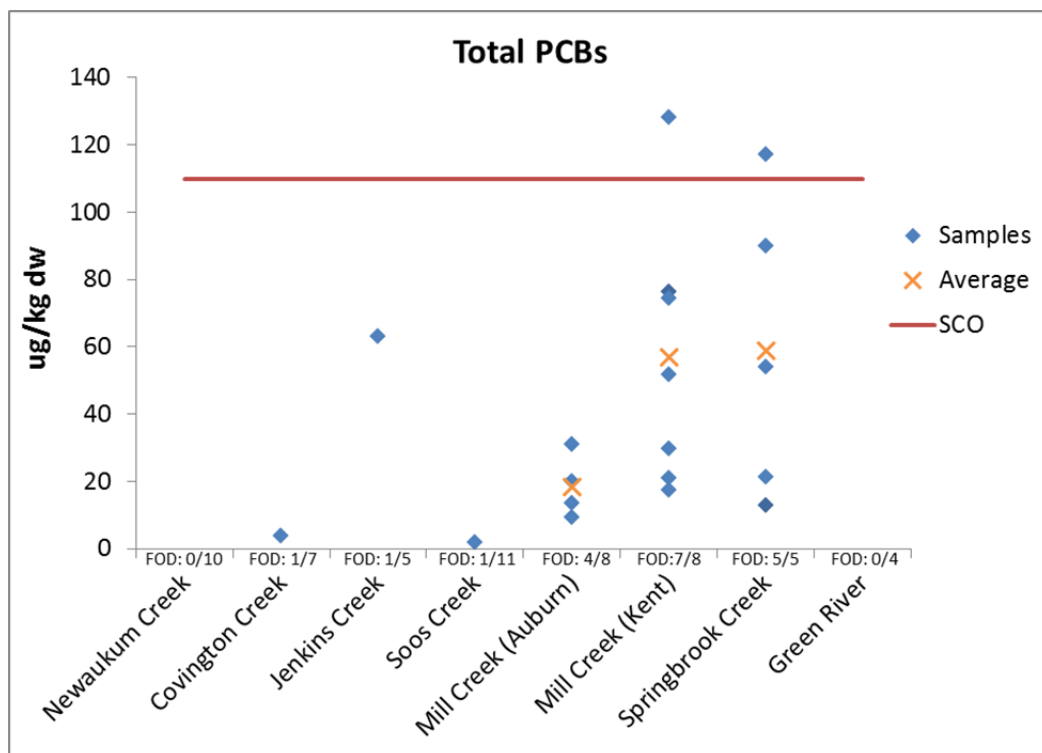
LPAHs with the highest frequencies of detection were anthracene and phenanthrene. The highest concentration of anthracene was observed in Soos Creek with the next three highest concentrations in Mill Creek in Kent (Figure 11). Phenanthrene was frequently detected in all basins except Covington Creek and the Green River main stem sites, both of which had no detections. Of the twelve highest phenanthrene concentrations, seven were observed in Mill Creek in Kent, three in Springbrook Creek and one in Soos Creek basin (Figure 12).

HPAHs with the highest frequencies of detection were chrysene, fluoranthene and pyrene<sup>8</sup>. For all three compounds, the eleven highest concentrations were found in Mill Creek in Kent (seven), Springbrook Creek (three) and Soos Creek (one) (Figures 13 through 15).

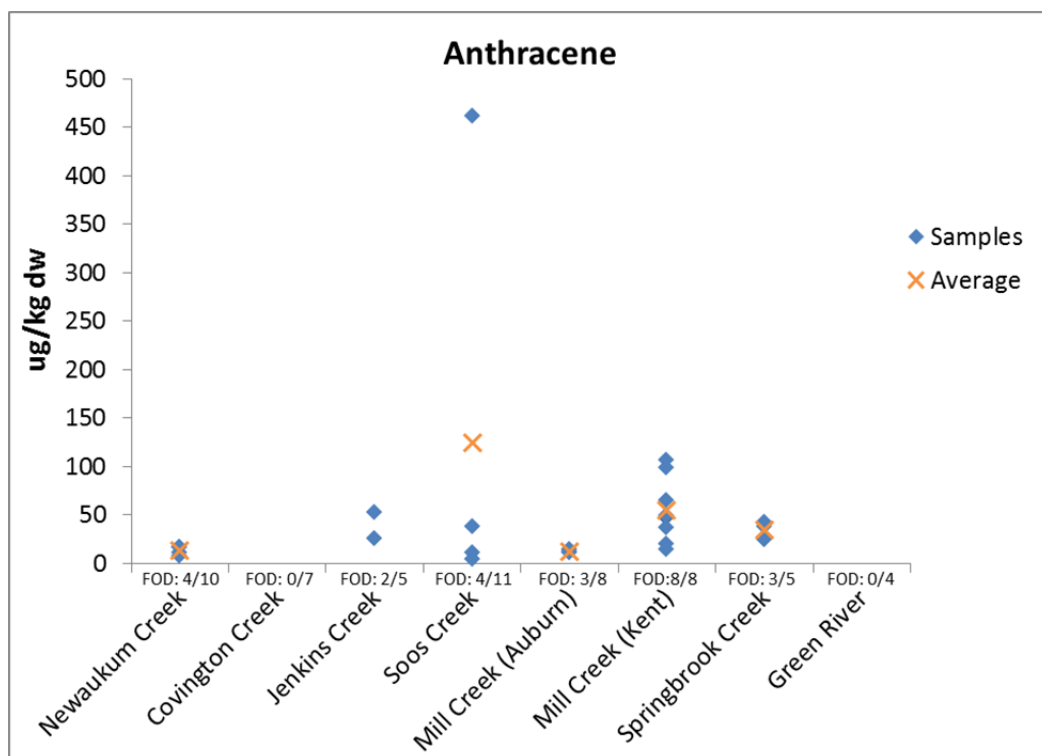
Bis(2-ethylhexyl)phthalate was the most frequently detected phthalate across all stream basins; the Green River main stem sites had the fewest detections. The thirteen highest concentrations were detected in Mill Creek in Kent (eight), Springbrook Creek (three) and Mill Creek in Auburn (two) (Figure 16).

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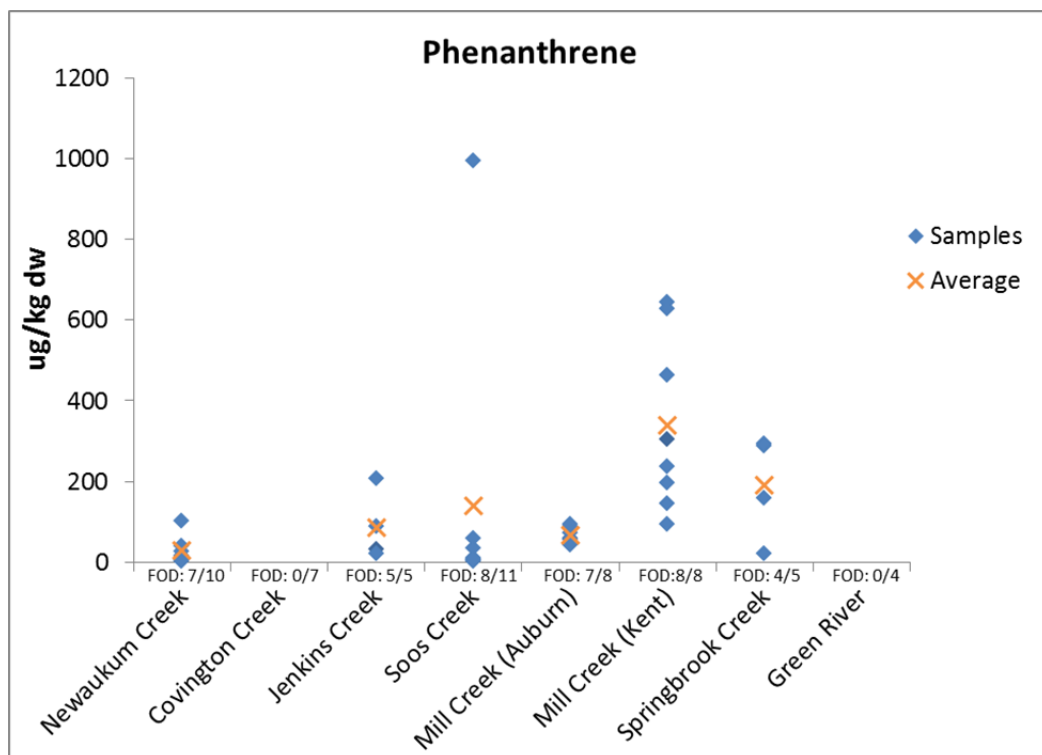
<sup>8</sup> Benzo(b)fluoranthene and benzo(k)fluoranthene were also frequently detected at Newaukum, Soos and Springbrook Creeks. Benzo(b,j,k)fluoranthene was frequently detected at Covington, Jenkins, Mill (Kent) and Mill (Auburn) Creeks. However, they were not graphed or included in this analysis because different ways this compound was reported between 2008-2010 and 2012 samples (see Table 8).



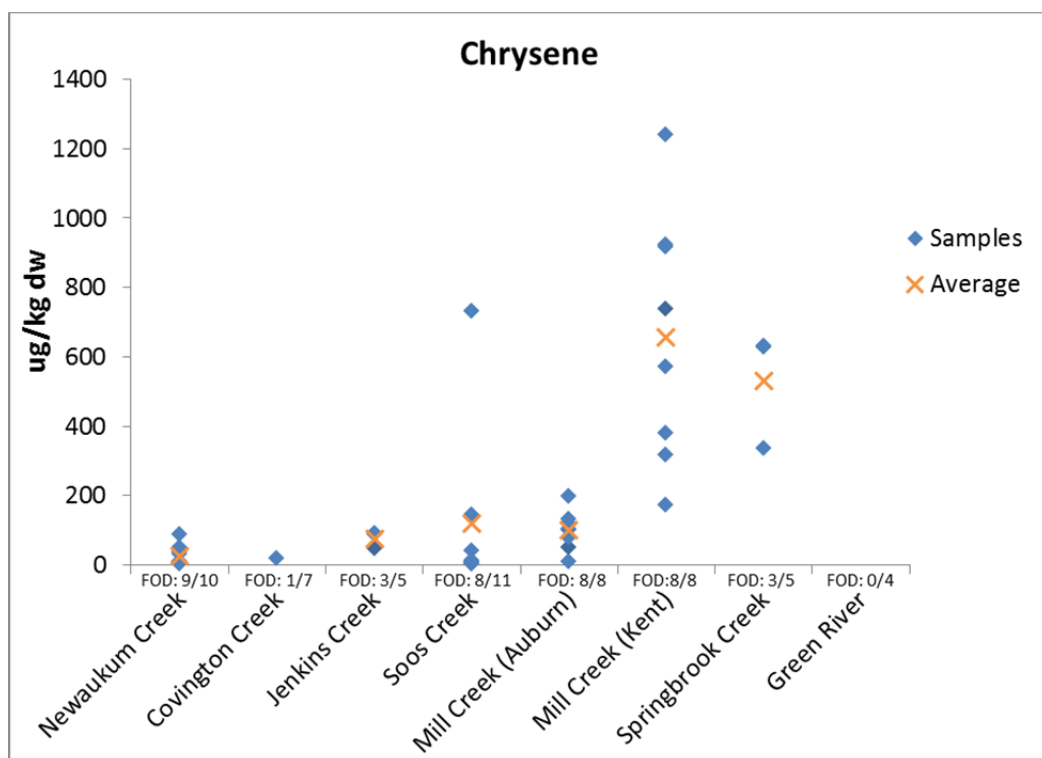
**Figure 10. Detected Total PCB Concentrations by Location**



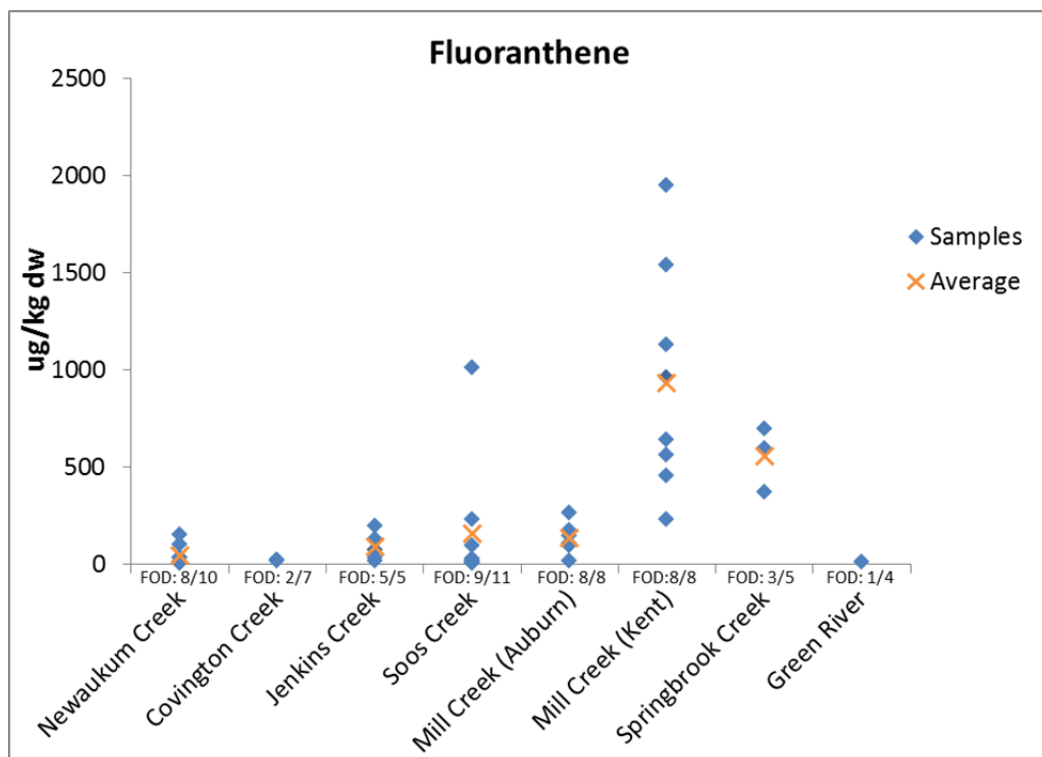
**Figure 11. Detected Anthracene Concentrations by Location**



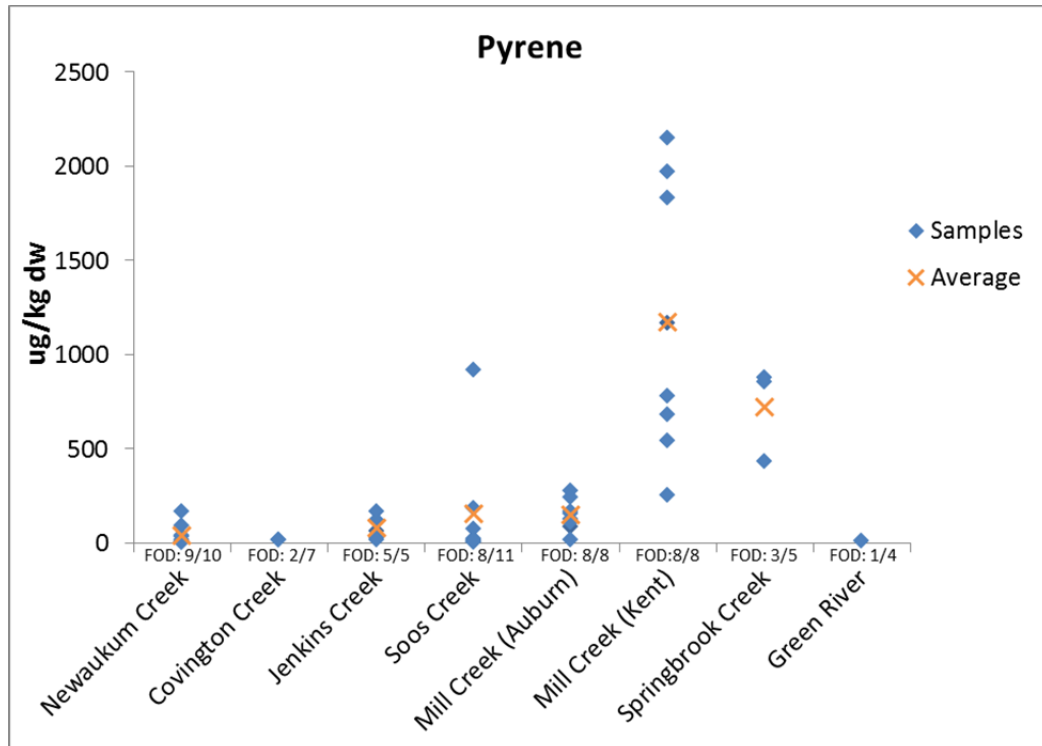
**Figure 12. Detected Phenanthrene Concentrations by Location**



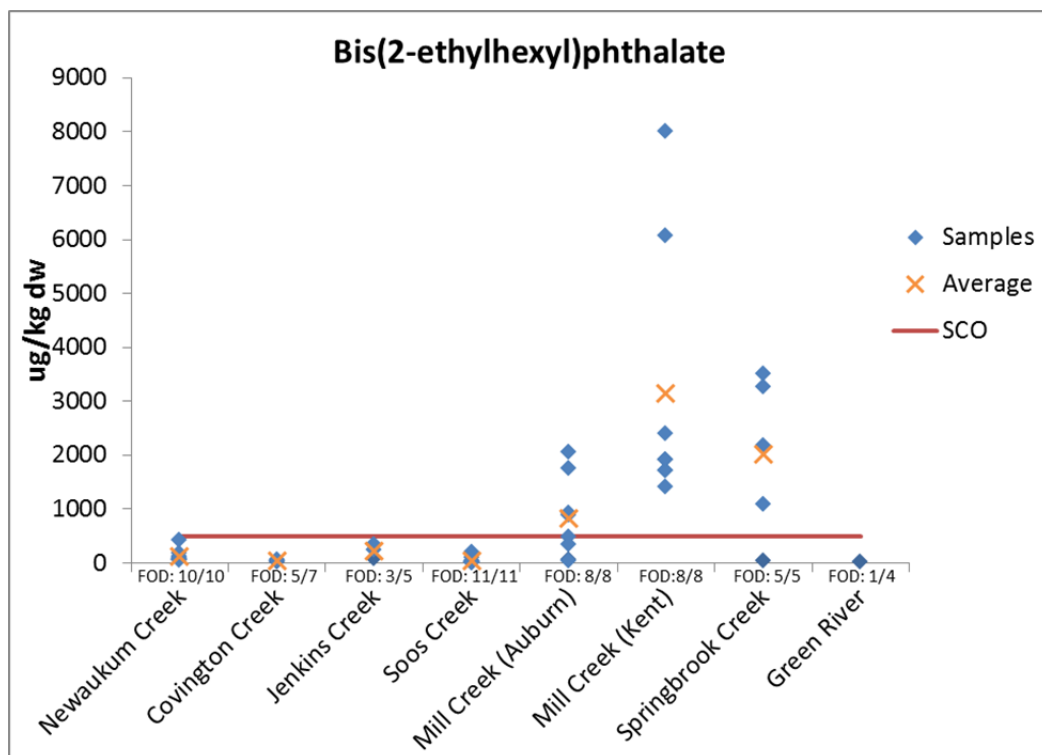
**Figure 13. Detected Chrysene Concentrations by Location**



**Figure 14. Detected Fluoranthene Concentrations by Location**



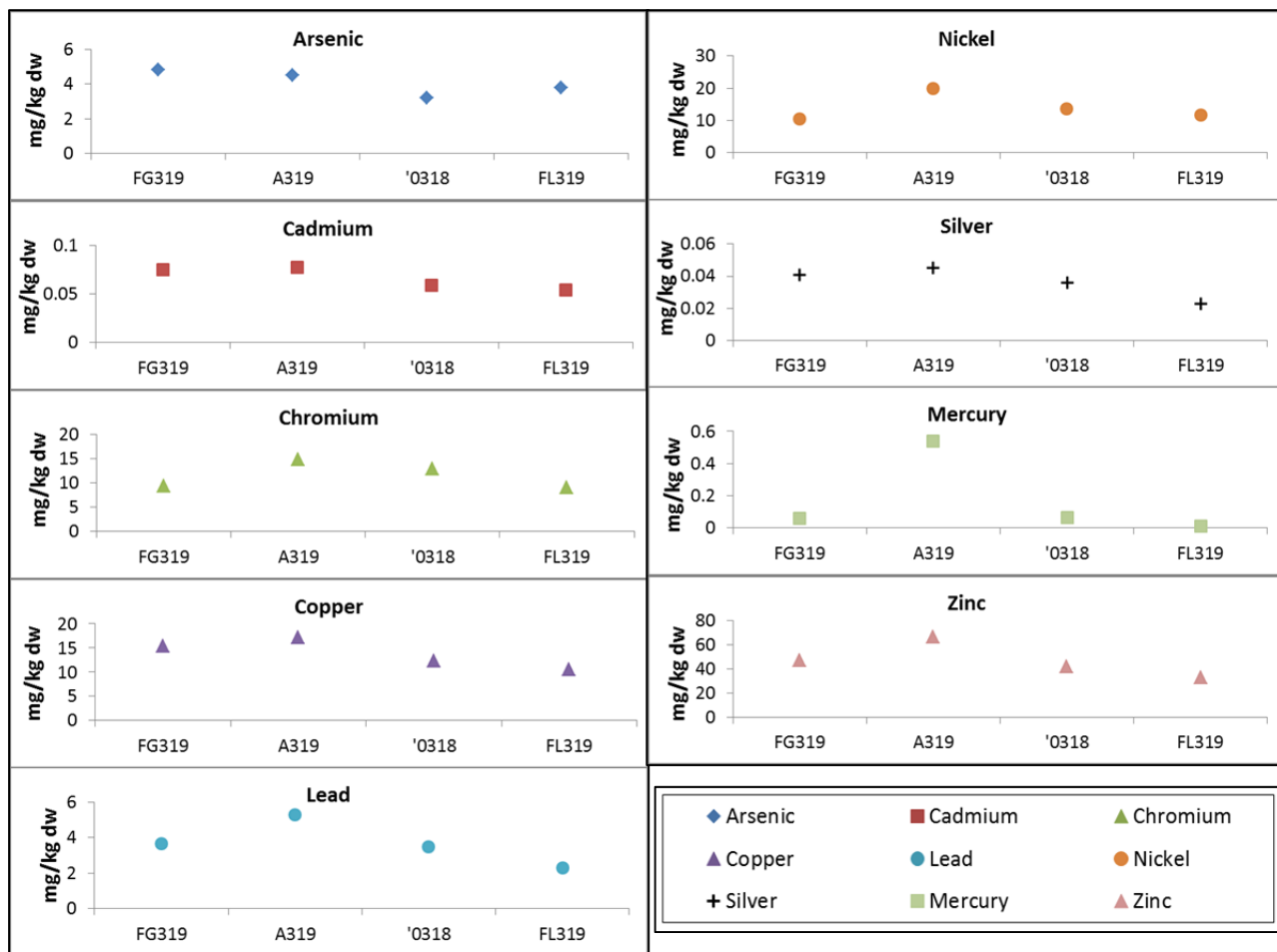
**Figure 15. Detected Pyrene Concentrations by Location**



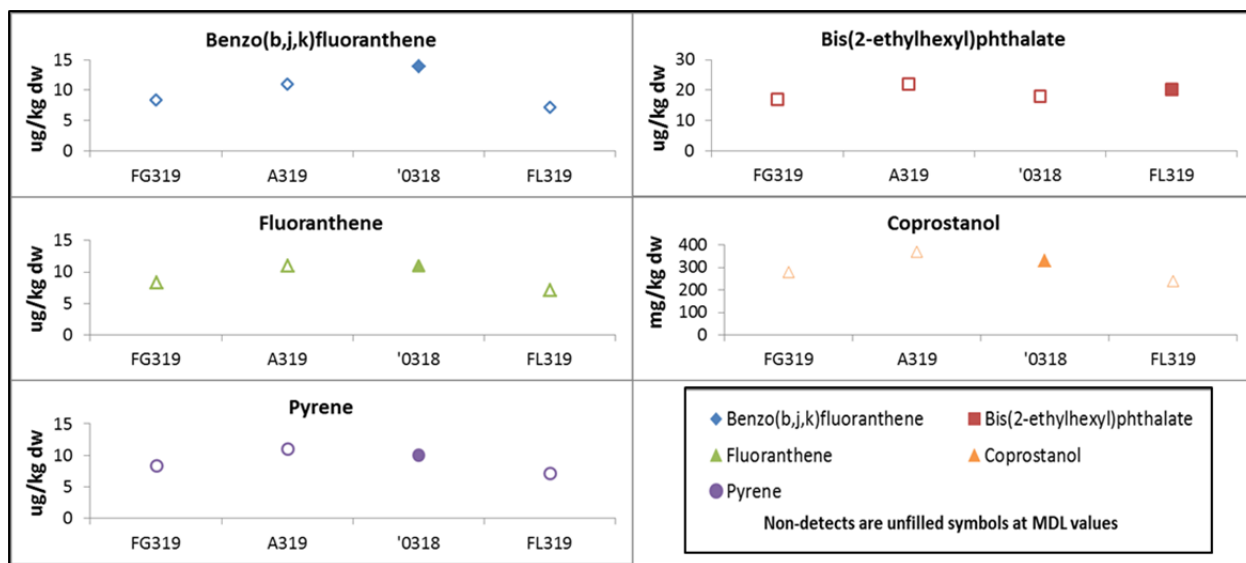
**Figure 16. Detected Bis(2-ethylhexyl)phthalate Concentrations by Location**

### 6.3.2 Green River Main Stem Sites

This section presents a comparison of sediment chemistry results between Green River main stem sampling sites. Figure 17 illustrates metal concentrations at each main stem site. With the exception of arsenic, the highest concentrations of metals in the Green River main stem were found at the second most upstream site (A319). This site also had the highest percentage of fines. With the exception of mercury, metal concentrations at all four Green River main stem sites ranged within a factor of two of each other. Only five organic compounds were detected in Green River main stem sites; these are illustrated in Figure 18, which also show non-detected values at their respective MDLs. Three HPAH compounds and coprostanol were detected at the second most downstream site (0318) and bis(2-ethylhexyl)phthalate was detected at the furthest downstream site (FL319). Detected values were within a factor of two of their respective MDLs. Overall, this analysis suggests very little difference between the Green River main stem sites.

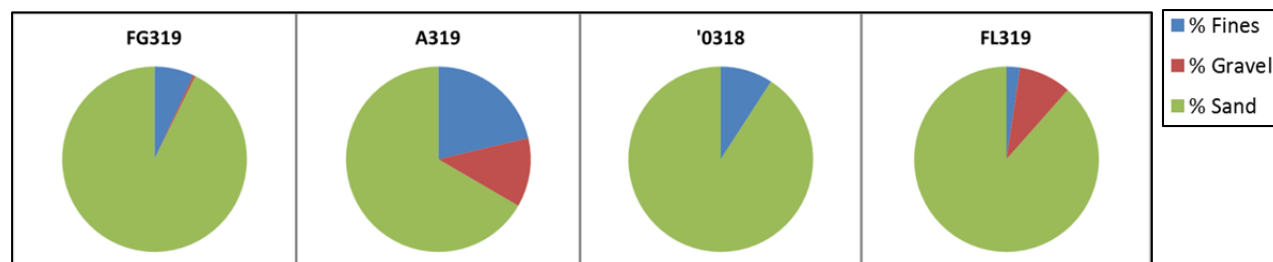


**Figure 17. Concentrations of Metals at Green River Main Stem Sites**



**Figure 18. Concentrations of Detected Organics at Green River Main Stem Sites**

Figure 19 illustrates the particle size distribution for the Green River main stem sites. The second most upstream site (A319) has the highest percentage of fines; this site had the highest concentration of most metals.



**Figure 19. Particle Size Distribution for Green River Main Stem Samples**

## 7 CONCLUSIONS

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King County is conducting studies to evaluate chemical concentrations in water, sediment and suspended solids in the Green River Watershed and in atmospheric deposition within the Green/Duwamish River Watershed that may contribute chemical inputs to the LDW. The major findings of the stream sediment study are presented below.

Metals were detected at all stream basins and Green River main stem sampling locations; however, many organic compounds were infrequently or never detected. Comparisons to Washington State Sediment Management Standards for freshwater benthic (sediment-dwelling) organisms show all chemicals analyzed are below the CSL, when there is a benthic standard available for a chemical. Concentrations above the CSL would be expected to result in minor adverse effects to benthic organisms. Twenty-four of 58 samples had at least one chemical concentration above the SCO, where adverse effects are uncertain for benthic organisms. Most SCO exceedances occurred at Mill Creek in Kent, followed by Springbrook Creek, then Mill Creek in Auburn. In samples with metals concentrations above the SCO, SEM/AVS ratios indicated that metals were not bioavailable at about half the sampling locations. At locations where metals were not bioavailable they would not be expected to cause adverse effects.

Relative differences between stream tributary basins as well as the Green River main stem locations shows the more urbanized basins—Springbrook Creek, Mill Creek in Kent and to a lesser extent Mill Creek in Auburn—generally had higher concentrations of metals and organics and more exceedances of the benthic SCO standards compared to less developed tributary basins and the Green River main stem locations. The following provide supporting details for this conclusion:

- For most metals, Springbrook Creek followed by Mill Creek in Kent had the highest mean concentrations; however, significant differences in metal concentrations were not always observed between basins. SCO exceedances for arsenic and nickel occurred at many sites, while exceedances for cadmium occurred only at Springbrook Creek and at one location in Mill Creek in Kent.
- PCBs were detected most often in Springbrook Creek, Mill Creek in Kent, and Mill Creek in Auburn. PCBs were rarely or not detected in the remaining stream basins and Green River main stem sites. The highest concentrations were detected in Springbrook Creek and Mill Creek in Kent. The only two SCO exceedances were found in Mill Creek in Kent and Springbrook Creek.
- LPAHs with the highest frequencies of detection were anthracene and phenanthrene and were most frequently detected in Mill Creek in Kent. The highest concentrations of individual LPAHs were observed at one Soos Creek location; Mill Creek in Kent had the next three highest concentrations of anthracene and phenanthrene.
- HPAHs with the highest frequencies of detection were chrysene, fluoranthene and pyrene. These HPAH compounds were most frequently detected in Mill Creek in Kent and the eleven highest concentrations were found in Mill Creek in Kent (seven), Springbrook Creek (three) and Soos Creek (one).

- Most phthalates were infrequently detected with the exception of bis(2-ethylhexyl)phthalate, which was detected in the majority of the samples. The thirteen highest concentrations of bis (2-ethylhexyl)phthalate were found in Mill Creek in Kent (eight), Springbrook Creek (three) and Mill Creek in Auburn (two). These sites also had the only SCO exceedances for bis(2-ethylhexyl)phthalate.
- Dioxin/furan samples from the mouths of Springbrook and Mill Creek in Kent had the highest concentrations and Green River locations had the lowest concentrations.
- Comparison of chemical concentrations between Green River main stem sites suggests very little difference between sites. With the exception of mercury, metal concentrations at the four Green River main stem sites were within a factor of two of each other. The five organic compounds detected in Green River main stem sites were within a factor of two of their respective detection limits; other organic compounds were not detected.

On average, sediment samples consisted of 50% or more sand particle sizes for all locations with the exception of Jenkins Creek where sediment samples consisted of nearly 50% fine particles. Samples from the Green River locations generally had the lowest TOC and highest percent sand while samples from Jenkins Creek had the highest TOC and highest percent fines. Samples containing higher percentage of sand and lower TOC tend to have lower chemical concentrations.

## 8 REFERENCES

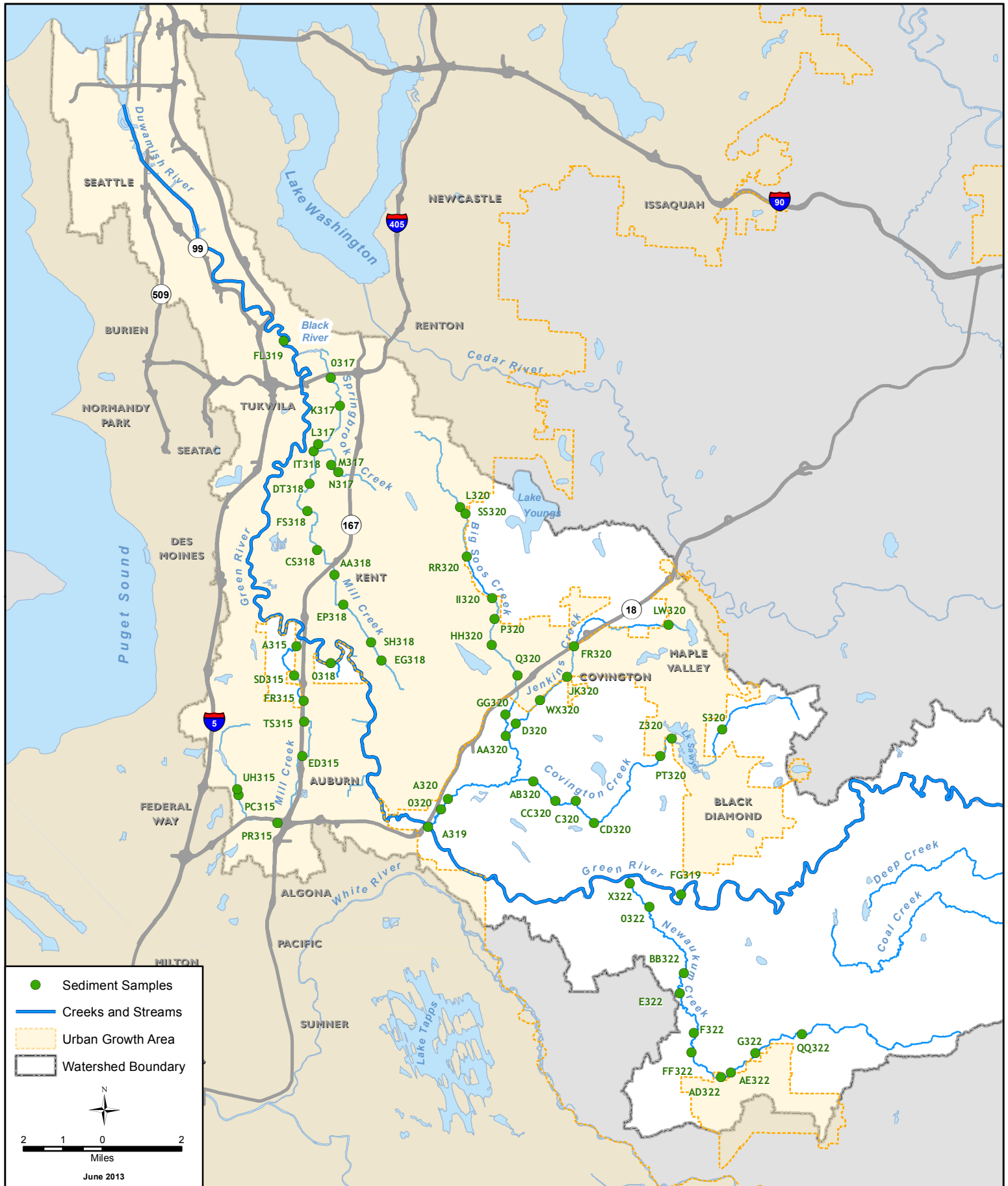
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Maps

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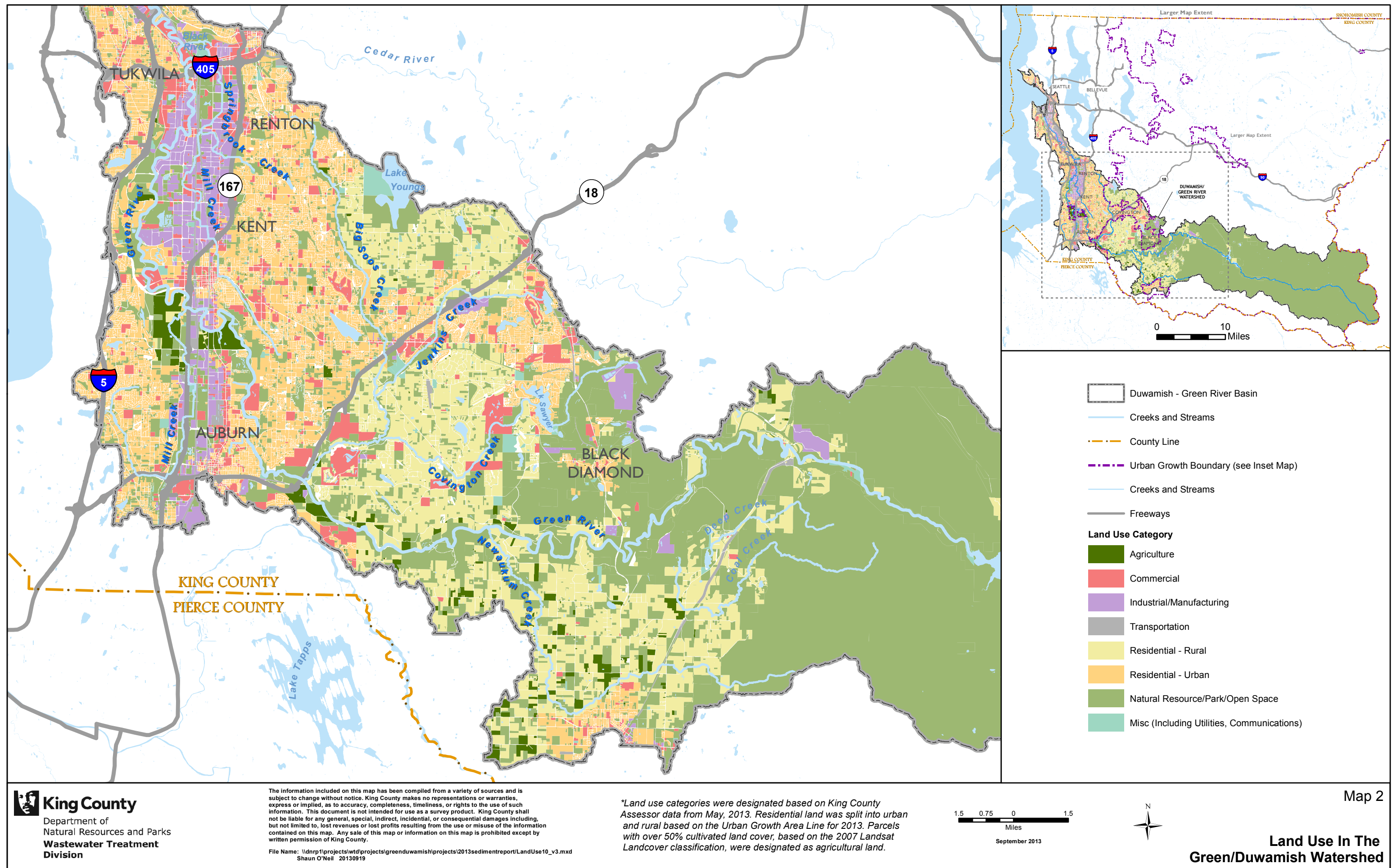
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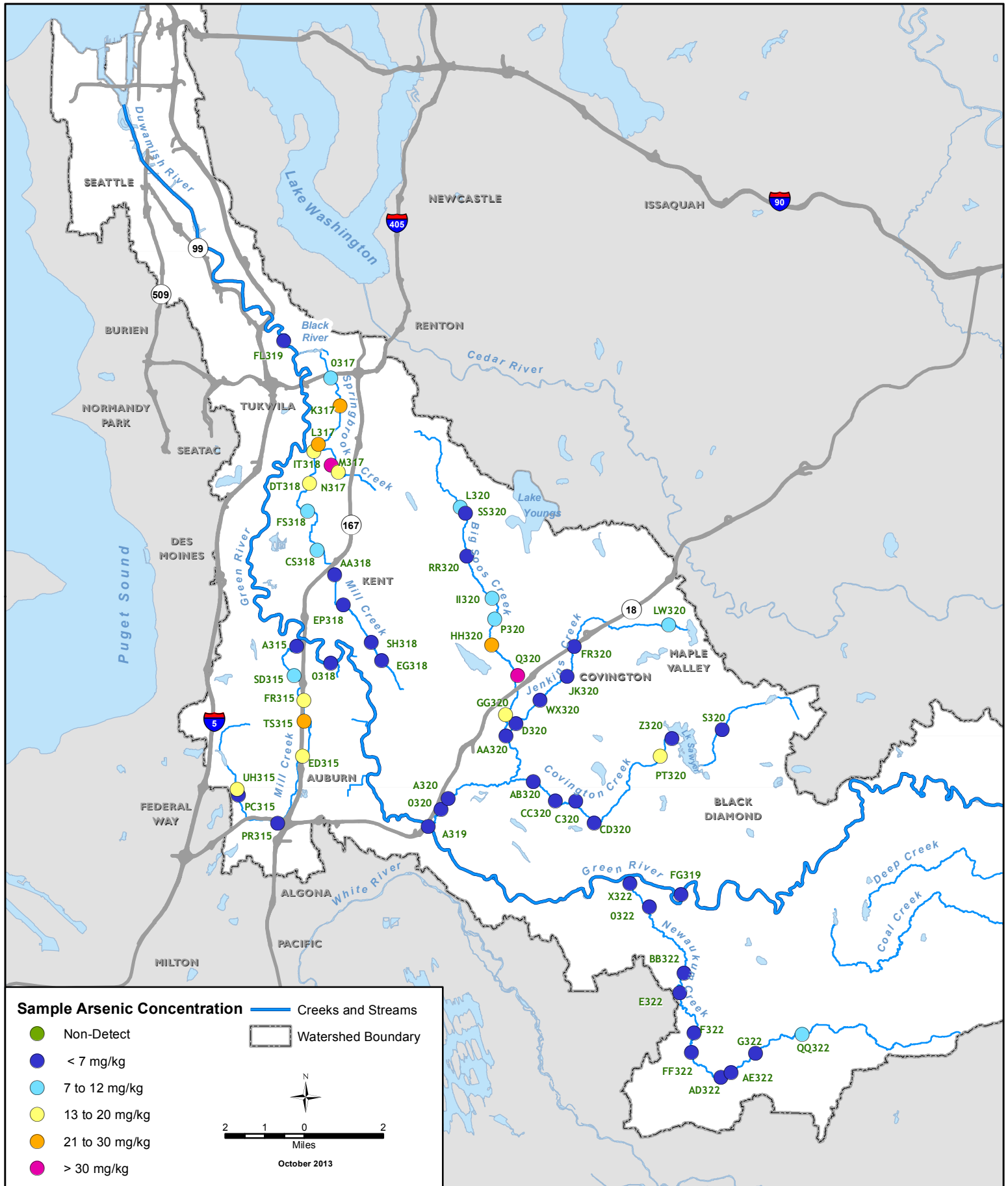
Map 1

**Sediment  
Sampling Locations**

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**King County**

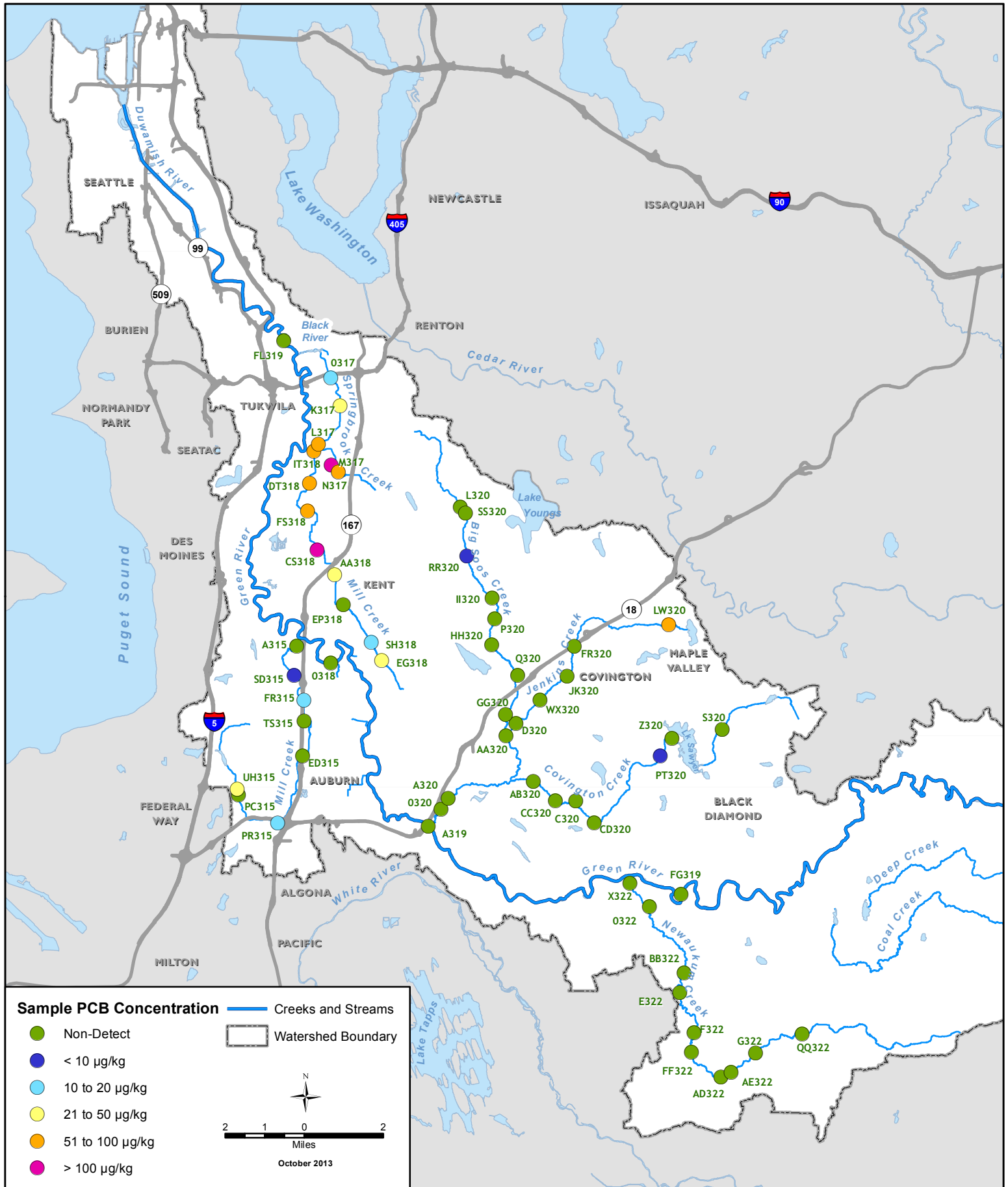
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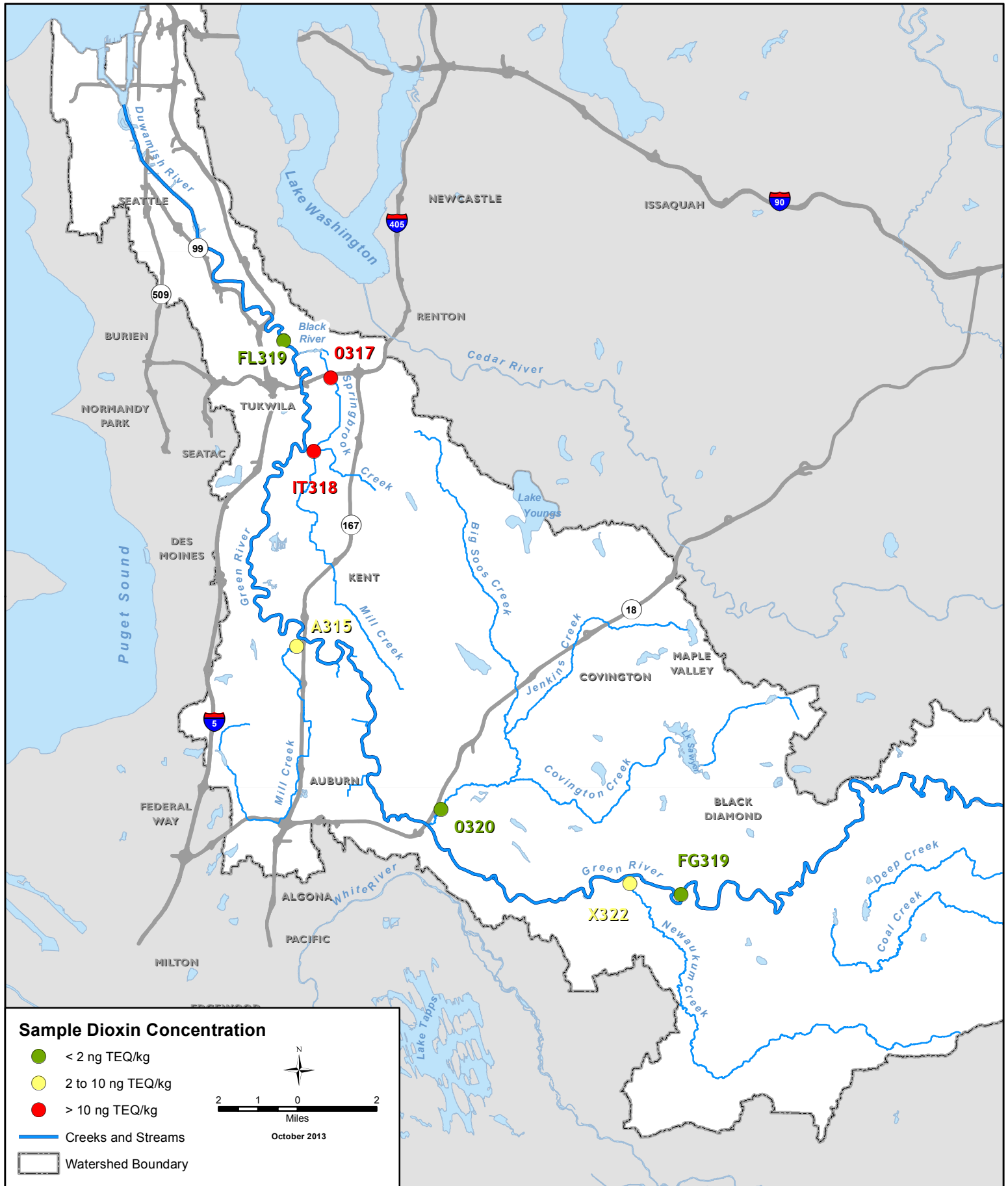
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Map 3

**Spatial Distribution of  
 Arsenic concentrations**





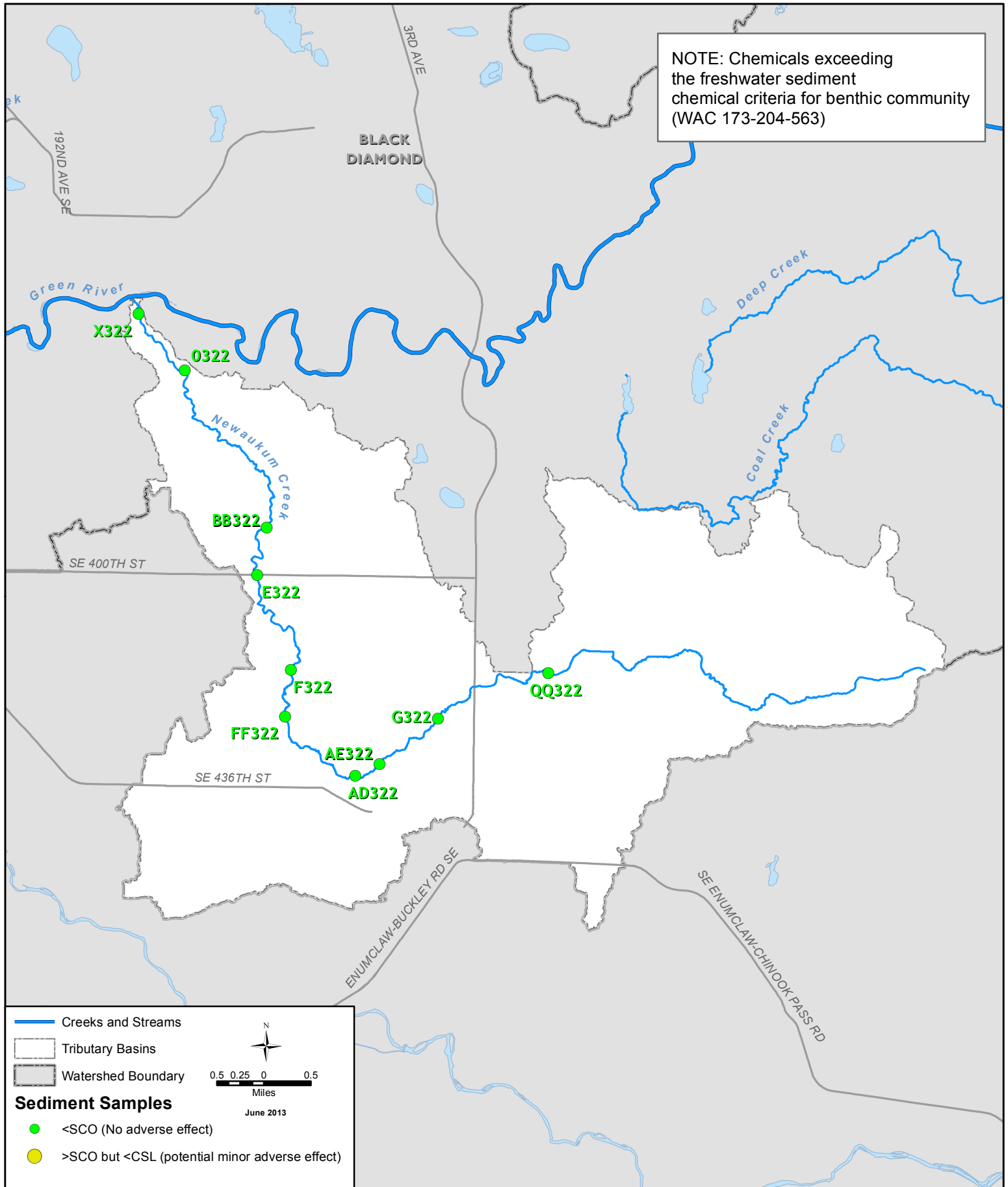
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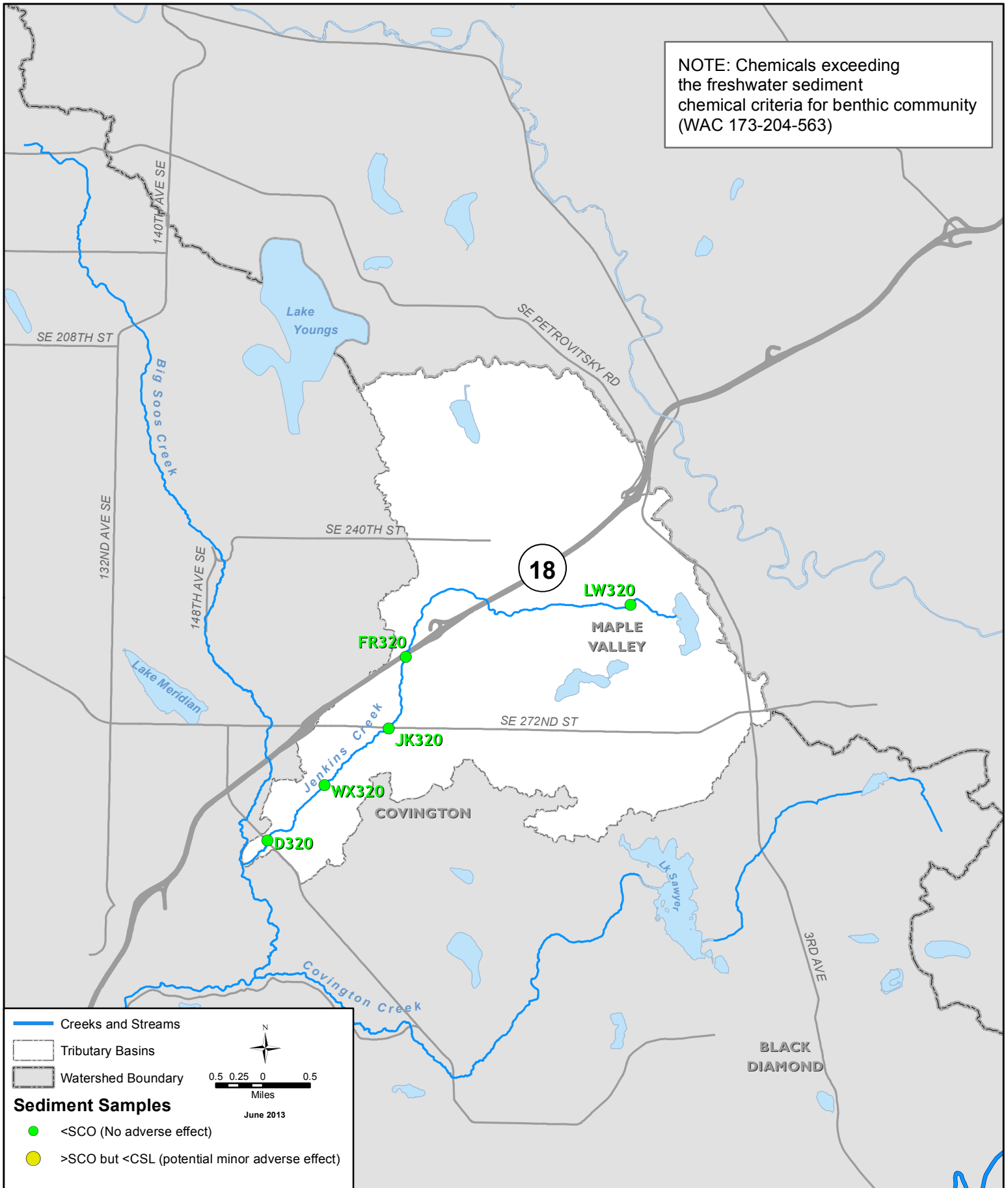
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Map 5

**Spatial Distribution of  
Dioxin Toxicity Equivalent  
(TEQ) Concentrations**

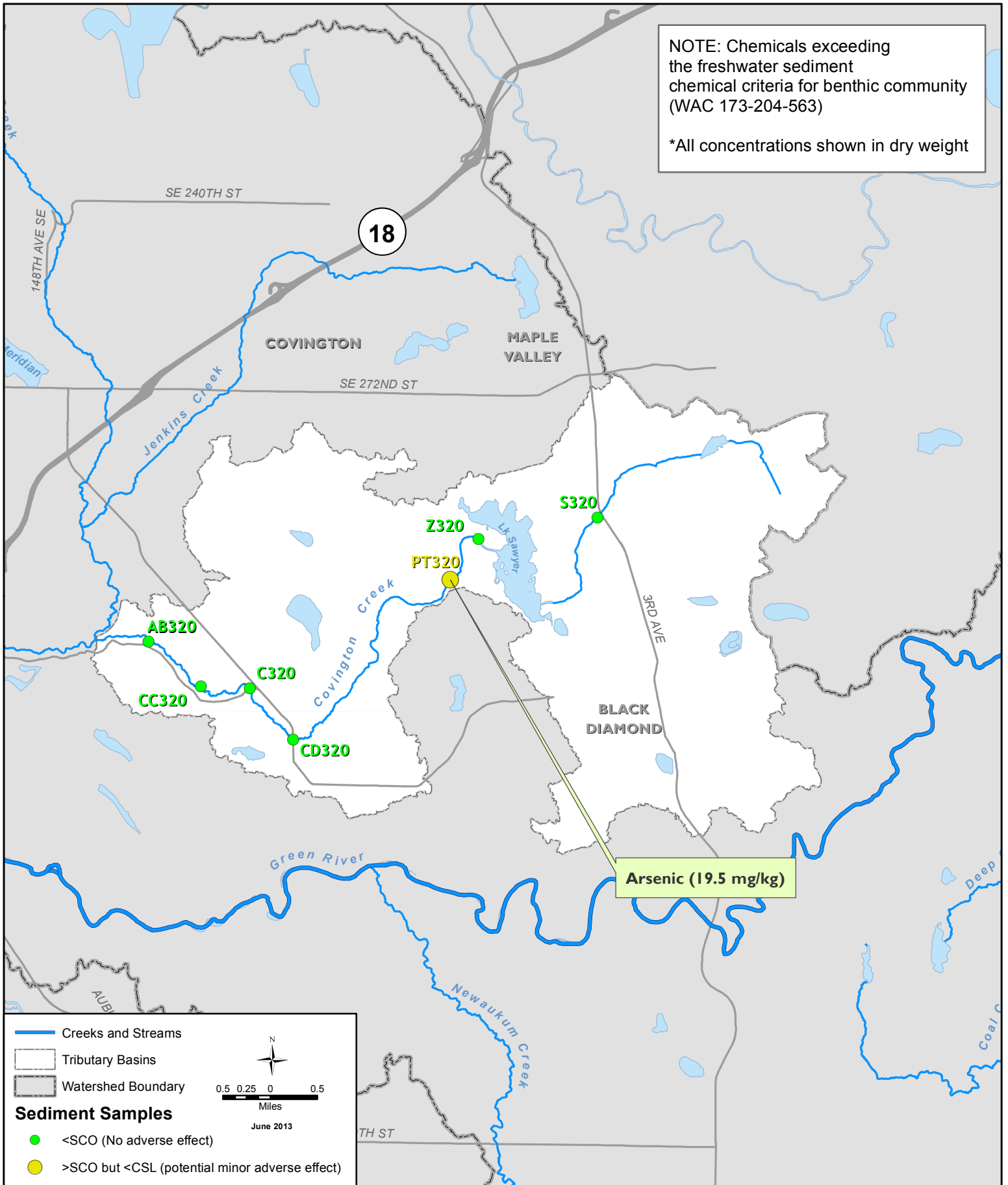


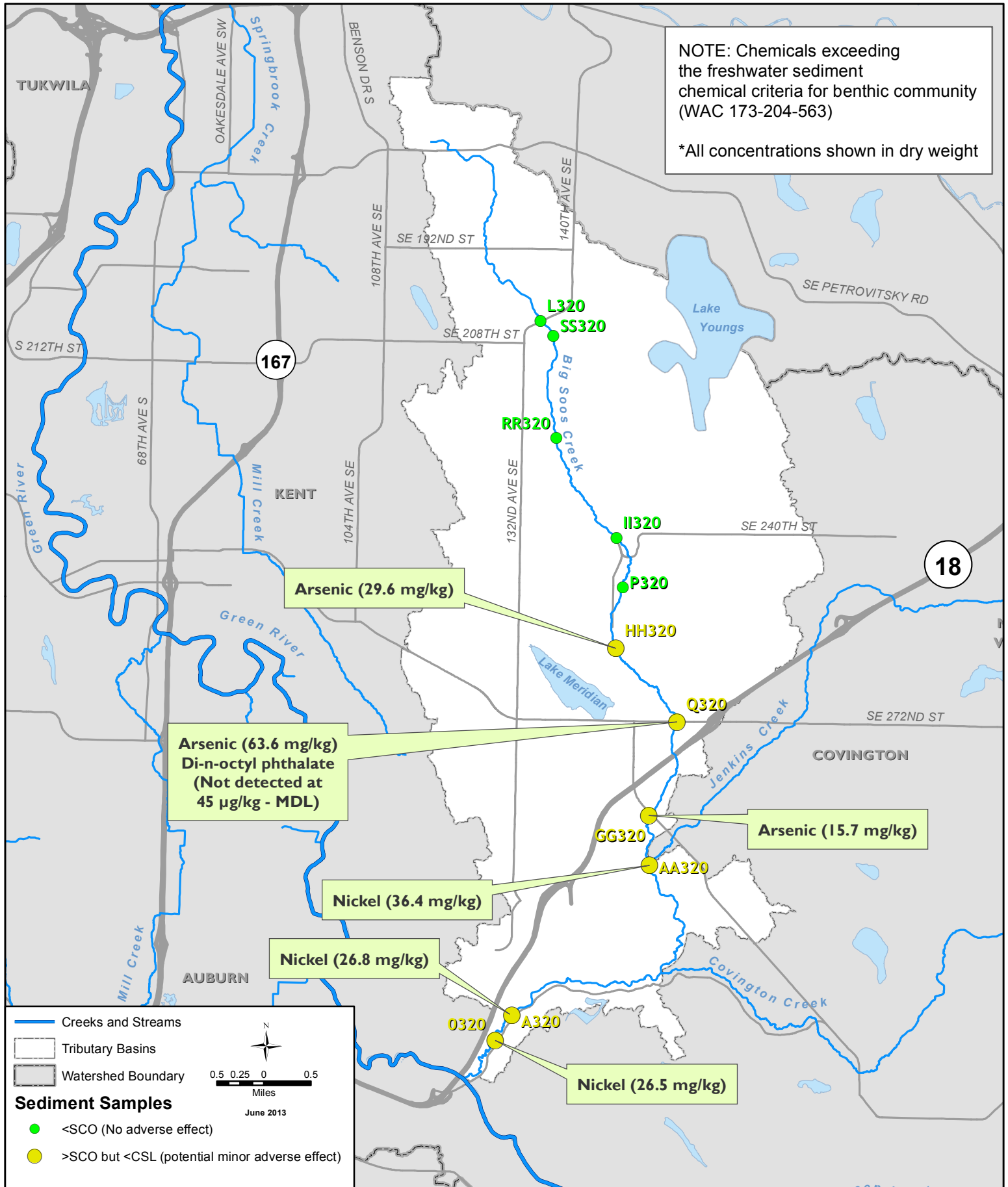
NOTE: Chemicals exceeding the freshwater sediment chemical criteria for benthic community (WAC 173-204-563)

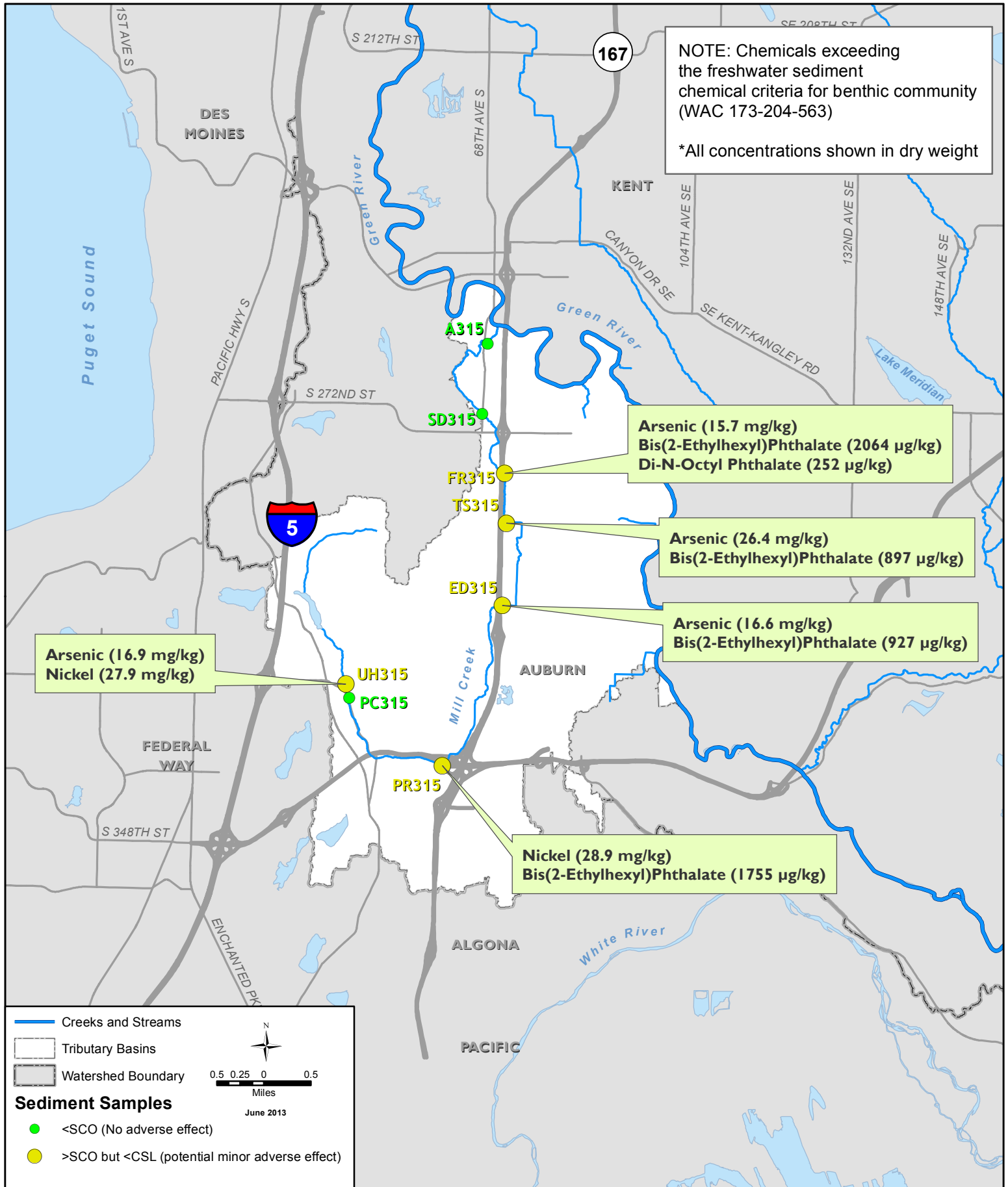


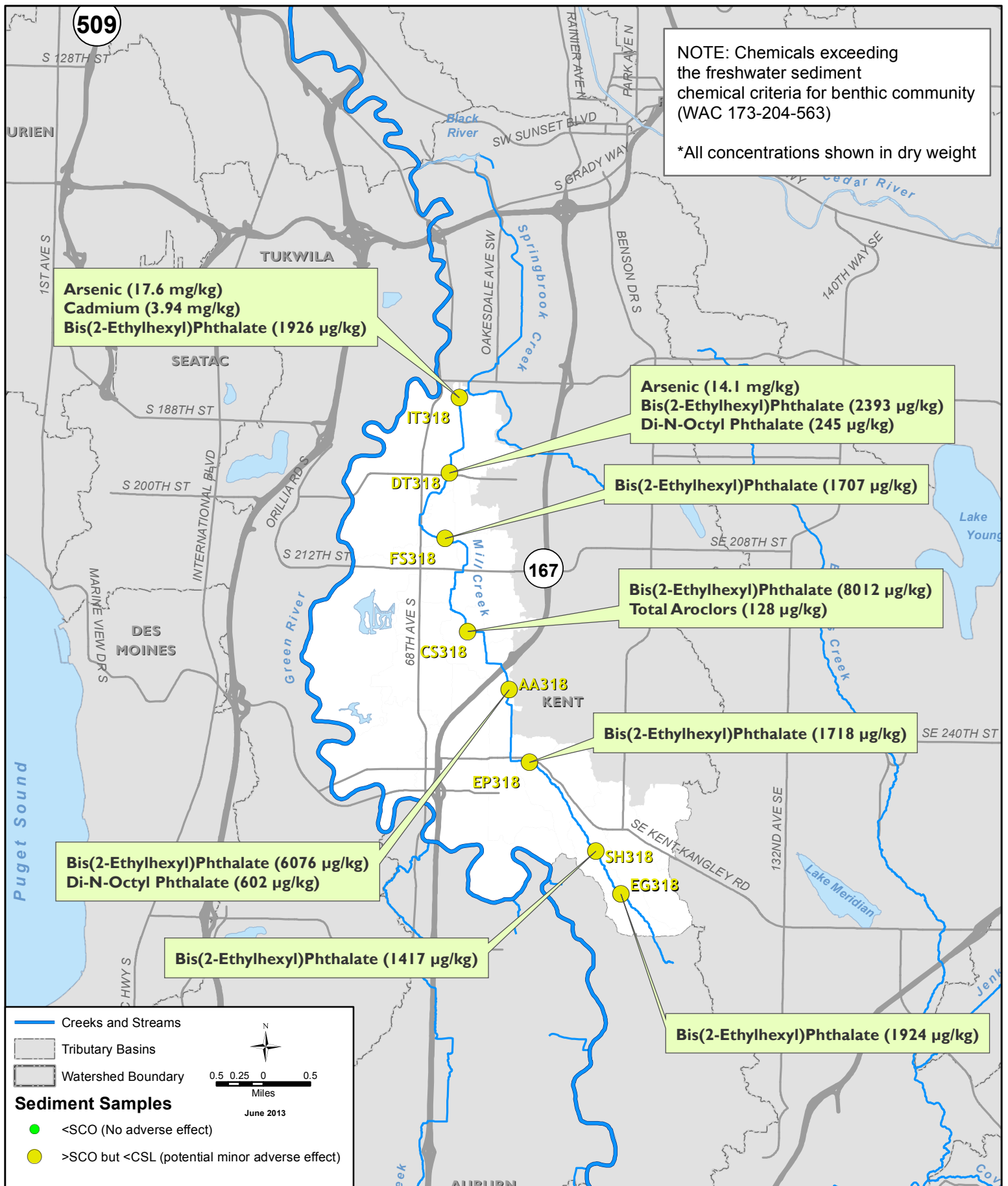
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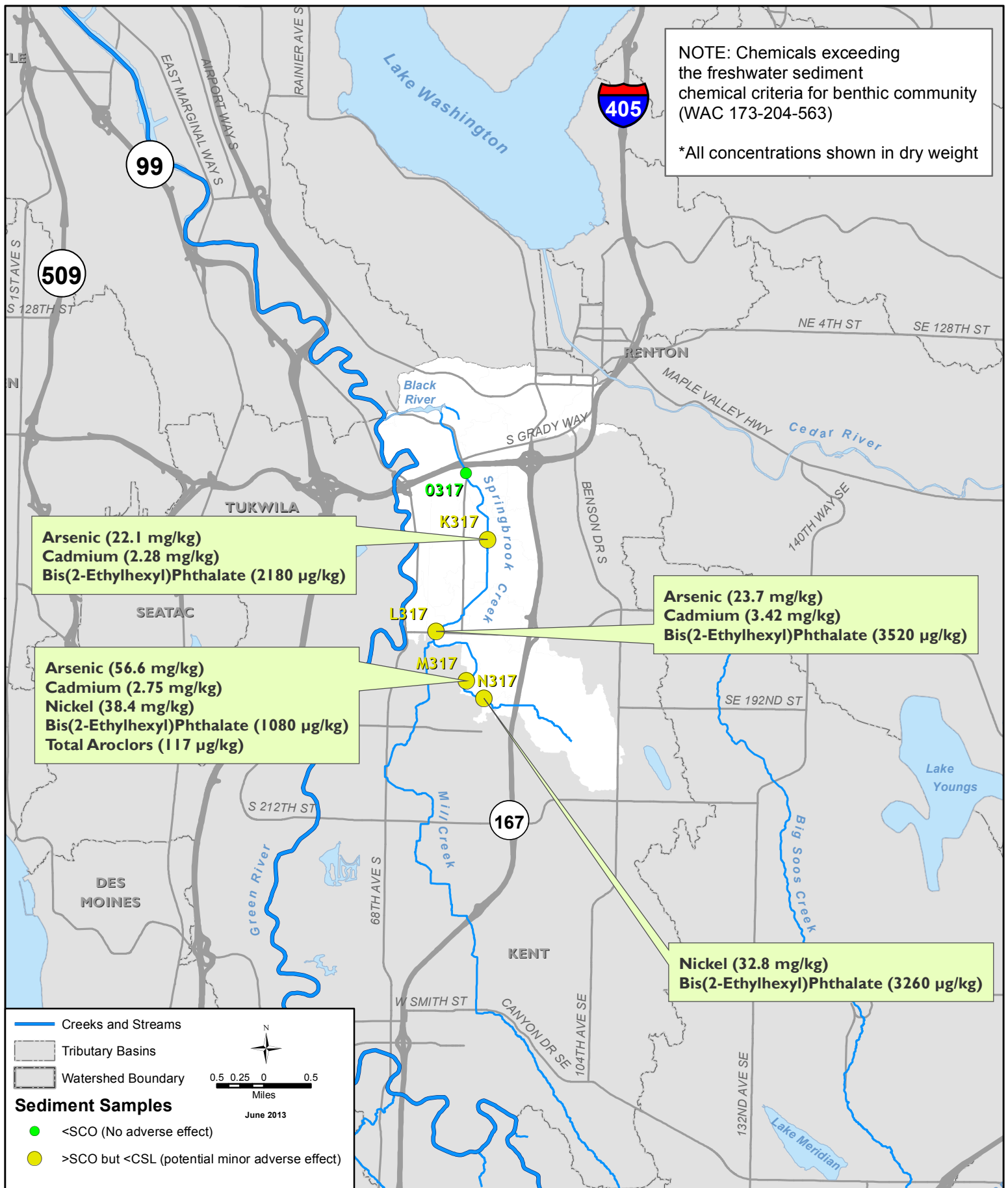
\*All concentrations shown in dry weight



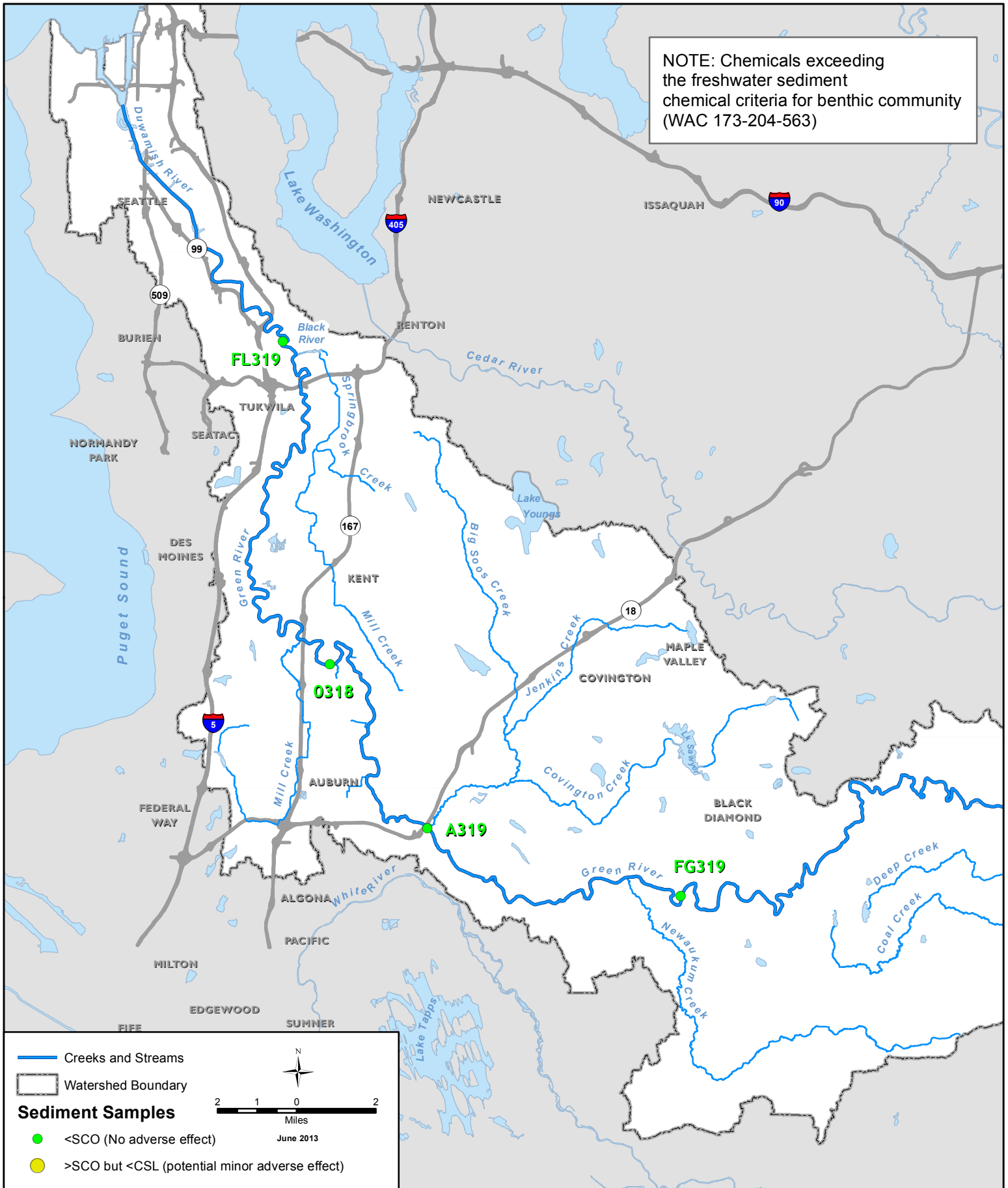








NOTE: Chemicals exceeding the freshwater sediment chemical criteria for benthic community (WAC 173-204-563)



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Map 13

**Sediment Quality Assessment  
in Green River Basin**

# Appendix A:

## King County Environmental Laboratory Quality Assurance Reviews

KING COUNTY ENVIRONMENTAL LABORATORY  
QUALITY ASSURANCE REVIEW

for

2008 Stream Sediment Monitoring Program

Prepared by:

Colin Elliott

Colin Elliott  
Laboratory Project Manager

Reviewed by:

Lab unit supervisors

September 30, 2009

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322 West Ewing Street  
Seattle, Washington 98119-1507  
(206) 684-2300

## INTRODUCTION

This quality assurance (QA) narrative is intended to document the QA review conducted on the chemistry analyses performed for the 2008 Stream Sediment Monitoring program. The QA narrative is organized into the five sections listed below.

- General Comments
- Sample Collection
- Conventional Analyses
- Metal Chemistry
- Organic Chemistry

An overview of the approach used for the QA review is detailed in the *General Comments* section. This review is a comparison of the requirements and specifications in the Sampling and Analysis Plan (SAP) and the actual sample collection and analysis that was performed. Additional information specific to each analysis is included in the appropriate analytical section.

This QA review and narrative (specifically defined as QA1) have been conducted in accordance with guidelines established through the Puget Sound Dredged Disposal Analysis (PSDDA) program, Sediment Management Standards (WAC 173-204-610) and the Sediment Sampling and Analysis Appendix (SAPA), WDOE 2008.

## GENERAL COMMENTS

### Scope of Samples Submitted

This QA review is associated with freshwater sediment samples collected between July 28 and August 6 2008 as part of the 2008 Stream Sediment Monitoring program. The Stream Sediment Monitoring Sampling and Analysis Plan (SAP), draft version from June 2008, generally defines the criteria used in this review.

All analyses have been conducted by the King County Environmental Laboratory (KCEL). Sediment analytical data are reported with associated data qualifiers and have undergone QA1 review, as summarized in this narrative report.

### Completeness

Completeness has been evaluated for this data submission and QA review by considering the following criteria:

- Comparing reported data to the planned project analyses summarized in Table 1.
- Compliance with storage conditions and holding times.
- Frequency of analysis of the complete set of quality control (QC) samples outlined in Table 2.

### Methods

Analytical methods are noted in the applicable analytical sections of this QA review.

### Target Lists

The reported target lists have been compared to the target analytes listed in *Development of Freshwater Sediment Quality Values for Use in Washington State, Phase II Report* (Ecology, 2003) and may also be compared to *Table 3 - Puget Sound Marine Sediment Cleanup Screening Levels Chemical Criteria* contained in Chapter 173-204 WAC.

### Detection Limits

As part of the QA1 review, the detection limits reported for each parameter have been reviewed against the detection limit requirements defined in the SAP. Unfortunately, the 2008 draft SAP was not updated to reflect current organics detection limits available at the time the samples were analyzed. When sample results have been reported as less than the Method Detection Limit (<MDL) and the associated detection limits are higher than those defined in the SAP, the particular samples and parameters have been identified and the circumstances explained. These summaries are included with each analytical section of this QA review.

The KC Laboratory reports include both the reporting detection limit (RDL) and the method detection limit (MDL) for each sample and parameter, where applicable. The RDL is defined as *the minimum concentration of a chemical constituent that can be reliably quantified* while the MDL is defined as *the minimum concentration of a chemical constituent that can be detected*. For some methods the detection limits reported may vary from sample to sample depending on the amount of sample analyzed and any additional dilutions required.

### Storage Conditions and Holding Times

Storage conditions and holding times have been evaluated using guidelines defined in the project SAP. Preparation and analysis holding times for each method are summarized in each analytical section.

### Method Blanks

Method blank results have been used to evaluate the possible laboratory contamination of samples. Method blank results have been reviewed for the presence of analytes detected at or greater than the MDL. For analytes where the method blank response was at or above the MDL associated sample results may be qualified with a B, B2 or B3 flag, depending on the concentration in the sample compared to the method blank.

### **Standard Reference Materials and Lab Control Samples**

Standard reference material (SRM) and lab control sample (LCS) recoveries have been used to evaluate possible low or high analytical bias on a batch-specific basis. LCS and SRM analysis is included with selected organic, metals and conventional parameters (see Table 2). Sample results may be qualified if the LCS or SRM recoveries indicate a potential bias in the associated batch of samples.

### **Matrix Spikes**

Matrix spike recoveries have been used to evaluate possible low or high analytical bias on a matrix and batch-specific basis. Matrix spikes are analyzed with metals, organics and selected conventional parameters (see Table 2). All associated sample results may be qualified if the MS recoveries indicate a potential bias with all samples in the batch but it is more typical that only the sample used as the spike will be qualified.

For Metals only, matrix spike recovery results are used to qualify sample data only when the sample levels in the spiked sample are less than 4 times the spiked concentration. High sample levels relative to the spiked concentration can compromise the measurement of accurate spike recoveries.

### **Laboratory Replicate Samples**

Replicate analysis (laboratory duplicates or triplicates) is used as an indicator of method precision and is used to qualify data on an analyte and batch-specific basis. Not all replicate data are used, however, as an indicator for data qualification. Only sets of replicate results which include at least one result greater than the RDL are considered for data qualification. These guidelines have been used to account for the fact that precision obtained near the detection limit is not representative of precision obtained throughout the entire analytical range. The precision of lab replicates is used to qualify data only when it is clear that the excessive variability has influenced the associated sample results. Duplicate matrix spikes are also used for selected methods where analyte levels are not routinely above the RDL. The precision of duplicate matrix spikes is used to qualify data only when it is clear that the variability may have influenced the sample result.

### **Surrogates**

Surrogates are only analyzed for organic parameters. Surrogate recoveries have been used to evaluate possible low or high analytical bias on a sample-specific basis. Individual sample results are flagged only if unacceptable recoveries indicate the sample results are biased.

### **Data Qualifiers**

The data qualification guidelines described above has been summarized in Table 3. This table conforms to the guidelines in the current SAPA (2008).

### **Units and Significant Figures**

Units and the reporting basis vary, depending on the parameter and are explained in the analytical sections below. Data generally have been reported to three significant figures if above the RDL and two significant figures if equal to or below the RDL.

## SAMPLE COLLECTION

This section describes sampling activities associated with the collection of 37 freshwater sediment samples between July 28 and August 6, 2008. Sampling activities were conducted following general guidance suggested in the Puget Sound Protocols (PSEP, 1996 and 1998), and in the SAP.

### **Sampling Locations and Station Positioning**

Sampling locations (stations) were selected and the prescribed coordinates determined prior to field activities. Stations were selected in order to characterize and evaluate the potential effect(s) of point and non-point sources on freshwater sediment quality in selected WRIA 8 and WRIA 9 stream basins. A number of these stations are part of King County's long-term ongoing monitoring program; other stations were newly created in 2008. The prescribed coordinates for these stations are presented in the following table. All station coordinates are recorded in state plane coordinate system North American Datum 1983 (NAD83).

Lab ID #	Station Name	Station Description	Prescribed Northing (y-plan)	Prescribed Easting (x-plan)
L46069-1	0478	Little Bear Cr.- mouth at bike trail	278818	1312537
L46069-2	A434	Thornton Creek mouth- last footbridge in park	256883	1285033
L46069-3	00631	Issaquah Creek mouth- last footbridge in park	206430	1336885
L46069-4	0432	McAleer Creek, 16750 Shore Drive Sheridan Beach	277057.2	1284888
L46069-5	0474	North Creek, upstream side of bike trail bridge	278813	1307015
L46069-6	0322	NEWAUKUM Creek//USGS gauging station on N left bank downstream from bridge on 219TH SE	102390.5	1336841
L46069-7	A320	Big Soos Creek, USGS gauge station 12112600, 0.25 mile upstream of hatchery	116821.3	1309972
L46069-8	0317	Springbrook Creek, bridge at north end of Longacres	173079.2	1294315
L46069-9	A315	Hill (Mill) Creek, bridge at 68th and S. 261st	137217.7	1289725
L46094-1	0631	Issaquah Creek, bridge 99C, last footbridge before lake, State Park	203780.7	1340488
L46094-2	B631	Issaquah Creek-Gilman Road Bridge	200030	1341350
L46094-3	C631	Issaquah Creek-Dogwood Rd. Bridge	197025	1342220
L46094-4	A631	Issaquah Creek-Newport Way	194606	1342693
L46094-5	D631	Issaquah Creek-Sycamore Rd. Bridge	190330	1344970
L46094-7	G631	Issaquah Creek-May Valley Rd.	178080	1343640
L46094-8	I631	Issaquah Creek-229th Rd. Bridge	176005	1343260
L46094-9	J631	Issaquah Creek-Cedar Grove Rd. Bridge	171000	1345580
L46094-10	K631	Issaquah Creek-SE 156th Bridge	170760	1347515
L46094-11	L631	Issaquah Creek-252nd Ave. SE Bridge	169105	1350700
L46094-12	K317	Springbrook Creek-SW 27th St. Bridge-Ekman	169340	1295535
L46094-13	L317	Springbrook Creek-43rd/180th St. Bridge-Ekman	164190	1292645
L46094-14	M317	Springbrook Creek-88th Ave. South-Ekman	161415	1294345
L46094-15	N317	Springbrook Creek-S. 192nd/84th Ave. Bridge	160440	1295325
L46094-16	0443	Taylor Creek-Maxwell Road-KC Prop.	154655	1341400
L46094-17	A443	Taylor Creek-236th St. Bridge	151350	1344900
L46094-18	B443	Taylor Creek-SE 208th	153650	1348995
L46094-19	C443	Taylor Creek-SE 216th Street	151070	1350625
L46094-20	0250	DesMoines Creek-mouth in park	150860	1269825
L46094-21	A250	DesMoines Creek-S. 211th St.	153535	1273340

L46094-22	B250	DesMoines Creek-200th St.-in park	157650	1276015
L46094-23	00440	May Creek-mouth in Barbee Mill development	196085	1301950
L46094-24	A440	May Creek-Jones Road green space	192430	1304000
L46094-25	B440	May Creek-95th Way-power/pipelines	192810	1310400
L46094-26	C440	May Creek-Coal Creek Pkwy	191845	1312775
L46094-27	D440	May Creek-148th Ave. SE Bridge	190725	1316725
L46094-28	E440	May Creek-164th Ave. SE	185775	1321640
L46094-29	F440	May Creek-Renton-Issaquah Road	184120	1327420

Sediment grab samples were typically collected by wading into the stream. Core samples were collected within the width and reach of each station such that representative depositional material was obtained. This is consistent with the specifications in the SAP.

**Sample Description Table**

Lab Sample #	Locator	Sample Collection	Sediment Depth (from surface, cm)	Sample Usage
L46069-1	0478	Surface Grabs	5	Chemistry, Microbiology
L46069-2	A434	Surface Grabs	10	Chemistry, Microbiology
L46069-3	00631	Surface Grabs	10	Chemistry, Microbiology
L46069-4	0432	Surface Grabs	5	Chemistry, Microbiology
L46069-5	0474	Surface Grabs	5	Chemistry, Microbiology
L46069-6	0322	Surface Grabs	3	Chemistry, Microbiology
L46069-7	A320	Surface Grabs	6	Chemistry, Microbiology
L46069-8	0317	Surface Grabs	10	Chemistry, Microbiology
L46069-9	A315	Surface Grabs	10	Chemistry, Microbiology
L46094-1	0631	Surface Grabs	5	Chemistry
L46094-2	B631	Surface Grabs	5	Chemistry
L46094-3	C631	Surface Grabs	5	Chemistry
L46094-4	A631	Surface Grabs	5	Chemistry
L46094-5	D631	Surface Grabs	5	Chemistry
L46094-7	G631	Surface Grabs	5	Chemistry
L46094-8	I631	Surface Grabs	5	Chemistry
L46094-9	J631	Surface Grabs	5	Chemistry
L46094-10	K631	Surface Grabs	5	Chemistry
L46094-11	L631	Surface Grabs	5	Chemistry
L46094-12	K317	Surface Grabs	5	Chemistry
L46094-13	L317	Surface Grabs	5	Chemistry
L46094-14	M317	Surface Grabs	5	Chemistry
L46094-15	N317	Surface Grabs	5	Chemistry
L46094-16	0443	Surface Grabs	5	Chemistry
L46094-17	A443	Surface Grabs	5	Chemistry
L46094-18	B443	Surface Grabs	5	Chemistry
L46094-19	C443	Surface Grabs	5	Chemistry
L46094-20	0250	Surface Grabs	3	Chemistry
L46094-21	A250	Surface Grabs	3	Chemistry
L46094-22	B250	Surface Grabs	3	Chemistry
L46094-23	00440	Surface Grabs	5	Chemistry
L46094-24	A440	Surface Grabs	5	Chemistry
L46094-25	B440	Surface Grabs	3	Chemistry
L46094-26	C440	Surface Grabs	3	Chemistry
L46094-27	D440	Surface Grabs	5	Chemistry
L46094-28	E440	Surface Grabs	5	Chemistry
L46094-29	F440	Surface Grabs	5	Chemistry

### **Sample Collection**

Sediment was collected at each station using precleaned PVC core tubes, stainless steel spoons, or an Eckman sampler. Cored samples were collected from shallow water (<3 ft) by pushing the core tubes into the sediment to a depth of 5 to 7 cm. A stainless steel spatula or gloved hand was inserted under the tube mouth to trap the sediment inside as the tube was removed from the stream. Tubes may have been slightly angled to allow drainage of excess water, but fines were not allowed to escape. Sediment in the tube was then transferred to a clean, stainless steel compositing container. Several separate cores may have been collected in order to acquire sufficient sample volume to perform all chemistry analyses. A spoon was used at a number of locations with very thin sediment layers or if the core tubes would not penetrate to at least 3 cm. Sediment was scooped up as efficiently as possible with the spoons and transferred to a stainless steel bucket for compositing. Eckman samplers were used where core tubes could not be easily used and where adequate penetration was possible.

### **Sample Handling**

For cored samples, the entire contents of all core tubes collected at a given site were emptied directly into a stainless steel bucket. If excess water was present, it was decanted once the fines had been allowed to settle. A stainless steel spoon or spatula was then used to homogenize the sample by stirring. Rocks or other debris one half-inch or larger in diameter were removed and discarded.

For spooned samples, the contents of as many spoons of material as needed were emptied directly into a stainless steel bowl. Excess water if present was decanted once the fines had been allowed to settle. The spoon was then used to homogenize the sample by stirring. Any rocks or other debris one half-inch or larger in diameter were removed and discarded.

For samples collected with the Eckman sampler, 5 - 10 cm of sediment was recovered in each grab, allowing collection of a sample aliquot from the top 5 cm. For AVS, an undisturbed portion of sediment from an individual grab using the sampler was placed in a sample jar.

Aliquots of the homogenized sediment were subsampled into individual, pre-labeled containers for chemistry testing except as noted above. Chemical preservative, if needed, was added. Sample containers were supplied by the King County Environmental Laboratory and were pre-cleaned according to analytical specifications.

### **Decontamination**

Dedicated sets of core tubes, spoons and other homogenizing/subsampling equipment were dedicated to each station, precluding the need for decontamination in the field.

The Eckman grab sampler was decontaminated between stations by scrubbing with a brush and ambient water followed by a thorough *in situ* rinsing.

### **Sample Storage and Preservation**

Samples were stored in ice-filled coolers from the time of collection until delivery to the King County Environmental Laboratory. Samples were delivered under chain-of-custody and maintained as such throughout the analytical process. Samples were stored frozen (-18°C) by the laboratory until analysis with the exception of samples for particle size distribution (PSD) analysis, fecal coliform and acid volatile sulfide. Sample aliquots for these analyses were stored refrigerated at approximately 4°C. A more complete description of sample handling and storage can be found in each analytical chemistry section of this narrative.

Copies of chain-of-custody forms and field notes are included as an appendix to this QA review narrative.

## CONVENTIONAL ANALYSES

### Completeness

Conventional data are reported for all samples and parameters summarized in Table 1. These samples were analyzed in association with the complete set of QC samples outlined in Table 2.

### Subcontracted Analyses

All analyses were performed at the King County Environmental Laboratory.

### Methods

Acid volatile sulfide analyses were performed in accordance with EPA *Methods for Chemical Analysis of Water and Wastes*, 1991.

Ammonia analysis was performed in accordance with Standard Method (SM)4500-NH3-G following a KCl extraction (Plumb, 1981).

pH analyses were performed in accordance with SW846 9045C.

PSD analysis was performed in accordance with ASTM D422.

TOC analysis was performed in accordance with SM5310-B and EPA 9060.

Ortho-phosphate phosphorus analyses were performed in accordance with SM4500-P-F following an Olsen extraction.

Total solids analyses were performed in accordance with SM2540-G.

### Detection Limits

The method detection limits (MDLs) reported for conventional parameters are within the requirements defined in the SAP with the following exceptions.

For ammonia, AVS, ortho-phosphate phosphorus and TOC, reported MDLs and RDLs were higher than SAP requirements for a number of samples. All samples that had higher detection limits had reportable levels of these parameters thus the project goals were not compromised.

For PSD analysis, several samples (L46069-3, -4 and L46094-27) have MDLs above the SAP values but no detectable levels for the associated parameter. It is not expected that this has compromised the project goals since the other 3 PSD parameters for each sample had reportable levels.

### Reporting Requirements (significant figures, units, basis and qualifiers)

For analyses performed at the KC Laboratory, data are reported in accordance with laboratory policy at the time the data were generated. Data are reported to three significant figures for results greater than the RDL and two significant figures for results equal to or less than the RDL. For results reported with less than two or three significant figures, significant zeroes are implied. This may not apply to subcontracted data.

In the attached Comprehensive Report, conventional parameters are reported in mg/Kg, dry weight basis, for TOC, ammonia, ortho-phosphate phosphorus and AVS. Particle Size Distribution (PSD) and Total Solids are reported in percent, wet weight basis. For all parameters, the MDL and RDL values for each individual sample are reported in the same units and basis as the sample result. Any result measured at less than the MDL or less than the RDL, a <MDL or <RDL qualifier is added, respectively. Other qualifiers added are based on QC failures and are individually explained in this narrative.

### Storage Conditions and Holding Times

Sample storage conditions and holding times have been evaluated using guidelines established in the SAP. The dates and holding time criteria for the actual storage conditions used for conventional analyses are listed in the table below.

Parameter	Lab ID#	Collect Date	Preparation Date	Analysis Date	Holding Time*	Holding Time**
Ammonia	All	28-Jul to 6-Aug-08	28-Aug-08	29-Aug-08	6 Months at -18°C	14 days at -18°C
Particle Size	All	28-Jul to 6-	5-Aug to 3-	6-Aug to 4-	6 Months	NA

Distribution		Aug-08	Sep-08	Sep-08	at 4°C	
Total Organic Carbon (TOC)	All	28-Jul to 6-Aug-08	4-Aug to 18-Aug-08	7-Aug to 12-Sep-08	6 Months at -18°C	6 Months at -18°C
Orthophosphate Phosphorous	All	28-Jul to 6-Aug-08	24-Oct to 28-Oct-08	24-Oct to 28-Oct-08	6 Months at -18°C	14 days at -18°C
Total Solids	All	28-Jul to 6-Aug-08	4-Aug to 25-Aug-08	4-Aug to 25-Aug-08	6 Months at -18°C	NA
pH	L46069-1 thru -9	28-Jul-08	29-Jul-08	29-Jul-08	1 day at 4°C	NA
	L46094-1-5, 7-11	29-Jul-08	30-Jul-08	30-Jul-08		
	L46094-16-19, 23, 24	30-Jul-08	31-Jul-08	31-Jul-08		
	L46094-25 thru -29	4-Aug-08	4-Aug-08	4-Aug-08		
	L46094-12 thru -15	5-Aug-08	5-Aug-08	5-Aug-08		
	L46094-20 thru -22	6-Aug-08	6-Aug-08	6-Aug-08		
Acid Volatile Sulfide (AVS)	L46069-1 thru -9	28-Jul-08	31-Jul-08	31-Jul-08	14 days at 4°C	7 days at 4°C
	L46094-1-5, 7-9	29-Jul-08	30-Jul-08	30-Jul-08		
	L46094-10,11,16-19, 23, 24	29,30-Jul-08	31-Jul-08	31-Jul-08		
	L46094-12-15, 20-22, -25	4,5,6-Aug-08	14-Aug-08	14-Aug-08		
	L46094-26 thru -29	4-Aug-08	15-Aug-08	15-Aug-08		

Notes:

\* = Holding time from collection to preparation.

\*\* = Holding time from preparation to analysis.

Sample storage conditions and holding times were met for all samples in this data submission.

#### **Method Blanks**

Method blanks were analyzed in connection with ammonia nitrogen, orthophosphate phosphorus, total solids, total organic carbon and acid volatile sulfide analyses. All method blank results were less than the MDL.

#### **Standard Reference Material and/or Laboratory Control Sample (LCS)**

An SRM was analyzed in connection with TOC at the frequency noted in Table 2. All SRM percent recoveries were within the acceptance limits listed in the SAP.

LCS samples were analyzed for ammonia, nitrogen at the frequency noted in Table 2. One of these 2 LCS samples analyzed with these samples showed a recovery of 53%, which is below the acceptance limits of 80% – 120%. Since all other matrix spikes and spike blanks were acceptable in this batch, it is assumed the low LCS value does not necessarily indicate a bias for all sample data.

#### **Matrix Spikes**

Matrix spikes (MS) were analyzed in conjunction with ammonia nitrogen, orthophosphate phosphorus, TOC and AVS at the frequency noted in Table 2. All matrix spike percent recoveries were within the acceptance limits listed in the SAP, except for the following:

AVS matrix spike recoveries were outside the control limit of 65 – 135% for spiked samples L46094-2 and -21, with measured recoveries of 58% and 40%, respectively. Spike blank recoveries associated with these 2 matrix spikes plus all spike blanks in other preparation batches were all within the control limit of 80 – 120% recovery. Matrix spike recoveries for freshwater sediments are routinely below the lower acceptance limit while spike blank recoveries are acceptable therefore the low MS recoveries are assumed to be due to matrix interference. All sample results for AVS have been qualified with a JG flag to indicate that a low bias likely exists. The extent of the bias is uncertain.

#### **Laboratory Replicate Samples**

A set of laboratory triplicates was analyzed for each of the conventional parameters at the frequency noted in Table 2. The percent relative standard deviation (%RSD) for each triplicate

set was less than or equal to the 20% acceptance limit for all parameters, except for Gravel and Silt. The laboratory triplicate for L49094-12 showed %RSD values for Gravel and Silt at 22% and 69%, respectively. The levels of Gravel and Silt in this sample are low enough that higher variability is expected. The data for Gravel and Silt for Sample L49094-12 have therefore been qualified with a J flag to indicate these values should be treated as estimates. No other sample data has been qualified since the results for the other laboratory triplicate indicate that the method was in control.

## METALS CHEMISTRY

### Completeness

Metals data are reported for all samples listed in Table 1. These samples were analyzed in association with the complete set of QC samples outlined in Table 2.

### Methods

SEM extracts were prepared by the Conventional unit of the KCEL using the EPA method for AVS (1991). These extracts were analyzed by EPA methods 245.1 rev 3 (CVAA Mercury) and 200.7 (ICP metals). Total recoverable metals were analyzed in accordance with EPA method 6020 (ICPMS metals) and EPA method 7471B (CVAA Mercury).

### Target List

The reported target list includes the following for total recoverable metals: silver, arsenic, cadmium, chromium, copper, nickel, lead, phosphorus, zinc and mercury. The reported target list for SEM metals includes: silver, arsenic, cadmium, chromium, copper, nickel, lead, zinc and mercury.

### Detection Limits

The method detection limits (MDLs) reported for Metals parameters are within the requirements defined in the draft SAP.

### Reporting Requirements (significant figures, units, basis and qualifiers)

For analyses performed at the KCEL, data are reported in accordance with laboratory policy at the time the data were generated. Data are reported to three significant figures for results greater than the RDL and two significant figures for results equal to or less than the RDL. For results reported with less than two or three significant figures, significant zeroes are implied.

In the Comprehensive Report attached, Metals parameters are reported in mg/Kg, dry weight basis, for all elements. The MDL and RDL values for each individual sample are reported in the same units and basis as the sample result. For any result measured at less than the MDL or less than the RDL, a <MDL or <RDL qualifier is added, respectively. Other qualifiers added are based on QC failures and are individually explained in this narrative.

### Storage Conditions and Holding Times

Sample storage conditions and holding times have been evaluated using guidelines established during the SAP. The dates and holding time criteria for the actual storage conditions used for metals analyses are listed in the tables below.

#### **Total Metals**

Parameter	Lab ID#	Date Collected	Date Digested	Date Analyzed	Sample Holding Time	Digestate/Extract Holding Time
Total metals by ICPMS <sup>a</sup>	L46069-1 thru -9	28-Jul-08	20-Oct-08	21-Oct-08	2 years at -18°C	6 months at 20°C
	L46094-1-5, 7-11	29,30-Jul-08				
	L46094-12	5-Aug-08				
	L46094-13-15, 20-22, -25	4,5,6-Aug-08	21-Oct-08	23-Oct-08		
	L46094-26 thru -29	4-Aug-08				
Total Hg by CVAA	L46069-1 thru -9	28-Jul-08	4-Aug-08	4-Aug-08	28 days at -18°C	NA
	L46094-1-5, 7-10	29-Jul-08	18-Aug-08	19-Aug-08		
	L46094-11,16-19, 23, 24	29,30-Jul-08				
	L46094-12-15, 20-22, -25	4,5,6-Aug-08				
	L46094-26 thru -29	4-Aug-08				

<sup>a</sup> Total Metals by ICPMS include Ag, As, Cd, Cr, Cu, Ni, P, Pb, Zn

### SEM Extractable Metals

Parameter	Lab ID#	Date Collected	Date AVS/SEM Extracted	Date Analyzed	Sample Holding Time	Digestate/Extract Holding Time
SEM metals by ICP <sup>a</sup>	L46069-1 thru -9	28-Jul-08	31-Jul-08	6-Aug-08	14 days at 4°C	14 days at 20°C
	L46094-1-5, 7-9	29-Jul-08	30-Jul-08			
	L46094-10,11,16-19, 23, 24	29,30-Jul-08	31-Jul-08			
	L46094-12-15, 20-22, -25	4,5,6-Aug-08	14-Aug-08	27-Aug-08		
	L46094-26 thru -29	4-Aug-08	15-Aug-08			
SEM Hg by CVAA	L46069-1 thru -9	28-Jul-08	31-Jul-08	1-Aug-08	14 days at 4°C	14 days at 20°C
	L46094-1-5, 7-10	29-Jul-08	30-Jul-08			
	L46094-10,11,16-19, 23, 24	29,30-Jul-08	31-Jul-08			
	L46094-12-15, 20-22, -25	4,5,6-Aug-08	14-Aug-08	21-Aug-08		
	L46094-26 thru -29	4-Aug-08	15-Aug-08			

<sup>a</sup> SEM by ICP include Ag, As, Cd, Cr, Cu, Ni, Pb, Zn

### Method Blanks

All method blanks were less than the MDL, except as noted below.

Two of the 5 AVS/SEM extraction blanks for ICP metals contain detectable levels of zinc and have been qualified with a B flag. The levels of zinc in these blanks are less than 10 times the levels detected in the associated samples so no sample data has been qualified.

### Laboratory Control Samples

For total metals, multiple LCS samples were run in order to cover as many reported elements as possible (no LCS is available for phosphorus). Three LCS' were analyzed in association with total recoverable metals included in this data submission. All LCS recoveries were within the defined QC limits for total metals analyses.

No sediment LCS or Standard Reference Material (SRM) is available for the SEM procedure. Spike blanks were run to evaluate the performance of the ICP and CVAA analyses of the extracts. All spike blank recoveries were within acceptance limits.

### Matrix Spikes

Matrix spike percent recoveries were within the 75% - 125% QC limits for all total metals and SEM metals analyses, with the following exception.

Spiked Sample ID	Parameter	Matrix Spike Recovery	Sample Flag
L46069-5	Total Arsenic	324%	JL
L46069-5	Total Lead	431%	JL

The unacceptable recoveries are likely due to the relatively high sample background levels of both Arsenic and Lead relative to the spike level. Post digestion spikes for these 2 elements into the matrix spike show acceptable recovery, indicating that the sample matrix was not enhancing the spike recoveries. The parameter results for Total Arsenic and Total Lead for Sample L46069-5 and the matrix spike have been qualified with a JL flag to indicate the reported values should be treated as estimates. Total Arsenic and Lead are qualified with an asterisk on the QC Report.

### Matrix Spike Duplicate Samples

Matrix spike duplicate (MSD) samples were analyzed for total mercury only. All matrix spike duplicate (MSD) recoveries were within the 75% - 125% QC limit for total mercury analyses. The relative percent differences (RPDs) for the MSD results were less than or equal to the QC limit of 20% with one exception. The RPD for the MS/MSD for sample L46069-6 was 25%. It is expected that this high RPD value is an anomaly and doesn't indicate unacceptable method performance therefore no sample data have been qualified based on the RPD results.

#### **Laboratory Replicate Samples**

The relative percent differences (RPDs) for laboratory duplicate (LD) results for all total and SEM metals were less than or equal to the QC limit of 20% with one exception. The RPD value for Total Copper for sample L46069-5 was outside the 20% limit at 47%. Because the spike blank and LCS results for Total Copper are acceptable, it is assumed that the exceedance is most likely due to heterogeneity of copper in sample L46069-5. A J flag has been applied to the Total Copper value for the sample and the lab duplicate to indicate the reported values should be treated as estimates. Total Copper is qualified with an asterisk on the QC report. No other sample data has been flagged since it is unknown if the heterogeneity applies to other samples.

## ORGANIC CHEMISTRY

### Completeness

Organics data are reported for all samples and parameters summarized in Table 1. These samples were analyzed in association with the complete set of QC samples outlined in Table 2.

### Methods

BNA and EDC analysis was performed in accordance with EPA method 8270C. BNA and EDC samples were extracted according to EPA method 3550B. PCB and chlorinated pesticides analysis was performed in accordance with EPA methods 8082 and 8081A. WTPH-Dx analysis was conducted according to Ecology method NWTPH-DX.

### Target List

The reported BNA target list includes all compounds specified in *Table 1 - Marine Sediment Quality Standards Chemical Criteria* and *Table 3 - Puget Sound Marine Sediment Cleanup Screening Levels Chemical Criteria* contained in Chapter 173-204 WAC with the exception of benzo(j)fluoranthene. The KC Laboratory has verified that analytical conditions are sufficient to calculate a total benzofluoranthene result using the reported *b* and *k* isomers.

The reported EDC target lists includes bis(2-ethylhexyl)adipate, bisphenol A and total 4-nonylphenol.

Reported PCB data include Aroclors 1016, 1221, 1232, 1242, 1248, 1254 and 1260.

### Detection Limits, Units and Significant Figures

The detection limits (MDLs) for Organics parameters listed in either version of the SAP (original - 2004 or the draft - 2008) do not necessarily reflect the method performance available at the time these samples were analyzed. Wet weight detection limits routinely reported for these analyses are included in the appendices of this narrative. Only 2 parameters (Aniline and Isophorone) showed MDL and RDL values approximately 2 times higher than the detection limits routinely reported for these parameters. For all other organics parameters, the reported MDLs and RDLs met or were lower than the detection limits routinely reported.

The original SAP (2004) defines TOC-normalized MDL requirements for Non-ionizable Organic parameters, based on a nominal dry-weight TOC concentration of 5,000 mg/Kg, or 0.5%. All samples analyzed had dry-weight TOC values above 5,000 mg/Kg and thus could be compared to the listed TOC-normalized MDLs. All MDLs for the Non-ionizable Organic parameters were below the associated SMS criteria. This allows comparison of sample results to SMS levels without the problem of detection limits higher than the SMS levels.

### Reporting Requirements (significant figures, units, basis and qualifiers)

For analyses performed at the KC Laboratory, data are reported in accordance with laboratory policy at the time the data were generated. Data are reported to three significant figures for results greater than the RDL and two significant figures for results equal to or less than the RDL. For results reported with less than two or three significant figures, significant zeroes are implied.

In the Comprehensive Report attached, Organics parameters are reported on a dry weight basis. For all parameters, the MDL and RDL values for each individual sample are reported in the same units and basis as the sample result. Any result measured at less than the MDL or less than the RDL, a <MDL or <RDL qualifier is added, respectively. Other qualifiers added are based on QC failures and are individually explained in this narrative.

### Storage Conditions and Holding Times

Sample storage conditions and holding times have been evaluated using guidelines established in the SAP. The dates and holding time criteria for the actual storage conditions used for organics analyses are listed in the table below.

Parameter	Lab ID#	Date Collected	Date Digested	Date Analyzed	Sample Holding Time	Digestate/Extract Holding Time
BNAs and EDCs	L46069-1 thru -9	28-Jul-08	4-Aug-08	10, 11, 12-Sep-08	1 years at -18°C	40 days at 4°C
	L46094-1-5, 7-11	28,29-Jul-08				
	L46094-16	30-Jul-08				
	L46094-12-15, 20-22, -25 thru -29	4,5,6-Aug-08	8-Aug-08	12,13,18-Sep-08		
	L46094-17-19, 23, 24	30-Jul-08				
Pesticides	L46069-1 thru -9	28-Jul-08	1-Aug-08	14,15-Aug-08	1 years at -18°C	40 days at 4°C
	L46094-1-5, 7-11	28,29-Jul-08				
	L46094-16	30-Jul-08				
	L46094-12-15, 20-22, -25 thru -29	4,5,6-Aug-08	11-Aug-08	12, 13-Sep-08		
	L46094-17-19, 23, 24	30-Jul-08				
PCBs	L46069-1 thru -9	28-Jul-08	1-Aug-08	27, 28-Aug-08	1 years at -18°C	40 days at 4°C
	L46094-1-5, 7-11	28,29-Jul-08				
	L46094-16	30-Jul-08				
	L46094-12-15, 20-22, -25 thru -29	4,5,6-Aug-08	11-Aug-08	18, 19-Sep-08		
	L46094-17-19, 23, 24	30-Jul-08				
WTPH-Dx	L46069-1 thru -9	28-Jul-08	31-Jul-08	6,7-Aug-08	14 days at 4°C	NA
	L46094-1-5, 7-11	28,29-Jul-08				
	L46094-16	30-Jul-08				
	L46094-12-15, 20-22, -25 thru -29	4,5,6-Aug-08	7-Aug-08	13-Aug-08		
	L46094-17-19, 23, 24	30-Jul-08				

Sample storage conditions and holding times were met for all samples in this data submission.

#### **Method Blanks**

Method blanks were analyzed for all Organics parameters and all method blank results were less than the MDL, except as noted below:

##### **1. BNAs**

The 2 method blanks analyzed with BNAs each had a result above the MDL for Bis(2-ethylhexyl) phthalate. All samples where the sample to method blank ratio is 5 or less have been qualified with a "B" flag. Samples with ratios above 5 but  $\leq 10$  have been qualified with a "B2" flag. Sample results qualified with the B or B2 flag should be treated as estimated values. Samples where the ratio is  $>10$  have no flag added and can be considered unbiased by lab contamination.

##### **2. EDCs**

One of the method blanks analyzed with the EDCs had a result above the MDL for Bis(2-ethylhexyl) adipate. All sample results for Bis(2-ethylhexyl) adipate that were associated with this method blank were either  $< \text{MDL}$  or the sample to method blank ratio was greater than 10. For this reason, no sample results for Bis(2-ethylhexyl) adipate have been qualified and can be considered unbiased by lab contamination.

#### **Surrogate Recoveries**

Surrogate recovery acceptance limits for sediment samples have been developed based on historical lab performance using the current analytical methods. The exception to this is Method NWTPH-Dx where method-defined surrogate acceptance limits are applied.

##### **1. BNAs**

For BNA sample data, surrogate recoveries are evaluated separately for the acid and base/neutral fractions. Within each fraction, 2 or more surrogates must be outside the acceptance limits in order to qualify the associated sample data. No BNA sample had more than 1 surrogate outside the acceptance limits.

## 2. PCBs

Sample data are qualified when individual surrogate recoveries are outside lab-specific acceptance limits. All surrogate recoveries were within the lab-specific acceptance limits for all samples in this data submission.

## 3. Chlorinated Pesticides

Sample data are qualified when individual surrogate recoveries are outside lab-specific acceptance limits. All surrogate recoveries were within the lab-specific acceptance limits for all samples in this data submission.

## 4. WTPH-Dx

All surrogate recoveries were within the method-specific acceptance limits for 2-fluorobiphenyl for all samples in this data submission. Recovery of pentacosane from selected samples exceeded the upper control limit and these recoveries are identified on the QC report with an "\*" flag. However, the associated WTPH-Dx sample results were not qualified since the high recovery is likely due to interference from background pentacosane or a similar coeluting compound. These types of interference do not necessarily indicate a positive bias to the WTPH-Dx results.

## 5. EDC

Sample data are qualified when individual surrogate recoveries are outside lab-specific acceptance limits. All surrogate recoveries were within the lab-specific acceptance limits for all samples in this data submission.

### Standard Reference Materials (SRMs)

The SRM results associated with these samples are summarized below, according to the analysis method (SRMs are only available for BNAs, Chlorinated Pesticides and PCBs). Acceptance limits for the certified parameters reported in this data set have been developed using historical lab data. SRM recoveries outside these lab-defined limits indicate the method has not performed as expected and the associated sample data should be qualified.

### 1. BNAs

The sediment SRM analyzed in association with the reported BNA results is 1944, certified by the National Institute of Standards and Technology (NIST). The certified organics parameters in SRM 1944 are only a partial list of all the BNA compounds reported in this analysis. All measured recoveries for this SRM were within acceptance limits.

### 2. Chlorinated Pesticides

The sediment SRM analyzed in association with the reported Chlorinated Pesticides results is 1944, certified by the NIST. SRM 1944 contains certified levels of 4,4'-DDT and alpha-Chlordane. All measured recoveries for this SRM were within acceptance limits.

### 3. PCBs

The sediment SRM analyzed in association with the reported PCB results is HS2, certified by the National Research Council of Canada. SRM HS2 contains Aroclor 1254. All measured recoveries for this SRM were within acceptance limits.

### Matrix Spikes and Spike Blanks

Matrix spikes and Spike Blanks have been analyzed for BNAs, EDCs, PCBs and Chlorinated Pesticides. Recovery acceptance limits for each parameter have been developed based on historical lab performance using the current analytical methods.

### 1. BNAs

Measured recoveries for the spiked compounds were within their acceptance limits except for the following:

- Di-N-Octyl Phthalate showed a recovery slightly above the acceptance limits for the MSD for sample L46094-12. Since acceptable recovery was observed for the MS and SB associated with this sample it is not expected the high recovery indicates a significant bias. No sample data have been qualified.

- Several compounds were outside the acceptance limits for the spike blanks (SB). It has been observed in past data sets that the SB recoveries can be lower than the associated MS and MSD recoveries. This is likely due to co-extracted material in true samples that help to retain components during concentration steps. Low SB recoveries do not necessarily indicate a method bias unless the MS, MSD and SB all show similar unacceptable results.

## 2. PCBs and Chlorinated Pesticides

Each of the 17 reported Pesticide compounds was included in the Chlorinated Pesticide matrix spike. Aroclor 1260 and 1016 only are used as the spiking parameters for PCB matrix spike. The measured recovery for each spiked parameter was within acceptance limits except for 2 parameters that showed low recovery in one spike blank and one MSD. Isolated low recoveries for individual parameters do not necessarily indicate a method bias unless the MS, MSD and SB all show similar unacceptable results.

## 3. EDC

Each of the reported EDC compounds was included in the matrix spike. The measured recovery for each spiked parameter was within acceptance limits.

### Laboratory Replicate Samples

A laboratory duplicate sample(s) was analyzed for each Organics parameter. The relative percent differences (RPDs) for laboratory duplicates are compared to the acceptance limits when at least one value is at or above the RDL. All RPD values that met this were less than or equal to the acceptance limit of 35%, except for the following:

#### BNAs

The RPD for Benzoic Acid for the duplicate analysis of sample L46094-2 was 78%. The result for Benzoic Acid for Sample L46094-2 has therefore been qualified with a "J" flag to indicate the measured value is an estimate. No other sample data has been flagged since it is unknown if the observed imprecision applies to other samples. It is expected that the precision of the method is in control since the RPD value for the MS/MSD for Benzoic Acid was acceptable.

### Additional Data Quality Issues

#### PCBs

The MDL and RDL for sample L46094-14 was raised for Aroclor 1016 due to overlapping PCB congeners from other Aroclors detected in the sample. This result for Aroclor 1016 was qualified "TA" and text information summarizing this anomaly has been appended to sample results.

## MICROBIOLOGY

### Completeness

Fecal coliform data are reported for all samples and parameters summarized in Table 1. These samples were analyzed in association with the complete set of QC samples outlined in Table 2.

### Subcontracted Analyses

All analyses were performed at the King County Environmental Laboratory.

### Methods

Fecal Coliform was analyzed by Most Probably Number (MPN) analysis using Standard Methods 9221E 20<sup>th</sup> edition.

### Detection Limits

Method detection limits are not routinely reported for samples where organisms have been detected. All samples analyzed for Fecal Coliform showed detectable levels so no detection limit values have been reported.

### Reporting Requirements (significant figures, units, basis and qualifiers)

Fecal coliform data are reported according to the guidelines in the reference method, which are typically 2 significant digits with units of MPN per 100 grams of sample. No other qualifiers were applied to the data.

### Storage Conditions and Holding Times

Sample storage conditions and holding times have been evaluated using guidelines established in the SAP. The dates and holding time criteria for the actual storage conditions used for conventional analyses are listed in the table below.

Parameter	Lab ID#	Collect Date	Preparation Date	Analysis Date	Preparation Holding Time
Fecal coliform	All	28-Jul-08	29-Jul-08	29,30-Jul-08	24 hours at 4°C

Holding times and storage conditions were met for all samples.

### Positive and Negative Controls

The positive and negative controls associated with these samples showed appropriate responses. The method is therefore assumed to be in control.

### Laboratory Replicate Samples

A laboratory duplicate (LD) was analyzed using sample L46069-4. The results for the LD are within the 95% confidence limits for the 5-tube MPN method used for this analysis.

### TABLE 1 SEDIMENT SAMPLE INVENTORY

[illegible]

L46094-28	E440	X	X	X	X	X	X	X	X	X	X	X	
L46094-29	F440	X	X	X	X	X	X	X	X	X	X	X	

- 1 Nutrients = Ammonia nitrogen, *o*-Phosphate, Total phosphorus (analyzed and reported with Metals).
- 2 Solids = Total Solids.
- 3 Metals = Hg, Ag, As, Cd, Cr, Cu, Pb, Ni, P and Zn.
- 4 SEM Metals = Ag, As, Cd, Cr, Cu, Hg, Ni, Pb and Zn.
- 5 BNAs = low-level, including chlorobenzenes.
- 6 EDCs = bis(2-ethylhexyl)adipate, bisphenol A, and total 4-nonylphenol.

**TABLE 2**  
**QC SAMPLE FREQUENCY FOR SEDIMENT MICROBIAL, CHEMICAL AND PHYSICAL PARAMETERS**

<b>Parameter</b>	<b>Method Blank</b>	<b>Duplicate</b>	<b>Triplicate</b>	<b>Matrix Spike</b>	<b>SRM / LCS</b>	<b>Surrogates</b>
Ammonia Nitrogen, o-Phosphate	1 per QC batch	See Triplicate	5% minimum, 1 per QC batch	5% minimum, 1 per QC batch	5% minimum, 1 per QC batch, <u>as Available</u>	No
pH	No	See Triplicate	5% minimum, 1 per QC batch	No	No	No
PSD	No	See Triplicate	5% minimum, 1 per QC batch	No	No	No
Total Solids	1 per QC batch	See Triplicate	5% minimum, 1 per QC batch	No	No	No
TOC	1 per QC batch	See Triplicate	5% minimum, 1 per QC batch	5% minimum, 1 per QC batch	1 per QC batch	No
Total Sulfides, AVS	1 per QC batch	See Triplicate	5% minimum, 1 per QC batch	5% minimum, 1 per QC batch	No	No
Metals, SEM Metals	1 per QC batch	5% minimum, 1 per QC batch	No	5% minimum, 1 per QC batch	1 LCS per QC batch (total metals only)	No
BNAs / EDCs	1 per QC batch	5% minimum, 1 per QC batch	No	5% minimum, 1 per QC batch	1 per QC batch (BNAs only)	Yes
PCBs/Chlorinated Pesticides	1 per QC batch	5% minimum, 1 per QC batch	No	5% minimum, 1 per QC batch	1 per QC batch	Yes
WTPH-Dx	1 per QC batch	5% minimum, 1 per QC batch	No	No	No	Yes

<b>Parameter</b>	<b>Lab Duplicate</b>	<b>Positive Control</b>	<b>Negative Control</b>
Fecal Coliform	1 per QC batch	1 per QC batch	1 per QC batch

**TABLE 3 - SUMMARY OF DATA QUALIFIERS**

Qualifier	Definition
<MDL	Applied when a target analyte is not detected or detected at a concentration less than the associated method detection limit (MDL). The MDL is the lowest concentration at which a sample result will be reported.
<RDL	Applied when a target analyte is detected at a concentration greater than or equal to the associated MDL but less than the associated reporting detection limit (RDL). RDL is defined as the lowest concentration at which an analyte can reliably be quantified.
RDL	Applied when a target analyte is detected at a concentration that, in the raw data is equal to the RDL.
TA	Applied to a sample result when additional narrative information is available in the text field. The additional information may help to qualify the sample result but is not necessarily covered by any other qualifier.
B	<p><b>B (including B2 and B3)</b> are applied when the parameter was detected at a concentration at or above the MDL in the associated blank(s) and has met the appropriate rule or condition, as defined by the method or regulatory program.</p> <p>Use: Application of the “B” flags depends on the ratio of the sample to blank result and the particular parameter according to these rules:</p> <ul style="list-style-type: none"> <li>- Add a “B” flag to all parameters if the associated blank is <math>\geq</math> the MDL and the sample result is <math>\geq</math> MDL but <math>\leq</math> 5 times the blank.</li> <li>- Add a “B2” flag to common organic lab contaminants (Acetone, 2-Butanone, Methylene Chloride, Bis(2-ethylhexyl) Phthalate, Butyl Benzyl Phthalate and Di-n-butyl Phthalate) if the method blank is <math>\geq</math> the MDL and the sample result is <math>&gt; 5</math> and <math>\leq 10</math> times the blank.</li> <li>- Add a “B3” flag to all other parameters if the associated blank is <math>\geq</math> the MDL and the sample result is <math>&gt; 5</math> and <math>\leq 10</math> times the blank.</li> </ul>
E	Applied to a sample result that was measured at a concentration greater than the calibration range of the method. It is applied when the detected analyte concentration exceeds the upper instrument calibration limit and further dilution is not feasible. The reported value is an estimated analyte concentration.
J	Applied to a sample result that is considered an estimated value.
JG	Applied to a sample result that is considered an estimated value with a low bias. This will typically be applied when QC results indicate the recovery of the analyte is below the expected limits of the method.
JK	Applied to a sample result that is considered an estimated value with an unknown bias. This will typically be applied when QC results indicate the method precision did not meet the expected limits of the method.
JL	Applied to a sample result that is considered an estimated value with a high bias. This will typically be applied when QC results indicate the recovery of the analyte is above the expected limits of the method.
PASS	PASS is applied for Microbiology QC samples (positive and negative controls) when the results are acceptable ( <u>Passing</u> ).

# ORGANIC CHEMISTRY Detection Limit Values

Method = EPA 3550B / 8270C (GC/MS)

LIMS Product = BNALL

ug/Kg wet weight basis

Analyte	MDL	RDL	Analyte	MDL	RDL
1,2,4-Trichlorobenzene	0.27	0.53	Benzo(g,h,i)perylene	2.7	5.3
1,2-Dichlorobenzene	0.27	0.53	Benzoic Acid	13	26.7
1,2-Diphenylhydrazine	2.7	5.3	Benzyl alcohol	5.3	10.7
1,3-Dichlorobenzene	0.27	0.53	Benzyl Butyl Phthalate	5.3	10.7
1,4-Dichlorobenzene	0.27	0.53	Bis(2-Chloroethoxy)Methane	13	26.7
2,4,5-Trichlorophenol	13	26.7	Bis(2-Chloroethyl)Ether	13	26.7
2,4,6-Trichlorophenol	13	26.7	Bis(2-Chloroisopropyl)Ether	13	26.7
2,4-Dichlorophenol	13	26.7	Bis(2-ethylhexyl)Phthalate	5.3	10.7
2,4-Dimethylphenol	2.7	5.3	Caffeine	5.3	10.7
2,4-Dinitrophenol	27	53.3	Carbazole	2.7	5.3
2,4-Dinitrotoluene	27	53.3	Chrysene	2.7	5.3
2,6-Dinitrotoluene	27	53.3	Coprostanol	53	107
2-Chloronaphthalene	5.3	10.7	Dibenzo(a,h)anthracene	2.7	5.3
2-Chlorophenol	5.3	10.7	Dibenzofuran	2.7	5.3
2-Methylnaphthalene	2.7	5.3	Diethyl Phthalate	5.3	10.7
2-Methylphenol	5.3	10.7	Dimethyl Phthalate	5.3	10.7
2-Nitroaniline	27	53.3	Di-N-Butyl Phthalate	5.3	10.7
2-Nitrophenol	27	53.3	Di-N-Octyl Phthalate	5.3	10.7
3,3'-Dichlorobenzidine	27	53.3	Fluoranthene	2.7	5.33
3-Methylphenol	5.3	10.7	Fluorene	2.7	5.33
3-Nitroaniline	27	53.3	Hexachlorobenzene	0.53	1.07
4,6-Dinitro-O-Cresol	27	53.3	Hexachlorobutadiene	1.3	2.7
4-Bromophenyl Phenyl Ether	13	26.7	Hexachlorocyclobutadiene	27	53.3
4-Chloro-3-Methylphenol	13	26.7	Hexachloroethane	13	26.7
4-Chloroaniline	27	53.3	Indeno(1,2,3-cd)Pyrene	2.7	5.3
4-Chlorophenyl Phenyl Ether	13	26.7	Isophorone	5.3	10.7
4-Methylphenol	5.3	10.7	Naphthalene	2.7	5.3
4-Nitroaniline	27	53.3	Nitrobenzene	5.3	10.7
4-Nitrophenol	27	53.3	N-Nitrosodimethylamine	13	26.7
Acenaphthene	2.7	5.33	N-Nitrosodi-N-Propylamine	5.3	10.7
Acenaphthylene	2.7	5.3	N-Nitrosodiphenylamine	5.3	10.7
Aniline	13	26.7	Pentachlorophenol	13	26.7
Anthracene	2.7	5.3	Phenanthrene	2.7	5.3
Benzo(a)anthracene	2.7	5.3	Phenol	5.3	10.7
Benzo(a)pyrene	2.7	5.3	Pyrene	2.7	5.3

Benzo(b)fluoranthene	2.7	5.3	Pyridine	26	53.3
Benzo(k)fluoranthene	2.7	5.3			

**Method = EPA 8081A/8082 (GC/ECD)**

**LIMS Product = PESTLL**

**ug/Kg wet weight basis**

Analyte	MDL	RDL
4,4'-DDD	0.67	1.33
4,4'-DDE	0.67	1.33
4,4'-DDT	0.67	1.33
Aldrin	0.67	1.33
Alpha-BHC	0.33	0.667
Alpha-Chlordane	0.33	0.667
Beta-BHC	0.33	0.667
Delta-BHC	0.33	0.667
Dieldrin	0.67	1.33
Endosulfan I	0.67	1.33
Endosulfan II	0.67	1.33
Endosulfan Sulfate	0.67	1.33
Endrin	0.67	1.33
Endrin Aldehyde	0.67	1.33
Gamma-BHC (Lindane)	0.33	0.667
Gamma-Chlordane	0.33	0.667
Heptachlor	0.33	0.667
Heptachlor Epoxide	0.33	0.667
Methoxychlor	3.3	6.67
Toxaphene	6.7	13.3

**Method = EPA 8081A/8082 (GC/ECD)**

**LIMS Product = PCBL**

**ug/Kg wet weight basis**

Analyte	MDL	RDL
Aroclor 1016	0.83	1.67
Aroclor 1221	1.7	3.33
Aroclor 1232	1.7	3.33
Aroclor 1242	0.83	1.67
Aroclor 1248	0.83	1.67
Aroclor 1254	0.83	1.67
Aroclor 1260	0.83	1.67

**Method = EPA 3550B / 8270C (GC/MS)**

**LIMS Product = EDC**  
**ug/Kg wet weight basis**

<b>Analyte</b>	<b>MDL</b>	<b>RDL</b>
Bis(2-ethylhexyl)adipate	10	20
Bisphenol A	10	20
Total 4-Nonylphenol	20	40

**Method = NWTPH-DX (GC/FID)**

**LIMS Product = WTPH-Dx**

**mg/Kg wet weight basis**

<b>Analyte</b>	<b>MDL</b>	<b>RDL</b>
Diesel range (C13 - C24)	25	25
Lube oil range (>C24)	25	25

## CHAIN OF CUSTODY FORMS

## STREAMS SEDS LEGACY 2008

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No.	(Type)	P46069-7	P46069-8	P46069-9
		6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT
		6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS
		6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT
		6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS
		6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS
		6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT
		6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS
		6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT
		7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL
		7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC
		7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL
		7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL
		7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX

End of Fieldsheet.

JEAN Power 7/28/08 1350  
7/28/08 1400  
L46069 1-5

## STREAMS SEDS LEGACY 2008

Project Number: 421240C

Personnel: JD

Sample No. (Type)	P46069-4	P46069-5	P46069-6
Locator	0432	0474	0322
Short Loc. Desc.	McALEER CR	NORTH CR	NEWAK CR
Locator Desc.		NORTH CREEK//UPSTREAM SIDE OF FREEWA	NEWAUKUM CREEK//USGS GAGING STATION
Site	STREAMS	STREAMS	STREAMS
Start Date/Time			7/28/08 1138
End Date/Time			1204
Time Span			
Sample Depth			0.4
Comments	McAleer Creek	North Creek	Newaukum Creek
SAMP INFO			30 spoons
SED DEPTH			0-3cm
SED TYPE			23P20
Dept., Matrix, Prod			
	3 FRSHWTRSED NH3-KCL	3 FRSHWTRSED NH3-KCL	3 FRSHWTRSED NH3-KCL
	3 FRSHWTRSED ORTHOP-OL	3 FRSHWTRSED ORTHOP-OL	3 FRSHWTRSED ORTHOP-OL
	3 FRSHWTRSED PH	3 FRSHWTRSED PH	3 FRSHWTRSED PH
	3 FRSHWTRSED PSD	3 FRSHWTRSED PSD	3 FRSHWTRSED PSD
	3 FRSHWTRSED TOC	3 FRSHWTRSED TOC	3 FRSHWTRSED TOC
	3 FRSHWTRSED TOTS	3 FRSHWTRSED TOTS	3 FRSHWTRSED TOTS
	5 FRSHWTRSED FC-MPN	5 FRSHWTRSED FC-MPN	5 FRSHWTRSED FC-MPN
	6 FRSHWTRSED AG-ICPMS	6 FRSHWTRSED AG-ICPMS	6 FRSHWTRSED AG-ICPMS
	6 FRSHWTRSED AG-SEM, EXT	6 FRSHWTRSED AG-SEM, EXT	6 FRSHWTRSED AG-SEM, EXT
	6 FRSHWTRSED AS-ICPMS	6 FRSHWTRSED AS-ICPMS	6 FRSHWTRSED AS-ICPMS
	6 FRSHWTRSED AS-SEM, EXT	6 FRSHWTRSED AS-SEM, EXT	6 FRSHWTRSED AS-SEM, EXT
	6 FRSHWTRSED CD-ICPMS	6 FRSHWTRSED CD-ICPMS	6 FRSHWTRSED CD-ICPMS
	6 FRSHWTRSED CD-SEM, EXT	6 FRSHWTRSED CD-SEM, EXT	6 FRSHWTRSED CD-SEM, EXT
	6 FRSHWTRSED CR-ICPMS	6 FRSHWTRSED CR-ICPMS	6 FRSHWTRSED CR-ICPMS
	6 FRSHWTRSED CR-SEM, EXT	6 FRSHWTRSED CR-SEM, EXT	6 FRSHWTRSED CR-SEM, EXT
	6 FRSHWTRSED CU-ICPMS	6 FRSHWTRSED CU-ICPMS	6 FRSHWTRSED CU-ICPMS
	6 FRSHWTRSED CU-SEM, EXT	6 FRSHWTRSED CU-SEM, EXT	6 FRSHWTRSED CU-SEM, EXT
	6 FRSHWTRSED HG-CVAA-M	6 FRSHWTRSED HG-CVAA-M	6 FRSHWTRSED HG-CVAA-M

CHAIN OF CUSTODY	
REINQUISHED BY <u>JD</u>	Date 7/28/08 Time 1330
RECEIVED BY <u>CAV</u>	Date 7/28/08 Time 1330
Number(s) 46069 6-9	

BROWN  
SILT  
SAND  
NO SMALL  
ROCKS/LOGS

continue ...

# ISSAQUAH

STREAMS SEDS BASIN STUDY 2008

Project Number: 421240C

Personnel:

SH/JP

Sample No. (Type)	P46094-1	P46094-2	P46094-3
Locator	0631	B631	C631
Short Loc. Desc.	ISSAQ CR	ISSAGILMAN	ISSADOGW
Locator Desc.	ISSAQUAH CREEK//BRIDGE 99C ON SE 56T	ISSAQUAH CREEK	ISSAQUAH CREEK
Site	STREAMS	STREAMS	STREAMS
Start Date/Time	29-JUL-08 10915	29-JUL-08 1940	29-JUL-08 1015
End Date/Time	SILT, SAND, BROWN NO ODOOR, NO DEBRIS	SAND, SILT, BROWN, NO ODOOR/NO DEBRIS	SAND, SILT, BROWN NO/NO
Time Span			
Sample Depth			
Comments	Issaquah Cr.@routine water site USGS	Issaquah Cr.@Gilman Road	Issaquah Cr.@Dogwood Road
PERSONNEL	SH/JP	SH/JP	SH/JP
SAMP INFO	0631 ROUTINE WATER SITE	GILMAN RD. BRIDGE	DOGWOOD RD. BRIDGE
SED DEPTH	0-5 cm	0-5cm	0-5cm
SED TYPE	23N20	32N20	32N20
Dept., Matrix, Prod	~15 SPOONS	~15 SPOONS	~15 SPOONS
	3 FRSHWTRSED AVS	3 FRSHWTRSED AVS	3 FRSHWTRSED AVS
	3 FRSHWTRSED NH3-KCL	3 FRSHWTRSED NH3-KCL	3 FRSHWTRSED NH3-KCL
	3 FRSHWTRSED ORTHOP-OL	3 FRSHWTRSED ORTHOP-OL	3 FRSHWTRSED ORTHOP-OL
	3 FRSHWTRSED PH	3 FRSHWTRSED PH	3 FRSHWTRSED PH
	3 FRSHWTRSED PSD	3 FRSHWTRSED PSD	3 FRSHWTRSED PSD
	3 FRSHWTRSED TOC	3 FRSHWTRSED TOC	3 FRSHWTRSED TOC
	3 FRSHWTRSED TOTS	3 FRSHWTRSED TOTS	3 FRSHWTRSED TOTS
	6 FRSHWTRSED AG-ICPMS	6 FRSHWTRSED AG-ICPMS	6 FRSHWTRSED AG-ICPMS
	6 FRSHWTRSED AG-SEM, EXT	6 FRSHWTRSED AG-SEM, EXT	6 FRSHWTRSED AG-SEM, EXT
	6 FRSHWTRSED AS-ICPMS	6 FRSHWTRSED AS-ICPMS	6 FRSHWTRSED AS-ICPMS
	6 FRSHWTRSED AS-SEM, EXT	6 FRSHWTRSED AS-SEM, EXT	6 FRSHWTRSED AS-SEM, EXT
	6 FRSHWTRSED CD-ICPMS	6 FRSHWTRSED CD-ICPMS	6 FRSHWTRSED CD-ICPMS
	6 FRSHWTRSED CD-SEM, EXT	6 FRSHWTRSED CD-SEM, EXT	6 FRSHWTRSED CD-SEM, EXT
	6 FRSHWTRSED CR-ICPMS	6 FRSHWTRSED CR-ICPMS	6 FRSHWTRSED CR-ICPMS
	6 FRSHWTRSED CR-SEM, EXT	6 FRSHWTRSED CR-SEM, EXT	6 FRSHWTRSED CR-SEM, EXT
	6 FRSHWTRSED CU-ICPMS	6 FRSHWTRSED CU-ICPMS	6 FRSHWTRSED CU-ICPMS

RELINQUISHED BY		Date	Time
J. Power		7/29/08	1452
RECEIVED BY		Date	Time
J. R. Hane		7/29/08	1454

L 46094 1-5, 7-11

WG 98759 9/22  
R 129394

continue ...

## SPRINGBROOK

STREAMS SEDS BASIN STUDY 2008

Project Number: 421240C

Personnel:

Sample No. (Type)	P46094-10	P46094-11	P46094-12
Locator	K631	L631	K317
Short Loc. Desc.	ISSA156TH	ISSA252ND	SPRING27TH
Locator Desc.	ISSAQUAH CREEK	ISSAQUAH CREEK	SPRINGBROOK CREEK
Site	STREAMS	STREAMS	STREAMS
Start Date/Time			5-AUG-08/1015
End Date/Time			SILT, SAND, GREEN/BROWN H2S + SOLVENT, W/ P DBF
Time Span			
Sample Depth			
Comments	Issaquah Cr.@SE 156th St.	Issaquah Cr.@252nd Ave. SE	Springbrook Cr.@SW 27th St.
PERSONNEL			JP
SAMP INFO			OFF CONCRETE BULKHEAD NORTH SIDE OF 27TH ST. B
SED DEPTH			0-5 cm
SED TYPE			23P237
Dept., Matrix, Prod			4 ECKMAN GRASS
	3 FRSHWTRSED AVS	3 FRSHWTRSED AVS	3 FRSHWTRSED AVS
	3 FRSHWTRSED NH3-KCL	3 FRSHWTRSED NH3-KCL	3 FRSHWTRSED NH3-KCL
	3 FRSHWTRSED ORTHOP-OL	3 FRSHWTRSED ORTHOP-OL	3 FRSHWTRSED ORTHOP-OL
	3 FRSHWTRSED PH	3 FRSHWTRSED PH	3 FRSHWTRSED PH
	3 FRSHWTRSED PSD	3 FRSHWTRSED PSD	3 FRSHWTRSED PSD
	3 FRSHWTRSED TOC	3 FRSHWTRSED TOC	3 FRSHWTRSED TOC
	3 FRSHWTRSED TOTS	3 FRSHWTRSED TOTS	3 FRSHWTRSED TOTS
	6 FRSHWTRSED AG-ICPMS	6 FRSHWTRSED AG-ICPMS	6 FRSHWTRSED AG-ICPMS
	6 FRSHWTRSED AG-SEM, EXT	6 FRSHWTRSED AG-SEM, EXT	6 FRSHWTRSED AG-SEM, EXT
	6 FRSHWTRSED AS-ICPMS	6 FRSHWTRSED AS-ICPMS	6 FRSHWTRSED AS-ICPMS
	6 FRSHWTRSED AS-SEM, EXT	6 FRSHWTRSED AS-SEM, EXT	6 FRSHWTRSED AS-SEM, EXT
	6 FRSHWTRSED CD-ICPMS	6 FRSHWTRSED CD-ICPMS	6 FRSHWTRSED CD-ICPMS
	6 FRSHWTRSED CD-SEM, EXT	6 FRSHWTRSED CD-SEM, EXT	6 FRSHWTRSED CD-SEM, EXT
	6 FRSHWTRSED CR-ICPMS	6 FRSHWTRSED CR-ICPMS	6 FRSHWTRSED CR-ICPMS
	6 FRSHWTRSED CR-SEM, EXT	6 FRSHWTRSED CR-SEM, EXT	6 FRSHWTRSED CR-SEM, EXT
	6 FRSHWTRSED CU-ICPMS	6 FRSHWTRSED CU-ICPMS	6 FRSHWTRSED CU-ICPMS

NASTY

JP

OFF CONCRETE BULKHEAD  
NORTH SIDE OF 27TH ST. B

0-5 cm

23P237

4 ECKMAN GRASS

3 FRSHWTRSED|AVS  
 3 FRSHWTRSED|NH3-KCL  
 3 FRSHWTRSED|ORTHOP-OL  
 3 FRSHWTRSED|PH  
 3 FRSHWTRSED|PSD  
 3 FRSHWTRSED|TOC  
 3 FRSHWTRSED|TOTS  
 6 FRSHWTRSED|AG-ICPMS  
 6 FRSHWTRSED|AG-SEM, EXT  
 6 FRSHWTRSED|AS-ICPMS  
 6 FRSHWTRSED|AS-SEM, EXT  
 6 FRSHWTRSED|CD-ICPMS  
 6 FRSHWTRSED|CD-SEM, EXT  
 6 FRSHWTRSED|CR-ICPMS  
 6 FRSHWTRSED|CR-SEM, EXT  
 6 FRSHWTRSED|CU-ICPMS

+ EXTRA CONTAINER- PSD

LEECHES IN SAMPLE  
 SILT W/ continue ...  
 UPPER LAYER OF  
 LEAVES + STICKS  
 REMOVED DBF-15  
 BEFORE SPLITTING

X COLLECT DATE  
 IS INCORRECT  
 IN LIMS

J. Power

8/5/08 1430

J. Power

8/5/08 14:34

L 46094

12-15

TAYLOR  
STREAMS SEDS BASIN STUDY 2008  
30-JUL-08

Project Number: 421240C

Personnel: JP

Sample No. (Type)	P46094-16	P46094-17	P46094-18
Locator	0443	A443	B443
Short Loc. Desc.	TAYLORMAX	TAYLOR236TH	TAYLOR208TH
Locator Desc.	TAYLOR CREEK	TAYLOR CREEK	TAYLOR CREEK
Site	STREAMS	STREAMS	STREAMS
Start Date/Time	30-JUL-08/1000	30-JUL-08/1035	30-JUL-08/1100
End Date/Time	2 MONTH of TAYLOR CREEK NATURAL AREA	POOL D.S. of ROAD - SILT OVER ROCKS	D.S. SIDE OF CULVERT
Time Span	SILT, SAND, BROWN H2S MOD, PLANTS	SAND, SILT, NAT. ODOR BROWN, W/P DEBRIS	SAND, GRAVEL, BROWN NO ODOR W/P DEBRIS
Sample Depth			
Comments	Taylor Cr. @ Maxwell Rd.	Taylor Cr. @ 236th DOWNSTREAM SIDE	Taylor Cr. @ SE 208th
PERSONNEL	JP	JP	JP
SAMP INFO			
SED DEPTH	0-5 cm	0-5 cm	0-5 cm
SED TYPE	23P27	32P21	34P20
Dept., Matrix, Prod	Spoon	Spoon	Spoon
	3   FRSHWTRSED   AVS	3   FRSHWTRSED   AVS	3   FRSHWTRSED   AVS
	3   FRSHWTRSED   NH3-KCL	3   FRSHWTRSED   NH3-KCL	3   FRSHWTRSED   NH3-KCL
	3   FRSHWTRSED   ORTHOP-OL	3   FRSHWTRSED   ORTHOP-OL	3   FRSHWTRSED   ORTHOP-OL
	3   FRSHWTRSED   PH	3   FRSHWTRSED   PH	3   FRSHWTRSED   PH
	3   FRSHWTRSED   PSD	3   FRSHWTRSED   PSD	3   FRSHWTRSED   PSD
	3   FRSHWTRSED   TOC	3   FRSHWTRSED   TOC	3   FRSHWTRSED   TOC
	3   FRSHWTRSED   TOTS	3   FRSHWTRSED   TOTS	3   FRSHWTRSED   TOTS
	6   FRSHWTRSED   AG-ICPMS	6   FRSHWTRSED   AG-ICPMS	6   FRSHWTRSED   AG-ICPMS
	6   FRSHWTRSED   AG-SEM, EXT	6   FRSHWTRSED   AG-SEM, EXT	6   FRSHWTRSED   AG-SEM, EXT
	6   FRSHWTRSED   AS-ICPMS	6   FRSHWTRSED   AS-ICPMS	6   FRSHWTRSED   AS-ICPMS
	6   FRSHWTRSED   AS-SEM, EXT	6   FRSHWTRSED   AS-SEM, EXT	6   FRSHWTRSED   AS-SEM, EXT
	6   FRSHWTRSED   CD-ICPMS	6   FRSHWTRSED   CD-ICPMS	6   FRSHWTRSED   CD-ICPMS
	6   FRSHWTRSED   CD-SEM, EXT	6   FRSHWTRSED   CD-SEM, EXT	6   FRSHWTRSED   CD-SEM, EXT
	6   FRSHWTRSED   CR-ICPMS	6   FRSHWTRSED   CR-ICPMS	6   FRSHWTRSED   CR-ICPMS
	6   FRSHWTRSED   CR-SEM, EXT	6   FRSHWTRSED   CR-SEM, EXT	6   FRSHWTRSED   CR-SEM, EXT
	6   FRSHWTRSED   CU-ICPMS	6   FRSHWTRSED   CU-ICPMS	6   FRSHWTRSED   CU-ICPMS

J. Power 7/30/08 1500  
G. R. 7/30/08 1504  
L 46094 16-19, 23+24

USED ALL AVAILABLE  
continue ...

FINE  
MATERIAL  
FISH + LAMPREYS  
@ SITE  
STINK EYE FROM  
FISH TRUCK

# DES MOINES

STREAMS SEDS BASIN STUDY 2008

Project Number: 421240C

Personnel: JP

Sample No. (Type)	P46094-19	P46094-20	P46094-21
Locator	C443	0250	A250
Short Loc. Desc.	TAYLOR216TH	DESMOUTH	DESM211TH
Locator Desc.	TAYLOR CREEK	DESMOINES CREEK	DESMOINES CREEK
Site	STREAMS	STREAMS	STREAMS
Start Date/Time		6-AUG-08 / 11:50 1140	16-AUG-06 / 1110
End Date/Time		SAND, GRAVEL, BROWN MARINE CRZ, W/P DEBRIS	SAND, GRAVEL, BROWN NO ODOR, W/P DEBRIS
Time Span			
Sample Depth			
Comments	Taylor Cr. @ SE 216th	Des Moines Cr. mouth	Des Moines Cr. @ S. 211th
PERSONNEL		JP	JP
SAMP INFO			
SED DEPTH		0-3 cm	0-3 cm
SED TYPE		34P21	34P20
Dept., Matrix, Prod		~15 SPOONS	~20 SPOONS
	3 FRSHWTRSED AVS	3 FRSHWTRSED AVS	3 FRSHWTRSED AVS
	3 FRSHWTRSED NH3-KCL	3 FRSHWTRSED NH3-KCL	3 FRSHWTRSED NH3-KCL
	3 FRSHWTRSED ORTHOP-OL	3 FRSHWTRSED ORTHOP-OL	3 FRSHWTRSED ORTHOP-OL
	3 FRSHWTRSED PH	3 FRSHWTRSED PH	3 FRSHWTRSED PH
	3 FRSHWTRSED PSD	3 FRSHWTRSED PSD	3 FRSHWTRSED PSD
	3 FRSHWTRSED TOC	3 FRSHWTRSED TOC	3 FRSHWTRSED TOC
	3 FRSHWTRSED TOTS	3 FRSHWTRSED TOTS	3 FRSHWTRSED TOTS
	6 FRSHWTRSED AG-ICPMS	6 FRSHWTRSED AG-ICPMS	6 FRSHWTRSED AG-ICPMS
	6 FRSHWTRSED AG-SEM, EXT	6 FRSHWTRSED AG-SEM, EXT	6 FRSHWTRSED AG-SEM, EXT
	6 FRSHWTRSED AS-ICPMS	6 FRSHWTRSED AS-ICPMS	6 FRSHWTRSED AS-ICPMS
	6 FRSHWTRSED AS-SEM, EXT	6 FRSHWTRSED AS-SEM, EXT	6 FRSHWTRSED AS-SEM, EXT
	6 FRSHWTRSED CD-ICPMS	6 FRSHWTRSED CD-ICPMS	6 FRSHWTRSED CD-ICPMS
	6 FRSHWTRSED CD-SEM, EXT	6 FRSHWTRSED CD-SEM, EXT	6 FRSHWTRSED CD-SEM, EXT
	6 FRSHWTRSED CR-ICPMS	6 FRSHWTRSED CR-ICPMS	6 FRSHWTRSED CR-ICPMS
	6 FRSHWTRSED CR-SEM, EXT	6 FRSHWTRSED CR-SEM, EXT	6 FRSHWTRSED CR-SEM, EXT
	6 FRSHWTRSED CU-ICPMS	6 FRSHWTRSED CU-ICPMS	6 FRSHWTRSED CU-ICPMS

CHAIN OF CUSTODY

J. P. J. P. J. P.  
 8/6/08 13:10  
 8/6/08 13:37  
 L 46094 20-22

~20 FT. D.S. OF  
 EDUCATION CENTER  
 EVIDENCE OF SALT  
 WATER BACK UP

DIFFICULT ACCESS  
 FEW FINES

continue ...

## STREAMS SEDS BASIN STUDY 2008

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No.	(Type)	P46094-25	P46094-26	P46094-27
		6 FRSHWTRSED CU-SEM, EXT	6 FRSHWTRSED CU-SEM, EXT	6 FRSHWTRSED CU-SEM, EXT
		6 FRSHWTRSED HG-CVAA-M	6 FRSHWTRSED HG-CVAA-M	6 FRSHWTRSED HG-CVAA-M
		6 FRSHWTRSED HG-SEM, EXT	6 FRSHWTRSED HG-SEM, EXT	6 FRSHWTRSED HG-SEM, EXT
		6 FRSHWTRSED NI-ICPMS	6 FRSHWTRSED NI-ICPMS	6 FRSHWTRSED NI-ICPMS
		6 FRSHWTRSED NI-SEM, EXT	6 FRSHWTRSED NI-SEM, EXT	6 FRSHWTRSED NI-SEM, EXT
		6 FRSHWTRSED P-ICPMS	6 FRSHWTRSED P-ICPMS	6 FRSHWTRSED P-ICPMS
		6 FRSHWTRSED PB-ICPMS	6 FRSHWTRSED PB-ICPMS	6 FRSHWTRSED PB-ICPMS
		6 FRSHWTRSED PB-SEM, EXT	6 FRSHWTRSED PB-SEM, EXT	6 FRSHWTRSED PB-SEM, EXT
		6 FRSHWTRSED ZN-ICPMS	6 FRSHWTRSED ZN-ICPMS	6 FRSHWTRSED ZN-ICPMS
		6 FRSHWTRSED ZN-SEM, EXT	6 FRSHWTRSED ZN-SEM, EXT	6 FRSHWTRSED ZN-SEM, EXT
		7 FRSHWTRSED BNALLFULL	7 FRSHWTRSED BNALLFULL	7 FRSHWTRSED BNALLFULL
		7 FRSHWTRSED EDC	7 FRSHWTRSED EDC	7 FRSHWTRSED EDC
		7 FRSHWTRSED PCBLL	7 FRSHWTRSED PCBLL	7 FRSHWTRSED PCBLL
		7 FRSHWTRSED PESTLL	7 FRSHWTRSED PESTLL	7 FRSHWTRSED PESTLL
		7 FRSHWTRSED WTPH-DX	7 FRSHWTRSED WTPH-DX	7 FRSHWTRSED WTPH-DX

continue ...

J. P. J. 8/4/05 1448  
G. K. 8/4/08 14:52  
L 46094 25-29

MB:WG97840-1 Matrix: OTHR SOLID Listtype: CVAVS Method: EPA DEC 1991(334V0) Project:									
(Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL					
SB:WG97840-2 MB:WG97840-1 Matrix: OTHR SOLID Listtype: CVAVS Method: EPA DEC 1991(334V0) Project: NONE									
(Spike Blank, Method Blank)									
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Sulfide, Acid Volatile	2.5	10	mg/Kg	<MDL	26.4	28.4	107		80–120
LT:WG97840-4 LD:WG97840-3 L46094-2 Matrix: FRSHWTRSED Listtype: CVAVS Method: EPA DEC 1991(334V0) Project: 421240C									
(Lab Triplicate, Lab Duplicate)									
Parameter	MDL	RDL	Units	Samp Value	LD Value	LT Value	RSD	Qual	Lab Limit
Sulfide, Acid Volatile	0.25	1	mg/Kg	0.29	0.37	0.3			20
MS:WG97840-5 L46094-2 Matrix: FRSHWTRSED Listtype: CVAVS Method: EPA DEC 1991(334V0) Project: 421240C									
(Matrix Spike)									
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Sulfide, Acid Volatile	2.5	10	mg/Kg	0.29	26.2	15.5	58	*	65–135
MB:WG97840-6 Matrix: OTHR SOLID Listtype: CVAVS Method: EPA DEC 1991(334V0) Project:									
(Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL					
SB:WG97840-7 MB:WG97840-6 Matrix: OTHR SOLID Listtype: CVAVS Method: EPA DEC 1991(334V0) Project: NONE									
(Spike Blank, Method Blank)									
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Sulfide, Acid Volatile	2.5	10	mg/Kg	<MDL	25.7	24.6	96		80–120

Workgroup: WG98063 (AVS for Streams Sediments) Run ID: R128442										
MB:WG98063-1 Matrix: OTHR SOLID Listtype: CVAVS Method: EPA DEC 1991(334V0) Project:										
(Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL						
SB:WG98063-2 MB:WG98063-1 Matrix: OTHR SOLID Listtype: CVAVS Method: EPA DEC 1991(334V0) Project: NONE										
(Spike Blank, Method Blank)										
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit	
Sulfide, Acid Volatile	2.5	10	mg/Kg	<MDL	25.9	24.5	95		80--120	
LT:WG98063-4 LD:WG98063-3 L46094-21 Matrix: FRSHWTRSED Listtype: CVAVS Method: EPA DEC 1991(334V0) Project: 421240C										
(Lab Triplicate, Lab Duplicate)										
Parameter	MDL	RDL	Units	Samp Value	LD Value	LT Value	RSD	Qual	Lab Limit	
Sulfide, Acid Volatile	0.25	1	mg/Kg	0.92	0.92	1.06	8		20	
MS:WG98063-5 L46094-21 Matrix: FRSHWTRSED Listtype: CVAVS Method: EPA DEC 1991(334V0) Project: 421240C										
(Matrix Spike)										
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit	
Sulfide, Acid Volatile	1.3	5	mg/Kg	0.92	25.7	11.1	40	*	65--135	
MB:WG98063-6 Matrix: OTHR SOLID Listtype: CVAVS Method: EPA DEC 1991(334V0) Project:										
(Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL						
SB:WG98063-7 MB:WG98063-6 Matrix: OTHR SOLID Listtype: CVAVS Method: EPA DEC 1991(334V0) Project: NONE										
(Spike Blank, Method Blank)										
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit	
Sulfide, Acid Volatile	2.5	10	mg/Kg	<MDL	26.3	21.8	83		80--120	

# King County Environmental Lab Analytical QC Report

Workgroup: WG98313 (NH3-KCL Stream Seds 421) Run ID: R130938										
MB:WG98313-1 Matrix: OTHR SOLID Listtype: CVNH3-KCL Method: SM4500-NH3-G(332V1)KCL Project:										
(Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Ammonia Nitrogen	0.1	0.2	mg/Kg	<MDL						
SB:WG98313-2 MB:WG98313-1 Matrix: OTHR SOLID Listtype: CVNH3-KCL Method: SM4500-NH3-G(332V1)KCL Project: NONE										
(Spike Blank, Method Blank)										
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit	
Ammonia Nitrogen	1	2	mg/Kg	<MDL	10	9.73	97		80--120	
LCS:WG98313-3 Matrix: OTHR SOLID Listtype: CVNH3-KCL Method: SM4500-NH3-G(332V1)KCL Project: NONE										
(Lab Control Sample)										
Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit		
Ammonia Nitrogen	0.1	0.2	mg/Kg	1	0.874	87		80--120		
LT:WG98313-5 LD:WG98313-4 L46069-7 Matrix: FRSHWTRSED Listtype: CVNH3-KCL Method: SM4500-NH3-G(332V1)KCL Project: 421240C										
(Lab Triplicate, Lab Duplicate)										
Parameter	MDL	RDL	Units	Samp Value	LD Value	LT Value	RSD	Qual	Lab Limit	
Ammonia Nitrogen	0.95	1.89	mg/Kg	2.49	2.65	2.49	4		20	
MS:WG98313-6 L46069-7 Matrix: FRSHWTRSED Listtype: CVNH3-KCL Method: SM4500-NH3-G(332V1)KCL Project: 421240C										
(Matrix Spike)										
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit	
Ammonia Nitrogen	0.96	1.93	mg/Kg	2.49	9.6311	10.2	80		75--125	
MB:WG98313-7 Matrix: OTHR SOLID Listtype: CVNH3-KCL Method: SM4500-NH3-G(332V1)KCL Project:										
(Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Ammonia Nitrogen	0.1	0.2	mg/Kg	<MDL						
SB:WG98313-8 MB:WG98313-7 Matrix: OTHR SOLID Listtype: CVNH3-KCL Method: SM4500-NH3-G(332V1)KCL Project: NONE										
(Spike Blank, Method Blank)										
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit	
Ammonia Nitrogen	1	2	mg/Kg	<MDL	10	9.03	90		80--120	
LCS:WG98313-9 Matrix: OTHR SOLID Listtype: CVNH3-KCL Method: SM4500-NH3-G(332V1)KCL Project: NONE										
(Lab Control Sample)										
Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit		
Ammonia Nitrogen	0.1	0.2	mg/Kg	1	0.534	53	*	80--120		

<b>LT:WG98313-11 LD:WG98313-10 L46094-17 Matrix: FRSHWTRSED Listtype: CVNH3-KCL Method: SM4500-NH3-G(332V1)KCL Project: 421240C</b> <b>(Lab Triplicate, Lab Duplicate)</b>										
<b>Parameter</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Samp Value</b>	<b>LD Value</b>	<b>LT Value</b>	<b>RSD</b>	<b>Qual</b>	<b>Lab Limit</b>	
Ammonia Nitrogen	0.86	1.73	mg/Kg	5.42	5.43	5.21	2		20	
<b>MS:WG98313-12 L46094-17 Matrix: FRSHWTRSED Listtype: CVNH3-KCL Method: SM4500-NH3-G(332V1)KCL Project: 421240C</b> <b>(Matrix Spike)</b>										
<b>Parameter</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Samp Value</b>	<b>True Value</b>	<b>MS Value</b>	<b>% Rec.</b>	<b>Qual</b>	<b>Lab Limit</b>	
Ammonia Nitrogen	0.98	1.96	mg/Kg	5.42	9.7801	14.1	89		75–125	

# King County Environmental Lab Analytical QC Report

Workgroup: WG98002 (orthoP-OL Streams Seds) Run ID: R130612										
MB:WG98002-1 Matrix: OTHR SOLID Listtype: CVORTHOP-OL Method: SM4500-P-F(332V1)OL Project: (Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Orthophosphate Phosphorus	1	2.5	mg/Kg	<MDL						
SB:WG98002-2 MB:WG98002-1 Matrix: OTHR SOLID Listtype: CVORTHOP-OL Method: SM4500-P-F(332V1)OL Project: NONE (Spike Blank, Method Blank)										
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit	
Orthophosphate Phosphorus	1	2.5	mg/Kg	<MDL	8	8.07	101		80–120	
LCS:WG98002-3 Matrix: OTHR SOLID Listtype: CVORTHOP-OL Method: SM4500-P-F(332V1)OL Project: NONE (Lab Control Sample)										
Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit		
Orthophosphate Phosphorus	1	2.5	mg/Kg	16	16.4	103		80–120		
LT:WG98002-5 LD:WG98002-4 L46069-3 Matrix: FRSHWTRSED Listtype: CVORTHOP-OL Method: SM4500-P-F(332V1)OL Project: 421240C (Lab Triplicate, Lab Duplicate)										
Parameter	MDL	RDL	Units	Samp Value	LD Value	LT Value	RSD	Qual	Lab Limit	
Orthophosphate Phosphorus	0.97	2.43	mg/Kg	12.8	12.3	12.8	2		20	
MS:WG98002-6 L46069-3 Matrix: FRSHWTRSED Listtype: CVORTHOP-OL Method: SM4500-P-F(332V1)OL Project: 421240C (Matrix Spike)										
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit	
Orthophosphate Phosphorus	0.96	2.4	mg/Kg	12.8	7.67	19	81		70–130	
MB:WG98002-7 Matrix: OTHR SOLID Listtype: CVORTHOP-OL Method: SM4500-P-F(332V1)OL Project: (Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Orthophosphate Phosphorus	1	2.5	mg/Kg	<MDL						
SB:WG98002-8 MB:WG98002-7 Matrix: OTHR SOLID Listtype: CVORTHOP-OL Method: SM4500-P-F(332V1)OL Project: NONE (Spike Blank, Method Blank)										
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit	
Orthophosphate Phosphorus	1	2.5	mg/Kg	<MDL	8	7.96	100		80–120	
LCS:WG98002-9 Matrix: OTHR SOLID Listtype: CVORTHOP-OL Method: SM4500-P-F(332V1)OL Project: NONE (Lab Control Sample)										
Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit		
Orthophosphate Phosphorus	1	2.5	mg/Kg	16	15.9	99		80–120		

# King County Environmental Lab Analytical QC Report

[illegible]

# King County Environmental Lab Analytical QC Report

[illegible]

# King County Environmental Lab Analytical QC Report

[illegible]

# King County Environmental Lab Analytical QC Report

[illegible]

# King County Environmental Lab Analytical QC Report

[illegible]

# King County Environmental Lab Analytical QC Report

[illegible]

# King County Environmental Lab Analytical QC Report

[illegible]

# King County Environmental Lab Analytical QC Report

[illegible]

# King County Environmental Lab Analytical QC Report

[illegible]

Workgroup: WG97771 (TOC) Run ID: R128289										
MB:WG97771-1 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project:										
(Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Total Organic Carbon	500	1000	mg/Kg	<MDL						
SB:WG97771-2 MB:WG97771-1 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: NONE										
(Spike Blank, Method Blank)										
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit	
Total Organic Carbon	500	1000	mg/Kg	<MDL	2500	2700	108		80–120	
SRM:WG97771-3 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: NONE										
(Std Reference Material)										
Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Qual	Lab Limit		
Total Organic Carbon	2400	4790	mg/Kg	33480	35300	105		80–120		
LT:WG97771-5 LD:WG97771-4 L46069-7 Matrix: FRSHWTRSED Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: 421240C										
(Lab Triplicate, Lab Duplicate)										
Parameter	MDL	RDL	Units	Samp Value	LD Value	LT Value	RSD	Qual	Lab Limit	
Total Organic Carbon	1600	3210	mg/Kg	10800	10800	9900	5		20	
MS:WG97771-6 L46069-7 Matrix: FRSHWTRSED Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: 421240C										
(Matrix Spike)										
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit	
Total Organic Carbon	1600	3240	mg/Kg	10800	8102	18500	95		75–125	

# King County Environmental Lab Analytical QC Report

Workgroup: WG97980 (TOC) Run ID: R128473										
MB:WG97980-1 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: (Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Total Organic Carbon	500	1000	mg/Kg	<MDL						
SB:WG97980-2 MB:WG97980-1 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: NONE (Spike Blank, Method Blank)										
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit	
Total Organic Carbon	500	1000	mg/Kg	<MDL	2500	2490	100		80--120	
SRM:WG97980-3 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: NONE (Std Reference Material)										
Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Qual	Lab Limit		
Total Organic Carbon	2500	5010	mg/Kg	33480	30200	90		80--120		
LT:WG97980-5 LD:WG97980-4 L46094-5 Matrix: FRSHWTRSED Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: 421240C (Lab Triplicate, Lab Duplicate)										
Parameter	MDL	RDL	Units	Samp Value	LD Value	LT Value	RSD	Qual	Lab Limit	
Total Organic Carbon	1600	3110	mg/Kg	6430	6360	6040	3		20	
MS:WG97980-6 L46094-5 Matrix: FRSHWTRSED Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: 421240C (Matrix Spike)										
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit	
Total Organic Carbon	1700	3340	mg/Kg	6430	8347	14800	100		75--125	

Workgroup: WG97982 (TOC) Run ID: R129191										
MB:WG97982-1 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project:										
(Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Total Organic Carbon	500	1000	mg/Kg	<MDL						
SRM:WG97982-2 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: NONE										
(Std Reference Material)										
Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Qual	Lab Limit		
Total Organic Carbon	2400	4860	mg/Kg	33480	32700	98		80--120		
MB:WG97982-3 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project:										
(Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Total Organic Carbon	500	1000	mg/Kg	<MDL						
SB:WG97982-4 MB:WG97982-3 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: NONE										
(Spike Blank, Method Blank)										
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit	
Total Organic Carbon	500	1000	mg/Kg	<MDL	2500	2690	108		80--120	
SRM:WG97982-5 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: NONE										
(Std Reference Material)										
Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Qual	Lab Limit		
Total Organic Carbon	2500	4970	mg/Kg	33480	32600	97		80--120		
LT:WG97982-7 LD:WG97982-6 L46094-21 Matrix: FRSHWTRSED Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: 421240C										
(Lab Triplicate, Lab Duplicate)										
Parameter	MDL	RDL	Units	Samp Value	LD Value	LT Value	RSD	Qual	Lab Limit	
Total Organic Carbon	1700	3430	mg/Kg	12500	9970	11000	11		20	
MS:WG97982-8 L46094-21 Matrix: FRSHWTRSED Listtype: CVTOC Method: EPA 9060-PSEP96(337V3) Project: 421240C										
(Matrix Spike)										
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit	
Total Organic Carbon	1800	3600	mg/Kg	12500	9077	21600	100		75--125	

# King County Environmental Lab Analytical QC Report

Workgroup: WG97773 (TOTS) Run ID: R128161									
MB:WG97773-1 Matrix: OTHR SOLID Listtype: CVTOTS Method: SM2540-G (307V3) Project:									
(Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Total Solids	0.005	0.01	%	<MDL					
LT:WG97773-3 LD:WG97773-2 L46069-1 Matrix: FRSHWTRSED Listtype: CVTOTS Method: SM2540-G (307V3) Project: 421240C									
(Lab Triplicate, Lab Duplicate)									
Parameter	MDL	RDL	Units	Samp Value	LD Value	LT Value	RSD	Qual	Lab Limit
Total Solids	0.005	0.01	%	53.6	51.6	65.2	13		20

[illegible]

Workgroup: WG97984 (TOTS) Run ID: R128560										
MB:WG97984-1 Matrix: OTHR SOLID Listtype: CVTOTS Method: SM2540-G (307V3) Project: (Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Total Solids	0.005	0.01	%	<MDL						
LT:WG97984-3 LD:WG97984-2 L46094-17 Matrix: FRSHWTRSED Listtype: CVTOTS Method: SM2540-G (307V3) Project: 421240C (Lab Triplicate, Lab Duplicate)										
Parameter	MDL	RDL	Units	Samp Value	LD Value	LT Value	RSD	Qual	Lab Limit	
Total Solids	0.005	0.01	%	20.9	18.1	23.8	14		20	
MB:WG97984-4 Matrix: OTHR SOLID Listtype: CVTOTS Method: SM2540-G (307V3) Project: (Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Total Solids	0.005	0.01	%	<MDL						

Workgroup: WG97683 (STREAMS (sediment)) Run ID: R128085							
LD:WG97683-1 L46069-4 Matrix: FRSHWTRSED Listtype: MCFC-MPN Method: SM 9221E 20TH Project: 421240C (Lab Duplicate)							
Parameter	MDL	RDL	Units	Samp Value	LD Value	Rlog	P value
Fecal Coliform			MPN/100g	24000	50000		
PC:WG97683-2 Matrix: FRSHWTRSED Listtype: MCFC-MPN Method: SM 9221E 20TH Project:							
(Positive Control)							
Parameter	MDL	RDL	Units	PC Value	Qual		
Fecal Coliform			MPN/100g		PASS		
NC:WG97683-3 Matrix: FRSHWTRSED Listtype: MCFC-MPN Method: SM 9221E 20TH Project:							
(Negative Control)							
Parameter	MDL	RDL	Units	NC Value	Qual		
Fecal Coliform			MPN/100g		PASS		

Workgroup: WG97837 (STREAMS SEDIMENT) Run ID: R128242																
LCS:WG97837-1 Matrix: FRSHWTRSED Listtype: MTHG-MIDS Method: CVAA EPA 7471B (604V4) Project: NONE																
(Lab Control Sample)																
Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit								
Mercury, Total, CVAA	0.025	0.251	mg/Kg	1.09	1.09	100		80–120								
MB:WG97837-2 Matrix: SOLIDBLANK Listtype: MTHG-MIDS Method: CVAA EPA 7471B (604V4) Project:																
(Method Blank)																
Parameter	MDL	RDL	Units	MB Value	Qual											
Mercury, Total, CVAA	0.0024	0.0244	mg/Kg	<MDL												
SB:WG97837-3 MB:WG97837-2 Matrix: SOLIDBLANK Listtype: MTHG-MIDS Method: CVAA EPA 7471B (604V4) Project: NONE																
(Spike Blank, Method Blank)																
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit							
Mercury, Total, CVAA	0.0024	0.0244	mg/Kg	<MDL	0.0488	0.0483	99		85–115							
MSD:WG97837-5 MS:WG97837-4 L46069-6 Matrix: FRSHWTRSED Listtype: MTHG-MIDS Method: CVAA EPA 7471B (604V4) Project: 421240C																
(Matrix Spike Duplicate, Matrix Spike)																
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Mercury, Total, CVAA	0.0025	0.0245	mg/Kg	0.015	0.0498	0.0745	119		75–125	0.0491	0.0607	93		25		20
LD:WG97837-6 L46069-6 Matrix: FRSHWTRSED Listtype: MTHG-MIDS Method: CVAA EPA 7471B (604V4) Project: 421240C																
(Lab Duplicate)																
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit								
Mercury, Total, CVAA	0.0025	0.025	mg/Kg	0.015	0.015			20								



# King County Environmental Lab Analytical QC Report

Workgroup: WG97828 (STREAMS SEDIMENT - SEM) Run ID: R128239									
MB:WG97828-1 Matrix: SOLIDBLANK Listtype: MTHG-SEM Method: CVAA EPA 245.1 (604V4) Project: (Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL					
SB:WG97828-2 MB:WG97828-1 Matrix: SOLIDBLANK Listtype: MTHG-SEM Method: CVAA EPA 245.1 (604V4) Project: NONE (Spike Blank, Method Blank)									
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	0.02	0.0179	89		85--115
MS:WG97828-3 L46094-2 Matrix: FRSHWTRSED Listtype: MTHG-SEM Method: CVAA EPA 245.1 (604V4) Project: 421240C (Matrix Spike)									
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Mercury, Extractable, SEM	0.001	0.00299	mg/Kg	<MDL	0.0199	0.0189	95		75--125
LD:WG97828-4 L46094-2 Matrix: FRSHWTRSED Listtype: MTHG-SEM Method: CVAA EPA 245.1 (604V4) Project: 421240C (Lab Duplicate)									
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit	
Mercury, Extractable, SEM	0.001	0.00301	mg/Kg	<MDL	<MDL			20	
MB:WG97828-5 Matrix: SOLIDBLANK Listtype: MTHG-SEM Method: CVAA EPA 245.1 (604V4) Project: (Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL					
MB:WG97828-6 Matrix: SOLIDBLANK Listtype: MTHG-SEM Method: CVAA EPA 245.1 (604V4) Project: (Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL					

# King County Environmental Lab Analytical QC Report

Workgroup: WG98193 (Stream Seds SEM) Run ID: R128661									
MB:WG98193-1 Matrix: SOLIDBLANK Listtype: MTHG-SEM Method: CVAA EPA 245.1 (604V4) Project: (Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL					
SB:WG98193-2 MB:WG98193-1 Matrix: SOLIDBLANK Listtype: MTHG-SEM Method: CVAA EPA 245.1 (604V4) Project: NONE (Spike Blank, Method Blank)									
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	0.02	0.0212	106		85–115
MS:WG98193-3 L46094-21 Matrix: FRSHWTRSED Listtype: MTHG-SEM Method: CVAA EPA 245.1 (604V4) Project: 421240C (Matrix Spike)									
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	0.02	0.0229	115		75–125
LD:WG98193-4 L46094-21 Matrix: FRSHWTRSED Listtype: MTHG-SEM Method: CVAA EPA 245.1 (604V4) Project: 421240C (Lab Duplicate)									
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit	
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	<MDL			20	
MB:WG98193-5 Matrix: SOLIDBLANK Listtype: MTHG-SEM Method: CVAA EPA 245.1 (604V4) Project: (Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL					
MB:WG98193-6 Matrix: SOLIDBLANK Listtype: MTHG-SEM Method: CVAA EPA 245.1 (604V4) Project: (Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL					

# King County Environmental Lab Analytical QC Report

Workgroup: WG97893 (SEM 06-AUG-08) Run ID: R128248									
SB:WG97893-1 MB:WG97893-2 Matrix: SOLIDBLANK Listtype: MTICP-SEM Method: ICP EPA 200.7 (612V3) Project: NONE									
(Spike Blank, Method Blank)									
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	20	19.5	98		85--115
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	20	19	95		85--115
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	20	18.5	93		85--115
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	20	18.7	94		85--115
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	20	18.4	92		85--115
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	20	18.2	91		85--115
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	20	18.8	94		85--115
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	20	18.8	94		85--115
MB:WG97893-2 Matrix: SOLIDBLANK Listtype: MTICP-SEM Method: ICP EPA 200.7 (612V3) Project:									
(Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL					
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL					
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL					
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL					
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL					
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL					
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL					
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL					
LD:WG97893-3 L46094-2 Matrix: FRSHWTRSED Listtype: MTICP-SEM Method: ICP EPA 200.7 (612V3) Project: 421240C									
(Lab Duplicate)									
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit	
Arsenic, Extractable, SEM	0.5	2.51	mg/Kg	0.55	0.61			20	
Cadmium, Extractable, SEM	0.04	0.201	mg/Kg	<MDL	<MDL			20	
Chromium, Extractable, SEM	0.06	0.301	mg/Kg	0.74	0.743	0		20	
Copper, Extractable, SEM	0.08	0.402	mg/Kg	2.18	2.56	16		20	
Lead, Extractable, SEM	0.4	2.01	mg/Kg	1.5	1.5			20	
Nickel, Extractable, SEM	0.1	0.502	mg/Kg	1.01	1.01	1		20	
Silver, Extractable, SEM	0.08	0.402	mg/Kg	<MDL	<MDL			20	
Zinc, Extractable, SEM	0.1	0.502	mg/Kg	7.22	6.91	4		20	
MS:WG97893-4 L46094-2 Matrix: FRSHWTRSED Listtype: MTICP-SEM Method: ICP EPA 200.7 (612V3) Project: 421240C									
(Matrix Spike)									
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Arsenic, Extractable, SEM	0.5	2.49	mg/Kg	0.55	19.9	20.3	99		75--125
Cadmium, Extractable, SEM	0.04	0.199	mg/Kg	<MDL	19.9	19.2	97		75--125
Chromium, Extractable, SEM	0.06	0.299	mg/Kg	0.74	19.9	19	91		75--125
Copper, Extractable, SEM	0.08	0.398	mg/Kg	2.18	19.9	20.4	92		75--125

# King County Environmental Lab Analytical QC Report

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# King County Environmental Lab Analytical QC Report

Workgroup: WG98292 (SEM 27-AUG-08) Run ID: R128817									
SB:WG98292-1 MB:WG98292-2 Matrix: SOLIDBLANK Listtype: MTICP-SEM Method: ICP EPA 200.7 (612V3) Project: NONE									
(Spike Blank, Method Blank)									
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	20	19.5	98		85--115
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	20	18.9	95		85--115
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	20	18.8	94		85--115
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	20	18.5	92		85--115
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	20	18.6	93		85--115
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	20	18.5	93		85--115
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	20	18.4	92		85--115
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	20	18.8	94		85--115
MB:WG98292-2 Matrix: SOLIDBLANK Listtype: MTICP-SEM Method: ICP EPA 200.7 (612V3) Project:									
(Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL					
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL					
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL					
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL					
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL					
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL					
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL					
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	B				
LD:WG98292-3 L46094-21 Matrix: FRSHWTRSED Listtype: MTICP-SEM Method: ICP EPA 200.7 (612V3) Project: 421240C									
(Lab Duplicate)									
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit	
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	1.1	1.2			20	
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	0.15	0.14			20	
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	0.919	0.915	0		20	
Copper, Extractable, SEM	0.08	0.4	mg/Kg	7.19	6.82	5		20	
Lead, Extractable, SEM	0.4	2	mg/Kg	6.35	6.02	5		20	
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	2.47	2.39	3		20	
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	<MDL			20	
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	38.5	36.8	5		20	
MS:WG98292-4 L46094-21 Matrix: FRSHWTRSED Listtype: MTICP-SEM Method: ICP EPA 200.7 (612V3) Project: 421240C									
(Matrix Spike)									
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	1.1	20	20.6	97		75--125
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	0.15	20	19.2	95		75--125
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	0.919	20	19.3	92		75--125
Copper, Extractable, SEM	0.08	0.4	mg/Kg	7.19	20	25.6	92		75--125

# King County Environmental Lab Analytical QC Report

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# King County Environmental Lab Analytical QC Report

Workgroup: WG99206 (10/20/08 Streams Sediment) Run ID: R132704									
MB:WG99206-1 Matrix: SOLIDBLANK Listtype: MTICPMS-SED Method: SW846 3050B*SW846 6020A Project:									
(Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Arsenic, Total, ICP-MS	0.0082	0.041	mg/Kg	<MDL					
Cadmium, Total, ICP-MS	0.0041	0.0205	mg/Kg	<MDL					
Chromium, Total, ICP-MS	0.016	0.082	mg/Kg	<MDL					
Copper, Total, ICP-MS	0.033	0.164	mg/Kg	<MDL					
Lead, Total, ICP-MS	0.0061	0.0082	mg/Kg	<MDL					
Nickel, Total, ICP-MS	0.0082	0.041	mg/Kg	<MDL					
Phosphorus, Total, ICP-MS	8.2	41	mg/Kg	<MDL					
Silver, Total, ICP-MS	0.0041	0.0205	mg/Kg	<MDL					
Zinc, Total, ICP-MS	0.041	0.205	mg/Kg	<MDL					
LCS:WG99206-2 Matrix: SOIL Listtype: MTICPMS-SED Method: SW846 3050B*SW846 6020A Project: NONE									
(Lab Control Sample)									
Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit	
Arsenic, Total, ICP-MS	0.1	0.508	mg/Kg	129	147	114		79--121	
Cadmium, Total, ICP-MS	0.051	0.254	mg/Kg	68.3	80.6	118		80--120	
Chromium, Total, ICP-MS	0.2	1.02	mg/Kg	70.4	75.8	108		73--127	
Copper, Total, ICP-MS	0.41	2.03	mg/Kg	65.4	75.4	115		80--120	
Lead, Total, ICP-MS	0.076	0.102	mg/Kg	131	145	111		80--120	
Nickel, Total, ICP-MS	0.1	0.508	mg/Kg	55.4	61.2	111		80--120	
Silver, Total, ICP-MS	0.051	0.254	mg/Kg	112	116	103		47--154	
Zinc, Total, ICP-MS	0.51	2.54	mg/Kg	176	200	114		78--121	
SB:WG99206-3 MB:WG99206-1 Matrix: SOLIDBLANK Listtype: MTICPMS-SED Method: SW846 3050B*SW846 6020A Project: NONE									
(Spike Blank, Method Blank)									
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Arsenic, Total, ICP-MS	0.0082	0.041	mg/Kg	<MDL	1.64	1.81	110		85--115
Cadmium, Total, ICP-MS	0.0041	0.0205	mg/Kg	<MDL	1.64	1.76	107		85--115
Chromium, Total, ICP-MS	0.016	0.082	mg/Kg	<MDL	1.64	1.73	105		85--115
Copper, Total, ICP-MS	0.033	0.164	mg/Kg	<MDL	1.64	1.84	112		85--115
Lead, Total, ICP-MS	0.0061	0.0082	mg/Kg	<MDL	1.64	1.69	103		85--115
Nickel, Total, ICP-MS	0.0082	0.041	mg/Kg	<MDL	1.64	1.79	109		85--115
Phosphorus, Total, ICP-MS	8.2	41	mg/Kg	<MDL	410	413	101		85--115
Silver, Total, ICP-MS	0.0041	0.0205	mg/Kg	<MDL	1.64	1.75	107		85--115
Zinc, Total, ICP-MS	0.041	0.205	mg/Kg	<MDL	1.64	1.83	111		85--115
LD:WG99206-4 L46069-5 Matrix: FRSHWTRSED Listtype: MTICPMS-SED Method: SW846 3050B*SW846 6020A Project: 421240C									
(Lab Duplicate)									
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit	
Arsenic, Total, ICP-MS	0.0084	0.0422	mg/Kg	3.4	2.95	14		20	
Cadmium, Total, ICP-MS	0.0042	0.0211	mg/Kg	0.0549	0.0556	1		20	

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Chromium, Total, ICP-MS	0.017	0.0845	mg/Kg	16.2	18.1	11		20								
Copper, Total, ICP-MS	0.034	0.169	mg/Kg	12.5	7.76	47	*	20								
Lead, Total, ICP-MS	0.0063	0.00845	mg/Kg	2.86	2.81	2		20								
Nickel, Total, ICP-MS	0.0084	0.0422	mg/Kg	16.9	20.3	19		20								
Phosphorus, Total, ICP-MS	8.4	42.2	mg/Kg	317	285	10		20								
Silver, Total, ICP-MS	0.0042	0.0211	mg/Kg	0.0247	0.021	16		20								
Zinc, Total, ICP-MS	0.042	0.211	mg/Kg	30.3	30.7	1		20								
<b>MS:WG99206-5 L46069-5 Matrix: FRSHWTRSED Listtype: MTICPMS-SED Method: SW846 3050B*SW846 6020A Project: 421240C</b>																
<b>(Matrix Spike)</b>																
<b>Parameter</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Samp Value</b>	<b>True Value</b>	<b>MS Value</b>	<b>% Rec.</b>	<b>Qual</b>	<b>Lab Limit</b>							
Arsenic, Total, ICP-MS	0.0083	0.0416	mg/Kg	3.4	1.66	8.8	324	*	75--125							
Cadmium, Total, ICP-MS	0.0042	0.0208	mg/Kg	0.0549	1.66	1.8	105		75--125							
Chromium, Total, ICP-MS	0.017	0.0832	mg/Kg	16.2	1.66	15.5	MS/MSD %Rec. due to 4x rule)									
Copper, Total, ICP-MS	0.033	0.166	mg/Kg	12.5	1.66	22	MS/MSD %Rec. due to 4x rule)									
Lead, Total, ICP-MS	0.0062	0.00832	mg/Kg	2.86	1.66	10	431	*	75--125							
Nickel, Total, ICP-MS	0.0083	0.0416	mg/Kg	16.9	1.66	16.6	MS/MSD %Rec. due to 4x rule)									
Phosphorus, Total, ICP-MS	8.3	41.6	mg/Kg	317	416	652	81		75--125							
Silver, Total, ICP-MS	0.0042	0.0208	mg/Kg	0.0247	1.66	1.53	91		75--125							
Zinc, Total, ICP-MS	0.042	0.208	mg/Kg	30.3	1.66	83.4	MS/MSD %Rec. due to 4x rule)									
<b>LCS:WG99206-6 Matrix: FRSHWTRSED Listtype: MTICPMS-SED Method: SW846 3050B*SW846 6020A Project: NONE</b>																
<b>(Lab Control Sample)</b>																
<b>Parameter</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>True Value</b>	<b>LCS Value</b>	<b>% Rec.</b>	<b>Qual</b>	<b>Lab Limit</b>								
Arsenic, Total, ICP-MS	0.1	0.512	mg/Kg	17	16.1	95		80--120								
Cadmium, Total, ICP-MS	0.051	0.256	mg/Kg	2.94	3.18	108		80--120								
Chromium, Total, ICP-MS	0.2	1.02	mg/Kg	121.9	75.4	62		40--80								
Lead, Total, ICP-MS	0.077	0.102	mg/Kg	150	151	101		80--120								
Nickel, Total, ICP-MS	0.1	0.512	mg/Kg	42.9	39.3	92		80--120								
Zinc, Total, ICP-MS	0.51	2.56	mg/Kg	408	394	97		69--109								

# King County Environmental Lab Analytical QC Report

Workgroup: WG99225 (Streams Seds) Run ID: R130356									
MB:WG99225-1 Matrix: SOLIDBLANK Listtype: MTICPMS-SED Method: EPA3050B/6020A (623V1) Project: (Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Arsenic, Total, ICP-MS	0.0082	0.041	mg/Kg	<MDL					
Cadmium, Total, ICP-MS	0.0041	0.0205	mg/Kg	<MDL					
Chromium, Total, ICP-MS	0.016	0.082	mg/Kg	<MDL					
Copper, Total, ICP-MS	0.033	0.164	mg/Kg	<MDL					
Lead, Total, ICP-MS	0.0061	0.0082	mg/Kg	<MDL					
Nickel, Total, ICP-MS	0.0082	0.041	mg/Kg	<MDL					
Phosphorus, Total, ICP-MS	8.2	41	mg/Kg	<MDL					
Silver, Total, ICP-MS	0.0041	0.0205	mg/Kg	<MDL					
Zinc, Total, ICP-MS	0.041	0.205	mg/Kg	<MDL					
SB:WG99225-2 MB:WG99225-1 Matrix: SOLIDBLANK Listtype: MTICPMS-SED Method: EPA3050B/6020A (623V1) Project: NONE (Spike Blank, Method Blank)									
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Arsenic, Total, ICP-MS	0.0082	0.041	mg/Kg	<MDL	1.64	1.56	95		85--115
Cadmium, Total, ICP-MS	0.0041	0.0205	mg/Kg	<MDL	1.64	1.55	94		85--115
Chromium, Total, ICP-MS	0.016	0.082	mg/Kg	<MDL	1.64	1.54	94		85--115
Copper, Total, ICP-MS	0.033	0.164	mg/Kg	<MDL	1.64	1.68	102		85--115
Lead, Total, ICP-MS	0.0061	0.0082	mg/Kg	<MDL	1.64	1.54	94		85--115
Nickel, Total, ICP-MS	0.0082	0.041	mg/Kg	<MDL	1.64	1.64	100		85--115
Phosphorus, Total, ICP-MS	8.2	41	mg/Kg	<MDL	410	376	92		85--115
Silver, Total, ICP-MS	0.0041	0.0205	mg/Kg	<MDL	1.64	1.59	97		85--115
Zinc, Total, ICP-MS	0.041	0.205	mg/Kg	<MDL	1.64	1.63	100		85--115
LD:WG99225-3 L46094-15 Matrix: FRSHWTRSED Listtype: MTICPMS-SED Method: EPA3050B/6020A (623V1) Project: 421240C (Lab Duplicate)									
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit	
Arsenic, Total, ICP-MS	0.0084	0.042	mg/Kg	2.83	3.07	8		20	
Cadmium, Total, ICP-MS	0.0042	0.021	mg/Kg	0.244	0.25	3		20	
Chromium, Total, ICP-MS	0.017	0.0839	mg/Kg	7.67	7.56	2		20	
Copper, Total, ICP-MS	0.034	0.168	mg/Kg	11.1	11.4	2		20	
Lead, Total, ICP-MS	0.0063	0.00839	mg/Kg	9.09	8.84	3		20	
Nickel, Total, ICP-MS	0.0084	0.042	mg/Kg	6.93	6.78	2		20	
Phosphorus, Total, ICP-MS	8.4	42	mg/Kg	261	275	5		20	
Silver, Total, ICP-MS	0.0042	0.021	mg/Kg	0.0375	0.0353	6		20	
Zinc, Total, ICP-MS	0.042	0.21	mg/Kg	83.7	84.6	1		20	
MS:WG99225-4 L46094-15 Matrix: FRSHWTRSED Listtype: MTICPMS-SED Method: EPA3050B/6020A (623V1) Project: 421240C (Matrix Spike)									
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Arsenic, Total, ICP-MS	0.0083	0.0417	mg/Kg	2.83	1.67	4.21	83		75--125

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Cadmium, Total, ICP-MS	0.0042	0.0208	mg/Kg	0.244	1.67	1.79	93	75--125
Chromium, Total, ICP-MS	0.017	0.0834	mg/Kg	7.67	1.67	9.09	MS/MSD %Rec. due to 4x rule)	
Copper, Total, ICP-MS	0.033	0.167	mg/Kg	11.1	1.67	12.3	MS/MSD %Rec. due to 4x rule)	
Lead, Total, ICP-MS	0.0063	0.00834	mg/Kg	9.09	1.67	10.3	MS/MSD %Rec. due to 4x rule)	
Nickel, Total, ICP-MS	0.0083	0.0417	mg/Kg	6.93	1.67	8.3	MS/MSD %Rec. due to 4x rule)	
Phosphorus, Total, ICP-MS	8.3	41.7	mg/Kg	261	417	615	85	75--125
Silver, Total, ICP-MS	0.0042	0.0208	mg/Kg	0.0375	1.67	1.45	85	75--125
Zinc, Total, ICP-MS	0.042	0.208	mg/Kg	83.7	1.67	83.4	MS/MSD %Rec. due to 4x rule)	
<b>LCS:WG99225-5 Matrix: SOIL Listtype: MTICPMS-SED Method: EPA3050B/6020A (623V1) Project: NONE</b>								
<b>(Lab Control Sample)</b>								
Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Arsenic, Total, ICP-MS	0.13	0.648	mg/Kg	129	134	104		79--121
Cadmium, Total, ICP-MS	0.065	0.324	mg/Kg	68.3	76.6	112		80--120
Chromium, Total, ICP-MS	0.26	1.3	mg/Kg	70.4	70.8	101		73--127
Copper, Total, ICP-MS	0.52	2.59	mg/Kg	65.4	70.1	107		80--120
Lead, Total, ICP-MS	0.097	0.13	mg/Kg	131	140	107		80--120
Nickel, Total, ICP-MS	0.13	0.648	mg/Kg	55.4	57.5	104		80--120
Silver, Total, ICP-MS	0.065	0.324	mg/Kg	112	109	97		47--154
Zinc, Total, ICP-MS	0.65	3.24	mg/Kg	176	190	108		78--121
<b>LCS:WG99225-6 Matrix: FRSHWTRSED Listtype: MTICPMS-SED Method: EPA3050B/6020A (623V1) Project: NONE</b>								
<b>(Lab Control Sample)</b>								
Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Arsenic, Total, ICP-MS	0.13	0.628	mg/Kg	17	15.3	90		80--120
Cadmium, Total, ICP-MS	0.063	0.314	mg/Kg	2.94	2.93	100		80--120
Chromium, Total, ICP-MS	0.25	1.26	mg/Kg	121.9	68.3	56		40--80
Lead, Total, ICP-MS	0.094	0.126	mg/Kg	150	132	88		80--120
Nickel, Total, ICP-MS	0.13	0.628	mg/Kg	42.9	37.3	87		80--120
Zinc, Total, ICP-MS	0.63	3.14	mg/Kg	408	377	92		69--109

# King County Environmental Lab Analytical QC Report

Workgroup: WG97829 (BS#296 BNALLFULL) Run ID: R129947

MB:WG97829-1 Matrix: OTHR SOLID Listtype: ORBNALLFULL Method: SW846 3550B\*SW846 8270D Project: 421240C

(Method Blank)

[illegible]

# King County Environmental Lab Analytical QC Report

Dibenzofuran	2	4	ug/Kg	<MDL															
Diethyl Phthalate	4	8	ug/Kg	<MDL															
Dimethyl Phthalate	4	8	ug/Kg	<MDL															
Fluoranthene	2	4	ug/Kg	<MDL															
Fluorene	2	4	ug/Kg	<MDL															
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL															
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL															
Hexachloroethane	1	2	ug/Kg	<MDL															
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	<MDL															
Isophorone	10	20	ug/Kg	<MDL															
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL															
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL															
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL															
Naphthalene	2	4	ug/Kg	<MDL															
Nitrobenzene	4	8	ug/Kg	<MDL															
Pentachlorophenol	10	20	ug/Kg	<MDL															
Phenanthrene	2	4	ug/Kg	<MDL															
Phenol	4	8	ug/Kg	<MDL															
Pyrene	2	4	ug/Kg	<MDL															
SB:WG97829-2 MB:WG97829-1 Matrix: OTHR SOLID Listtype: ORBNALLFULL Method: SW846 3550B*SW846 8270D Project: 421240C																			
(Spike Blank, Method Blank)																			
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit										
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	100	45.9	46		13–110										
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	48.7	49		10–116										
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	100	54.4	54		32–125										
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	52.7	53		18–95										
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	44.3	44		21–99										
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	100	41.7	42		33–113										
2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	100	32	32		27–98										
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	100	25	25		24–103										
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	100	7.04	7	*	10–81										
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	100	62.3	62		35–148										
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	100	53.6	54		46–110										
2-Chloronaphthalene	4	8	ug/Kg	<MDL	100	32.5	32		25–96										
2-Chlorophenol	4	8	ug/Kg	<MDL	100	46.6	47		10–102										
2-Methylnaphthalene	2	4	ug/Kg	<MDL	100	34.4	34		22–99										
2-Methylphenol	2	4	ug/Kg	<MDL	100	27.2	27		16–91										
2-Nitrophenol	10	20	ug/Kg	<MDL	100	45.2	45		21–98										
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	69.6	70		47–113										
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	60.1	60		39–101										
4-Methylphenol	4	8	ug/Kg	<MDL	100	25.4	25		10–125										
Acenaphthene	2	4	ug/Kg	<MDL	100	48.2	48		29–102										
Acenaphthylene	2	4	ug/Kg	<MDL	100	51.9	52		31–101										
Aniline	2	80	ug/Kg	<MDL	100	2.9	3	*	10–102										
Anthracene	2	4	ug/Kg	<MDL	100	62.3	62		45–114										
Benzo(a)anthracene	2	4	ug/Kg	<MDL	100	78.7	79		69–117										

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Benzo(a)pyrene	2	4	ug/Kg	<MDL	100	55.1	55	15--137								
Benzo(b)fluoranthene	2	4	ug/Kg	<MDL	100	81.2	81	50--121								
Benzo(g,h,i)perylene	2	4	ug/Kg	<MDL	100	52.8	53	46--126								
Benzo(k)fluoranthene	2	4	ug/Kg	<MDL	100	68.3	68	58--128								
Benzoic Acid	10	20	ug/Kg	<MDL	100	69.3	69	10--170								
Benzyl Alcohol	2	4	ug/Kg	<MDL	100	38.1	38	10--119								
Benzyl Butyl Phthalate	4	8	ug/Kg	<MDL	100	80.1	80	15--183								
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	100	35.6	36	19--103								
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	100	37.2	37	18--82								
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	100	72	72	10--104								
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	12.8	100	86	73	10--182								
Caffeine	4	8	ug/Kg	<MDL	100	65.4	65	45--159								
Carbazole	2	4	ug/Kg	<MDL	100	60.8	61	44--179								
Chrysene	2	4	ug/Kg	<MDL	100	71.5	71	69--111								
Coprostanol	40	80	ug/Kg	<MDL	1000	394	39	10--159								
Di-N-Butyl Phthalate	4	8	ug/Kg	<MDL	100	81.9	82	17--180								
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	100	79.2	79	10--200								
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL	100	70.1	70	53--129								
Dibenzofuran	2	4	ug/Kg	<MDL	100	52.3	52	37--97								
Diethyl Phthalate	4	8	ug/Kg	<MDL	100	72.5	72	51--118								
Dimethyl Phthalate	4	8	ug/Kg	<MDL	100	46.7	47	38--114								
Fluoranthene	2	4	ug/Kg	<MDL	100	69.1	69	55--132								
Fluorene	2	4	ug/Kg	<MDL	100	55.3	55	39--106								
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	100	54.5	55	40--111								
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	100	43.8	44	10--97								
Hexachloroethane	1	2	ug/Kg	<MDL	100	50.9	51	17--92								
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	<MDL	100	69.5	70	51--132								
Isophorone	10	20	ug/Kg	<MDL	100	39.9	40	10--131								
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	100	60	60	10--146								
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	100	49.3	49	14--101								
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	100	21.4	21	11--148								
Naphthalene	2	4	ug/Kg	<MDL	100	47.3	47	17--94								
Nitrobenzene	4	8	ug/Kg	<MDL	100	45.5	45	10--112								
Pentachlorophenol	10	20	ug/Kg	<MDL	100	53.2	53	38--124								
Phenanthrene	2	4	ug/Kg	<MDL	100	71.9	72	57--104								
Phenol	4	8	ug/Kg	<MDL	100	43.7	44	10--107								
Pyrene	2	4	ug/Kg	<MDL	100	68.7	69	48--132								

MSD:WG97829-4 MS:WG97829-3 L46094-1 Matrix: FRSHWTRSED Listtype: ORBNALLFULL Method: SW846 3550B\*SW846 8270D Project: 421240C

(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	100	63.8	64		10--115	100	69.1	69		8		35
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	55.3	55		10--105	100	56	56		2		35
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	100	92.5	93		16--162	100	96	96		3		35
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	70.5	71		10--103	100	72.4	72		1		35
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	43	43		10--104	100	43.4	43		0		35
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	100	83.5	83		23--166	100	104	104		22		35

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2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	100	89.4	89	26--153	100	96.5	97	9	35
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	100	62.1	62	24--142	100	68.1	68	9	35
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	100	52.4	52	10--150	100	58	58	11	35
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	100	64.3	64	27--166	100	82.8	83	26	35
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	100	72.5	73	10--183	100	83.3	83	13	35
2-Chloronaphthalene	4	8	ug/Kg	<MDL	100	41.4	41	26--111	100	45.4	45	9	35
2-Chlorophenol	4	8	ug/Kg	<MDL	100	63.6	64	10--112	100	66	66	3	35
2-Methylnaphthalene	2	4	ug/Kg	<MDL	100	57.9	58	22--112	100	59.9	60	3	35
2-Methylphenol	2	4	ug/Kg	<MDL	100	41.6	42	10--142	100	44.3	44	5	35
2-Nitrophenol	10	20	ug/Kg	<MDL	100	60.8	61	20--107	100	64.2	64	5	35
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	102	102	30--146	100	105	105	3	35
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	85.2	85	25--139	100	97.3	97	13	35
4-Methylphenol	4	8	ug/Kg	<MDL	100	50.7	51	10--163	100	54.8	55	8	35
Acenaphthene	2	4	ug/Kg	<MDL	100	73.1	73	25--130	100	78.7	79	8	35
Acenaphthylene	2	4	ug/Kg	<MDL	100	82	82	27--132	100	87.7	88	7	35
Aniline	10	80	ug/Kg	<MDL	100	24	24	10--67	100	22	22	9	35
Anthracene	2	4	ug/Kg	<MDL	100	86.8	87	10--181	100	95.3	95	9	35
Benzo(a)anthracene	2	4	ug/Kg	7.51	100	108	101	32--168	100	111	103	2	35
Benzo(a)pyrene	2	4	ug/Kg	8.98	100	101	92	10--200	100	101	93	1	35
Benzo(b)fluoranthene	2	4	ug/Kg	14.5	100	126	111	10--199	100	122	108	3	35
Benzo(g,h,i)perylene	2	4	ug/Kg	6.41	100	56.4	50	10--173	100	57.6	51	2	35
Benzo(k)fluoranthene	2	4	ug/Kg	10.7	100	102	92	10--192	100	100	90	2	35
Benzoic Acid	10	20	ug/Kg	133	100	190	57	10--158	100	187	55	4	35
Benzyl Alcohol	2	4	ug/Kg	<MDL	100	54.5	55	10--138	100	63.2	63	14	35
Benzyl Butyl Phthalate	4	8	ug/Kg	<MDL	100	103	103	41--145	100	119	119	14	35
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	100	45.7	46	23--103	100	49.8	50	8	35
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	100	48.6	49	10--80	100	47.7	48	2	35
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	100	97.4	97	10--142	100	102	102	5	35
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	59.7	100	195	136	10--189	100	211	152	11	35
Caffeine	4	8	ug/Kg	<MDL	100	59.1	59	17--195	100	66.9	67	13	35
Carbazole	2	4	ug/Kg	<MDL	100	63	63	16--200	100	71.5	71	12	35
Chrysene	2	4	ug/Kg	11	100	97.4	86	14--184	100	96.9	86	0	35
Coprostanol	40	80	ug/Kg	<MDL	1000	578	58	10--183	1000	544	54	7	35
Di-N-Butyl Phthalate	4	8	ug/Kg	<MDL	100	88.6	89	10--194	100	102	102	14	35
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	100	136	136	52--151	100	139	139	2	35
Dibenzo(a,h)anthracene	2	4	ug/Kg	2.3	100	69.9	68	10--166	100	74.5	72	6	35
Dibenzofuran	2	4	ug/Kg	<MDL	100	80.5	81	21--134	100	87.4	87	7	35
Diethyl Phthalate	4	8	ug/Kg	<MDL	100	75	75	31--150	100	88.1	88	16	35
Dimethyl Phthalate	4	8	ug/Kg	<MDL	100	71.5	72	13--162	100	82.7	83	14	35
Fluoranthene	2	4	ug/Kg	8.86	100	96.9	88	12--188	100	92.8	84	5	35
Fluorene	2	4	ug/Kg	<MDL	100	75.8	76	22--147	100	84.5	85	11	35
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	100	84.3	84	18--151	100	90.9	91	8	35
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	100	59.3	59	10--97	100	63.3	63	7	35
Hexachloroethane	1	2	ug/Kg	<MDL	100	53.9	54	10--89	100	54.1	54	0	35
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	6.23	100	73.3	67	10--177	100	77.7	71	6	35
Isophorone	10	20	ug/Kg	<MDL	100	60.8	61	16--130	100	61	61	0	35
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	100	69.2	69	10--176	100	62.5	62	11	35
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	100	52.4	52	10--119	100	51.2	51	2	35

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N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	100	71.2	71		10--169	100	89.9	90		24		35
Naphthalene	2	4	ug/Kg	<MDL	100	62.4	62		12--97	100	64.3	64		3		35
Nitrobenzene	4	8	ug/Kg	<MDL	100	61.1	61		10--105	100	63.2	63		3		35
Pentachlorophenol	10	20	ug/Kg	<MDL	100	81.4	81		17--170	100	91	91		12		35
Phenanthrene	2	4	ug/Kg	10.3	100	115	104		10--200	100	107	97		7		35
Phenol	4	8	ug/Kg	25.2	100	64.2	39		10--127	100	62.7	37		5		35
Pyrene	2	4	ug/Kg	15.8	100	109	93		20--174	100	114	98		5		35

SRM:WG97829-5 Matrix: FRSHWTRSED Listtype: ORBNALLFULL Method: SW846 3550B\*SW846 8270D Project: 421240C

(Std Reference Material)

Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Qual	Lab Limit
Anthracene	270	533	ug/Kg	1750	820	47		28--98
Benzo(a)anthracene	270	533	ug/Kg	4660	4250	91		66--124
Benzo(a)pyrene	270	533	ug/Kg	4240	3370	79		60--116
Benzo(b)fluoranthene	270	533	ug/Kg	3820	3340	88		52--190
Benzo(g,h,i)perylene	270	533	ug/Kg	2800	1790	64		15--121
Benzo(k)fluoranthene	270	533	ug/Kg	2270	3030	133		60--146
Chrysene	270	533	ug/Kg	4800	4940	103		77--136
Dibenzo(a,h)anthracene	270	533	ug/Kg	419	716	171		10--200
Fluoranthene	270	533	ug/Kg	8800	6580	75		45--126
Indeno(1,2,3-Cd)Pyrene	270	533	ug/Kg	2740	2040	74		33--121
Naphthalene	270	533	ug/Kg	1630	380	23		10--29
Phenanthrene	270	533	ug/Kg	5200	5270	101		51--106
Pyrene	270	533	ug/Kg	9570	9180	96		36--135

LD:WG97829-6 L46094-2 Matrix: FRSHWTRSED Listtype: ORBNALLFULL Method: SW846 3550B\*SW846 8270D Project: 421240C

(Lab Duplicate)

Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	<MDL			35
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	<MDL			35
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	<MDL			35
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	<MDL			35
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	<MDL			35
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	<MDL			35
2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	<MDL			35
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	<MDL			35
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	<MDL			35
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	<MDL			35
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	<MDL			35
2-Chloronaphthalene	4	8	ug/Kg	<MDL	<MDL			35
2-Chlorophenol	4	8	ug/Kg	<MDL	<MDL			35
2-Methylnaphthalene	2	4	ug/Kg	<MDL	<MDL			35
2-Methylphenol	2	4	ug/Kg	<MDL	<MDL			35
2-Nitrophenol	10	20	ug/Kg	<MDL	<MDL			35
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	<MDL			35
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	<MDL			35

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4-Methylphenol	4	8	ug/Kg	44	49.6	12		35								
Acenaphthene	2	4	ug/Kg	<MDL	<MDL			35								
Acenaphthylene	2	4	ug/Kg	<MDL	<MDL			35								
Aniline	40	80	ug/Kg	<MDL	<MDL			35								
Anthracene	2	4	ug/Kg	<MDL	<MDL			35								
Benzo(a)anthracene	2	4	ug/Kg	9.38	7.85	18		35								
Benzo(a)pyrene	2	4	ug/Kg	11.7	9.74	18		35								
Benzo(b)fluoranthene	2	4	ug/Kg	13.7	12.3	10		35								
Benzo(g,h,i)perylene	2	4	ug/Kg	8.17	7.03	15		35								
Benzo(k)fluoranthene	2	4	ug/Kg	11.8	11.1	7		35								
Benzoic Acid	10	20	ug/Kg	121	275	78	*	35								
Benzyl Alcohol	2	4	ug/Kg	<MDL	<MDL			35								
Benzyl Butyl Phthalate	4	8	ug/Kg	<MDL	<MDL			35								
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	<MDL			35								
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	<MDL			35								
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	<MDL			35								
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	60.1	47.7	23		35								
Caffeine	4	8	ug/Kg	<MDL	<MDL			35								
Carbazole	2	4	ug/Kg	<MDL	<MDL			35								
Chrysene	2	4	ug/Kg	12.5	11	13		35								
Coprostanol	40	80	ug/Kg	<MDL	<MDL			35								
Di-N-Butyl Phthalate	4	8	ug/Kg	<MDL	<MDL			35								
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	<MDL			35								
Dibenzo(a,h)anthracene	2	4	ug/Kg	2.9	3			35								
Dibenzofuran	2	4	ug/Kg	<MDL	<MDL			35								
Diethyl Phthalate	4	8	ug/Kg	<MDL	<MDL			35								
Dimethyl Phthalate	4	8	ug/Kg	<MDL	<MDL			35								
Fluoranthene	2	4	ug/Kg	9.6	9.25	4		35								
Fluorene	2	4	ug/Kg	<MDL	<MDL			35								
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	<MDL			35								
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	<MDL			35								
Hexachloroethane	1	2	ug/Kg	<MDL	<MDL			35								
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	8.04	7.17	11		35								
Isophorone	10	20	ug/Kg	<MDL	<MDL			35								
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	<MDL			35								
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	<MDL			35								
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	<MDL			35								
Naphthalene	2	4	ug/Kg	<MDL	<MDL			35								
Nitrobenzene	4	8	ug/Kg	<MDL	<MDL			35								
Pentachlorophenol	10	20	ug/Kg	<MDL	<MDL			35								
Phenanthrene	2	4	ug/Kg	13.3	9.91	29		35								
Phenol	4	8	ug/Kg	<MDL	<MDL			35								
Pyrene	2	4	ug/Kg	20	15.4	26		35								

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[illegible]

Workgroup: WG97939 (bs#297 bnaillfull) Run ID: R130308									
MB:WG97939-1 Matrix: OTHR SOLID Listtype: ORBNALLFULL Method: SW846 3550B*SW846 8270D Project: 421240C									
(Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL					
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL					
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL					
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL					
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL					
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL					
2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL					
2,4-Dichlorophenol	4	8	ug/Kg	<MDL					
2,4-Dimethylphenol	1	2	ug/Kg	<MDL					
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL					
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL					
2-Chloronaphthalene	4	8	ug/Kg	<MDL					
2-Chlorophenol	4	8	ug/Kg	<MDL					
2-Methylnaphthalene	2	4	ug/Kg	<MDL					
2-Methylphenol	2	4	ug/Kg	<MDL					
2-Nitrophenol	10	20	ug/Kg	<MDL					
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL					
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL					
4-Methylphenol	4	8	ug/Kg	<MDL					
Acenaphthene	2	4	ug/Kg	<MDL					
Acenaphthylene	2	4	ug/Kg	<MDL					
Aniline	40	80	ug/Kg	<MDL					
Anthracene	2	4	ug/Kg	<MDL					
Benzo(a)anthracene	2	4	ug/Kg	<MDL					
Benzo(a)pyrene	2	4	ug/Kg	<MDL					
Benzo(b)fluoranthene	2	4	ug/Kg	<MDL					
Benzo(g,h,i)perylene	2	4	ug/Kg	<MDL					
Benzo(k)fluoranthene	2	4	ug/Kg	<MDL					
Benzoic Acid	10	20	ug/Kg	<MDL					
Benzyl Alcohol	2	4	ug/Kg	<MDL					
Benzyl Butyl Phthalate	4	8	ug/Kg	<MDL					
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL					
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL					
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL					
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	12.1	B				
Caffeine	4	8	ug/Kg	<MDL					
Carbazole	2	4	ug/Kg	<MDL					
Chrysene	2	4	ug/Kg	<MDL					
Coprostanol	40	80	ug/Kg	<MDL					
Di-N-Butyl Phthalate	4	8	ug/Kg	<MDL					
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL					
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL					

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[illegible]

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Benzo(a)pyrene	2	4	ug/Kg	<MDL	100	80.2	80		15--137							
Benzo(b)fluoranthene	2	4	ug/Kg	<MDL	100	98.8	99		50--121							
Benzo(g,h,i)perylene	2	4	ug/Kg	<MDL	100	84.8	85		46--126							
Benzo(k)fluoranthene	2	4	ug/Kg	<MDL	100	91.6	92		58--128							
Benzoic Acid	10	20	ug/Kg	<MDL	100	74.7	75		10--170							
Benzyl Alcohol	2	4	ug/Kg	<MDL	100	47.6	48		10--119							
Benzyl Butyl Phthalate	4	8	ug/Kg	<MDL	100	107	107		15--183							
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	100	35.8	36		19--103							
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	100	46.7	47		18--82							
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	100	89.7	90		10--104							
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	12.1	100	113	101		10--182							
Caffeine	4	8	ug/Kg	<MDL	100	84.2	84		45--159							
Carbazole	2	4	ug/Kg	<MDL	100	80.1	80		44--179							
Chrysene	2	4	ug/Kg	<MDL	100	90.6	91		69--111							
Coprostanol	40	80	ug/Kg	<MDL	1000	689	69		10--159							
Di-N-Butyl Phthalate	4	8	ug/Kg	<MDL	100	108	108		17--180							
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	100	108	108		10--200							
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL	100	99.2	99		53--129							
Dibenzofuran	2	4	ug/Kg	<MDL	100	86.8	87		37--97							
Diethyl Phthalate	4	8	ug/Kg	<MDL	100	105	105		51--118							
Dimethyl Phthalate	4	8	ug/Kg	<MDL	100	93.8	94		38--114							
Fluoranthene	2	4	ug/Kg	<MDL	100	94.3	94		55--132							
Fluorene	2	4	ug/Kg	<MDL	100	91.8	92		39--106							
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	100	84.5	85		40--111							
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	100	62	62		10--97							
Hexachloroethane	1	2	ug/Kg	<MDL	100	58.6	59		17--92							
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	<MDL	100	98.9	99		51--132							
Isophorone	10	20	ug/Kg	<MDL	100	41.6	42		10--131							
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	100	53.5	53		10--146							
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	100	56.1	56		14--101							
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	100	16.6	17		11--148							
Naphthalene	2	4	ug/Kg	<MDL	100	61.4	61		17--94							
Nitrobenzene	4	8	ug/Kg	<MDL	100	63.6	64		10--112							
Pentachlorophenol	10	20	ug/Kg	<MDL	100	75.4	75		38--124							
Phenanthrene	2	4	ug/Kg	<MDL	100	102	102		57--104							
Phenol	4	8	ug/Kg	<MDL	100	43.3	43		10--107							
Pyrene	2	4	ug/Kg	<MDL	100	89.7	90		48--132							
MSD:WG97939-4 MS:WG97939-3 L46094-12 Matrix: FRSHWTRSED Listtype: ORBNALLFULL Method: SW846 3550B*SW846 8270D Project: 421240C																
(Matrix Spike Duplicate, Matrix Spike)																
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	100	64.2	64		10--115	100	58.1	58		10		35
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	53.7	54		10--105	100	49.4	49		10		35
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	100	105	105		16--162	100	109	109		4		35
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	68.2	68		10--103	100	56.9	57		18		35
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	43.5	44		10--104	100	36.2	36		20		35
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	100	56.4	56		23--166	100	75.9	76		30		35

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2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	100	76.8	77		26--153	100	86.2	86		11		35
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	100	109	109		24--142	100	101	101		8		35
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	100	95.3	95		10--150	100	91.2	91		4		35
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	100	61.1	61		27--166	100	61.1	61		0		35
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	100	69.7	70		10--183	100	69.3	69		1		35
2-Chloronaphthalene	4	8	ug/Kg	<MDL	100	67.9	68		26--111	100	70.1	70		3		35
2-Chlorophenol	4	8	ug/Kg	<MDL	100	65.4	65		10--112	100	63.8	64		2		35
2-Methylnaphthalene	2	4	ug/Kg	<MDL	100	95.6	96		22--112	100	91.2	91		5		35
2-Methylphenol	2	4	ug/Kg	<MDL	100	68.6	69		10--142	100	70.5	70		1		35
2-Nitrophenol	10	20	ug/Kg	<MDL	100	66.5	66		20--107	100	64.4	64		3		35
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	114	114		30--146	100	115	115		1		35
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	82.1	82		25--139	100	80.7	81		1		35
4-Methylphenol	4	8	ug/Kg	<MDL	100	84.9	85		10--163	100	85.8	86		1		35
Acenaphthene	2	4	ug/Kg	2	100	83.9	82		25--130	100	87.2	85		4		35
Acenaphthylene	2	4	ug/Kg	<MDL	100	93.8	94		27--132	100	98.2	98		4		35
Aniline	4	80	ug/Kg	<MDL	100	12	12		10--67	100	10	10		18		35
Anthracene	2	4	ug/Kg	7.99	100	102	94		10--181	100	109	101		7		35
Benzo(a)anthracene	2	4	ug/Kg	61.3	100	179	118		32--168	100	188	127		7		35
Benzo(a)pyrene	2	4	ug/Kg	82.2	100	195	113		10--200	100	181	98		14		35
Benzo(b)fluoranthene	2	4	ug/Kg	144	100	247	102		10--199	100	249	105		3		35
Benzo(g,h,i)perylene	2	4	ug/Kg	88.3	100	164	76		10--173	100	174	86		12		35
Benzo(k)fluoranthene	2	4	ug/Kg	129	100	269	140		10--192	100	270	141		1		35
Benzoic Acid	10	20	ug/Kg	153	100	238	85		10--158	100	239	86		1		35
Benzyl Alcohol	2	4	ug/Kg	<MDL	100	70.1	70		10--138	100	67.5	67		4		35
Benzyl Butyl Phthalate	4	8	ug/Kg	23.4	100	148	125		41--145	100	155	131		5		35
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	100	68.8	69		23--103	100	67.8	68		1		35
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	100	45.8	46		10--80	100	42.1	42		9		35
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	100	141	141		10--142	100	106	106		28		35
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	722	100	819	98		10--189	100	800	78		23		35
Caffeine	4	8	ug/Kg	<MDL	100	72	72		17--195	100	68.9	69		4		35
Carbazole	2	4	ug/Kg	8.79	100	76	67		16--200	100	81.7	73		9		35
Chrysene	2	4	ug/Kg	111	100	214	103		14--184	100	202	91		12		35
Coprostanol	40	80	ug/Kg	<MDL	1000	811	81		10--183	1000	745	74		9		35
Di-N-Butyl Phthalate	4	8	ug/Kg	11.1	100	109	97		10--194	100	108	97		0		35
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	100	146	146		52--151	100	164	164	*	12		35
Dibenzo(a,h)anthracene	2	4	ug/Kg	25.1	100	101	76		10--166	100	118	93		20		35
Dibenzofuran	2	4	ug/Kg	<MDL	100	82.9	83		21--134	100	85.4	85		2		35
Diethyl Phthalate	4	8	ug/Kg	28.5	100	84.4	56		31--150	100	94.6	66		16		35
Dimethyl Phthalate	4	8	ug/Kg	<MDL	100	66.8	67		13--162	100	67.3	67		0		35
Fluoranthene	2	4	ug/Kg	123	100	212	89		12--188	100	239	116		26		35
Fluorene	2	4	ug/Kg	6.78	100	73.3	67		22--147	100	73.6	67		0		35
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	100	95.8	96		18--151	100	99	99		3		35
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	100	59	59		10--97	100	55.8	56		5		35
Hexachloroethane	1	2	ug/Kg	<MDL	100	48.9	49		10--89	100	41.2	41		18		35
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	80.4	100	153	73		10--177	100	170	90		21		35
Isophorone	10	20	ug/Kg	<MDL	100	89.1	89		16--130	100	85.6	86		3		35
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	100	128	128		10--176	100	121	121		6		35
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	100	52.2	52		10--119	100	36.6	37		34		35

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N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	100	57.8	58		10--169	100	57.4	57		2		35
Naphthalene	2	4	ug/Kg	<MDL	100	65.7	66		12--97	100	63	63		5		35
Nitrobenzene	4	8	ug/Kg	<MDL	100	58.3	58		10--105	100	54.7	55		5		35
Pentachlorophenol	10	20	ug/Kg	<MDL	100	91.4	91		17--170	100	99.4	99		8		35
Phenanthrene	2	4	ug/Kg	52.9	100	166	114		10--200	100	167	114		0		35
Phenol	4	8	ug/Kg	<MDL	100	68	68		10--127	100	61.5	62		9		35
Pyrene	2	4	ug/Kg	143	100	240	97		20--174	100	246	103		6		35

SRM:WG97939-5 Matrix: FRSHWTRSED Listtype: ORBNALLFULL Method: SW846 3550B\*SW846 8270D Project: 421240C

(Std Reference Material)

Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Qual	Lab Limit
Anthracene	270	533	ug/Kg	1750	731	42		28--98
Benzo(a)anthracene	270	533	ug/Kg	4660	4210	90		66--124
Benzo(a)pyrene	270	533	ug/Kg	4240	3150	74		60--116
Benzo(b)fluoranthene	270	533	ug/Kg	3820	3340	87		52--190
Benzo(g,h,i)perylene	270	533	ug/Kg	2800	1990	71		15--121
Benzo(k)fluoranthene	270	533	ug/Kg	2270	3250	143		60--146
Chrysene	270	533	ug/Kg	4800	4500	94		77--136
Dibenzo(a,h)anthracene	270	533	ug/Kg	419	813	194		10--200
Fluoranthene	270	533	ug/Kg	8800	6190	70		45--126
Indeno(1,2,3-Cd)Pyrene	270	533	ug/Kg	2740	1950	71		33--121
Naphthalene	270	533	ug/Kg	1630	280	17		10--29
Phenanthrene	270	533	ug/Kg	5200	4500	86		51--106
Pyrene	270	533	ug/Kg	9570	7570	79		36--135

LD:WG97939-6 L46094-13 Matrix: FRSHWTRSED Listtype: ORBNALLFULL Method: SW846 3550B\*SW846 8270D Project: 421240C

(Lab Duplicate)

Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	<MDL			35
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	<MDL			35
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	<MDL			35
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	<MDL			35
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	<MDL			35
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	<MDL			35
2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	<MDL			35
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	<MDL			35
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	<MDL			35
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	<MDL			35
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	<MDL			35
2-Chloronaphthalene	4	8	ug/Kg	<MDL	<MDL			35
2-Chlorophenol	4	8	ug/Kg	<MDL	<MDL			35
2-Methylnaphthalene	2	4	ug/Kg	<MDL	<MDL			35
2-Methylphenol	2	4	ug/Kg	<MDL	<MDL			35
2-Nitrophenol	10	20	ug/Kg	<MDL	<MDL			35
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	<MDL			35
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	<MDL			35

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4-Methylphenol	4	8	ug/Kg	<MDL	<MDL			35									
Acenaphthene	2	4	ug/Kg	<MDL	<MDL			35									
Acenaphthylene	2	4	ug/Kg	<MDL	<MDL			35									
Aniline	40	80	ug/Kg	<MDL	<MDL			35									
Anthracene	2	4	ug/Kg	7.96	6.64	18		35									
Benzo(a)anthracene	2	4	ug/Kg	60.5	51.9	15		35									
Benzo(a)pyrene	2	4	ug/Kg	91.5	73	23		35									
Benzo(b)fluoranthene	2	4	ug/Kg	155	154	0		35									
Benzo(g,h,i)perylene	2	4	ug/Kg	101	76.2	28		35									
Benzo(k)fluoranthene	2	4	ug/Kg	145	123	16		35									
Benzoic Acid	10	20	ug/Kg	189	179	5		35									
Benzyl Alcohol	2	4	ug/Kg	8.53	6.75	23		35									
Benzyl Butyl Phthalate	4	8	ug/Kg	33.4	25.5	27		35									
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	<MDL			35									
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	<MDL			35									
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	<MDL			35									
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	662	517	25		35									
Caffeine	4	8	ug/Kg	<MDL	<MDL			35									
Carbazole	2	4	ug/Kg	7.81	6.94	12		35									
Chrysene	2	4	ug/Kg	118	92.2	25		35									
Coprostanol	40	80	ug/Kg	<MDL	<MDL			35									
Di-N-Butyl Phthalate	4	8	ug/Kg	18.2	15	19		35									
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	<MDL			35									
Dibenzo(a,h)anthracene	2	4	ug/Kg	32.7	26.3	22		35									
Dibenzofuran	2	4	ug/Kg	2.4	<MDL			35									
Diethyl Phthalate	4	8	ug/Kg	<MDL	<MDL			35									
Dimethyl Phthalate	4	8	ug/Kg	10.5	9.81	7		35									
Fluoranthene	2	4	ug/Kg	131	101	26		35									
Fluorene	2	4	ug/Kg	6.99	6.49	8		35									
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	<MDL			35									
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	<MDL			35									
Hexachloroethane	1	2	ug/Kg	<MDL	<MDL			35									
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	97.4	74.9	26		35									
Isophorone	10	20	ug/Kg	<MDL	<MDL			35									
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	<MDL			35									
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	<MDL			35									
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	<MDL			35									
Naphthalene	2	4	ug/Kg	<MDL	<MDL			35									
Nitrobenzene	4	8	ug/Kg	<MDL	<MDL</												

# King County Environmental Lab Analytical QC Report

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# King County Environmental Lab Analytical QC Report

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# King County Environmental Lab Analytical QC Report

Workgroup: WG97965 (PPLS#76) Run ID: R129352																
MB:WG97965-1 Matrix: OTHR SOLID Listtype: ORPCBLL Method: SW846 3550B*SW846 8082A Project: NONE																
(Method Blank)																
Parameter	MDL	RDL	Units	MB Value	Qual											
Aroclor 1016	0.83	1.67	ug/Kg	<MDL												
Aroclor 1221	1.7	3.33	ug/Kg	<MDL												
Aroclor 1232	1.7	3.33	ug/Kg	<MDL												
Aroclor 1242	0.83	1.67	ug/Kg	<MDL												
Aroclor 1248	0.83	1.67	ug/Kg	<MDL												
Aroclor 1254	0.83	1.67	ug/Kg	<MDL												
Aroclor 1260	0.83	1.67	ug/Kg	<MDL												
Total Aroclors	0.83	1.67	ug/Kg	<MDL												
SB:WG97965-2 MB:WG97965-1 Matrix: OTHR SOLID Listtype: ORPCBLL Method: SW846 3550B*SW846 8082A Project: NONE																
(Spike Blank, Method Blank)																
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit							
Aroclor 1016	0.83	1.67	ug/Kg	<MDL	25	17.7	71		39–121							
Aroclor 1260	0.83	1.67	ug/Kg	<MDL	25	23.3	93		53–140							
MSD:WG97965-4 MS:WG97965-3 L46094-19 Matrix: FRSHWTRSED Listtype: ORPCBLL Method: SW846 3550B*SW846 8082A Project: 421240C																
(Matrix Spike Duplicate, Matrix Spike)																
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Aroclor 1016	0.83	1.67	ug/Kg	<MDL	25	16.3	65		32–164	25	16.1	64		2		35
Aroclor 1260	0.83	1.67	ug/Kg	<MDL	25	18.2	73		28–144	25	18.2	73		0		35
SRM:WG97965-5 Matrix: FRSHWTRSED Listtype: ORPCBLL Method: SW846 3550B*SW846 8082A Project: NONE																
(Std Reference Material)																
Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Qual	Lab Limit								
Aroclor 1254	2.7	5.33	ug/Kg	112	128	114		57–139								
LD:WG97965-6 L46094-25 Matrix: FRSHWTRSED Listtype: ORPCBLL Method: SW846 3550B*SW846 8082A Project: 421240C																
(Lab Duplicate)																
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit								
Aroclor 1016	0.83	1.67	ug/Kg	<MDL	<MDL			35								
Aroclor 1221	1.7	3.33	ug/Kg	<MDL	<MDL			35								
Aroclor 1232	1.7	3.33	ug/Kg	<MDL	<MDL			35								
Aroclor 1242	0.83	1.67	ug/Kg	<MDL	<MDL			35								
Aroclor 1248	0.83	1.67	ug/Kg	<MDL	<MDL			35								
Aroclor 1254	0.83	1.67	ug/Kg	<MDL	<MDL			35								
Aroclor 1260	0.83	1.67	ug/Kg	<MDL	<MDL			35								
Total Aroclors	0.83	1.67	ug/Kg	<MDL	<MDL			35								

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Workgroup: WG97804 (PPLA#75 Pest LL) Run ID: R128444										
MB:WG97804-1 Matrix: OTHR SOLID Listtype: ORPESTLL Method: SW846 3550B*SW846 8081B Project: NONE										
(Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
4,4'-DDD	0.67	1.33	ug/Kg	<MDL						
4,4'-DDE	0.67	1.33	ug/Kg	<MDL						
4,4'-DDT	0.67	1.33	ug/Kg	<MDL						
Aldrin	0.67	1.33	ug/Kg	<MDL						
Alpha-BHC	0.33	0.667	ug/Kg	<MDL						
Alpha-Chlordane	0.33	0.667	ug/Kg	<MDL						
Beta-BHC	0.33	0.667	ug/Kg	<MDL						
Delta-BHC	0.33	0.667	ug/Kg	<MDL						
Dieldrin	0.67	1.33	ug/Kg	<MDL						
Endosulfan I	0.67	1.33	ug/Kg	<MDL						
Endosulfan II	0.67	1.33	ug/Kg	<MDL						
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL						
Endrin	0.67	1.33	ug/Kg	<MDL						
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL						
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL						
Gamma-Chlordane	0.33	0.667	ug/Kg	<MDL						
Heptachlor	0.33	0.667	ug/Kg	<MDL						
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL						
Methoxychlor	3.3	6.67	ug/Kg	<MDL						
Toxaphene	6.7	13.3	ug/Kg	<MDL						
SB:WG97804-2 MB:WG97804-1 Matrix: OTHR SOLID Listtype: ORPESTLL Method: SW846 3550B*SW846 8081B Project: NONE										
(Spike Blank, Method Blank)										
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit	
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	6.67	5.4	81		78--121	
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	6.67	5.76	86		75--111	
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	6.67	5.21	78		57--145	
Aldrin	0.67	1.33	ug/Kg	<MDL	6.67	3.3	49		28--113	
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	6.67	2.63	39		20--99	
Beta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	4.91	74		66--102	
Delta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	2.86	43	*	63--108	
Dieldrin	0.67	1.33	ug/Kg	<MDL	6.67	5.44	82		58--139	
Endosulfan I	0.67	1.33	ug/Kg	<MDL	6.67	4.76	71		62--104	
Endosulfan II	0.67	1.33	ug/Kg	<MDL	6.67	5.27	79		72--109	
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL	6.67	2.73	41	*	61--104	
Endrin	0.67	1.33	ug/Kg	<MDL	6.67	5.69	85		60--160	
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL	6.67	2.01	30		10--77	
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL	6.67	3.17	48		27--130	
Heptachlor	0.33	0.667	ug/Kg	<MDL	6.67	3.25	49		20--137	
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL	6.67	4.7	71		59--107	
Methoxychlor	3.3	6.67	ug/Kg	<MDL	6.67	6.89	103		72--131	

MSD:WG97804-4 MS:WG97804-3 L46069-1 Matrix: FRSHWTRSED Listtype: ORPESTLL Method: SW846 3550B*SW846 8081B Project: 421240C (Matrix Spike Duplicate, Matrix Spike)																
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	6.67	4.87	73		41–157	6.67	6.5	98		29		35
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	6.67	5.32	80		59–125	6.67	6.94	104		26		35
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	6.67	4.92	74		50–144	6.67	6.24	94		24		35
Aldrin	0.67	1.33	ug/Kg	<MDL	6.67	4.63	69		61–119	6.67	5.88	88		24		35
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	6.67	4.61	69		59–111	6.67	5.96	89		25		35
Beta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	4.73	71		60–119	6.67	5.96	89		23		35
Delta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	3.8	57		54–126	6.67	5.16	77		30		35
Dieldrin	0.67	1.33	ug/Kg	<MDL	6.67	5.2	78		60–139	6.67	6.72	101		26		35
Endosulfan I	0.67	1.33	ug/Kg	<MDL	6.67	4.95	74		64–113	6.67	6.5	98		28		35
Endosulfan II	0.67	1.33	ug/Kg	<MDL	6.67	4.3	65		36–146	6.67	5.53	83		24		35
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL	6.67	3.36	50		46–113	6.67	4.85	73		37	*	35
Endrin	0.67	1.33	ug/Kg	<MDL	6.67	5.37	80		62–166	6.67	7.1	107		29		35
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL	6.67	1.2	18		10–66	6.67	1.3	20		11		35
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL	6.67	4.72	71		61–135	6.67	5.96	89		23		35
Heptachlor	0.33	0.667	ug/Kg	<MDL	6.67	5.07	76		52–157	6.67	6.52	98		25		35
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL	6.67	4.86	73		61–118	6.67	6.35	95		26		35
Methoxychlor	3.3	6.67	ug/Kg	<MDL	6.67	6.1	92		53–129	6.67	7.82	117		24		35
SRM:WG97804-5 Matrix: FRSHWTRSED Listtype: ORPESTLL Method: SW846 3550B*SW846 8081B Project: NONE (Std Reference Material)																
Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Qual	Lab Limit								
4,4'-DDT	5.3	10.7	ug/Kg	119	154	129		10–200								
Alpha-Chlordane	2.7	5.33	ug/Kg	16.5	16.9	102		48–144								
LD:WG97804-6 L46069-3 Matrix: FRSHWTRSED Listtype: ORPESTLL Method: SW846 3550B*SW846 8081B Project: 421240C (Lab Duplicate)																
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit								
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	<MDL			35								
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	<MDL			35								
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	<MDL			35								
Aldrin	0.67	1.33	ug/Kg	<MDL	<MDL			35								
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	<MDL			35								
Alpha-Chlordane	0.33	0.667	ug/Kg	<MDL	<MDL			35								
Beta-BHC	0.33	0.667	ug/Kg	<MDL	<MDL			35								
Delta-BHC	0.33	0.667	ug/Kg	<MDL	<MDL			35								
Dieldrin	0.67	1.33	ug/Kg	<MDL	<MDL			35								
Endosulfan I	0.67	1.33	ug/Kg	<MDL	<MDL			35		</						

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# King County Environmental Lab Analytical QC Report

Workgroup: WG97964 (PPLS#76) Run ID: R129190									
MB:WG97964-1 Matrix: OTHR SOLID Listtype: ORPESTLL Method: SW846 3550B*SW846 8081B Project: NONE									
(Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
4,4'-DDD	0.67	1.33	ug/Kg	<MDL					
4,4'-DDE	0.67	1.33	ug/Kg	<MDL					
4,4'-DDT	0.67	1.33	ug/Kg	<MDL					
Aldrin	0.67	1.33	ug/Kg	<MDL					
Alpha-BHC	0.33	0.667	ug/Kg	<MDL					
Alpha-Chlordane	0.33	0.667	ug/Kg	<MDL					
Beta-BHC	0.33	0.667	ug/Kg	<MDL					
Delta-BHC	0.33	0.667	ug/Kg	<MDL					
Dieldrin	0.67	1.33	ug/Kg	<MDL					
Endosulfan I	0.67	1.33	ug/Kg	<MDL					
Endosulfan II	0.67	1.33	ug/Kg	<MDL					
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL					
Endrin	0.67	1.33	ug/Kg	<MDL					
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL					
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL					
Gamma-Chlordane	0.33	0.667	ug/Kg	<MDL					
Heptachlor	0.33	0.667	ug/Kg	<MDL					
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL					
Methoxychlor	3.3	6.67	ug/Kg	<MDL					
Toxaphene	6.7	13.3	ug/Kg	<MDL					
SB:WG97964-2 MB:WG97964-1 Matrix: OTHR SOLID Listtype: ORPESTLL Method: SW846 3550B*SW846 8081B Project: NONE									
(Spike Blank, Method Blank)									
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	6.67	6.64	100		78--121
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	6.67	6.55	98		75--111
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	6.67	6.46	97		57--145
Aldrin	0.67	1.33	ug/Kg	<MDL	6.67	5.43	81		28--113
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	6.67	5.75	86		20--99
Beta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	6.07	91		66--102
Delta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	5.87	88		63--108
Dieldrin	0.67	1.33	ug/Kg	<MDL	6.67	6.68	100		58--139
Endosulfan I	0.67	1.33	ug/Kg	<MDL	6.67	6.19	93		62--104
Endosulfan II	0.67	1.33	ug/Kg	<MDL	6.67	5.97	90		72--109
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL	6.67	5.29	79		61--104
Endrin	0.67	1.33	ug/Kg	<MDL	6.67	7.1	106		60--160
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL	6.67	1.52	23		10--77
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL	6.67	5.92	89		27--130
Heptachlor	0.33	0.667	ug/Kg	<MDL	6.67	5.83	88		20--137
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL	6.67	6.19	93		59--107
Methoxychlor	3.3	6.67	ug/Kg	<MDL	6.67	7.52	113		72--131

MSD:WG97964-4 MS:WG97964-3 L46094-12 Matrix: FRSHWTRSED Listtype: ORPESTLL Method: SW846 3550B*SW846 8081B Project: 421240C (Matrix Spike Duplicate, Matrix Spike)																
Parameter	MDL	RDL	Units	Samp Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	6.67	4.98	75		41--157	6.67	5.27	79		5		35
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	6.67	5.41	81		59--125	6.67	5.44	82		1		35
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	6.67	4.97	75		50--144	6.67	4.32	65		14		35
Aldrin	0.67	1.33	ug/Kg	<MDL	6.67	4.85	73		61--119	6.67	4.66	70		4		35
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	6.67	5.29	79		59--111	6.67	5.14	77		3		35
Beta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	4.88	73		60--119	6.67	4.83	72		1		35
Delta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	4.66	70		54--126	6.67	2.83	42	*	50	*	35
Dieldrin	0.67	1.33	ug/Kg	<MDL	6.67	5.33	80		60--139	6.67	5.18	78		3		35
Endosulfan I	0.67	1.33	ug/Kg	<MDL	6.67	4.9	74		64--113	6.67	4.81	72		3		35
Endosulfan II	0.67	1.33	ug/Kg	<MDL	6.67	4.39	66		36--146	6.67	4.51	68		3		35
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL	6.67	4.32	65		46--113	6.67	3.36	50		26		35
Endrin	0.67	1.33	ug/Kg	<MDL	6.67	5.45	82		62--166	6.67	5.49	82		0		35
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL	6.67	2.57	39		10--66	6.67	2.85	43		10		35
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL	6.67	5.07	76		61--135	6.67	4.83	72		5		35
Heptachlor	0.33	0.667	ug/Kg	<MDL	6.67	5.21	78		52--157	6.67	5.1	77		1		35
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL	6.67	4.64	70		61--118	6.67	4.9	74		6		35
Methoxychlor	3.3	6.67	ug/Kg	<MDL	6.67	5.6	84		53--129	6.67	5.3	79		6		35
SRM:WG97964-5 Matrix: FRSHWTRSED Listtype: ORPESTLL Method: SW846 3550B*SW846 8081B Project: NONE (Std Reference Material)																
Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Qual	Lab Limit								
4,4'-DDT	5.3	10.7	ug/Kg	119	159	134		10--200								
Alpha-Chlordane	2.7	5.33	ug/Kg	16.5	20.2	122		48--144								
LD:WG97964-6 L46094-25 Matrix: FRSHWTRSED Listtype: ORPESTLL Method: SW846 3550B*SW846 8081B Project: 421240C (Lab Duplicate)																
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit								
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	<MDL			35								
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	<MDL			35								
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	<MDL			35								
Aldrin	0.67	1.33	ug/Kg	<MDL	<MDL			35								
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	<MDL			35								
Alpha-Chlordane	0.33	0.667	ug/Kg	<MDL	<MDL			35								
Beta-BHC	0.33	0.667	ug/Kg	<MDL	<MDL			35								
Delta-BHC	0.33	0.667	ug/Kg	<MDL	<MDL			35								
Dieldrin	0.67	1.33	ug/Kg	<MDL	<MDL			35								
Endosulfan I	0.67	1.33	ug/Kg	<MDL	<MDL			35								

# King County Environmental Lab Analytical QC Report

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# King County Environmental Lab Analytical QC Report

Workgroup: WG97781 (WTPH-DS#248) Run ID: R131353										
MB:WG97781-1 Matrix: OTHR SOLID Listtype: ORWTPH-DX Method: WDOE NWTPH-DX (7-3-06-001) Project: NONE										
(Method Blank)										
Parameter	MDL	RDL	Units	MB Value	Qual					
Diesel Range (>C12-C24)	25	25	mg/Kg	<MDL						
Lube Oil Range (>C24)	25	25	mg/Kg	<MDL						
SB:WG97781-2 MB:WG97781-1 Matrix: OTHR SOLID Listtype: ORWTPH-DX Method: WDOE NWTPH-DX (7-3-06-001) Project: NONE										
(Spike Blank, Method Blank)										
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit	
Lube Oil Range (>C24)	25	25	mg/Kg	<MDL	150	170	113		50--150	
SB:WG97781-3 MB:WG97781-1 Matrix: OTHR SOLID Listtype: ORWTPH-DX Method: WDOE NWTPH-DX (7-3-06-001) Project: NONE										
(Spike Blank, Method Blank)										
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit	
Diesel Range (>C12-C24)	25	25	mg/Kg	<MDL	150	151	101		50--150	
LD:WG97781-4 L46069-1 Matrix: FRSHWTRSED Listtype: ORWTPH-DX Method: WDOE NWTPH-DX (7-3-06-001) Project: 421240C										
(Lab Duplicate)										
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit		
Lube Oil Range (>C24)	25	25	mg/Kg	56.3	40.7	32		35		
LD:WG97781-5 L46094-1 Matrix: FRSHWTRSED Listtype: ORWTPH-DX Method: WDOE NWTPH-DX (7-3-06-001) Project: 421240C										
(Lab Duplicate)										
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit		
Lube Oil Range (>C24)	25	25	mg/Kg	32.7	30.6	7		35		
Surrogate:	2-Fluoro biphenyl	Penta cosane								
(Lab Limits)	50--150	50--150								
L46069-1	109	124								
L46069-2	114	195 *								
L46069-3	113	137								
L46069-4	110	134								
L46069-5	107	120								
L46069-6	111	113								
L46069-7	109	115								
L46069-8	107	123								
L46069-9	106	157 *								
L46094-1	102	118								
L46094-2	106	115								

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# King County Environmental Lab Analytical QC Report

Workgroup: WG97910 (WTPH-DS#250) Run ID: R128564									
MB:WG97910-1 Matrix: OTHR SOLID Listtype: ORWTPH-DX Method: WDOE NWTPH-DX (7-3-06-001) Project: NONE									
(Method Blank)									
Parameter	MDL	RDL	Units	MB Value	Qual				
Diesel Range (>C12-C24)	25	25	mg/Kg	<MDL					
Lube Oil Range (>C24)	25	25	mg/Kg	<MDL					
SB:WG97910-2 MB:WG97910-1 Matrix: OTHR SOLID Listtype: ORWTPH-DX Method: WDOE NWTPH-DX (7-3-06-001) Project: NONE									
(Spike Blank, Method Blank)									
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Lube Oil Range (>C24)	25	25	mg/Kg	<MDL	150	174	116		50--150
SB:WG97910-3 MB:WG97910-1 Matrix: OTHR SOLID Listtype: ORWTPH-DX Method: WDOE NWTPH-DX (7-3-06-001) Project: NONE									
(Spike Blank, Method Blank)									
Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Diesel Range (>C12-C24)	25	25	mg/Kg	<MDL	150	161	108		50--150
LD:WG97910-4 L46094-17 Matrix: FRSHWTRSED Listtype: ORWTPH-DX Method: WDOE NWTPH-DX (7-3-06-001) Project: 421240C									
(Lab Duplicate)									
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit	
Diesel Range (>C12-C24)	25	25	mg/Kg	54.5	59.6	9		35	
Lube Oil Range (>C24)	25	25	mg/Kg	38.9	36.7	6		35	
LD:WG97910-5 L46094-29 Matrix: FRSHWTRSED Listtype: ORWTPH-DX Method: WDOE NWTPH-DX (7-3-06-001) Project: 421240C									
(Lab Duplicate)									
Parameter	MDL	RDL	Units	Samp Value	LD Value	RPD^	Qual	Lab Limit	
Lube Oil Range (>C24)	25	25	mg/Kg	83.9	100	18		35	
Surrogate:	2-Fluoro biphenyl	Penta cosane							
(Lab Limits)	50--150	50--150							
L46094-12	106	135							
L46094-13	110	144							
L46094-14	105	124							
L46094-15	106	184 *							
L46094-17	110	133							
L46094-18	107	115							
L46094-19	118	150							
L46094-20	110	143							
L46094-21	113	152 *							
L46094-22	110	120							

L46094-23	115	176 *
L46094-24	111	123
L46094-25	114	138
L46094-26	113	140
L46094-27	115	131
L46094-28	117	162 *
L46094-29	117	147
WG97910-1	109	101
WG97910-2	110	107
WG97910-3	131	107
WG97910-4	110	129
WG97910-5	115	150

**KING COUNTY ENVIRONMENTAL LABORATORY  
QUALITY ASSURANCE REVIEW**

for

**2009 Stream Sediment Monitoring Program**

Prepared by:

Colin Elliott 7/20/2010  
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Reviewed by:

\_\_Unit Supervisors\_\_

July 20, 2010

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## INTRODUCTION

This quality assurance (QA) narrative is intended to document the QA review conducted on the chemistry analyses performed for the 2009 Stream Sediment Monitoring program. The QA narrative is organized into the five sections listed below.

- General Comments
- Sample Collection
- Conventional Analyses
- Metal Chemistry
- Organic Chemistry

An overview of the approach used for the QA review is detailed in the *General Comments* section. This review is a comparison of the requirements and specifications in the Sampling and Analysis Plan (SAP) and the actual sample collection and analysis that was performed. Additional information specific to each analysis is included in the appropriate analytical section.

This QA review and narrative (specifically defined as QA1) have been conducted in accordance with guidelines established through the Puget Sound Dredged Disposal Analysis (PSDDA) program, Sediment Management Standards (WAC 173-204-610) and the Sediment Sampling and Analysis Appendix (SAPA), WDOE 2008.

## GENERAL COMMENTS

### **Scope of Samples Submitted**

This QA review is associated with freshwater sediment samples collected August 10 and August 12, 2009 as part of the 2009 Stream Sediment Monitoring program. The Stream Sediment Monitoring Sampling and Analysis Plan (SAP), draft version from June 2008, generally defines the criteria used in this review.

All analyses have been conducted by the King County Environmental Laboratory (KCEL). Sediment analytical data are reported with associated data qualifiers and have undergone QA1 review, as summarized in this narrative report.

### **Completeness**

Completeness has been evaluated for this data submission and QA review by considering the following criteria:

- Comparing reported data to the planned project analyses summarized in Table 1.
- Compliance with storage conditions and holding times.
- Frequency of analysis of the complete set of quality control (QC) samples outlined in Table 2.

### **Methods**

Analytical methods are noted in the applicable analytical sections of this QA review.

### **Target Lists**

The reported target lists have been compared to the target analytes listed in *Development of Freshwater Sediment Quality Values for Use in Washington State, Phase II Report* (Ecology, 2003) and may also be compared to *Table 3 - Puget Sound Marine Sediment Cleanup Screening Levels Chemical Criteria* contained in Chapter 173-204 WAC.

In 2009, no samples were tested for Fecal Coliforms.

### **Detection Limits**

As part of the QA1 review, the detection limits reported for each parameter have been reviewed against the detection limit requirements defined in the SAP. Unfortunately, the 2008 draft SAP was not updated to reflect current organics detection limits available at the time the samples were analyzed. When sample results have been reported as less than the Method Detection Limit (<MDL) and the associated detection limits are higher than those defined in the SAP, the particular samples and parameters have been identified and the circumstances explained. These summaries are included with each analytical section of this QA review.

The KC Laboratory reports include both the reporting detection limit (RDL) and the method detection limit (MDL) for each sample and parameter, where applicable. The RDL is defined as *the minimum concentration of a chemical constituent that can be reliably quantified while the MDL is defined as the minimum concentration of a chemical constituent that can be detected*. For some methods the detection limits reported may vary from sample to sample depending on the amount of sample analyzed and any additional dilutions required.

### **Storage Conditions and Holding Times**

Storage conditions and holding times have been evaluated using guidelines defined in the project SAP. Preparation and analysis holding times for each method are summarized in each analytical section.

### **Method Blanks**

Method blank results have been used to evaluate the possible laboratory contamination of samples. Method blank results have been reviewed for the presence of analytes detected at or greater than the MDL. For analytes where the method blank response was at or above the MDL associated sample results may be qualified with a B, B2 or B3 flag, depending on the concentration in the sample compared to the method blank.

### **Standard Reference Materials and Lab Control Samples**

Standard reference material (SRM) and lab control sample (LCS) recoveries have been used to evaluate possible low or high analytical bias on a batch-specific basis. LCS and SRM analysis is included with selected organic, metals and conventional parameters (see Table 2). Sample results may be qualified if the LCS or SRM recoveries indicate a potential bias in the associated batch of samples.

### **Matrix Spikes**

Matrix spike recoveries have been used to evaluate possible low or high analytical bias on a matrix and batch-specific basis. Matrix spikes are analyzed with metals, organics and selected conventional parameters (see Table 2). All associated sample results may be qualified if the MS recoveries indicate a potential bias with all samples in the batch but it is more typical that only the sample used as the spike will be qualified.

For Metals only, matrix spike recovery results are used to qualify sample data only when the sample levels in the spiked sample are less than 4 times the spiked concentration. High sample levels relative to the spiked concentration can compromise the measurement of accurate spike recoveries.

### **Laboratory Replicate Samples**

Replicate analysis (laboratory duplicates or triplicates) is used as an indicator of method precision and is used to qualify data on an analyte and batch-specific basis. Not all replicate data are used, however, as an indicator for data qualification. Only sets of replicate results which include at least one result greater than the RDL are considered for data qualification. These guidelines have been used to account for the fact that precision obtained near the detection limit is not representative of precision obtained throughout the entire analytical range. The precision of lab replicates is used to qualify data only when it is clear that the excessive variability has influenced the associated sample results. Duplicate matrix spikes are also used for selected methods where analyte levels are not routinely above the RDL. The precision of duplicate matrix spikes is used to qualify data only when it is clear that the variability may have influenced the sample result.

### **Surrogates**

Surrogates are only analyzed for organic parameters. Surrogate recoveries have been used to evaluate possible low or high analytical bias on a sample-specific basis. Individual sample results are flagged only if unacceptable recoveries indicate the sample results are biased.

### **Data Qualifiers**

The data qualification guidelines described above has been summarized in Table 3. This table conforms to the guidelines in the current SAPA (2008).

### **Units and Significant Figures**

Units and the reporting basis vary, depending on the parameter and are explained in the analytical sections below. Data generally have been reported to three significant figures if above the RDL and two significant figures if equal to or below the RDL.

## SAMPLE COLLECTION

This section describes sampling activities associated with the 18 freshwater sediment samples collected August 10 and 12, 2009. Sampling activities were conducted following general guidance suggested in the Puget Sound Protocols (PSEP, 1996 and 1998), and in the SAP.

### **Sampling Locations and Station Positioning**

Sampling locations (stations) were selected and the prescribed coordinates determined prior to field activities. Stations were selected in order to characterize and evaluate the potential effect(s) of point and non-point sources on freshwater sediment quality in selected WRIA 8 and WRIA 9 stream basins. A number of these stations are part of King County's long-term ongoing monitoring program; other stations were newly created in 2009. The prescribed coordinates for these stations are presented in the following table. All station coordinates are recorded in state plane coordinate system North American Datum 1983 (NAD83).

Lab ID #	Station Name	Station Description	Prescribed Northing (y-plan)	Prescribed Easting (x-plan)
L48633-1	0478	Little Bear Cr.- mouth at bike trail	278818	1312537
L48633-2	A434	Thornton Creek mouth- last footbridge in park	256883	1285033
L48633-3	00631	Issaquah Creek mouth- last footbridge in park	206430	1336885
L48633-4	0432	McAleer Creek, 16750 Shore Drive Sheridan Beach	277057.2	1284888
L48633-5	0474	North Creek, upstream side of bike trail bridge	278813	1307015
L48633-6	0322	NEWAUKUM Creek//USGS gauging station on N left bank downstream from bridge on 219TH SE	102390.5	1336841
L48633-7	A320	Big Soos Creek, USGS gauge station 12112600, 0.25 mile upstream of hatchery	116821.3	1309972
L48633-8	0317	Springbrook Creek, bridge at north end of Longacres	173079.2	1294315
L48633-9	A315	Hill (Mill) Creek, bridge at 68th and S. 261st	137217.7	1289725
L48629-1	X322	Newaukum Creek near mouth at 358 <sup>th</sup> St. SE	105523	1334258
L48629-2	BB322	Newaukum Creek at 392 <sup>th</sup> St. SE (routine benthos site)	93565	1341445
L48629-3	E322	Newaukum Creek at 400 <sup>th</sup> St. SE Bridge	90871	1340907
L48629-4	F322	Newaukum Creek at 416 <sup>th</sup> St SE Bridge	85546	1342797
L48629-5	FF322	Newaukum Creek at 424 <sup>th</sup> St SE Bridge	82948	1342468
L48629-6	AD322	Newaukum Creek at Mahler Park, off 244 <sup>th</sup> Ave SE	79610	1346405
L48629-7	AE322	Newaukum Creek at 248 <sup>th</sup> Ave SE	80264	1347765
L48629-8	G322	Newaukum Creek at 424 <sup>th</sup> St SE Bridge	82823	1351043
L48629-9	QQ322	Newaukum Creek near Quarry on 416 <sup>th</sup> St SE	85390	1357235
L48629-10	P322	Newaukum Creek off of 292 <sup>nd</sup> Ave SE. Not collected due to unsafe access	85557	1361792

Sediment grab samples were collected by wading into the stream. Core samples were collected within the width and reach of each station such that representative depositional material was obtained. This is consistent with the specifications in the SAP.

**Sample Description Table**

Lab Sample #	Locator	Sample Collection	Sediment Depth (from surface, cm)	Sample Usage
L48633-1	0478	Surface Grabs	5	Chemistry
L48633-2	A434	Surface Grabs	5	Chemistry
L48633-3	00631	Surface Grabs	5	Chemistry
L48633-4	0432	Surface Grabs	5	Chemistry

L48633-5	0474	Surface Grabs	5	Chemistry
L48633-6	0322	Surface Grabs	5	Chemistry
L48633-7	A320	Surface Grabs	5	Chemistry
L48633-8	0317	Surface Grabs	5	Chemistry
L48633-9	A315	Surface Grabs	5	Chemistry
L48629-1	X322	Surface Grabs	5	Chemistry
L48629-2	BB322	Surface Grabs	5	Chemistry
L48629-3	E322	Surface Grabs	5	Chemistry
L48629-4	F322	Surface Grabs	5	Chemistry
L48629-5	FF322	Surface Grabs	5	Chemistry
L48629-6	AD322	Surface Grabs	5	Chemistry
L48629-7	AE322	Surface Grabs	5	Chemistry
L48629-8	G322	Surface Grabs	5	Chemistry
L48629-9	QQ322	Surface Grabs	5	Chemistry

### **Sample Collection**

Sediment was collected at each station using precleaned PVC core tubes or stainless steel spoons. Cored samples were collected from shallow water (<3 ft) by pushing the core tubes into the sediment to a depth of 5 cm. A stainless steel spatula or gloved hand was inserted under the tube mouth to trap the sediment inside as the tube was removed from the stream. Tubes may have been slightly angled to allow drainage of excess water, but fines were not allowed to escape. Sediment in the tube was then transferred to a clean, stainless steel compositing container. Several separate cores may have been collected in order to acquire sufficient sample volume to perform all chemistry analyses. A spoon was used at a number of locations with very thin sediment layers or if the core tubes would not easily penetrate to 5 cm. Sediment was scooped up as efficiently as possible with the spoons and transferred to a stainless steel bucket for compositing.

### **Sample Handling**

For cored samples, the entire contents of all core tubes collected at a given site were emptied directly into a stainless steel bucket. If excess water was present, it was decanted once the fines had been allowed to settle. A stainless steel spoon or spatula was then used to homogenize the sample by stirring. Rocks or other debris one half-inch or larger in diameter were removed and discarded. For spooned samples, the contents of as many spoons of material as needed were emptied directly into a stainless steel bowl. Excess water if present was decanted once the fines had been allowed to settle. The spoon was then used to homogenize the sample by stirring. Any rocks or other debris one half-inch or larger in diameter were removed and discarded. For AVS, an undisturbed portion of sediment was placed in a sample jar.

Aliquots of the homogenized sediment were subsampled into individual, pre-labeled containers for chemistry testing except as noted above. Chemical preservative, if needed, was added.

Sample containers were supplied by the King County Environmental Laboratory and were pre-cleaned according to analytical specifications.

### **Decontamination**

Dedicated sets of core tubes, spoons and other homogenizing/subsampling equipment were dedicated to each station, precluding the need for decontamination in the field.

### **Sample Storage and Preservation**

Samples were stored in ice-filled coolers from the time of collection until delivery to the King County Environmental Laboratory. Samples were delivered under chain-of-custody and maintained as such throughout the analytical process. Samples were stored frozen (-18°C) by the laboratory until analysis with the exception of samples for particle size distribution (PSD) analysis and acid volatile sulfide. Sample aliquots for these analyses were stored refrigerated at approximately 4°C. A more complete description of sample handling and storage can be found in each analytical chemistry section of this narrative.

Copies of chain-of-custody forms and field notes are included as an appendix to this QA review narrative.

## CONVENTIONAL ANALYSES

### **Completeness**

Conventional data are reported for all samples and parameters summarized in Table 1. These samples were analyzed in association with the complete set of QC samples outlined in Table 2.

### **Subcontracted Analyses**

All analyses were performed at the King County Environmental Laboratory.

### **Methods**

Acid volatile sulfide analyses were performed in accordance with EPA *Methods for Chemical Analysis of Water and Wastes*, 1991.

Ammonia analysis was performed using the fluorescence method (KEROUEL & AMINOT 1997) following a KCl extraction (Plumb, 1981).

pH analyses were performed in accordance with SW846 9045C.

PSD analysis was performed in accordance with ASTM D422.

TOC analysis was performed in accordance with SM5310-B and EPA 9060.

Ortho-phosphate phosphorus analyses were performed in accordance with SM4500-P-F following an Olsen extraction.

Total solids analyses were performed in accordance with SM2540-G.

### **Detection Limits**

The method detection limits (MDLs) reported for conventional parameters are within the requirements defined in the SAP with the following exceptions.

For ammonia, ortho-phosphate phosphorus and TOC, reported MDLs and RDLs were higher than SAP requirements for most samples. All samples that had higher detection limits had reportable levels of these parameters thus the project goals were not compromised.

For PSD analysis, most samples have MDLs above the SAP values for Clay but no detectable levels. It is not expected that this has compromised the project goals since the other three PSD parameters (sand, gravel and silt) for all but 2 samples had reportable levels.

### **Reporting Requirements (significant figures, units, basis and qualifiers)**

For analyses performed at the KC Laboratory, data are reported in accordance with laboratory policy at the time the data were generated. Data are reported to three significant figures for results greater than the RDL and two significant figures for results equal to or less than the RDL. For results reported with less than two or three significant figures, significant zeroes are implied. This may not apply to subcontracted data.

In the attached Comprehensive Report, conventional parameters are reported in mg/Kg, dry weight basis, for TOC, ammonia, ortho-phosphate phosphorus and AVS. Particle Size Distribution (PSD) and Total Solids are reported in percent, wet weight basis. For all parameters, the MDL and RDL values for each individual sample are reported in the same units and basis as the sample result. Any result measured at less than the MDL or less than the RDL, a <MDL or <RDL qualifier is added, respectively. Other qualifiers added are based on QC failures and are individually explained in this narrative.

### **Storage Conditions and Holding Times**

Sample storage conditions and holding times have been evaluated using guidelines established in the SAP. The dates and holding time criteria for the actual storage conditions used for conventional analyses are listed in the table below.

Parameter	Lab ID#	Collect Date	Preparation Date	Analysis Date	Holding Time*	Holding Time**
Ammonia	All	10, 12-Aug-09	20-Oct-09	26-Oct-09	6 Months at -18°C	14 days at -18°C
Particle Size Distribution	All	10, 12-Aug-09	28-Sep thru 26-Oct-09	29-Sep thru 29-Oct-09	6 Months at 4°C	NA
Total Organic Carbon (TOC)	All	10, 12-Aug-09	31-Aug-09	02-Dec thru, 04-Dec 09	6 Months at -18°C	6 Months at -18°C
Orthophosphate Phosphorous	All	10, 12-Aug-09	06-Aug-09	06-Aug-09	6 Months at -18°C	14 days at -18°C
Total Solids	All	10, 12-Aug-09	31-Aug-09	01-Sep-09	6 Months at -18°C	NA
pH	L48629-1 thru -9 and L48633-6, -7	10-Aug-09	11-Aug-09	11-Aug-09	1 day at 4°C	NA
	L48633-1 thru -5, -8, -9	12-Aug-09	13-Aug-09	13-Aug-09		
Acid Volatile Sulfide (AVS)	L48629-1 thru -6	10-Aug-09	19-Aug-09	19-Aug-09	14 days at 4°C	7 days at 4°C
	L48629-7 thru -9 and L48633-6	10-Aug-09	20-Aug-09	20-Aug-09		

\* = Holding time from collection to preparation.

\*\* = Holding time from preparation to analysis.

Sample storage conditions and holding times were met for all samples in this data submission.

### **Method Blanks**

Method blanks were analyzed in connection with ammonia nitrogen, orthophosphate phosphorus, total solids, total organic carbon and acid volatile sulfide analyses. All method blank results were less than the MDL.

### **Standard Reference Material and/or Laboratory Control Sample (LCS)**

An SRM was analyzed in connection with TOC and LCS samples were analyzed for Ammonia, nitrogen and Orthophosphate Phosphorous the frequency noted in Table 2. All percent recoveries were within the acceptance limits.

### **Matrix Spikes**

Matrix spikes (MS) were analyzed in conjunction with ammonia nitrogen, orthophosphate phosphorus, TOC and AVS at the frequency noted in Table 2. All matrix spike percent recoveries were within the acceptance limits listed in the SAP, except for the following:

The AVS matrix spike recovery was outside the control limit of 65 – 135% for spiked sample L48629-3, with a measured recovery of 52%. The spike blank recovery associated with this matrix spike was within the control limit of 80 – 120% recovery. AVS matrix spike recoveries for freshwater sediments are routinely below the lower acceptance limit while spike blank recoveries are acceptable; therefore, the low MS recovery is assumed to be due to matrix interference. All sample results for AVS have been qualified with a JG flag to indicate that a low bias likely exists. The extent of the bias is uncertain.

### **Laboratory Replicate Samples**

A set of laboratory triplicates was analyzed for each of the conventional parameters at the frequency noted in Table 2. The percent relative standard deviation (%RSD) for each triplicate set was less than or equal to the 20% acceptance limit for all parameters.

### **Additional QA Issues**

Each PSD sample is checked for accuracy by summing the phi sizes to verify that the results are 100% +/- 10%. For Sample L48629-4, the sum of the PSD values was 113% which is greater than 110%. The sample was re-analyzed and showed similar results compared to the initial analysis. All PSD data for L48629-4 have been qualified with the J flag.

## METALS CHEMISTRY

### Completeness

Metals data are reported for all samples listed in Table 1. These samples were analyzed in association with the complete set of QC samples outlined in Table 2.

### Methods

SEM extracts were prepared by the Conventional unit of the KCEL using the EPA method for AVS (1991). These extracts were analyzed by EPA methods 245.1 rev 3 (CVAA Mercury) and 200.7 (ICP metals). Total recoverable metals were analyzed in accordance with EPA method 6020A (ICPMS metals) and EPA method 7471B (CVAA Mercury).

### Target List

The reported target list includes the following for total recoverable metals: silver, arsenic, cadmium, chromium, copper, nickel, lead, phosphorus, zinc and mercury. The reported target list for SEM includes: silver, arsenic, cadmium, chromium, copper, nickel, lead, zinc and mercury.

### Detection Limits

The method detection limits (MDLs) reported for Metals parameters are within the requirements defined in the draft SAP or detectable levels were reported for all samples, except for the following, discussed in wet weight:

- For Sample L48633-1, the Total Phosphorus MDL was 240 mg/Kg compared to the draft SAP MDL of 2.5 mg/Kg. No Total Phosphorus was detected in the sample. The higher MDL was the result of additional dilution required to eliminate internal standard interference.
- For Sample L48629-8, the Extractable Silver MDL was 0.4 mg/Kg compared to the draft SAP MDL of 0.08 mg/Kg. No Extractable Silver was detected in the sample. The higher MDL was the result of additional dilution required to eliminate matrix interference. Additionally, no Extractable Silver was detected in any of the other samples, despite the lower MDL of 0.08 mg/Kg.

### Reporting Requirements (significant figures, units, basis and qualifiers)

For analyses performed at the KCEL, data are reported in accordance with laboratory policy at the time the data were generated. Data are reported to three significant figures for results greater than the RDL and two significant figures for results equal to or less than the RDL. For results reported with less than two or three significant figures, significant zeroes are implied.

In the Comprehensive Report attached, Metals parameters are reported in mg/Kg, dry weight basis, for all elements. The MDL and RDL values for each individual sample are reported in the same units and basis as the sample result. For any result measured at less than the MDL or less than the RDL, a <MDL or <RDL qualifier is added, respectively. Other qualifiers added are based on QC failures and are individually explained in this narrative.

### Storage Conditions and Holding Times

Sample storage conditions and holding times have been evaluated using guidelines established during the SAP. The dates and holding time criteria for the actual storage conditions used for metals analyses are listed in the tables below.

#### **Total Metals**

Parameter	Lab ID#	Date Collected	Date Digested	Date Analyzed	Sample Holding Time	Digestate/Extract Holding Time
Total metals by ICPMS <sup>a</sup>	All	10, 12-Aug-09	27-Oct-09	02, 04-Nov-09	2 years at -18°C	6 months at 20°C
Total Hg by CVAA	All	10, 12-Aug-09	31-Aug-09	31-Aug-09	28 days at -18°C	NA

<sup>a</sup> Total Metals by ICPMS include Ag, As, Cd, Cr, Cu, Ni, P, Pb, Zn

#### **Simultaneously Extractable Metals (SEM)**

Parameter	Lab ID#	Date	Date	Date	Sample	Digestate/Extract
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		Collected	AVS/SEM Extracted	Analyzed	Holding Time	Holding Time
SEM by ICP <sup>a</sup>	L48629-1 thru -6	10-Aug-09	19-Aug-09	24-Aug-09	14 days at 4°C	14 days at 20°C
	L48629-7 thru -9 and L48633-6	10-Aug-09	20-Aug-09			
SEM Hg by CVAA	L48629-1 thru -6	10-Aug-09	19-Aug-09	25-Aug-09	14 days at 4°C	14 days at 20°C
	L48629-7 thru -9 and L48633-6	10-Aug-09	20-Aug-09			

<sup>a</sup> SEM by ICP include Ag, As, Cd, Cr, Cu, Ni, Pb, Zn

Sample storage conditions and holding times were met for all samples in this data submission.

#### **Method Blanks**

All method blanks were less than the MDL.

#### **Laboratory Control Samples**

For total metals, multiple LCS samples were run in order to cover as many reported elements as possible (no LCS is available for phosphorus). Three LCS' were analyzed in association with total recoverable metals included in this data submission. All LCS recoveries were within the defined QC limits for total metals analyses.

No sediment LCS or Standard Reference Material (SRM) is available for the SEM procedure. Spike blanks were run to evaluate the performance of the ICP and CVAA analyses of the extracts. All spike blank recoveries were within acceptance limits.

#### **Matrix Spikes**

Matrix spike percent recoveries were within the 75% - 125% QC limits for all total metals and SEM analyses, with the following exception.

Spiked Sample ID	Parameter	Matrix Spike Recovery	Sample Flag
L49629-7	Total Chromium	25	J

The unacceptable recoveries are likely due to variability of the sample background levels of Chromium relative to the spike level. Post digestion spikes for this element into the background sample and lab duplicate show acceptable recovery, indicating that the sample matrix was not influencing the spike recoveries. The parameter results for Total Chromium for Sample L48629-7 and the matrix spike have been qualified with a J flag to indicate the reported values should be treated as estimates.

#### **Matrix Spike Duplicate Samples**

Matrix spike duplicate (MSD) samples were analyzed for total mercury only. All matrix spike duplicate (MSD) recoveries were within the 75% - 125% QC limit for total mercury analyses. The relative percent differences (RPDs) for the MSD results were less than or equal to the QC limit of 20%.

#### **Laboratory Replicate Samples**

The relative percent differences (RPDs) for laboratory duplicate (LD) results for all total metals and SEM were less than or equal to the QC limit of 20% with one exception. The RPD value for Total Chromium for sample L48629-7 was outside the 20% limit at 32%. A J flag has been applied to the Total Chromium value for the sample and the lab duplicate to indicate the reported values should be treated as estimates. No other sample data has been flagged since it is unknown if the heterogeneity applies to other samples.

## ORGANIC CHEMISTRY

### **Completeness**

Organics data are reported for all samples and parameters summarized in Table 1. These samples were analyzed in association with the complete set of QC samples outlined in Table 2.

### **Methods**

BNAs and selected EDCs (bis(2-ethylhexyl)adipate, bisphenol A, total 4-nonylphenol) were extracted and analyzed in accordance with EPA methods 3550B and 8270D. The hormonal EDCs were analyzed by the Ternes Method (2002). Polybrominated Diphenyl Ethers (PBDE) were analyzed in accordance with EPA Method 1614 modified with GC/ICPMS detection. PCB and chlorinated pesticides analysis was performed in accordance with EPA methods 8082 and 8081A. WTPH-Dx analysis was conducted according to Ecology method NWTPH-DX.

### **Target List**

The reported BNA target list includes all compounds specified in *Table 1 - Marine Sediment Quality Standards Chemical Criteria* and *Table 3 - Puget Sound Marine Sediment Cleanup Screening Levels Chemical Criteria* contained in Chapter 173-204 WAC with the exception of benzo(j)fluoranthene. The KC Laboratory has verified that analytical conditions are sufficient to calculate a total benzofluoranthene result using the reported *b* and *k* isomers.

The reported EDC target lists includes bis(2-ethylhexyl)adipate, bisphenol A, total 4-nonylphenol, estrone, estradiol and ethynyl estradiol.

Reported PCB data include Aroclors 1016, 1221, 1232, 1242, 1248, 1254 and 1260.

### **Detection Limits, Units and Significant Figures**

The detection limits (MDLs) for Organics parameters listed in either version of the SAP (original - 2004 or the draft - 2008) do not necessarily reflect the method performance available at the time these samples were analyzed. Wet weight detection limits routinely reported for these analyses are included in the appendices of this narrative. Only 2 parameters (Aniline and 2,4-Dinitrotoluene) showed MDL and RDL values higher than the detection limits routinely reported for these parameters. For all other organics parameters, the reported MDLs and RDLs met or were lower than the detection limits routinely reported.

The original SAP (2004) defines TOC-normalized MDL requirements for Non-ionizable Organic parameters, based on a nominal dry-weight TOC concentration of 5,000 mg/Kg, or 0.5%. All samples analyzed had dry-weight TOC values above 5,000 mg/Kg and thus could be compared to the listed TOC-normalized MDLs. All MDLs for the Non-ionizable Organic parameters were below the associated SMS criteria. This allows comparison of sample results to SMS levels without the problem of detection limits higher than the SMS levels.

### **Reporting Requirements (significant figures, units, basis and qualifiers)**

For analyses performed at the KC Laboratory, data are reported in accordance with laboratory policy at the time the data were generated. Data are reported to three significant figures for results greater than the RDL and two significant figures for results equal to or less than the RDL. For results reported with less than two or three significant figures, significant zeroes are implied.

In the Comprehensive Report attached, Organics parameters are reported on a dry weight basis. For all parameters, the MDL and RDL values for each individual sample are reported in the same units and basis as the sample result. Any result measured at less than the MDL or less than the RDL, a <MDL or <RDL qualifier is added, respectively. Other qualifiers added are based on QC failures and are individually explained in this narrative.

### **Storage Conditions and Holding Times**

Sample storage conditions and holding times have been evaluated using guidelines established in the SAP. The dates and holding time criteria for the actual storage conditions used for organics analyses are listed in the table below.

Parameter	Lab ID#	Date Collected	Date Extracted	Date Analyzed	Sample Holding Time	Extract Holding Time
BNAs	All	10, 12-Aug-09	29-Oct-2009	19 thru 20-Nov-2009	1 years at -18°C	40 days at 4°C
Hormonal EDCs	All	10, 12-Aug-09	09-Sep-2009	01 thru 02-Oct-2009	1 years at -18°C	40 days at 4°C
PBDEs	All	10, 12-Aug-09	19-Aug-2009	25 thru 26-Sep-2009	1 years at -18°C	40 days at 4°C
Pesticides	All	10, 12-Aug-09	19-Aug-2009	17 thru 18-Sep-2009	1 years at -18°C	40 days at 4°C
PCBs	All	10, 12-Aug-09	30-Sep-2009	22 thru 23-Oct-2009	1 years at -18°C	40 days at 4°C
WTPH-Dx	All	10, 12-Aug-09	17-Aug-2009	18 thru 19-Sep-2009	14 days at 4°C	40 days at 4°C

Sample storage conditions and holding times were met for all samples in this data submission.

### **Method Blanks**

Method blanks were analyzed for all Organics parameters and all method blank results were less than the MDL, except as noted below:

#### **1. BNAs**

The method blank analyzed with BNAs had a result above the MDL for Bis(2-ethylhexyl) Phthalate at 26.2 ug/Kg and Di-N-Butyl Phthalate at 4 ug/Kg. All samples have a sample to method blank ratio, on a wet-weight basis, of 5 or less have been qualified with a "B" flag and should be considered significantly biased by lab contamination, except for Samples L48633-2 and L48633-8. These 2 samples had a ratio >10 for Bis(2-ethylhexyl) Phthalate and therefore have no flag added for that parameter and can be considered unbiased by lab contamination.

#### **2. PBDEs**

The method blank analyzed with the PBDEs had a result above the MDL for PentaBDE-99 at 0.007 ug/Kg and TetraBDE-47 at 0.0089 ug/Kg. Samples where the sample to method blank ratio is 5 or less, on a wet-weight basis, have been qualified with a "B" flag. Samples with ratios above 5 but <= 10, on a wet-weight basis, have been qualified with a "B3" flag. Sample results qualified with the B or B3 flag should be treated as estimated values. Samples where the ratio is >10 or where the results were <MDL have no flag added and can be considered unbiased by lab contamination.

### **Surrogate Recoveries**

Surrogate recovery acceptance limits for sediment samples have been developed based on historical lab performance using the current analytical methods. The exception to this is Method NWTPH-Dx where method-defined surrogate acceptance limits are applied.

#### **1. BNAs**

For BNA sample data, surrogate recoveries may be evaluated separately for the acid and base/neutral fractions. Within each fraction, 2 or more surrogates must be outside the acceptance limits in order to qualify the associated sample data. No BNA sample had more than 1 surrogate outside the acceptance limits for each fraction.

#### **2. PCBs**

Sample data may be qualified when individual surrogate recoveries are outside lab-specific acceptance limits. All surrogate recoveries were within the lab-specific acceptance limits for all samples in this data submission.

#### **3. Chlorinated Pesticides**

Sample data may be qualified when individual surrogate recoveries are outside lab-specific acceptance limits. All surrogate recoveries were within the lab-specific acceptance limits for all samples in this data submission.

#### 4. WTPH-Dx

All surrogate recoveries were within the method-specific acceptance limits for 2-fluorobiphenyl for all samples in this data submission. Recovery of pentacosane from Samples L48633-2 and -9 exceeded the upper control limit. The associated WTPH-Dx sample results were not qualified since the high recovery is likely due to interference from background pentacosane or a similar coeluting compound. This type of interference does not necessarily indicate a positive bias to the WTPH-Dx results.

#### 5. EDC

Sample data may be qualified when individual surrogate recoveries are outside lab-specific acceptance limits. All surrogate recoveries were within the lab-specific acceptance limits for all samples in this data submission except for Samples L48629-4 and -5. The recoveries for D4-4-Nonyl Phenol were slightly above the 150% upper limit at 155% and 161%, respectively. The results for the associated samples were either <MDL or just above the MDL so it is unlikely the reported results were significantly biased.

#### **Standard Reference Material (SRM) and/or Laboratory Control Sample (LCS)**

SRMs are available only for selected parameters for the BNAs, Chlorinated Pesticides and PCBs. Acceptance limits for the certified parameters reported in this data set have been developed using historical lab data. SRM recoveries outside these lab-defined limits indicate the method has not performed as expected and the associated sample data may be qualified. An LCS is available for 11 of the individual PBDE parameters reported. Acceptance limits are 80% to 120% for each.

##### 1. BNAs

The sediment SRM analyzed in association with the reported BNA results is 1944, certified by the National Institute of Standards and Technology (NIST). The certified organics parameters in SRM 1944 are only a partial list of all the BNA compounds reported in this analysis. All measured recoveries for this SRM were within acceptance limits.

##### 2. Chlorinated Pesticides

The sediment SRM analyzed in association with the reported Chlorinated Pesticides results is 1944, certified by the NIST. SRM 1944 contains certified levels of 4,4'-DDT and alpha-Chlordane. All measured recoveries for this SRM were within acceptance limits.

##### 3. PCBs

The sediment SRM analyzed in association with the reported PCB results is HS2, certified by the National Research Council of Canada. SRM HS2 contains Aroclor 1254. All measured recoveries for this SRM were within acceptance limits.

##### 4. PBDEs

The LCS analyzed with the PBDE samples has certified values for 11 of the 14 parameters analyzed by this method. The recoveries for DecaBDE-209 and TriBDE-17 were above the 80 to 120% acceptance limits at 207% and 145%, respectively. Since all samples were <MDL for TriBDE-17, the reported results were not biased by the high recovery. The DecaBDE-209 results for all samples are being qualified with a J flag to indicate the reported values are estimates.

#### **Matrix Spikes and Spike Blanks**

Matrix Spikes (MS) and Spike Blanks (SB) have been analyzed for BNAs, EDCs, PBDEs, PCBs, WTPH-Dx and Chlorinated Pesticides. All MS, MSD and SB recoveries were within acceptance limits except for the following:

##### 1. BNAs

- The recovery for Aniline in the SB, MS and MSD was 0% compared to the lower acceptance limit of 10%. Since no sample showed a measured response above the MDL, the low recovery may indicate that Aniline could not be detected at the reported MDL. The MDL and RDL values should be treated as estimates.

- The recovery for Di-N-Octyl Phthalate in the MSD at 156% was slightly above upper acceptance limit of 151%. It is not expected that this indicates a bias to the reported data since all other QC for this parameter are acceptable.

## 2. PBDEs

The recovery for DecaBDE-209 in the matrix spike was 44% compared to the lower acceptance limit of 50%. The spike blank recovery was 36% which is also below the lower acceptance limit of 50%. All DecaBDE-209 results have been qualified with a J flag to indicate the reported values are estimates.

## 3. Chlorinated Pesticides

Selected parameters showed measured recoveries below the acceptance limits for the spike blank but were acceptable for the matrix spike or matrix spike duplicate, with the exception of Endrin Aldehyde. This parameter showed 0% recovery for all spikes. Since no sample showed a measured response above the MDL, the low recovery may indicate that Endrin Aldehyde could not be detected at the reported MDL. The MDL and RDL values should be treated as estimates.

### **Laboratory Replicate Samples**

A laboratory duplicate sample(s) was analyzed for each Organics parameter. The relative percent differences (RPDs) for laboratory duplicates are compared to the acceptance limits when at least one value is at or above the RDL. All RPD values that met this were less than or equal to the acceptance limit of 35%, except for the following:

#### 1. BNAs

The RPD value for Chrysene for Sample L48629-8 was outside the 35% limit at 40%. A J flag has been applied to the Chrysene value for Sample L48629-8 to indicate the reported value should be treated as an estimate. No other sample data for Chrysene has been flagged since it is unknown if the heterogeneity applies to other samples.

#### 2. PBDEs

The RPD value for DecaBDE-209 for Sample L48629-8 was outside the 35% limit at 72%. All sample data for DecaBDE-209 have been qualified with the J flag to indicate the results are estimated values since the laboratory duplicate, SB, MS and LCS all showed unacceptable results.

#### 3. WTPH-Dx

The RPD values for the Diesel Range and Lube Oil Range results for Sample L48633-1 were both outside the 35% limit at 200%. A J flag has been applied to both values for this sample to indicate the reported values should be treated as estimates. No other sample data for Diesel Range and Lube Oil Range results have been flagged since it is unknown if the observed heterogeneity applies to other samples.

### **Additional Data Quality Issues**

#### PCBs

The continuing calibration checks for Aroclor 1260 were below the acceptance limit for several samples. This Aroclor was detected only in Samples L48633-2, -8 and -9, therefore only the results for these samples have been qualified with a JG flag to indicate the reported values may be biased low.

**TABLE 1 SEDIMENT SAMPLE INVENTORY**

Sample		Locator	AVS	PSD	Nutrients <sup>1</sup>	Solids, <sup>2</sup> pH	TOC	Total Metals <sup>3</sup>	SEM <sup>4</sup>	BNAs <sup>5</sup>	EDCs <sup>6</sup>	Pest/ PCBs/PBDEs	WTPH-Dx
L48633-1	0478	0478		X	X	X	X	X		X	X	X	X
L48633-2	A434	A434		X	X	X	X	X		X	X	X	X
L48633-3	00631	00631		X	X	X	X	X		X	X	X	X
L48633-4	0432	0432		X	X	X	X	X		X	X	X	X
L48633-5	0474	0474		X	X	X	X	X		X	X	X	X
L48633-6	0322	0322	X	X	X	X	X	X	X	X	X	X	X
L48633-7	A320	A320		X	X	X	X	X		X	X	X	X
L48633-8	0317	0317		X	X	X	X	X		X	X	X	X
L48633-9	A315	A315		X	X	X	X	X		X	X	X	X
L48629-1	X322	X322	X	X	X	X	X	X	X	X	X	X	X
L48629-2	BB322	BB322	X	X	X	X	X	X	X	X	X	X	X
L48629-3	E322	E322	X	X	X	X	X	X	X	X	X	X	X
L48629-4	F322	F322	X	X	X	X	X	X	X	X	X	X	X
L48629-5	FF322	FF322	X	X	X	X	X	X	X	X	X	X	X
L48629-6	AD322	AD322	X	X	X	X	X	X	X	X	X	X	X
L48629-7	AE322	AE322	X	X	X	X	X	X	X	X	X	X	X
L48629-8	G322	G322	X	X	X	X	X	X	X	X	X	X	X
L48629-9	QQ322	QQ322	X	X	X	X	X	X	X	X	X	X	X
L48629-10	P322	P322	Could not be collected										

1 Nutrients = Ammonia nitrogen, o-Phosphate, Total phosphorus (analyzed and reported with Metals).

2 Solids = Total Solids.

3 Total Metals = Hg, Ag, As, Cd, Cr, Cu, Pb, Ni, P and Zn.

4 SEM = Ag, As, Cd, Cr, Cu, Hg, Ni, Pb and Zn.

5 BNAs = low-level, including chlorobenzenes.

6 EDCs = bis(2-ethylhexyl)adipate, bisphenol A, total 4-nonylphenol, estrone, estradiol and ethynyl estradiol

**TABLE 2**  
**QC SAMPLE FREQUENCY FOR SEDIMENT MICROBIAL, CHEMICAL AND PHYSICAL PARAMETERS**

<b>Parameter</b>	<b>Method Blank</b>	<b>Duplicate</b>	<b>Triplicate</b>	<b>Matrix Spike</b>	<b>SRM / LCS</b>	<b>Surrogates</b>
Ammonia Nitrogen, o-Phosphate	1 per QC batch	See Triplicate	5% minimum, 1 per QC batch	5% minimum, 1 per QC batch	No	No
pH	No	See Triplicate	5% minimum, 1 per QC batch	No	No	No
PSD	No	See Triplicate	5% minimum, 1 per QC batch	No	No	No
Total Solids	1 per QC batch	See Triplicate	5% minimum, 1 per QC batch	No	No	No
TOC	1 per QC batch	See Triplicate	5% minimum, 1 per QC batch	5% minimum, 1 per QC batch	1 per QC batch	No
AVS	1 per QC batch	See Triplicate	5% minimum, 1 per QC batch	5% minimum, 1 per QC batch	No	No
Metals, SEM Metals	1 per QC batch	5% minimum, 1 per QC batch	No	5% minimum, 1 per QC batch	1 or more LCS per QC batch (total metals only)	No
BNAs / EDCs	1 per QC batch	5% minimum, 1 per QC batch	No	5% minimum, 1 per QC batch	1 per QC batch (BNAs only)	Yes
PCBs/Chlorinated Pesticides	1 per QC batch	5% minimum, 1 per QC batch	No	5% minimum, 1 per QC batch	1 per QC batch	Yes
WTPH-Dx	1 per QC batch	5% minimum, 1 per QC batch	No	No	No	Yes

**TABLE 3 - SUMMARY OF DATA QUALIFIERS**

Qualifier	Definition
<MDL	Applied when a target analyte is not detected or detected at a concentration less than the associated method detection limit (MDL). The MDL is the lowest concentration at which a sample result will be reported.
<RDL	Applied when a target analyte is detected at a concentration greater than or equal to the associated MDL but less than the associated reporting detection limit (RDL). RDL is defined as the lowest concentration at which an analyte can reliably be quantified.
RDL	Applied when a target analyte is detected at a concentration that, in the raw data is equal to the RDL.
TA	Applied to a sample result when additional narrative information is available in the text field. The additional information may help to qualify the sample result but is not necessarily covered by any other qualifier.
B	<p><b>B (including B2 and B3)</b> are applied when the parameter was detected at a concentration at or above the MDL in the associated blank(s) and has met the appropriate rule or condition, as defined by the method or regulatory program.</p> <p>Use: Application of the “B” flags depends on the ratio of the sample to blank result and the particular parameter according to these rules:</p> <ul style="list-style-type: none"> <li>- Add a “B” flag to all parameters if the associated blank is <math>\geq</math> the MDL and the sample result is <math>\geq</math> MDL but <math>\leq</math> 5 times the blank.</li> <li>- Add a “B2” flag to common organic lab contaminants (Acetone, 2-Butanone, Methylene Chloride, Bis(2-ethylhexyl) Phthalate, Butyl Benzyl Phthalate and Di-n-butyl Phthalate) if the method blank is <math>\geq</math> the MDL and the sample result is <math>&gt; 5</math> and <math>\leq 10</math> times the blank.</li> <li>- Add a “B3” flag to all other parameters if the associated blank is <math>\geq</math> the MDL and the sample result is <math>&gt; 5</math> and <math>\leq 10</math> times the blank.</li> </ul>
E	Applied to a sample result that was measured at a concentration greater than the calibration range of the method. It is applied when the detected analyte concentration exceeds the upper instrument calibration limit and further dilution is not feasible. The reported value is an estimated analyte concentration.
J	Applied to a sample result that is considered an estimated value.
JG	Applied to a sample result that is considered an estimated value with a low bias. This will typically be applied when QC results indicate the recovery of the analyte is below the expected limits of the method.
JL	Applied to a sample result that is considered an estimated value with a high bias. This will typically be applied when QC results indicate the recovery of the analyte is above the expected limits of the method.

## ORGANIC CHEMISTRY Detection Limit Values

Method = EPA 3550B / 8270C (GC/MS)

LIMS Product = BNALL

ug/Kg wet weight basis

Analyte	MDL	RDL	Analyte	MDL	RDL
1,2,4-Trichlorobenzene	0.27	0.53	Benzo(g,h,i)perylene	2.7	5.3
1,2-Dichlorobenzene	0.27	0.53	Benzoic Acid	13	26.7
1,2-Diphenylhydrazine	2.7	5.3	Benzyl alcohol	5.3	10.7
1,3-Dichlorobenzene	0.27	0.53	Benzyl Butyl Phthalate	5.3	10.7
1,4-Dichlorobenzene	0.27	0.53	Bis(2-Chloroethoxy)Methane	13	26.7
2,4,5-Trichlorophenol	13	26.7	Bis(2-Chloroethyl)Ether	13	26.7
2,4,6-Trichlorophenol	13	26.7	Bis(2-Chloroisopropyl)Ether	13	26.7
2,4-Dichlorophenol	13	26.7	Bis(2-ethylhexyl)Phthalate	5.3	10.7
2,4-Dimethylphenol	2.7	5.3	Caffeine	5.3	10.7
2,4-Dinitrophenol	27	53.3	Carbazole	2.7	5.3
2,4-Dinitrotoluene	27	53.3	Chrysene	2.7	5.3
2,6-Dinitrotoluene	27	53.3	Coprostanol	53	107
2-Chloronaphthalene	5.3	10.7	Dibenzo(a,h)anthracene	2.7	5.3
2-Chlorophenol	5.3	10.7	Dibenzofuran	2.7	5.3
2-Methylnaphthalene	2.7	5.3	Diethyl Phthalate	5.3	10.7
2-Methylphenol	5.3	10.7	Dimethyl Phthalate	5.3	10.7
2-Nitroaniline	27	53.3	Di-N-Butyl Phthalate	5.3	10.7
2-Nitrophenol	27	53.3	Di-N-Octyl Phthalate	5.3	10.7
3,3'-Dichlorobenzidine	27	53.3	Fluoranthene	2.7	5.33
3-Methylphenol	5.3	10.7	Fluorene	2.7	5.33
3-Nitroaniline	27	53.3	Hexachlorobenzene	0.53	1.07
4,6-Dinitro-O-Cresol	27	53.3	Hexachlorobutadiene	1.3	2.7
4-Bromophenyl Phenyl Ether	13	26.7	Hexachlorocyclobutadiene	27	53.3
4-Chloro-3-Methylphenol	13	26.7	Hexachloroethane	13	26.7
4-Chloroaniline	27	53.3	Indeno(1,2,3-cd)Pyrene	2.7	5.3
4-Chlorophenyl Phenyl Ether	13	26.7	Isophorone	5.3	10.7
4-Methylphenol	5.3	10.7	Naphthalene	2.7	5.3
4-Nitroaniline	27	53.3	Nitrobenzene	5.3	10.7
4-Nitrophenol	27	53.3	N-Nitrosodimethylamine	13	26.7
Acenaphthene	2.7	5.33	N-Nitrosodi-N-Propylamine	5.3	10.7
Acenaphthylene	2.7	5.3	N-Nitrosodiphenylamine	5.3	10.7
Aniline	13	26.7	Pentachlorophenol	13	26.7
Anthracene	2.7	5.3	Phenanthrene	2.7	5.3
Benzo(a)anthracene	2.7	5.3	Phenol	5.3	10.7
Benzo(a)pyrene	2.7	5.3	Pyrene	2.7	5.3
Benzo(b)fluoranthene	2.7	5.3	Pyridine	26	53.3
Benzo(k)fluoranthene	2.7	5.3			

Method = EPA 8081A/8082 (GC/ECD)

LIMS Product = PESTLL

ug/Kg wet weight basis

Analyte	MDL	RDL
4,4'-DDD	0.67	1.33
4,4'-DDE	0.67	1.33
4,4'-DDT	0.67	1.33
Aldrin	0.67	1.33
Alpha-BHC	0.33	0.667
Alpha-Chlordane	0.33	0.667
Beta-BHC	0.33	0.667
Delta-BHC	0.33	0.667

Dieldrin	0.67	1.33
Endosulfan I	0.67	1.33
Endosulfan II	0.67	1.33
Endosulfan Sulfate	0.67	1.33
Endrin	0.67	1.33
Endrin Aldehyde	0.67	1.33
Gamma-BHC (Lindane)	0.33	0.667
Gamma-Chlordane	0.33	0.667
Heptachlor	0.33	0.667
Heptachlor Epoxide	0.33	0.667
Methoxychlor	3.3	6.67
Toxaphene	6.7	13.3

**Method = EPA 8081A/8082 (GC/ECD)**

**LIMS Product = PCBLL**

**ug/Kg wet weight basis**

Analyte	MDL	RDL
Aroclor 1016	0.83	1.67
Aroclor 1221	1.7	3.33
Aroclor 1232	1.7	3.33
Aroclor 1242	0.83	1.67
Aroclor 1248	0.83	1.67
Aroclor 1254	0.83	1.67
Aroclor 1260	0.83	1.67

**Method = EPA 3550B / 8270C (GC/MS)**

**LIMS Product = EDC**

**ug/Kg wet weight basis**

Analyte	MDL	RDL
Bis(2-ethylhexyl)adipate	10	20
Bisphenol A	10	20
Total 4-Nonylphenol	20	40

**Method = NWTPH-DX (GC/FID)**

**LIMS Product = WTPH-Dx**

**mg/Kg wet weight basis**

Analyte	MDL	RDL
Diesel range (C13 - C24)	25	25
Lube oil range (>C24)	25	25

## CHAIN OF CUSTODY FORMS

## CHAIN OF CUSTODY

RELINQUISHED BY <i>Jeff Brown</i>	Date 8-10-09	Time 1705
RECEIVED BY <i>OKR</i>	Date 8-10-09	Time 1705
Sample Number(s) L 48629 1-9		
Personnel SH/JP		

Page: 1

NEWAUKUM CREEK SEDIMENTS-2009

0322

Login Number: P48629

Project Number: 421240C

Sample No. (Type)	P48629-1	P48629-2	P48629-3
Locator	X322	BB322	E322
Short Loc. Desc.	NEWK MOUTH	Newaukum	NEWK 400
Locator Desc.	NEWAUKUM CREEK NEAR THE MOUTH OFF OF	SE 392ND ST	NEWAUKUM CREEK AT SE 400 ST BRIDGE
Site	STREAMS	STREAMS	STREAMS
Start Date/Time	10-AUG-09/1110	10-AUG-09/0950	10-AUG-09/1240
End Date/Time			
Time Span			
Sample Depth			
Comments	Issaquah Cr. @ routine water site USGS S.E. 358TH ST	Issaquah Cr. @ Gilman Road BENTHOS SITE ENJ	Issaquah Cr. @ Dogwood Road TMPL - STEEP SLOPE
PERSONNEL	SH/JP	SH/JP	SH/JP
SAMP INFO			
SED DEPTH	0-5 cm	0-5 cm	0-5 cm
SED TYPE			
Dept., Matrix, Prod	3   FRSHWTRSED   AVS 3   FRSHWTRSED   NH3-KCL 3   FRSHWTRSED   ORTHOP-OL 3   FRSHWTRSED   PH 3   FRSHWTRSED   PSD 3   FRSHWTRSED   TOC 3   FRSHWTRSED   TOTS 6   FRSHWTRSED   AG-ICPMS 6   FRSHWTRSED   AG-SEM, EXT 6   FRSHWTRSED   AS-ICPMS 6   FRSHWTRSED   AS-SEM, EXT 6   FRSHWTRSED   CD-ICPMS 6   FRSHWTRSED   CD-SEM, EXT 6   FRSHWTRSED   CR-ICPMS 6   FRSHWTRSED   CR-SEM, EXT 6   FRSHWTRSED   CU-ICPMS	3   FRSHWTRSED   AVS 3   FRSHWTRSED   NH3-KCL 3   FRSHWTRSED   ORTHOP-OL 3   FRSHWTRSED   PH 3   FRSHWTRSED   PSD 3   FRSHWTRSED   TOC 3   FRSHWTRSED   TOTS 6   FRSHWTRSED   AG-ICPMS 6   FRSHWTRSED   AG-SEM, EXT 6   FRSHWTRSED   AS-ICPMS 6   FRSHWTRSED   AS-SEM, EXT 6   FRSHWTRSED   CD-ICPMS 6   FRSHWTRSED   CD-SEM, EXT 6   FRSHWTRSED   CR-ICPMS 6   FRSHWTRSED   CR-SEM, EXT 6   FRSHWTRSED   CU-ICPMS	EXTRA FOR PSD OC 3   FRSHWTRSED   AVS 3   FRSHWTRSED   NH3-KCL 3   FRSHWTRSED   ORTHOP-OL 3   FRSHWTRSED   PH 3   FRSHWTRSED   PSD 3   FRSHWTRSED   TOC 3   FRSHWTRSED   TOTS 6   FRSHWTRSED   AG-ICPMS 6   FRSHWTRSED   AG-SEM, EXT 6   FRSHWTRSED   AS-ICPMS 6   FRSHWTRSED   AS-SEM, EXT 6   FRSHWTRSED   CD-ICPMS 6   FRSHWTRSED   CD-SEM, EXT 6   FRSHWTRSED   CR-ICPMS 6   FRSHWTRSED   CR-SEM, EXT 6   FRSHWTRSED   CU-ICPMS

SAND  
SILT  
BROWN  
NO ODOR  
NO DEBRIS  
~ 40 spoons

SILT  
SAND  
BROWN  
NAT.  
W/P  
~ 30 spoons

SILT  
SAND  
BROWN  
NAT ODOR  
W/P  
~ 35 spoons

continue ...

## NEWAUKUM CREEK SEDIMENTS-2009

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No. (Type)	P48629-1	P48629-2	P48629-3
	6   FRSHWTRSED   CU-SEM, EXT	6   FRSHWTRSED   CU-SEM, EXT	6   FRSHWTRSED   CU-SEM, EXT
	6   FRSHWTRSED   HG-CVAA-M	6   FRSHWTRSED   HG-CVAA-M	6   FRSHWTRSED   HG-CVAA-M
	6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT
	6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS
	6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT
	6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS
	6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS
	6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT
	6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS
	6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT
	7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL
	7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC
	7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL
	7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL
	7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX
	ADDED PBDE EDC-LVI		ADDED PBDE EDC-LVI

continue ....

End of fieldsheet.

EDC-LVI  
PBDE

6 | FRSHWTRSED | CU-SEM, EXT  
6 | FRSHWTRSED | HG-CVAA-M  
6 | FRSHWTRSED | HG-SEM, EXT  
6 | FRSHWTRSED | NI-ICPMS  
6 | FRSHWTRSED | NI-SEM, EXT  
6 | FRSHWTRSED | P-ICPMS  
6 | FRSHWTRSED | PB-ICPMS  
6 | FRSHWTRSED | PB-SEM, EXT  
6 | FRSHWTRSED | ZN-ICPMS  
6 | FRSHWTRSED | ZN-SEM, EXT  
7 | FRSHWTRSED | BNALLFULL  
7 | FRSHWTRSED | EDC  
7 | FRSHWTRSED | PCBLL  
7 | FRSHWTRSED | PESTLL  
7 | FRSHWTRSED | WTPH-DX

Sample No. (Type) | P48629-10

Project Number: 421240C

Personnel: \_\_\_\_\_

NEWAUKUM CREEK SEDIMENTS-2009

## NEWAUKUM CREEK SEDIMENTS-2009

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No. (Type)	P48629-4	P48629-5	P48629-6
Locator	F322	AD322 FF 322	AD322
Short Loc. Desc.	Nwkm@416br	Nwk@Mahler	Nwk@Mahler
Locator Desc.	NEWAUKUM SAMPLE OFF BRIDGE	<del>US NEWAUKUM CR. @ MAHLER PARK SE 244</del> SE 424TH ST	US NEWAUKUM CR. @ MAHLER PARK SE 244
Site	STREAMS	STREAMS	STREAMS
Start Date/Time	10-AUG-09/1240	10-AUG-09/1300	1/322
End Date/Time			
Time Span			
Sample Depth			
Comments	Issaquah Cr. @ Newport Way - routine sit SE 416TH / RED HOUSE	Issaquah Cr. @ Sycamore Rd. MAHLER PARK SIGN	Issaquah Cr. @ 113th Place MAHLER PARK
PERSONNEL	SA/JP	SA/JP	
SAMP INFO			
SED DEPTH	0-5 cm	0-5 cm	0-5 cm
SED TYPE			
Dept., Matrix, Prod	3   FRSHWTRSED   AVS 3   FRSHWTRSED   NH3-KCL 3   FRSHWTRSED   ORTHOP-OL 3   FRSHWTRSED   PH 3   FRSHWTRSED   PSD 3   FRSHWTRSED   TOC 3   FRSHWTRSED   TOTS 6   FRSHWTRSED   AG-ICPMS 6   FRSHWTRSED   AG-SEM, EXT 6   FRSHWTRSED   AS-ICPMS 6   FRSHWTRSED   AS-SEM, EXT 6   FRSHWTRSED   CD-ICPMS 6   FRSHWTRSED   CD-SEM, EXT 6   FRSHWTRSED   CR-ICPMS 6   FRSHWTRSED   CR-SEM, EXT 6   FRSHWTRSED   CU-ICPMS	UNDER BRIDGE 3   FRSHWTRSED   AVS 3   FRSHWTRSED   NH3-KCL 3   FRSHWTRSED   ORTHOP-OL 3   FRSHWTRSED   PH 3   FRSHWTRSED   PSD 3   FRSHWTRSED   TOC 3   FRSHWTRSED   TOTS 6   FRSHWTRSED   AG-ICPMS 6   FRSHWTRSED   AG-SEM, EXT 6   FRSHWTRSED   AS-ICPMS 6   FRSHWTRSED   AS-SEM, EXT 6   FRSHWTRSED   CD-ICPMS 6   FRSHWTRSED   CD-SEM, EXT 6   FRSHWTRSED   CR-ICPMS 6   FRSHWTRSED   CR-SEM, EXT 6   FRSHWTRSED   CU-ICPMS	MUCH SED VIS. BRIDGE 3   FRSHWTRSED   AVS 3   FRSHWTRSED   NH3-KCL 3   FRSHWTRSED   ORTHOP-OL 3   FRSHWTRSED   PH 3   FRSHWTRSED   PSD 3   FRSHWTRSED   TOC 3   FRSHWTRSED   TOTS 6   FRSHWTRSED   AG-ICPMS 6   FRSHWTRSED   AG-SEM, EXT 6   FRSHWTRSED   AS-ICPMS 6   FRSHWTRSED   AS-SEM, EXT 6   FRSHWTRSED   CD-ICPMS 6   FRSHWTRSED   CD-SEM, EXT 6   FRSHWTRSED   CR-ICPMS 6   FRSHWTRSED   CR-SEM, EXT 6   FRSHWTRSED   CU-ICPMS

SILT  
Gravel  
Brown  
Nat. odor  
w/p  
~ 25 spoons

SILT  
SAND  
BR  
Nat  
w/p  
~ 25 spoons

SILT  
SAND  
Brown  
H<sub>2</sub>S slight?  
w/p  
~ 20 SP

continue ...

## NEWAUKUM CREEK SEDIMENTS-2009

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No. (Type)	P48629-4	P48629-5	P48629-6
	6   FRSHWTRSED   CU-SEM, EXT	6   FRSHWTRSED   CU-SEM, EXT	6   FRSHWTRSED   CU-SEM, EXT
	6   FRSHWTRSED   HG-CVAA-M	6   FRSHWTRSED   HG-CVAA-M	6   FRSHWTRSED   HG-CVAA-M
	6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT
	6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS
	6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT
	6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS
	6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS
	6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT
	6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS
	6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT
	7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL
	7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC
	7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL
	7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL
	7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX

ADDED PBDE  
EDC-LVI

continue ...

continue ...

Sample No. (Type)	P48629-7	P48629-8	P48629-9
	6   FRSHWTRSED   CU-SEM, EXT	6   FRSHWTRSED   CU-SEM, EXT	6   FRSHWTRSED   CU-SEM, EXT
	6   FRSHWTRSED   HG-CVAA-M	6   FRSHWTRSED   HG-CVAA-M	6   FRSHWTRSED   HG-CVAA-M
	6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT
	6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS
	6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT
	6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS
	6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS
	6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT
	6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS
	6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT
	7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL
	7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC
	7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL
	7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL
	7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX

ADDED PBDE  
EDC-LVI

NEWAUKUM CREEK SEDIMENTS-2009

## NEWAUKUM CREEK SEDIMENTS-2009

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No. (Type)	P48629-7	P48629-8	P48629-9
Locator	AE322	G322	QQ322
Short Loc. Desc.	Nwkm@248ds	NEWK 424	Newaukum
Locator Desc.	DS NEWAUKUM CR. @ SE 248TH	NEWAUKUM CREEK AT BRIDGE ON SE 424TH	SE 416TH -QUARRY
Site	STREAMS	STREAMS	STREAMS
Start Date/Time	10-AUG-09 1355	10-AUG-09 1425	10-AUG-09 155
End Date/Time			BRIDGE BEING REPLACED - ROAD CLOSING
Time Span			
Sample Depth			
Comments	McHUGH ADK Issaquah Cr. @ May Valley Rd. LINDAS FLOWERS	Issaquah Cr. @ 229th Dr. SE TMDL - GRAPEVINES	Issaquah Cr. @ Cedar Grove Rd. PARKING LOT
PERSONNEL	SH/JP	SH/JP	SH/JP
SAMP INFO			
SED DEPTH	0-5 cm	0-5 cm	0-5
SED TYPE			
Dept., Matrix, Prod	UNDER P.S. BRIDGE	UNDER BRIDGE	
	3   FRSHWTRSED   AVS	3   FRSHWTRSED   AVS	3   FRSHWTRSED   AVS
	3   FRSHWTRSED   NH3-KCL	3   FRSHWTRSED   NH3-KCL	3   FRSHWTRSED   NH3-KCL
	3   FRSHWTRSED   ORTHOP-OL	3   FRSHWTRSED   ORTHOP-OL	3   FRSHWTRSED   ORTHOP-OL
	3   FRSHWTRSED   PH	3   FRSHWTRSED   PH	3   FRSHWTRSED   PH
	3   FRSHWTRSED   PSD	3   FRSHWTRSED   PSD	3   FRSHWTRSED   PSD
	3   FRSHWTRSED   TOC	3   FRSHWTRSED   TOC	3   FRSHWTRSED   TOC
	3   FRSHWTRSED   TOTS	3   FRSHWTRSED   TOTS	3   FRSHWTRSED   TOTS
	6   FRSHWTRSED   AG-ICPMS	6   FRSHWTRSED   AG-ICPMS	6   FRSHWTRSED   AG-ICPMS
	6   FRSHWTRSED   AG-SEM, EXT	6   FRSHWTRSED   AG-SEM, EXT	6   FRSHWTRSED   AG-SEM, EXT
	6   FRSHWTRSED   AS-ICPMS	6   FRSHWTRSED   AS-ICPMS	6   FRSHWTRSED   AS-ICPMS
	6   FRSHWTRSED   AS-SEM, EXT	6   FRSHWTRSED   AS-SEM, EXT	6   FRSHWTRSED   AS-SEM, EXT
	6   FRSHWTRSED   CD-ICPMS	6   FRSHWTRSED   CD-ICPMS	6   FRSHWTRSED   CD-ICPMS
	6   FRSHWTRSED   CD-SEM, EXT	6   FRSHWTRSED   CD-SEM, EXT	6   FRSHWTRSED   CD-SEM, EXT
	6   FRSHWTRSED   CR-ICPMS	6   FRSHWTRSED   CR-ICPMS	6   FRSHWTRSED   CR-ICPMS
	6   FRSHWTRSED   CR-SEM, EXT	6   FRSHWTRSED   CR-SEM, EXT	6   FRSHWTRSED   CR-SEM, EXT
	6   FRSHWTRSED   CU-ICPMS	6   FRSHWTRSED   CU-ICPMS	6   FRSHWTRSED   CU-ICPMS

SAND  
SILT  
BR  
NAT  
W/P  
~30 spoon

SILT  
SAND  
BROWN  
NAT  
W/P  
~20 SP

SILT  
SAND  
B  
N  
W/P  
~20

continue ...

## NEWAUKUM CREEK SEDIMENTS-2009

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No.	(Type)	P48629-7	P48629-8	P48629-9
		6   FRSHWTRSED   CU-SEM, EXT	6   FRSHWTRSED   CU-SEM, EXT	6   FRSHWTRSED   CU-SEM, EXT
		6   FRSHWTRSED   HG-CVAA-M	6   FRSHWTRSED   HG-CVAA-M	6   FRSHWTRSED   HG-CVAA-M
		6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT
		6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS
		6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT
		6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS
		6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS
		6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT
		6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS
		6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT
		7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL
		7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC
		7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL
		7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL
		7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX
		ADDED PBDE	→	→
		EDC-LVI	→	→

continue ...

continue ...

		6   FRSHWTRSED   CU-SEM, EXT	6   FRSHWTRSED   CU-SEM, EXT	6   FRSHWTRSED   CU-SEM, EXT
		6   FRSHWTRSED   HG-CVAA-M	6   FRSHWTRSED   HG-CVAA-M	6   FRSHWTRSED   HG-CVAA-M
		6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT
		6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS
		6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT
		6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS
		6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS
		6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT
		6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS
		6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT
		7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL
		7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC
		7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL
		7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL
		7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX
		ADDED PBDE	→	→
		EDC-LVI	→	→

Personnel: \_\_\_\_\_

Project Number: 421240C

## NEWAUKUM CREEK SEDIMENTS-2009

## NEWAUKUM CREEK SEDIMENTS-2009

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No. (Type)	P48629-10
Locator	P322
Short Loc. Desc.	292ND AVE SE / SE 416TH INTERSECTION
Locator Desc.	
Site	STREAMS
Start Date/Time	
End Date/Time	
Time Span	
Sample Depth	
Comments	Issaquah Cr. @ SE 156th St. DOWNSTREAM SIDE
PERSONNEL	
SAMP INFO	
SED DEPTH	
SED TYPE	
Dept., Matrix, Prod	
	3 FRSHWTRSED AVS
	3 FRSHWTRSED NH3-KCL
	3 FRSHWTRSED ORTHOP-OL
	3 FRSHWTRSED EH
	3 FRSHWTRSED ESD
	3 FRSHWTRSED TOC
	3 FRSHWTRSED TOTS
	6 FRSHWTRSED AG-ICPMS
	6 FRSHWTRSED AG-SEM, EXT
	6 FRSHWTRSED AS-ICPMS
	6 FRSHWTRSED AS-SEM, EXT
	6 FRSHWTRSED CD-ICPMS
	6 FRSHWTRSED CD-SEM, EXT
	6 FRSHWTRSED CR-ICPMS
	6 FRSHWTRSED CR-SEM, EXT
	6 FRSHWTRSED CU-ICPMS

DELETE -  
NO ACCESS -  
NEW BARBED WIRE  
FENCE

continue ...

## NEWAUKUM CREEK SEDIMENTS-2009

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No. (Type) | P48629-10

6	FRSHWTRSED	CU-SEM, EXT
6	FRSHWTRSED	HG-CVAA-M
6	FRSHWTRSED	HG-SEM, EXT
6	FRSHWTRSED	NI-ICPMS
6	FRSHWTRSED	NI-SEM, EXT
6	FRSHWTRSED	P-ICPMS
6	FRSHWTRSED	PB-ICPMS
6	FRSHWTRSED	PB-SEM, EXT
6	FRSHWTRSED	ZN-ICPMS
6	FRSHWTRSED	ZN-SEM, EXT
7	FRSHWTRSED	BNALLFULL
7	FRSHWTRSED	EDC
7	FRSHWTRSED	PCBL
7	FRSHWTRSED	PESTLL
7	FRSHWTRSED	WTPH-DX

PBDE  
EDC-LVI

End of Fieldsheet.

... continue

EDC-LVI

PBDE

7	FRSHWTRSED	WTPH-DX
7	FRSHWTRSED	PESTLL
7	FRSHWTRSED	PCBL
7	FRSHWTRSED	EDC
7	FRSHWTRSED	BNALLFULL
6	FRSHWTRSED	ZN-SEM, EXT
6	FRSHWTRSED	ZN-ICPMS
6	FRSHWTRSED	PB-SEM, EXT
6	FRSHWTRSED	PB-ICPMS
6	FRSHWTRSED	P-ICPMS
6	FRSHWTRSED	NI-SEM, EXT
6	FRSHWTRSED	NI-ICPMS
6	FRSHWTRSED	HG-SEM, EXT
6	FRSHWTRSED	HG-CVAA-M
6	FRSHWTRSED	CU-SEM, EXT

7	FRSHWTRSED	WTPH-DX
7	FRSHWTRSED	PESTLL
7	FRSHWTRSED	PCBL
7	FRSHWTRSED	EDC
7	FRSHWTRSED	BNALLFULL
6	FRSHWTRSED	ZN-SEM, EXT
6	FRSHWTRSED	ZN-ICPMS
6	FRSHWTRSED	PB-SEM, EXT
6	FRSHWTRSED	PB-ICPMS
6	FRSHWTRSED	P-ICPMS
6	FRSHWTRSED	NI-SEM, EXT
6	FRSHWTRSED	NI-ICPMS
6	FRSHWTRSED	HG-SEM, EXT
6	FRSHWTRSED	HG-CVAA-M
6	FRSHWTRSED	CU-SEM, EXT

EDC-LVI

PBDE

7	FRSHWTRSED	WTPH-DX
7	FRSHWTRSED	PESTLL
7	FRSHWTRSED	PCBL
7	FRSHWTRSED	EDC
7	FRSHWTRSED	BNALLFULL
6	FRSHWTRSED	ZN-SEM, EXT
6	FRSHWTRSED	ZN-ICPMS
6	FRSHWTRSED	PB-SEM, EXT
6	FRSHWTRSED	PB-ICPMS
6	FRSHWTRSED	P-ICPMS
6	FRSHWTRSED	NI-SEM, EXT
6	FRSHWTRSED	NI-ICPMS
6	FRSHWTRSED	HG-SEM, EXT
6	FRSHWTRSED	HG-CVAA-M
6	FRSHWTRSED	CU-SEM, EXT

P48629-10

P48629-2

Sample No. (Type)

Personnel: \_\_\_\_\_

Project Number: 421240C

NEWAUKUM CREEK SEDIMENTS-2009

## STREAMS SEDIMENTS-LEGACY 2009

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No. (Type)	P48633-1	P48633-2	P48633-3
Locator	0478	A434	00631
Short Loc. Desc.	LITTLE BEAR		ISSMOUTH
Locator Desc.	LITTLE BEAR CREEK//522 E, WOODINVILL		ISSAQUAH CREEK MOUTH
Site	STREAMS	STREAMS	STREAMS
Start Date/Time	12-AUG-09/1225	12-AUG-09/1415	12-AUG-09/1115
End Date/Time			
Time Span	JP	JP	JP
Sample Depth			
Comments	Little Bear Creek-mouth	Thornton Creek-footbridge	Issaquah Creek-mouth
SAMP INFO			
SED DEPTH	0-5 cm	0-5 cm	0-5 cm
SED TYPE			
Dept., Matrix, Prod			
	3   FRSHWTRSED NH3-KCL	3   FRSHWTRSED NH3-KCL	3   FRSHWTRSED NH3-KCL
	3   FRSHWTRSED ORTHOP-OL	3   FRSHWTRSED ORTHOP-OL	3   FRSHWTRSED ORTHOP-OL
	3   FRSHWTRSED PH	3   FRSHWTRSED PH	3   FRSHWTRSED PH
	3   FRSHWTRSED PSD	3   FRSHWTRSED PSD	3   FRSHWTRSED PSD
	3   FRSHWTRSED TOC	3   FRSHWTRSED TOC	3   FRSHWTRSED TOC
	3   FRSHWTRSED TOTS	3   FRSHWTRSED TOTS	3   FRSHWTRSED TOTS
	5   FRSHWTRSED FC-MPN	5   FRSHWTRSED FC-MPN	5   FRSHWTRSED FC-MPN
	6   FRSHWTRSED AG-ICPMS	6   FRSHWTRSED AG-ICPMS	6   FRSHWTRSED AG-ICPMS
	6   FRSHWTRSED AG-SEM, EXT	6   FRSHWTRSED AG-SEM, EXT	6   FRSHWTRSED AG-SEM, EXT
	6   FRSHWTRSED AS-ICPMS	6   FRSHWTRSED AS-ICPMS	6   FRSHWTRSED AS-ICPMS
	6   FRSHWTRSED AS-SEM, EXT	6   FRSHWTRSED AS-SEM, EXT	6   FRSHWTRSED AS-SEM, EXT
	6   FRSHWTRSED CD-ICPMS	6   FRSHWTRSED CD-ICPMS	6   FRSHWTRSED CD-ICPMS
	6   FRSHWTRSED CD-SEM, EXT	6   FRSHWTRSED CD-SEM, EXT	6   FRSHWTRSED CD-SEM, EXT
	6   FRSHWTRSED CR-ICPMS	6   FRSHWTRSED CR-ICPMS	6   FRSHWTRSED CR-ICPMS
	6   FRSHWTRSED CR-SEM, EXT	6   FRSHWTRSED CR-SEM, EXT	6   FRSHWTRSED CR-SEM, EXT
	6   FRSHWTRSED CU-ICPMS	6   FRSHWTRSED CU-ICPMS	6   FRSHWTRSED CU-ICPMS
	6   FRSHWTRSED CU-SEM, EXT	6   FRSHWTRSED CU-SEM, EXT	6   FRSHWTRSED CU-SEM, EXT
	6   FRSHWTRSED HG-CVAA-M	6   FRSHWTRSED HG-CVAA-M	6   FRSHWTRSED HG-CVAA-M

SAND  
GRAVEL  
NO DEBRIS  
BROWN  
NO ODOR

SILT  
SAND  
BROWN  
H2S MOD  
W/P  
6 CORES

EXTRA FOR PSDG  
SILT  
SAND  
BROWN  
NO ODOR/DEBRIS  
7 CORE TUBES

continue ...

C.O.C

8/12/09

ON BACK →

## STREAMS SEDIMENTS-LEGACY 2009

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No.	(Type)	P48633-1	P48633-2	P48633-3
		6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT	6   FRSHWTRSED   HG-SEM, EXT
		6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS	6   FRSHWTRSED   NI-ICPMS
		6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT	6   FRSHWTRSED   NI-SEM, EXT
		6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS	6   FRSHWTRSED   P-ICPMS
		6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS	6   FRSHWTRSED   PB-ICPMS
		6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT	6   FRSHWTRSED   PB-SEM, EXT
		6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS	6   FRSHWTRSED   ZN-ICPMS
		6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT	6   FRSHWTRSED   ZN-SEM, EXT
		7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL	7   FRSHWTRSED   BNALLFULL
		7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC	7   FRSHWTRSED   EDC
		7   FRSHWTRSED   EDC-LVI	7   FRSHWTRSED   EDC-LVI	7   FRSHWTRSED   EDC-LVI
		7   FRSHWTRSED   PBDE	7   FRSHWTRSED   PBDE	7   FRSHWTRSED   PBDE
		7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL	7   FRSHWTRSED   PCBLL
		7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL	7   FRSHWTRSED   PESTLL
		7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX	7   FRSHWTRSED   WTPH-DX

continue ...

CHAIN OF CUSTODY

RELINQUISHED BY	Date	Time
<i>Jean Ryan</i>	8/12/09	1505
RECEIVED BY	Date	Time
<i>[Signature]</i>	8/12/09	1505
Sample Number(s)		
L48633 1-5, 8+9		
IAD		

## STREAMS SEDIMENTS-LEGACY 2009

Project Number: 421240C

Personnel: \_\_\_\_\_

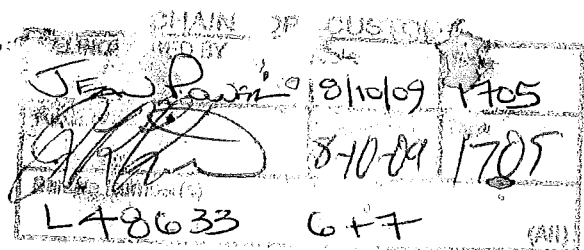
Sample No. (Type)	P48633-4	P48633-5	P48633-6
Locator	0432	0474	0322
Short Loc. Desc.		NORTH CR	NEWAK CR
Locator Desc.		NORTH CREEK//UPSTREAM SIDE OF FREEWA	NEWAUKUM CREEK//USGS GAGING STATION
Site	STREAMS	STREAMS	STREAMS
Start Date/Time	112-AUG-09/1330	112-AUG-09/1350	110-AUG-09/1140
End Date/Time	JP	JP	SH/JP
Time Span	~12 SPOONS		
Sample Depth	SAND, SILT, BROWN NAT. ODOR W/P		
Comments	McAleer Creek	North Creek	Newaukum Creek
SAMP INFO			
SED DEPTH	0-5 cm		0-5 cm
SED TYPE			
Dept., Matrix, Prod	3   FRSHWTRSED NH3-KCL 3   FRSHWTRSED ORTHOP-OL 3   FRSHWTRSED PH 3   FRSHWTRSED PSD 3   FRSHWTRSED TOC 3   FRSHWTRSED TOTS 5   FRSHWTRSED FC-MPN <del>DEL</del> 6   FRSHWTRSED AG-ICPMS 6   FRSHWTRSED AG-SEM, EXT 6   FRSHWTRSED AS-ICPMS 6   FRSHWTRSED AS-SEM, EXT 6   FRSHWTRSED CD-ICPMS 6   FRSHWTRSED CD-SEM, EXT 6   FRSHWTRSED CR-ICPMS 6   FRSHWTRSED CR-SEM, EXT 6   FRSHWTRSED CU-ICPMS 6   FRSHWTRSED CU-SEM, EXT 6   FRSHWTRSED HG-CVAA-M	3   FRSHWTRSED NH3-KCL 3   FRSHWTRSED ORTHOP-OL 3   FRSHWTRSED PH 3   FRSHWTRSED PSD 3   FRSHWTRSED TOC 3   FRSHWTRSED TOTS 5   FRSHWTRSED FC-MPN <del>DEL</del> 6   FRSHWTRSED AG-ICPMS 6   FRSHWTRSED AG-SEM, EXT 6   FRSHWTRSED AS-ICPMS 6   FRSHWTRSED AS-SEM, EXT 6   FRSHWTRSED CD-ICPMS 6   FRSHWTRSED CD-SEM, EXT 6   FRSHWTRSED CR-ICPMS 6   FRSHWTRSED CR-SEM, EXT 6   FRSHWTRSED CU-ICPMS 6   FRSHWTRSED CU-SEM, EXT 6   FRSHWTRSED HG-CVAA-M	3   FRSHWTRSED AVS 3   FRSHWTRSED NH3-KCL 3   FRSHWTRSED ORTHOP-OL 3   FRSHWTRSED PH 3   FRSHWTRSED PSD 3   FRSHWTRSED TOC 3   FRSHWTRSED TOTS 5   FRSHWTRSED FC-MPN <del>DELETE</del> 6   FRSHWTRSED AG-ICPMS 6   FRSHWTRSED AG-SEM, EXT 6   FRSHWTRSED AS-ICPMS 6   FRSHWTRSED AS-SEM, EXT 6   FRSHWTRSED CD-ICPMS 6   FRSHWTRSED CD-SEM, EXT 6   FRSHWTRSED CR-ICPMS 6   FRSHWTRSED CR-SEM, EXT 6   FRSHWTRSED CU-ICPMS 6   FRSHWTRSED CU-SEM, EXT

DELETE  
MICROHOMELESS PERSON -  
SMELLS LIKE PEE

SILT  
SAND  
BROWN  
W/P  
NAT. ODOR  
~12 SPOONS

SAND  
SILT  
BROWN  
No ODOR/DEGRIS  
40 SPOONS

continue ...



## STREAMS SEDIMENTS-LEGACY 2009

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No.	(Type)	P48633-4	P48633-5	P48633-6
		6 FRSHWTRSED HG-SEM, EXT	6 FRSHWTRSED HG-SEM, EXT	6 FRSHWTRSED HG-CVAA-M
		6 FRSHWTRSED NI-ICPMS	6 FRSHWTRSED NI-ICPMS	6 FRSHWTRSED HG-SEM, EXT
		6 FRSHWTRSED NI-SEM, EXT	6 FRSHWTRSED NI-SEM, EXT	6 FRSHWTRSED NI-ICPMS
		6 FRSHWTRSED P-ICPMS	6 FRSHWTRSED P-ICPMS	6 FRSHWTRSED NI-SEM, EXT
		6 FRSHWTRSED PB-ICPMS	6 FRSHWTRSED PB-ICPMS	6 FRSHWTRSED P-ICPMS
		6 FRSHWTRSED PB-SEM, EXT	6 FRSHWTRSED PB-SEM, EXT	6 FRSHWTRSED PB-ICPMS
		6 FRSHWTRSED ZN-ICPMS	6 FRSHWTRSED ZN-ICPMS	6 FRSHWTRSED PB-SEM, EXT
		6 FRSHWTRSED ZN-SEM, EXT	6 FRSHWTRSED ZN-SEM, EXT	6 FRSHWTRSED ZN-ICPMS
		7 FRSHWTRSED BNALLFULL	7 FRSHWTRSED BNALLFULL	6 FRSHWTRSED ZN-SEM, EXT
		7 FRSHWTRSED EDC	7 FRSHWTRSED EDC	7 FRSHWTRSED BNALLFULL
		7 FRSHWTRSED EDC-LVI	7 FRSHWTRSED EDC-LVI	7 FRSHWTRSED EDC
		7 FRSHWTRSED PBDE	7 FRSHWTRSED PBDE	7 FRSHWTRSED EDC-LVI
		7 FRSHWTRSED PCBLL	7 FRSHWTRSED PCBLL	7 FRSHWTRSED PBDE
		7 FRSHWTRSED PESTLL	7 FRSHWTRSED PESTLL	7 FRSHWTRSED PCBLL
		7 FRSHWTRSED WTPH-DX	7 FRSHWTRSED WTPH-DX	7 FRSHWTRSED PESTLL
				7 FRSHWTRSED WTPH-DX

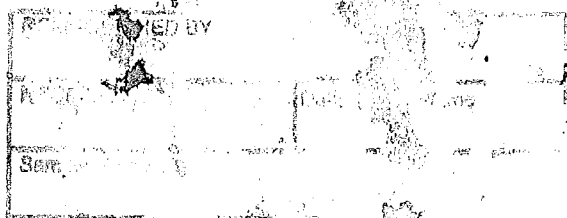
continue ...

## STREAMS SEDIMENTS-LEGACY 2009

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No. (Type)	P48633-7	P48633-8	P48633-9
Locator	A320	0317	A315
Short Loc. Desc.	BIG SOOS	SPRBR CR	MILL CR
Locator Desc.	BIG SOOS CREEK//USGS GAGING STATION	SPRINGBROOK CREEK//BRIDGE AT N END O	HILL CREEK (MILL)//BRIDGE AT 68TH AN
Site	STREAMS	STREAMS	STREAMS
Start Date/Time	8/10/09 / 0855	12-AUG-09 / 0910	12-AUG-09 / 1005
End Date/Time	SHLP	JP	JP
Time Span			
Sample Depth			
Comments	Soos Creek	Springbrook Creek-under bridge WATER LEVEL WAY HIGHER	Mill Creek REDDISH MUD
SAMP INFO			
SED DEPTH	0-5 cm	0-5 cm	0-5 cm
SED TYPE			
Dept., Matrix, Prod	Sand/Silt/brown/natural no debris	CLAY, SILT, BR NO DEBRIS NAT ODOR	SILT, SAND, BROWN NO ODOR W/P
	3 FRSHWTRSED NH3-KCL	3 FRSHWTRSED NH3-KCL	3 FRSHWTRSED NH3-KCL
	3 FRSHWTRSED ORTHOP-OL	3 FRSHWTRSED ORTHOP-OL	3 FRSHWTRSED ORTHOP-OL
	3 FRSHWTRSED PH	3 FRSHWTRSED PH	3 FRSHWTRSED PH
	3 FRSHWTRSED PSD	3 FRSHWTRSED PSD	3 FRSHWTRSED PSD
	3 FRSHWTRSED TOC	3 FRSHWTRSED TOC	3 FRSHWTRSED TOC
	3 FRSHWTRSED TOTS	3 FRSHWTRSED TOTS	3 FRSHWTRSED TOTS
	5 FRSHWTRSED FC-MPN <b>DELETE</b>	5 FRSHWTRSED FC-MPN	5 FRSHWTRSED FC-MPN
	6 FRSHWTRSED AG-ICPMS	6 FRSHWTRSED AG-ICPMS	6 FRSHWTRSED AG-ICPMS
	6 FRSHWTRSED AG-SEM, EXT	6 FRSHWTRSED AG-SEM, EXT	6 FRSHWTRSED AG-SEM, EXT
	6 FRSHWTRSED AS-ICPMS	6 FRSHWTRSED AS-ICPMS	6 FRSHWTRSED AS-ICPMS
	6 FRSHWTRSED AS-SEM, EXT	6 FRSHWTRSED AS-SEM, EXT	6 FRSHWTRSED AS-SEM, EXT
	6 FRSHWTRSED CD-ICPMS	6 FRSHWTRSED CD-ICPMS	6 FRSHWTRSED CD-ICPMS
	6 FRSHWTRSED CD-SEM, EXT	6 FRSHWTRSED CD-SEM, EXT	6 FRSHWTRSED CD-SEM, EXT
	6 FRSHWTRSED CR-ICPMS	6 FRSHWTRSED CR-ICPMS	6 FRSHWTRSED CR-ICPMS
	6 FRSHWTRSED CR-SEM, EXT	6 FRSHWTRSED CR-SEM, EXT	6 FRSHWTRSED CR-SEM, EXT
	6 FRSHWTRSED CU-ICPMS	6 FRSHWTRSED CU-ICPMS	6 FRSHWTRSED CU-ICPMS
	6 FRSHWTRSED CU-SEM, EXT	6 FRSHWTRSED CU-SEM, EXT	6 FRSHWTRSED CU-SEM, EXT
	6 FRSHWTRSED HG-CVAA-M	6 FRSHWTRSED HG-CVAA-M	6 FRSHWTRSED HG-CVAA-M



CREEK BACKED UP  
HIGH-CONSTRUCTION  
DOWNSTREAM  
~20 SPOONS

~12 SPOONS

continue ...

## STREAMS SEDIMENTS-LEGACY 2009

Project Number: 421240C

Personnel: \_\_\_\_\_

Sample No.	(Type)	P48633-7	P48633-8	P48633-9
		6 FRSHWTRSED HG-SEM, EXT	6 FRSHWTRSED HG-SEM, EXT	6 FRSHWTRSED HG-SEM, EXT
		6 FRSHWTRSED NI-ICPMS	6 FRSHWTRSED NI-ICPMS	6 FRSHWTRSED NI-ICPMS
		6 FRSHWTRSED NI-SEM, EXT	6 FRSHWTRSED NI-SEM, EXT	6 FRSHWTRSED NI-SEM, EXT
		6 FRSHWTRSED P-ICPMS	6 FRSHWTRSED P-ICPMS	6 FRSHWTRSED P-ICPMS
		6 FRSHWTRSED PB-ICPMS	6 FRSHWTRSED PB-ICPMS	6 FRSHWTRSED PB-ICPMS
		6 FRSHWTRSED PB-SEM, EXT	6 FRSHWTRSED PB-SEM, EXT	6 FRSHWTRSED PB-SEM, EXT
		6 FRSHWTRSED ZN-ICPMS	6 FRSHWTRSED ZN-ICPMS	6 FRSHWTRSED ZN-ICPMS
		6 FRSHWTRSED ZN-SEM, EXT	6 FRSHWTRSED ZN-SEM, EXT	6 FRSHWTRSED ZN-SEM, EXT
		7 FRSHWTRSED BNALLFULL	7 FRSHWTRSED BNALLFULL	7 FRSHWTRSED BNALLFULL
		7 FRSHWTRSED EDC	7 FRSHWTRSED EDC	7 FRSHWTRSED EDC
		7 FRSHWTRSED EDC-LVI	7 FRSHWTRSED EDC-LVI	7 FRSHWTRSED EDC-LVI
		7 FRSHWTRSED PBDE	7 FRSHWTRSED PBDE	7 FRSHWTRSED PBDE
		7 FRSHWTRSED PCBLL	7 FRSHWTRSED PCBLL	7 FRSHWTRSED PCBLL
		7 FRSHWTRSED PESTLL	7 FRSHWTRSED PESTLL	7 FRSHWTRSED PESTLL
		7 FRSHWTRSED WTPH-DX	7 FRSHWTRSED WTPH-DX	7 FRSHWTRSED WTPH-DX

End of Fieldsheet.

## King County Environmental Lab Analytical Report

Project: 421240C  
Locator: X322  
Descrip: NEWAUKUM CREEK NEAR  
Sample: L48629-1  
Matrix: SE FRSHWTRSED  
ColDate: 8/10/09 11:10  
TimeSpan:  
TotalSolid: 59.8  
ClientLoc:  
SampDepth:  
**DRY Weight Basis**

**DRY Weight Basis**

Project: 421240C  
Locator: BB322  
Descrip: SE 392ND ST  
Sample: L48629-2  
Matrix: SE FRSHWTRSED  
ColDate: 8/10/09 9:50  
TimeSpan:  
TotalSolid: 35.4  
ClientLoc:  
SampDepth:  
**DRY Weight Basis**

**DRY Weight Basis**

Project: 421240C  
Locator: E322  
Descrip: NEWAUKUM CREEK AT  
Sample: L48629-3  
Matrix: SE FRSHWTRSED  
ColDate: 8/10/09 12:10  
TimeSpan:  
TotalSolid: 61.7  
ClientLoc:  
SampDepth:  
**DRY Weight Basis**

**DRY Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
CV ASTM D422															
Clay*		<MDL	0.86	1.73	%		<MDL	1.3	2.7	%		<MDL	2.1	4.12	%
Fines*	8.6		0.86	1.73	%	21.6		1.3	2.7	%	37.1		2.1	4.12	%
Gravel*	8.3		0.17	1.73	%	11.1		0.27	2.7	%	8.9		0.41	4.12	%
p+0.00"	1.5		0.17	1.73	%	16.7		0.27	2.7	%	8.1		0.41	4.12	%
p+1.00"	4.7		0.17	1.73	%	19.2		0.27	2.7	%	11.4		0.41	4.12	%
p+10.0(equal/more than)"		<MDL	0.86	1.73	%		<MDL	1.3	2.7	%		<MDL	2.1	4.12	%
p+2.00"	26.5		0.17	1.73	%	12.7		0.27	2.7	%	10.2		0.41	4.12	%
p+3.00"	35.1		0.17	1.73	%	8.5		0.27	2.7	%	7.5		0.41	4.12	%
p+4.00"	12.6		0.17	1.73	%	6.2		0.27	2.7	%	6.5		0.41	4.12	%
p+5.00"	5.2		0.86	1.73	%	16.2		1.3	2.7	%	28.8		2.1	4.12	%
p+6.00"	1.7		0.86	1.73	%		<MDL	1.3	2.7	%	4.1		2.1	4.12	%
p+7.00"	1.7		0.86	1.73	%	2.7		1.3	2.7	%	2.1		2.1	4.12	%
p+8.00"		<MDL	0.86	1.73	%	2.7		1.3	2.7	%	2.1		2.1	4.12	%
p+9.00"		<MDL	0.86	1.73	%		<MDL	1.3	2.7	%		<MDL	2.1	4.12	%
p-1.00"	3.8		0.17	1.73	%	7.7		0.27	2.7	%	5		0.41	4.12	%
p-2.00(less than)"	3.3		0.17	1.73	%	2.1		0.27	2.7	%	2.7		0.41	4.12	%
p-2.00"	1.2		0.17	1.73	%	1.3		0.27	2.7	%	1.2		0.41	4.12	%
Sand*	80.5		0.17	1.73	%	63.3		0.27	2.7	%	43.6		0.41	4.12	%
Silt*	8.6		0.86	1.73	%	21.6		1.3	2.7	%	37.1		2.1	4.12	%
CV EPA DEC 1991															
Sulfide, Acid Volatile		<MDL,JG	0.42	1.66	mg/Kg		<MDL,JG	0.71	2.82	mg/Kg		<MDL,JG	0.41	1.62	mg/Kg
CV KEROUEL & AMINOT 1997(KCL)															
Ammonia Nitrogen	5.54		0.25	0.495	mg/Kg	50.8		0.68	1.37	mg/Kg	14.1		0.39	0.791	mg/Kg
CV SM2540-G															
Total Solids*	59.8		0.005	0.01	%	35.4		0.005	0.01	%	61.7		0.005	0.01	%
CV SM4500-P-F OL															
Orthophosphate Phosphorus	14.7		1.6	4	mg/Kg	46.6		2.8	6.95	mg/Kg	24		1.6	3.94	mg/Kg
CV SW846 9045C															
pH*	7.3				pH	7.57				pH	7.21				pH
CV SW846 9060-PSEP96															
Total Organic Carbon	9180		1000	2020	mg/Kg	36700		3700	7230	mg/Kg	25900		3200	6420	mg/Kg
MT EPA 200.7															
Arsenic, Extractable, SEM	0.9	<RDL	0.84	4.16	mg/Kg	1.6	<RDL	1.4	7.06	mg/Kg	0.81	<RDL	0.81	4.05	mg/Kg
Cadmium, Extractable, SEM		<MDL	0.067	0.333	mg/Kg	0.16	<RDL	0.11	0.565	mg/Kg		<MDL	0.065	0.324	mg/Kg
Chromium, Extractable, SEM	0.91		0.1	0.498	mg/Kg	1.14		0.17	0.847	mg/Kg	0.887		0.097	0.485	mg/Kg
Copper, Extractable, SEM	4.63		0.13	0.666	mg/Kg	7.2		0.23	1.13	mg/Kg	3.68		0.13	0.647	mg/Kg
Lead, Extractable, SEM	1.7	<RDL	0.67	3.33	mg/Kg	5.1	<RDL	1.1	5.65	mg/Kg	2.3	<RDL	0.65	3.24	mg/Kg
Nickel, Extractable, SEM	1.92		0.17	0.831	mg/Kg	1.92		0.28	1.42	mg/Kg	0.841		0.16	0.809	mg/Kg
Silver, Extractable, SEM		<MDL	0.13	0.666	mg/Kg		<MDL	0.23	1.13	mg/Kg		<MDL	0.13	0.647	mg/Kg
Zinc, Extractable, SEM	12.2		0.17	0.831	mg/Kg	34.7		0.28	1.42	mg/Kg	17.3		0.16	0.809	mg/Kg
MT EPA 245.1*SW846 7470A															
Mercury, Extractable, SEM		<MDL	0.0017	0.00498	mg/Kg		<MDL	0.0028	0.00847	mg/Kg		<MDL	0.0016	0.00485	mg/Kg
MT SW846 3050B*SW846 6020A															
Arsenic, Total, ICP-MS	3.53		0.02	0.104	mg/Kg	4.63		0.034	0.175	mg/Kg	2.41		0.019	0.0992	mg/Kg
Cadmium, Total, ICP-MS	0.0758		0.01	0.0518	mg/Kg	0.18		0.018	0.0873	mg/Kg	0.0776		0.0099	0.0496	mg/Kg
Chromium, Total, ICP-MS	19.9		0.42	2.07	mg/Kg	16.2		0.71	3.5	mg/Kg	9.81		0.39	1.98	mg/Kg
Copper, Total, ICP-MS	15.4		0.84	4.15	mg/Kg	23.2		1.4	6.98	mg/Kg	11.6		0.79	3.97	mg/Kg
Lead, Total, ICP-MS	3.48		0.02	0.104	mg/Kg	8.64		0.034	0.175	mg/Kg	4.36		0.019	0.0992	mg/Kg
Nickel, Total, ICP-MS	19.7		0.2	1.04	mg/Kg	12.9		0.34	1.75	mg/Kg	7.7		0.19	0.992	mg/Kg
Phosphorus, Total, ICP-MS	370	<RDL	200	1040	mg/Kg	760	<RDL	340	1750	mg/Kg	370	<RDL	190	992	mg/Kg
Silver, Total, ICP-MS	0.045	<RDL	0.01	0.0518	mg/Kg	0.0879		0.018	0.0873	mg/Kg	0.041	<RDL	0.0099	0.0496	mg/Kg
Zinc, Total, ICP-MS	42.3		1	5.18	mg/Kg	81.1		1.8	8.73	mg/Kg	45.7		0.99	4.96	mg/Kg
MT SW846 7471B															
Mercury, Total, CVAA	0.035	<RDL	0.008	0.0803	mg/Kg	0.031	<RDL	0.014	0.135	mg/Kg	0.018	<RDL	0.0079	0.0799	mg/Kg
OR SW846 3550B*EPA 1614															
DecaBDE-209	0.147	J	0.055	0.112	ug/Kg	1.08	J	0.093	0.188	ug/Kg	0.259	J	0.053	0.108	ug/Kg
HeptaBDE-183		<MDL	0.011	0.0222	ug/Kg		<MDL	0.019	0.0376	ug/Kg		<MDL	0.011	0.0216	ug/Kg
HeptaBDE-190		<MDL	0.011	0.0222	ug/Kg		<MDL	0.019	0.0376	ug/Kg		<MDL	0.011	0.0216	ug/Kg
HexaBDE-138	0.014	<RDL,TA	0.011	0.0222	ug/Kg	0.027	<RDL,TA	0.019	0.0376	ug/Kg	0.014	<RDL,TA	0.011	0.0216	ug/Kg
HexaBDE-153	0.0624		0.011	0.0222	ug/Kg	0.149		0.019	0.0376	ug/Kg	0.0546		0.011	0.0216	ug/Kg
HexaBDE-154	0.0298		0.011	0.0222	ug/Kg	0.041		0.019	0.0376	ug/Kg	0.014	<RDL	0.011	0.0216	ug/Kg
PentaBDE-100	0.014	<RDL	0.011	0.0222	ug/Kg	0.0387		0.019	0.0376	ug/Kg	0.019	<RDL	0.011	0.0216	ug/Kg
PentaBDE-85		<MDL	0.011	0.0222	ug/Kg		<MDL	0.019	0.0376	ug/Kg		<MDL	0.011	0.0216	ug/Kg
PentaBDE-99	0.043	B	0.011	0.0222	ug/Kg	0.146	B3	0.019	0.0376	ug/Kg	0.0783	B3	0.011	0.0216	ug/Kg
TetraBDE-47	0.0681	B	0.011	0.0222	ug/Kg	0.201	B3	0.019	0.0376	ug/Kg	0.111	B3	0.011	0.0216	ug/Kg
TetraBDE-66		<MDL	0.011	0.0222	ug/Kg		<MDL	0.019	0.0376	ug/Kg		<MDL	0.011	0.0216	ug/Kg
TetraBDE-71		<MDL,TA	0.011	0.0222	ug/Kg		<MDL,TA	0.019	0.0376	ug/Kg		<MDL,TA	0.011	0.0216	ug/Kg
TriBDE-17		<MDL	0.011	0.0222	ug/Kg		<MDL	0.019	0.0376	ug/Kg		<MDL	0.011	0.0216	ug/Kg
TriBDE-28		<MDL,TA	0.011	0.0222	ug/Kg		<MDL,TA	0.019	0.0376	ug/Kg		<MDL,TA	0.011	0.0216	ug/Kg
OR SW846 3550B*SW846 8081B															
4,4'-DDD		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg
4,4'-DDE		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg
4,4'-DDT		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg
Aldrin		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg
Alpha-BHC		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg
Alpha-Chlordane		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg
Beta-BHC		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg
Delta-BHC		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg
Dieldrin		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg
Endosulfan I		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg
Endosulfan II		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg
Endosulfan Sulfate		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg
Endrin		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg
Endrin Aldehyde		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg
Gamma-BHC (Lindane)		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg
Gamma-Chlordane		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg
Heptachlor		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg
Heptachlor Epoxide		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg
Methoxychlor		<MDL	5.5	11.2	ug/Kg		<MDL	9.3	18.8	ug/Kg		<MDL	5.3	10.8	ug/Kg
Toxaphene		<MDL	11	22.2	ug/Kg		<MDL	19	37.6	ug/Kg		<MDL	11	21.6	ug/Kg
OR SW846 3550B*SW846 8082A															
Aroclor 1016		<MDL	1.4	2.79	ug/Kg		<MDL	2.3	4.72	ug/Kg		<MDL	1.3	2.71	ug/Kg
Aroclor 1221		<MDL	2.8	5.57	ug/Kg		<MDL	4.8	9.41	ug/Kg		<MDL	2.8	5.4	ug/Kg
Aroclor 1232		<MDL	2.8	5.57	ug/Kg		<MDL	4.8	9.41	ug/Kg		<MDL	2.8	5.4	ug/Kg
Aroclor 1242		<MDL	1.4	2.79	ug/Kg		<MDL	2.3	4.72	ug/Kg		<MDL	1.3	2.71	ug/Kg
Aroclor 1248		<MDL	1.4	2.79	ug/Kg		<MDL	2.3	4.72	ug/Kg		<MDL	1.3	2.71	ug/Kg
Aroclor 1254		<MDL	1.4	2.79	ug/Kg		<MDL	2.3	4.72	ug/Kg		<MDL	1.3	2.71	ug/Kg
Aroclor 1260		<MDL	1.4	2.79											

# King County Environmental Lab Analytical Report

Project: 421240C  
 Locator: X322  
 Descrip: NEWAUKUM CREEK NEA  
 Sample: L48629-1  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 11:10  
 TimeSpan:  
 TotalSolid: 59.8  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: BB322  
 Descrip: SE 392ND ST  
 Sample: L48629-2  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 9:50  
 TimeSpan:  
 TotalSolid: 35.4  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: E322  
 Descrip: NEWAUKUM CREEK AT  
 Sample: L48629-3  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 12:10  
 TimeSpan:  
 TotalSolid: 61.7  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units
Total Aroclors		<MDL	1.4	2.79	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>					
1,2,4-Trichlorobenzene		<MDL	0.17	0.334	ug/Kg
1,2-Dichlorobenzene		<MDL	0.33	0.669	ug/Kg
1,2-Diphenylhydrazine		<MDL	6.7	13.4	ug/Kg
1,3-Dichlorobenzene		<MDL	0.33	0.669	ug/Kg
1,4-Dichlorobenzene		<MDL	0.33	0.669	ug/Kg
2,4,5-Trichlorophenol		<MDL	17	33.4	ug/Kg
2,4,6-Trichlorophenol		<MDL	17	33.4	ug/Kg
2,4-Dichlorophenol		<MDL	6.7	13.4	ug/Kg
2,4-Dimethylphenol		<MDL	1.7	3.34	ug/Kg
2,6-Dinitrotoluene		<MDL	6.7	13.4	ug/Kg
2,6-Dinitrotoluene		<MDL	17	33.4	ug/Kg
2-Chloronaphthalene		<MDL	6.7	13.4	ug/Kg
2-Chlorophenol		<MDL	6.7	13.4	ug/Kg
2-Methylnaphthalene		<MDL	3.3	6.69	ug/Kg
2-Methylphenol		<MDL	3.3	6.69	ug/Kg
2-Nitrophenol		<MDL	17	33.4	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	6.7	13.4	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	6.7	13.4	ug/Kg
4-Methylphenol		<MDL	6.7	13.4	ug/Kg
Acenaphthene		<MDL	3.3	6.69	ug/Kg
Acenaphthylene		<MDL	3.3	6.69	ug/Kg
Aniline		<MDL	67	134	ug/Kg
Anthracene		<MDL	3.3	6.69	ug/Kg
Benzo(a)anthracene		<MDL	3.3	6.69	ug/Kg
Benzo(a)pyrene		<MDL	3.3	6.69	ug/Kg
Benzo(b)fluoranthene		<MDL	3.3	6.69	ug/Kg
Benzo(g,h,i)perylene		<MDL	3.3	6.69	ug/Kg
Benzo(k)fluoranthene		<MDL	3.3	6.69	ug/Kg
Benzoic Acid	174		17	33.4	ug/Kg
Benzyl Alcohol		<MDL	3.3	6.69	ug/Kg
Benzyl Butyl Phthalate		<MDL	6.7	13.4	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	6.7	13.4	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	6.7	13.4	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	6.7	13.4	ug/Kg
Bis(2-ethylhexyl)adipate	17	<RDL	17	33.4	ug/Kg
Bis(2-Ethylhexyl)Phthalate	51.7	B	6.7	13.4	ug/Kg
Bisphenol A		<MDL	17	33.4	ug/Kg
Caffeine		<MDL	6.7	13.4	ug/Kg
Carbazole		<MDL	3.3	6.69	ug/Kg
Chrysene		<MDL	3.3	6.69	ug/Kg
Coprostanol		<MDL	67	134	ug/Kg
Dibenzo(a,h)anthracene		<MDL	3.3	6.69	ug/Kg
Dibenzofuran		<MDL	3.3	6.69	ug/Kg
Diethyl Phthalate	7	<RDL	6.7	13.4	ug/Kg
Dimethyl Phthalate		<MDL	6.7	13.4	ug/Kg
Di-N-Butyl Phthalate	9.9	<RDL B	6.7	13.4	ug/Kg
Di-N-Octyl Phthalate		<MDL	6.7	13.4	ug/Kg
Fluoranthene		<MDL	3.3	6.69	ug/Kg
Fluorene		<MDL	3.3	6.69	ug/Kg
Hexachlorobenzene		<MDL	0.17	0.334	ug/Kg
Hexachlorobutadiene		<MDL	0.84	1.67	ug/Kg
Hexachloroethane		<MDL	1.7	3.34	ug/Kg
Indeno(1,2,3-Cd)Pyrene		<MDL	3.3	6.69	ug/Kg
Isophorone		<MDL	17	33.4	ug/Kg
Naphthalene		<MDL	3.3	6.69	ug/Kg
Nitrobenzene		<MDL	6.7	13.4	ug/Kg
N-Nitrosodimethylamine		<MDL	6.7	13.4	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	6.7	13.4	ug/Kg
N-Nitrosodiphenylamine		<MDL	6.7	13.4	ug/Kg
Pentachlorophenol		<MDL	17	33.4	ug/Kg
Phenanthrene		<MDL	3.3	6.69	ug/Kg
Phenol		<MDL	6.7	13.4	ug/Kg
Pyrene		<MDL	3.3	6.69	ug/Kg
Total 4-Nonylphenol		<MDL	33	66.9	ug/Kg
<b>OR TERNS (2002)</b>					
Estradiol		<MDL	0.084	0.843	ug/Kg
Estrone		<MDL	0.05	0.505	ug/Kg
Ethinyl estradiol		<MDL	0.084	0.843	ug/Kg
<b>OR WDOE NWTPH-DX</b>					
Diesel Range (>C12-C24)		<MDL	42	42	mg/Kg
Lube Oil Range (>C24)		<MDL	42	42	mg/Kg

\* Not converted to dry weight basis

Parameters	Value	Qual	MDL	RDL	Units
Total Aroclors		<MDL	2.3	4.72	ug/Kg
1,2,4-Trichlorobenzene		<MDL	0.28	0.565	ug/Kg
1,2-Dichlorobenzene		<MDL	0.56	1.13	ug/Kg
1,2-Diphenylhydrazine		<MDL	11	22.6	ug/Kg
1,3-Dichlorobenzene		<MDL	0.56	1.13	ug/Kg
1,4-Dichlorobenzene		<MDL	0.56	1.13	ug/Kg
2,4,5-Trichlorophenol		<MDL	28	56.5	ug/Kg
2,4,6-Trichlorophenol		<MDL	28	56.5	ug/Kg
2,4-Dichlorophenol		<MDL	11	22.6	ug/Kg
2,4-Dimethylphenol		<MDL	2.8	5.65	ug/Kg
2,6-Dinitrotoluene		<MDL	11	22.6	ug/Kg
2,6-Dinitrotoluene		<MDL	28	56.5	ug/Kg
2-Chloronaphthalene		<MDL	11	22.6	ug/Kg
2-Chlorophenol		<MDL	11	22.6	ug/Kg
2-Methylnaphthalene		<MDL	5.6	11.3	ug/Kg
2-Methylphenol		<MDL	5.6	11.3	ug/Kg
2-Nitrophenol		<MDL	28	56.5	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	11	22.6	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	11	22.6	ug/Kg
4-Methylphenol		<MDL	11	22.6	ug/Kg
Acenaphthene		<MDL	5.6	11.3	ug/Kg
Acenaphthylene		<MDL	5.6	11.3	ug/Kg
Aniline		<MDL	110	226	ug/Kg
Anthracene		<MDL	5.6	11.3	ug/Kg
Benzo(a)anthracene	7.9	<RDL	5.6	11.3	ug/Kg
Benzo(a)pyrene	9	<RDL	5.6	11.3	ug/Kg
Benzo(b)fluoranthene	12.7		5.6	11.3	ug/Kg
Benzo(g,h,i)perylene	7.1	<RDL	5.6	11.3	ug/Kg
Benzo(k)fluoranthene	10	<RDL	5.6	11.3	ug/Kg
Benzoic Acid	387		28	56.5	ug/Kg
Benzyl Alcohol		<MDL	5.6	11.3	ug/Kg
Benzyl Butyl Phthalate	116		11	22.6	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	11	22.6	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	11	22.6	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	11	22.6	ug/Kg
Bis(2-ethylhexyl)adipate	34	<RDL	28	56.5	ug/Kg
Bis(2-Ethylhexyl)Phthalate	101	B	11	22.6	ug/Kg
Bisphenol A		<MDL	28	56.5	ug/Kg
Caffeine		<MDL	11	22.6	ug/Kg
Carbazole		<MDL	5.6	11.3	ug/Kg
Chrysene	9.6	<RDL	5.6	11.3	ug/Kg
Coprostanol		<MDL	110	226	ug/Kg
Dibenzo(a,h)anthracene		<MDL	5.6	11.3	ug/Kg
Dibenzofuran		<MDL	5.6	11.3	ug/Kg
Diethyl Phthalate	12	<RDL	11	22.6	ug/Kg
Dimethyl Phthalate		<MDL	11	22.6	ug/Kg
Di-N-Butyl Phthalate	18	<RDL B	11	22.6	ug/Kg
Di-N-Octyl Phthalate		<MDL	11	22.6	ug/Kg
Fluoranthene	12.5		5.6	11.3	ug/Kg
Fluorene		<MDL	5.6	11.3	ug/Kg
Hexachlorobenzene		<MDL	0.28	0.565	ug/Kg
Hexachlorobutadiene		<MDL	1.4	2.82	ug/Kg
Hexachloroethane		<MDL	2.8	5.65	ug/Kg
Indeno(1,2,3-Cd)Pyrene	7.6	<RDL	5.6	11.3	ug/Kg
Isophorone		<MDL	28	56.5	ug/Kg
Naphthalene		<MDL	5.6	11.3	ug/Kg
Nitrobenzene		<MDL	11	22.6	ug/Kg
N-Nitrosodimethylamine		<MDL	11	22.6	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	11	22.6	ug/Kg
N-Nitrosodiphenylamine		<MDL	11	22.6	ug/Kg
Pentachlorophenol		<MDL	28	56.5	ug/Kg
Phenanthrene	5.9	<RDL	5.6	11.3	ug/Kg
Phenol		<MDL	11	22.6	ug/Kg
Pyrene	14.9		5.6	11.3	ug/Kg
Total 4-Nonylphenol		<MDL	56	113	ug/Kg
Estradiol		<MDL	0.14	1.42	ug/Kg
Estrone	0.1	<RDL	0.085	0.853	ug/Kg
Ethinyl estradiol		<MDL	0.14	1.42	ug/Kg
Diesel Range (>C12-C24)					
Lube Oil Range (>C24)	100		71	71	mg/Kg

	Value	Qual	MDL	RDL	Units
		<MDL	1.3	2.71	ug/Kg
		<MDL	0.16	0.324	ug/Kg
		<MDL	0.32	0.648	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	0.32	0.648	ug/Kg
		<MDL	0.32	0.648	ug/Kg
		<MDL	16	32.4	ug/Kg
		<MDL	16	32.4	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	1.6	3.24	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	16	32.4	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	3.2	6.48	ug/Kg
		<MDL	3.2	6.48	ug/Kg
		<MDL	16	32.4	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	3.2	6.48	ug/Kg
		<MDL	3.2	6.48	ug/Kg
		<MDL	65	130	ug/Kg
		<MDL	3.2	6.48	ug/Kg
	3.7	<RDL	3.2	6.48	ug/Kg
	4.9	<RDL	3.2	6.48	ug/Kg
	6.6		3.2	6.48	ug/Kg
	3.7	<RDL	3.2	6.48	ug/Kg
	6.2	<RDL	3.2	6.48	ug/Kg
	175		16	32.4	ug/Kg
		<MDL	3.2	6.48	ug/Kg
	61.9		6.5	13	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	6.5	13	ug/Kg
	18	<RDL	16	32.4	ug/Kg
	63.5	B	6.5	13	ug/Kg
		<MDL	16	32.4	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	3.2	6.48	ug/Kg
	5.2	<RDL	3.2	6.48	ug/Kg
		<MDL	65	130	ug/Kg
		<MDL	3.2	6.48	ug/Kg
		<MDL	3.2	6.48	ug/Kg
	6.6	<RDL	6.5	13	ug/Kg
		<MDL	6.5	13	ug/Kg
	8.6	<RDL B	6.5	13	ug/Kg
		<MDL	6.5	13	ug/Kg
	7.73		3.2	6.48	ug/Kg
		<MDL	3.2	6.48	ug/Kg
		<MDL	0.16	0.324	ug/Kg
		<MDL	0.81	1.62	ug/Kg
		<MDL	1.6	3.24	ug/Kg
		<MDL	3.2	6.48	ug/Kg
		<MDL	16	32.4	ug/Kg
		<MDL	3.2	6.48	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	6.5	13	ug/Kg
		<MDL	16	32.4	ug/Kg
	4.7	<RDL	3.2	6.48	ug/Kg
		<MDL	6.5	13	ug/Kg
	8.15		3.2	6.48	ug/Kg
		<MDL	32	64.8	ug/Kg
		<MDL	0.081	0.817	ug/Kg
	0.12	<RDL	0.049	0.489	ug/Kg
		<MDL	0.081	0.817	ug/Kg
	50		41	41	mg/Kg

# King County Environmental Lab Analytical Report

Project: 421240C  
 Locator: F322  
 Descrip: NEWAUKUM SAMPLE OF  
 Sample: L48629-4  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 12:40  
 TimeSpan:  
 TotalSolid: 30.2  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: FF322  
 Descrip: NEWAUKUM-424TH SE  
 Sample: L48629-5  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 13:00  
 TimeSpan:  
 TotalSolid: 59.9  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: AD322  
 Descrip: US NEWAUKUM CR. @  
 Sample: L48629-6  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 13:22  
 TimeSpan:  
 TotalSolid: 27.5  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
CV ASTM D422															
Clay*	7.3	J	1.8	3.65	%	<MDL		1.3	2.54	%	<MDL		1.7	3.46	%
Fines*	40.1	J	1.8	3.65	%	7.6		1.3	2.54	%	31.1		1.7	3.46	%
Gravel*	31.7	J	0.36	3.65	%	22.9		0.25	2.54	%	12.1		0.35	3.46	%
p+0.00*	11.5	J	0.36	3.65	%	9.1		0.25	2.54	%	6.2		0.35	3.46	%
p+1.00*	22.7	J	0.36	3.65	%	35		0.25	2.54	%	7.3		0.35	3.46	%
p+10.0(equal or more than)*	7.3	J	1.8	3.65	%	<MDL		1.3	2.54	%	<MDL		1.7	3.46	%
p+2.00*	18.2	J	0.36	3.65	%	26.3		0.25	2.54	%	13.3		0.35	3.46	%
p+3.00*	7.5	J	0.36	3.65	%	4.3		0.25	2.54	%	16.6		0.35	3.46	%
p+4.00*	8.3	J	0.36	3.65	%	2.6		0.25	2.54	%	8.1		0.35	3.46	%
p+5.00*	25.5	J	1.8	3.65	%	5.1		1.3	2.54	%	22.5		1.7	3.46	%
p+6.00*	3.6	J	1.8	3.65	%	<MDL		1.3	2.54	%	1.7		1.7	3.46	%
p+7.00*	3.6	J	1.8	3.65	%	2.5		1.3	2.54	%	6.9		1.7	3.46	%
p+8.00*	<MDL	J	1.8	3.65	%	<MDL		1.3	2.54	%	<MDL		1.7	3.46	%
p+9.00*	<MDL	J	1.8	3.65	%	<MDL		1.3	2.54	%	<MDL		1.7	3.46	%
p-1.00*	8.8	J	0.36	3.65	%	8.1		0.25	2.54	%	4.5		0.35	3.46	%
p-2.00(less than)*	20	J	0.36	3.65	%	11.3		0.25	2.54	%	5.8		0.35	3.46	%
p-2.00*	2.9	J	0.36	3.65	%	3.5		0.25	2.54	%	1.8		0.35	3.46	%
Sand*	68.3	J	0.36	3.65	%	77.3		0.25	2.54	%	51.6		0.35	3.46	%
Silt*	32.8	J	1.8	3.65	%	7.6		1.3	2.54	%	31.1		1.7	3.46	%
CV EPA DEC 1991															
Sulfide, Acid Volatile	0.86	<RDL	JG	0.83	3.3 mg/Kg	16.6	JG	0.42	1.66	mg/Kg	<MDL	JG	0.91	3.64	mg/Kg
CV KERQUEL & AMINOT 1997(KCL)															
Ammonia Nitrogen	53.6		0.83	1.65	mg/Kg	21.2		0.83	1.66	mg/Kg	24.8		0.91	1.79	mg/Kg
CV SM2540-G															
Total Solids*	30.2		0.005	0.01	%	59.9		0.005	0.01	%	27.5		0.005	0.01	%
CV SM4500-P-F OL															
Orthophosphate Phosphorus	53.6		3.2	8.08	mg/Kg	23.4		1.6	4.04	mg/Kg	65.1		3.6	9.05	mg/Kg
CV SW846 9045C															
pH*	7.05				pH	7.06				pH	7				pH
CV SW846 9060-PSEP96															
Total Organic Carbon	41700		6000	11700	mg/Kg	10400		2300	4510	mg/Kg	54900		5100	10400	mg/Kg
MT EPA 200.7															
Arsenic, Extractable, SEM	<MDL		1.7	8.28	mg/Kg	<MDL		0.83	4.14	mg/Kg	2.4	<RDL	1.8	9.13	mg/Kg
Cadmium, Extractable, SEM	0.16	<RDL	0.13	0.662	mg/Kg	0.12	<RDL	0.067	0.331	mg/Kg	0.24	<RDL	0.15	0.727	mg/Kg
Chromium, Extractable, SEM	1.43		0.2	0.993	mg/Kg	0.726		0.1	0.497	mg/Kg	1.72		0.22	1.09	mg/Kg
Copper, Extractable, SEM	5.1		0.26	1.32	mg/Kg	4.27		0.13	0.663	mg/Kg	12.4		0.29	1.46	mg/Kg
Lead, Extractable, SEM	5	<RDL	1.3	6.62	mg/Kg	3.47		0.67	3.31	mg/Kg	9.6		1.5	7.27	mg/Kg
Nickel, Extractable, SEM	1.5	<RDL	0.33	1.65	mg/Kg	0.985		0.17	0.828	mg/Kg	2.45		0.36	1.82	mg/Kg
Silver, Extractable, SEM	<MDL		0.26	1.32	mg/Kg	<MDL		0.13	0.663	mg/Kg	<MDL		0.29	1.46	mg/Kg
Zinc, Extractable, SEM	41.4		0.33	1.65	mg/Kg	21		0.17	0.828	mg/Kg	48.4		0.36	1.82	mg/Kg
MT EPA 245.1*SW846 7470A															
Mercury, Extractable, SEM	<MDL		0.0033	0.00993	mg/Kg	<MDL		0.0017	0.00497	mg/Kg	0.0036	<RDL	0.0036	0.0109	mg/Kg
MT SW846 3550B*SW846 6020A															
Arsenic, Total, ICP-MS	4.93		0.043	0.21	mg/Kg	3.14		0.02	0.103	mg/Kg	5.78		0.044	0.222	mg/Kg
Cadmium, Total, ICP-MS	0.189		0.021	0.105	mg/Kg	0.0835		0.01	0.0516	mg/Kg	0.197		0.022	0.111	mg/Kg
Chromium, Total, ICP-MS	20.7		0.83	4.21	mg/Kg	9.57		0.42	2.07	mg/Kg	29.4		0.87	4.44	mg/Kg
Copper, Total, ICP-MS	20.2		1.7	8.38	mg/Kg	12.4		0.82	4.12	mg/Kg	32.8		1.8	8.87	mg/Kg
Lead, Total, ICP-MS	9.74		0.043	0.21	mg/Kg	5.34		0.02	0.103	mg/Kg	17.8		0.044	0.222	mg/Kg
Nickel, Total, ICP-MS	12.4		0.43	2.1	mg/Kg	5.88		0.2	1.03	mg/Kg	25.8		0.44	2.22	mg/Kg
Phosphorus, Total, ICP-MS	790	<RDL	430	2100	mg/Kg	380	<RDL	200	1030	mg/Kg	980	<RDL	440	2220	mg/Kg
Silver, Total, ICP-MS	0.089	<RDL	0.021	0.105	mg/Kg	0.038	<RDL	0.01	0.0516	mg/Kg	0.11	<RDL	0.022	0.111	mg/Kg
Zinc, Total, ICP-MS	101		2.1	10.5	mg/Kg	53.1		1	5.16	mg/Kg	120		2.2	11.1	mg/Kg
MT SW846 7471B															
Mercury, Total, CVAA	0.031	<RDL	0.016	0.162	mg/Kg	0.018	<RDL	0.0082	0.082	mg/Kg	0.047	<RDL	0.018	0.179	mg/Kg
OR SW846 3550B*EPA 1614															
DecaBDE-209	0.599	J	0.11	0.221	ug/Kg	0.536	J	0.055	0.111	ug/Kg	1.24	J	0.12	0.243	ug/Kg
HeptaBDE-183	<MDL		0.022	0.044	ug/Kg	<MDL		0.011	0.0222	ug/Kg	<MDL		0.024	0.0484	ug/Kg
HeptaBDE-190	<MDL		0.022	0.044	ug/Kg	<MDL		0.011	0.0222	ug/Kg	<MDL		0.024	0.0484	ug/Kg
HexaBDE-138	0.0467	TA	0.022	0.044	ug/Kg	0.0384	TA	0.011	0.0222	ug/Kg	<MDL,TA		0.024	0.0484	ug/Kg
HexaBDE-153	0.176		0.022	0.044	ug/Kg	0.109		0.011	0.0222	ug/Kg	0.212		0.024	0.0484	ug/Kg
HexaBDE-154	0.043	<RDL	0.022	0.044	ug/Kg	0.0225		0.011	0.0222	ug/Kg	0.106		0.024	0.0484	ug/Kg
PentaBDE-100	0.0493		0.022	0.044	ug/Kg	0.0235		0.011	0.0222	ug/Kg	0.203		0.024	0.0484	ug/Kg
PentaBDE-85	<MDL		0.022	0.044	ug/Kg	<MDL		0.011	0.0222	ug/Kg	0.0731		0.024	0.0484	ug/Kg
PentaBDE-99	0.239		0.022	0.044	ug/Kg	0.101	B3	0.011	0.0222	ug/Kg	1.11		0.024	0.0484	ug/Kg
TetraBDE-47	0.265	B3	0.022	0.044	ug/Kg	0.128	B3	0.011	0.0222	ug/Kg	0.902		0.024	0.0484	ug/Kg
TetraBDE-66	<MDL		0.022	0.044	ug/Kg	0.0865		0.011	0.0222	ug/Kg	0.214		0.024	0.0484	ug/Kg
TetraBDE-71	0.032	<RDL,TA	0.022	0.044	ug/Kg	<MDL,TA		0.011	0.0222	ug/Kg	0.112	TA	0.024	0.0484	ug/Kg
TriBDE-17	<MDL		0.022	0.044	ug/Kg	<MDL		0.011	0.0222	ug/Kg	<MDL		0.024	0.0484	ug/Kg
TriBDE-28	<MDL,TA		0.022	0.044	ug/Kg	<MDL,TA		0.011	0.0222	ug/Kg	<MDL,TA		0.024	0.0484	ug/Kg
OR SW846 3550B*SW846 8081B															
4,4'-DDD	<MDL		2.2	4.4	ug/Kg	<MDL		1.1	2.22	ug/Kg	<MDL		2.4	4.84	ug/Kg
4,4'-DDE	<MDL		2.2	4.4	ug/Kg	<MDL		1.1	2.22	ug/Kg	<MDL		2.4	4.84	ug/Kg
4,4'-DDT	<MDL		2.2	4.4	ug/Kg	<MDL		1.1	2.22	ug/Kg	4.7	<RDL	2.4	4.84	ug/Kg
Aldrin	<MDL		2.2	4.4	ug/Kg	<MDL		1.1	2.22	ug/Kg	<MDL		2.4	4.84	ug/Kg
Alpha-BHC	<MDL		1.1	2.21	ug/Kg	<MDL		0.55	1.11	ug/Kg	<MDL		1.2	2.43	ug/Kg
Alpha-Chlordane	<MDL		1.1	2.21	ug/Kg	<MDL		0.55	1.11	ug/Kg	<MDL		1.2	2.43	ug/Kg
Beta-BHC	<MDL		1.1	2.21	ug/Kg	<MDL		0.55	1.11	ug/Kg	<MDL		1.2	2.43	ug/Kg
Delta-BHC	<MDL		1.1	2.21	ug/Kg	<MDL		0.55	1.11	ug/Kg	<MDL		1.2	2.43	ug/Kg
Dieldrin	<MDL		2.2	4.4	ug/Kg	<MDL		1.1	2.22	ug/Kg	<MDL		2.4	4.84	ug/Kg
Endosulfan I	<MDL		2.2	4.4	ug/Kg	<MDL		1.1	2.22	ug/Kg	<MDL		2.4	4.84	ug/Kg
Endosulfan II	<MDL		2.2	4.4	ug/Kg	<MDL		1.1	2.22	ug/Kg	<MDL		2.4	4.84	ug/Kg
Endosulfan Sulfate	<MDL		2.2	4.4	ug/Kg	<MDL		1.1	2.22	ug/Kg	<MDL		2.4	4.84	ug/Kg
Endrin	<MDL		2.2	4.4	ug/Kg	<MDL		1.1	2.22	ug/Kg	<MDL		2.4	4.84	ug/Kg
Endrin Aldehyde	<MDL		2.2	4.4	ug/Kg	<MDL		1.1	2.22	ug/Kg	<MDL		2.4	4.84	ug/Kg
Gamma-BHC (Lindane)	<MDL		1.1	2.21	ug/Kg	<MDL		0.55	1.11	ug/Kg	<MDL		1.2	2.43	ug/Kg
Gamma-Chlordane	<MDL		1.1	2.21	ug/Kg	<MDL		0.55	1.11	ug/Kg	<MDL		1.2	2.43	ug/Kg
Heptachlor	<MDL		1.1	2.21	ug/Kg	<MDL		0.55	1.11	ug/Kg	<MDL		1.2	2.43	ug/Kg
Heptachlor Epoxide	<MDL		1.1	2.21	ug/Kg	<MDL		0.55	1.11	ug/Kg	<MDL		1.2	2.43	ug/Kg
Methoxychlor	<MDL		11	22.1	ug/Kg	<MDL		5.5	11.1	ug/Kg	<MDL		12	24.3	ug/Kg
Toxaphene	<MDL		22	44	ug/Kg	<MDL		11	22.2	ug/Kg	<MDL		24	48.4	ug/Kg
OR SW846 3550B*SW846 8082															

# King County Environmental Lab Analytical Report

Project: 421240C  
 Locator: F322  
 Descrip: NEWAUKUM SAMPLE OF  
 Sample: L48629-4  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 12:40  
 TimeSpan:  
 TotalSolid: 30.2  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: FF322  
 Descrip: NEWAUKUM-424TH SE  
 Sample: L48629-5  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 13:00  
 TimeSpan:  
 TotalSolid: 59.9  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: AD322  
 Descrip: US NEWAUKUM CR. @  
 Sample: L48629-6  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 13:22  
 TimeSpan:  
 TotalSolid: 27.5  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
Total Aroclors		<MDL	2.7	5.53	ug/Kg		<MDL	1.4	2.79	ug/Kg		<MDL	3	6.07	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>															
1,2,4-Trichlorobenzene		<MDL	0.33	0.662	ug/Kg		<MDL	0.17	0.334	ug/Kg		<MDL	0.36	0.727	ug/Kg
1,2-Dichlorobenzene		<MDL	0.66	1.32	ug/Kg		<MDL	0.33	0.668	ug/Kg		<MDL	0.73	1.45	ug/Kg
1,2-Diphenylhydrazine		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
1,3-Dichlorobenzene		<MDL	0.66	1.32	ug/Kg		<MDL	0.33	0.668	ug/Kg		<MDL	0.73	1.45	ug/Kg
1,4-Dichlorobenzene		<MDL	0.66	1.32	ug/Kg		<MDL	0.33	0.668	ug/Kg		<MDL	0.73	1.45	ug/Kg
2,4,5-Trichlorophenol		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg		<MDL	36	72.7	ug/Kg
2,4,6-Trichlorophenol		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg		<MDL	36	72.7	ug/Kg
2,4-Dichlorophenol		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
2,4-Dimethylphenol		<MDL	3.3	6.62	ug/Kg		<MDL	1.7	3.34	ug/Kg		<MDL	3.6	7.27	ug/Kg
2,6-Dinitrotoluene		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
2,6-Dinitrotoluene		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg		<MDL	36	72.7	ug/Kg
2-Chloronaphthalene		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
2-Chlorophenol		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
2-Methylnaphthalene		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
2-Methylphenol		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
2-Nitrophenol		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg		<MDL	36	72.7	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
4-Methylphenol		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Acenaphthene		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
Acenaphthylene		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
Aniline		<MDL	130	265	ug/Kg		<MDL	67	134	ug/Kg		<MDL	150	291	ug/Kg
Anthracene	11	<RDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg	17		7.3	14.5	ug/Kg
Benzo(a)anthracene	17.7		6.6	13.2	ug/Kg	4.7	<RDL	3.3	6.68	ug/Kg	54.5		7.3	14.5	ug/Kg
Benzo(a)pyrene	17.7		6.6	13.2	ug/Kg	4.8	<RDL	3.3	6.68	ug/Kg	62.9		7.3	14.5	ug/Kg
Benzo(b)fluoranthene	25		6.6	13.2	ug/Kg	7.75		3.3	6.68	ug/Kg	93.5		7.3	14.5	ug/Kg
Benzo(g,h,i)perylene	9.9	<RDL	6.6	13.2	ug/Kg	3.5	<RDL	3.3	6.68	ug/Kg	45.5		7.3	14.5	ug/Kg
Benzo(k)fluoranthene	17.7		6.6	13.2	ug/Kg	5.8	<RDL	3.3	6.68	ug/Kg	61.8		7.3	14.5	ug/Kg
Benzoic Acid	579		33	66.2	ug/Kg	204		17	33.4	ug/Kg	727		36	72.7	ug/Kg
Benzyl Alcohol		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
Benzyl Butyl Phthalate		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg	95.6		15	29.1	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Bis(2-ethylhexyl)adipate	43	<RDL	33	66.2	ug/Kg	33.6		17	33.4	ug/Kg	98.9		36	72.7	ug/Kg
Bis(2-Ethylhexyl)Phthalate	125	B	13	26.5	ug/Kg	58.9	B	6.7	13.4	ug/Kg	418	B	15	29.1	ug/Kg
Bisphenol A		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg	148		36	72.7	ug/Kg
Caffeine		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Carbazole		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg	10	<RDL	7.3	14.5	ug/Kg
Chrysene	36.4		6.6	13.2	ug/Kg	8.78		3.3	6.68	ug/Kg	86.9		7.3	14.5	ug/Kg
Coprostanol		<MDL	130	265	ug/Kg		<MDL	67	134	ug/Kg		<MDL	150	291	ug/Kg
Dibenzo(a,h)anthracene		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg	15.2		7.3	14.5	ug/Kg
Dibenzofuran		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
Diethyl Phthalate	13	<RDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg	16	<RDL	15	29.1	ug/Kg
Dimethyl Phthalate		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Di-N-Butyl Phthalate	33.8	B	13	26.5	ug/Kg	10	<RDL B	6.7	13.4	ug/Kg	24	<RDL B	15	29.1	ug/Kg
Di-N-Octyl Phthalate		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Fluoranthene	31.2		6.6	13.2	ug/Kg	7.31		3.3	6.68	ug/Kg	152		7.3	14.5	ug/Kg
Fluorene		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
Hexachlorobenzene		<MDL	0.33	0.662	ug/Kg		<MDL	0.17	0.334	ug/Kg		<MDL	0.36	0.727	ug/Kg
Hexachlorobutadiene		<MDL	1.7	3.31	ug/Kg		<MDL	0.83	1.67	ug/Kg		<MDL	1.8	3.64	ug/Kg
Hexachloroethane		<MDL	3.3	6.62	ug/Kg		<MDL	1.7	3.34	ug/Kg		<MDL	3.6	7.27	ug/Kg
Indeno(1,2,3-Cd)Pyrene	11	<RDL	6.6	13.2	ug/Kg	3.5	<RDL	3.3	6.68	ug/Kg	42.2		7.3	14.5	ug/Kg
Isophorone		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg		<MDL	36	72.7	ug/Kg
Naphthalene		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
Nitrobenzene		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
N-Nitrosodimethylamine		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
N-Nitrosodiphenylamine		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Pentachlorophenol		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg	47	<RDL	36	72.7	ug/Kg
Phenanthrene	16.9		6.6	13.2	ug/Kg	3.5	<RDL	3.3	6.68	ug/Kg	101		7.3	14.5	ug/Kg
Phenol		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Pyrene	36.1		6.6	13.2	ug/Kg	7.78		3.3	6.68	ug/Kg	169		7.3	14.5	ug/Kg
Total 4-Nonylphenol		<MDL	66	132	ug/Kg		<MDL	33	66.8	ug/Kg	343		73	145	ug/Kg
<b>OR TERNS (2002)</b>															
Estradiol		<MDL	0.17	1.67	ug/Kg		<MDL	0.083	0.841	ug/Kg		<MDL	0.18	1.83	ug/Kg
Estrone		<MDL	0.099	1	ug/Kg	0.11	<RDL	0.05	0.504	ug/Kg	0.2	<RDL	0.11	1.1	ug/Kg
Ethinyl estradiol		<MDL	0.17	1.67	ug/Kg		<MDL	0.083	0.841	ug/Kg		<MDL	0.18	1.83	ug/Kg
<b>OR WDOE NWTPH-DX</b>															
Diesel Range (>C12-C24)															
Lube Oil Range (>C24)	120		83	83	mg/Kg	45		42	42	mg/Kg	200		91	91	mg/Kg

\* Not converted to dry weight basis

# King County Environmental Lab Analytical Report

Project: 421240C  
 Locator: AE322  
 Descrip: DS NEWAUKUM CR. @  
 Sample: L48629-7  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 13:55  
 TimeSpan:  
 TotalSolid: 64.8  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: G322  
 Descrip: NEWAUKUM CREEK AT  
 Sample: L48629-8  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 14:25  
 TimeSpan:  
 TotalSolid: 41.1  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: QQ322  
 Descrip: SE 416TH -QUARRY  
 Sample: L48629-9  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 15:15  
 TimeSpan:  
 TotalSolid: 20.6  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
CV ASTM D422															
Clay*		<MDL	0.71	1.43	%		<MDL	1.2	2.37	%			2.3	4.65	%
Fines*	2.9		0.71	1.43	%	23.7		1.2	2.37	%	13.9		2.3	4.65	%
Gravel*	42		0.14	1.43	%	2.1		0.24	2.37	%	0.9	<RDL	0.46	4.65	%
p+0.00*	17.5		0.14	1.43	%	3.1		0.24	2.37	%	2.6		0.46	4.65	%
p+1.00*	16.9		0.14	1.43	%	5.9		0.24	2.37	%	5.9		0.46	4.65	%
p+10.0(equal or more than)*		<MDL	0.71	1.43	%		<MDL	1.2	2.37	%	9.3		2.3	4.65	%
p+2.00*	9.3		0.14	1.43	%	18.9		0.24	2.37	%	8.3		0.46	4.65	%
p+3.00*	3.4		0.14	1.43	%	26.1		0.24	2.37	%	14.9		0.46	4.65	%
p+4.00*	1.4		0.14	1.43	%	11.9		0.24	2.37	%	11.2		0.46	4.65	%
p+5.00*		<MDL	0.71	1.43	%	18.9		1.2	2.37	%	23.2		2.3	4.65	%
p+6.00*	1.4		0.71	1.43	%	2.4		1.2	2.37	%	4.6		2.3	4.65	%
p+7.00*		<MDL	0.71	1.43	%		<MDL	1.2	2.37	%	4.6		2.3	4.65	%
p+8.00*	1.4		0.71	1.43	%	2.4		1.2	2.37	%		<MDL	2.3	4.65	%
p+9.00*		<MDL	0.71	1.43	%		<MDL	1.2	2.37	%	4.6		2.3	4.65	%
p-1.00*	14.4		0.14	1.43	%	1.1		0.24	2.37	%	0.9	<RDL	0.46	4.65	%
p-2.00(less than)*	24.4		0.14	1.43	%	1.1		0.24	2.37	%		<MDL	0.46	4.65	%
p-2.00*	3.2		0.14	1.43	%		<MDL	0.24	2.37	%		<MDL	0.46	4.65	%
Sand*	48.5		0.14	1.43	%	65.9		0.24	2.37	%	42.9		0.46	4.65	%
Silt*	2.9		0.71	1.43	%	23.7		1.2	2.37	%	32.5		2.3	4.65	%
CV EPA DEC 1991															
Sulfide, Acid Volatile		<MDL,JG	0.39	1.54	mg/Kg		<MDL,JG	0.61	2.43	mg/Kg	17.6	JG	1.2	4.85	mg/Kg
CV KERQUEL & AMINOT 1997(KCL)															
Ammonia Nitrogen	11.3		0.39	0.765	mg/Kg	23.2		0.58	1.19	mg/Kg	60.7		1.2	2.35	mg/Kg
CV SM2540-G															
Total Solids*	64.8		0.005	0.01	%	41.1		0.005	0.01	%	20.6		0.005	0.01	%
CV SM4500-P-F OL															
Orthophosphate Phosphorus	17.9		1.5	3.84	mg/Kg	39.9		2.3	5.79	mg/Kg	82.5		4.8	11.8	mg/Kg
CV SW846 9045C															
pH*	6.9				pH	6.83				pH	7.07				pH
CV SW846 9060-PSEP96															
Total Organic Carbon	10700		1900	3700	mg/Kg	23000		2700	5470	mg/Kg	82000		6800	13600	mg/Kg
MT EPA 200.7															
Arsenic, Extractable, SEM		<MDL	0.77	3.86	mg/Kg		<MDL	1.2	6.06	mg/Kg	2.8	<RDL	2.4	12.2	mg/Kg
Cadmium, Extractable, SEM		<MDL	0.062	0.309	mg/Kg	0.13	<RDL	0.097	0.487	mg/Kg	0.28	<RDL	0.19	0.971	mg/Kg
Chromium, Extractable, SEM	0.497		0.093	0.465	mg/Kg	1.09		0.15	0.727	mg/Kg	2		0.29	1.46	mg/Kg
Copper, Extractable, SEM	2.15		0.12	0.619	mg/Kg	5.6		0.19	0.971	mg/Kg	15.8		0.39	1.95	mg/Kg
Lead, Extractable, SEM	2.2	<RDL	0.62	3.09	mg/Kg	4.4	<RDL	0.97	4.87	mg/Kg	6.8	<RDL	1.9	9.71	mg/Kg
Nickel, Extractable, SEM	0.65	<RDL	0.15	0.773	mg/Kg	1.1	<RDL	0.24	1.21	mg/Kg	2.87		0.49	2.43	mg/Kg
Silver, Extractable, SEM		<MDL	0.12	0.619	mg/Kg		<MDL	0.97	4.87	mg/Kg		<MDL	0.39	1.95	mg/Kg
Zinc, Extractable, SEM	17.3		0.15	0.773	mg/Kg	29		0.24	1.21	mg/Kg	54.4		0.49	2.43	mg/Kg
MT EPA 245.1*SW846 7470A															
Mercury, Extractable, SEM		<MDL	0.0015	0.00465	mg/Kg		<MDL	0.0024	0.00727	mg/Kg		<MDL	0.0049	0.0146	mg/Kg
MT SW846 3050B*SW846 6020A															
Arsenic, Total, ICP-MS	3.04		0.019	0.0954	mg/Kg	4.38		0.029	0.152	mg/Kg	7.33		0.058	0.299	mg/Kg
Cadmium, Total, ICP-MS	0.0878		0.0096	0.0477	mg/Kg	0.162		0.015	0.0757	mg/Kg	0.278		0.03	0.15	mg/Kg
Chromium, Total, ICP-MS	14.5	J	0.39	1.91	mg/Kg	17.1		0.61	3.04	mg/Kg	23.1		1.2	5.97	mg/Kg
Copper, Total, ICP-MS	13.1		0.76	3.81	mg/Kg	20.7		1.2	6.06	mg/Kg	37		2.4	11.9	mg/Kg
Lead, Total, ICP-MS	5.63		0.019	0.0954	mg/Kg	10		0.029	0.152	mg/Kg	12.5		0.058	0.299	mg/Kg
Nickel, Total, ICP-MS	8.43		0.19	0.954	mg/Kg	10.1		0.29	1.52	mg/Kg	13.8		0.58	2.99	mg/Kg
Phosphorus, Total, ICP-MS	480	<RDL	190	954	mg/Kg	560	<RDL	290	1520	mg/Kg	730	<RDL	580	2990	mg/Kg
Silver, Total, ICP-MS	0.043	<RDL	0.0096	0.0477	mg/Kg	0.0849		0.015	0.0757	mg/Kg	0.14	<RDL	0.03	0.15	mg/Kg
Zinc, Total, ICP-MS	60.6		0.96	4.77	mg/Kg	84.9		1.5	7.57	mg/Kg	126		3	15	mg/Kg
MT SW846 7471B															
Mercury, Total, CVAA	0.015	<RDL	0.0076	0.0756	mg/Kg	0.036	<RDL	0.012	0.117	mg/Kg	0.073	<RDL	0.024	0.241	mg/Kg
OR SW846 3550B*EPA 1614															
DecaBDE-209	0.182	J	0.051	0.103	ug/Kg	0.309	J	0.08	0.162	ug/Kg	0.675	J	0.16	0.324	ug/Kg
HeptaBDE-183		<MDL	0.01	0.0205	ug/Kg		<MDL	0.016	0.0324	ug/Kg		<MDL	0.033	0.0646	ug/Kg
HeptaBDE-190		<MDL	0.01	0.0205	ug/Kg		<MDL	0.016	0.0324	ug/Kg		<MDL	0.033	0.0646	ug/Kg
HexaBDE-138	0.0261	TA	0.01	0.0205	ug/Kg	0.029	<RDL,TA	0.016	0.0324	ug/Kg	<MDL,TA		0.033	0.0646	ug/Kg
HexaBDE-153	0.0753		0.01	0.0205	ug/Kg	0.141		0.016	0.0324	ug/Kg	0.22		0.033	0.0646	ug/Kg
HexaBDE-154	0.019	<RDL	0.01	0.0205	ug/Kg	0.029	<RDL	0.016	0.0324	ug/Kg	0.046	<RDL	0.033	0.0646	ug/Kg
PentaBDE-100	0.017	<RDL	0.01	0.0205	ug/Kg	0.024	<RDL	0.016	0.0324	ug/Kg	0.049	<RDL	0.033	0.0646	ug/Kg
PentaBDE-85		<MDL	0.01	0.0205	ug/Kg		<MDL	0.016	0.0324	ug/Kg		<MDL	0.033	0.0646	ug/Kg
PentaBDE-99	0.0651	B3	0.01	0.0205	ug/Kg	0.0827	B3	0.016	0.0324	ug/Kg	0.213	B3	0.033	0.0646	ug/Kg
TetraBDE-47	0.0991	B3	0.01	0.0205	ug/Kg	0.117		0.016	0.0324	ug/Kg	0.246	B3	0.033	0.0646	ug/Kg
TetraBDE-66		<MDL	0.01	0.0205	ug/Kg		<MDL	0.016	0.0324	ug/Kg		<MDL	0.033	0.0646	ug/Kg
TetraBDE-71		<MDL,TA	0.01	0.0205	ug/Kg		<MDL,TA	0.016	0.0324	ug/Kg		<MDL,TA	0.033	0.0646	ug/Kg
TriBDE-17		<MDL	0.01	0.0205	ug/Kg		<MDL	0.016	0.0324	ug/Kg		<MDL	0.033	0.0646	ug/Kg
TriBDE-28		<MDL,TA	0.01	0.0205	ug/Kg		<MDL,TA	0.016	0.0324	ug/Kg		<MDL,TA	0.033	0.0646	ug/Kg
OR SW846 3550B*SW846 8081B															
4,4'-DDD		<MDL	1	2.05	ug/Kg		<MDL	1.6	3.24	ug/Kg		<MDL	3.3	6.46	ug/Kg
4,4'-DDE		<MDL	1	2.05	ug/Kg		<MDL	1.6	3.24	ug/Kg		<MDL	3.3	6.46	ug/Kg
4,4'-DDT		<MDL	1	2.05	ug/Kg		<MDL	1.6	3.24	ug/Kg		<MDL	3.3	6.46	ug/Kg
Aldrin		<MDL	1	2.05	ug/Kg		<MDL	1.6	3.24	ug/Kg		<MDL	3.3	6.46	ug/Kg
Alpha-BHC		<MDL	0.51	1.03	ug/Kg		<MDL	0.8	1.62	ug/Kg		<MDL	1.6	3.24	ug/Kg
Alpha-Chlordane		<MDL	0.51	1.03	ug/Kg		<MDL	0.8	1.62	ug/Kg		<MDL	1.6	3.24	ug/Kg
Beta-BHC		<MDL	0.51	1.03	ug/Kg		<MDL	0.8	1.62	ug/Kg		<MDL	1.6	3.24	ug/Kg
Delta-BHC		<MDL	0.51	1.03	ug/Kg		<MDL	0.8	1.62	ug/Kg		<MDL	1.6	3.24	ug/Kg
Dieldrin		<MDL	1	2.05	ug/Kg		<MDL	1.6	3.24	ug/Kg		<MDL	3.3	6.46	ug/Kg
Endosulfan I		<MDL	1	2.05	ug/Kg		<MDL	1.6	3.24	ug/Kg		<MDL	3.3	6.46	ug/Kg
Endosulfan II		<MDL	1	2.05	ug/Kg		<MDL	1.6	3.24	ug/Kg		<MDL	3.3	6.46	ug/Kg
Endosulfan Sulfate		<MDL	1	2.05	ug/Kg		<MDL	1.6	3.24	ug/Kg		<MDL	3.3	6.46	ug/Kg
Endrin		<MDL	1	2.05	ug/Kg		<MDL	1.6	3.24	ug/Kg		<MDL	3.3	6.46	ug/Kg
Endrin Aldehyde		<MDL	1	2.05	ug/Kg		<MDL	1.6	3.24	ug/Kg		<MDL	3.3	6.46	ug/Kg
Gamma-BHC (Lindane)		<MDL	0.51	1.03	ug/Kg		<MDL	0.8	1.62	ug/Kg		<MDL	1.6	3.24	ug/Kg
Gamma-Chlordane		<MDL	0.51	1.03	ug/Kg		<MDL	0.8	1.62	ug/Kg		<MDL	1.6	3.24	ug/Kg
Heptachlor		<MDL	0.51	1.03	ug/Kg		<MDL	0.8	1.62	ug/Kg		<MDL	1.6	3.24	ug/Kg
Heptachlor Epoxide		<MDL	0.51	1.03	ug/Kg		<MDL	0.8	1.62	ug/Kg		<MDL	1.6	3.24	ug/Kg
Methoxychlor		<MDL	5.1	10.3	ug/Kg		<MDL	8	16.2	ug/Kg		<MDL	16	32.4	ug/Kg
Toxaphene		<MDL	10	20.5	ug/Kg		<MDL	16	32.4	ug/Kg		<MDL	33	64.6	ug/Kg
OR SW846 OR															

# King County Environmental Lab Analytical Report

Project: 421240C  
 Locator: AE322  
 Descrip: DS NEWAUKUM CR. @  
 Sample: L48629-7  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 13:55  
 TimeSpan:  
 TotalSolid: 64.8  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: G322  
 Descrip: NEWAUKUM CREEK AT  
 Sample: L48629-8  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 14:25  
 TimeSpan:  
 TotalSolid: 41.1  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: QQ322  
 Descrip: SE 416TH -QUARRY  
 Sample: L48629-9  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 15:15  
 TimeSpan:  
 TotalSolid: 20.6  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
Total Aroclors		<MDL	1.3	2.58	ug/Kg		<MDL	2	4.06	ug/Kg		<MDL	4	8.11	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>															
1,2,4-Trichlorobenzene		<MDL	0.15	0.309	ug/Kg		<MDL	0.24	0.487	ug/Kg		<MDL	0.49	0.971	ug/Kg
1,2-Dichlorobenzene		<MDL	0.31	0.617	ug/Kg		<MDL	0.49	0.973	ug/Kg		<MDL	0.97	1.94	ug/Kg
1,2-Diphenylhydrazine		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
1,3-Dichlorobenzene		<MDL	0.31	0.617	ug/Kg		<MDL	0.49	0.973	ug/Kg		<MDL	0.97	1.94	ug/Kg
1,4-Dichlorobenzene		<MDL	0.31	0.617	ug/Kg		<MDL	0.49	0.973	ug/Kg		<MDL	0.97	1.94	ug/Kg
2,4,5-Trichlorophenol		<MDL	15	30.9	ug/Kg		<MDL	24	48.7	ug/Kg		<MDL	49	97.1	ug/Kg
2,4,6-Trichlorophenol		<MDL	15	30.9	ug/Kg		<MDL	24	48.7	ug/Kg		<MDL	49	97.1	ug/Kg
2,4-Dichlorophenol		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
2,4-Dimethylphenol		<MDL	1.5	3.09	ug/Kg		<MDL	2.4	4.87	ug/Kg		<MDL	4.9	9.71	ug/Kg
2,6-Dinitrotoluene		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
2,6-Dinitrotoluene		<MDL	15	30.9	ug/Kg		<MDL	24	48.7	ug/Kg		<MDL	49	97.1	ug/Kg
2-Chloronaphthalene		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
2-Chlorophenol		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
2-Methylnaphthalene		<MDL	3.1	6.17	ug/Kg		<MDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
2-Methylphenol		<MDL	3.1	6.17	ug/Kg		<MDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
2-Nitrophenol		<MDL	15	30.9	ug/Kg		<MDL	24	48.7	ug/Kg		<MDL	49	97.1	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
4-Methylphenol		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
Acenaphthene		<MDL	3.1	6.17	ug/Kg	11.2		4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
Acenaphthylene		<MDL	3.1	6.17	ug/Kg		<MDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
Aniline		<MDL	62	123	ug/Kg		<MDL	97	195	ug/Kg		<MDL	190	388	ug/Kg
Anthracene		<MDL	3.1	6.17	ug/Kg	7.5	<RDL	4.9	9.73	ug/Kg	17	<RDL	9.7	19.4	ug/Kg
Benzo(a)anthracene		<MDL	3.1	6.17	ug/Kg	16.9		4.9	9.73	ug/Kg	41.7		9.7	19.4	ug/Kg
Benzo(a)pyrene	3.5	<RDL	3.1	6.17	ug/Kg	12.7		4.9	9.73	ug/Kg	39.9		9.7	19.4	ug/Kg
Benzo(b)fluoranthene	4.5	<RDL	3.1	6.17	ug/Kg	19.6		4.9	9.73	ug/Kg	67.5		9.7	19.4	ug/Kg
Benzo(g,h,i)perylene		<MDL	3.1	6.17	ug/Kg	7.3	<RDL	4.9	9.73	ug/Kg	21.3		9.7	19.4	ug/Kg
Benzo(k)fluoranthene	3.4	<RDL	3.1	6.17	ug/Kg	18.6		4.9	9.73	ug/Kg	68.9		9.7	19.4	ug/Kg
Benzoic Acid	205		15	30.9	ug/Kg	294		24	48.7	ug/Kg	607		49	97.1	ug/Kg
Benzyl Alcohol		<MDL	3.1	6.17	ug/Kg		<MDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
Benzyl Butyl Phthalate		<MDL	6.2	12.3	ug/Kg	57.2		9.7	19.5	ug/Kg	121		19	38.8	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
Bis(2-ethylhexyl)adipate	28	<RDL	15	30.9	ug/Kg		<MDL	24	48.7	ug/Kg	98.1		49	97.1	ug/Kg
Bis(2-Ethylhexyl)Phthalate	55.4	B	6.2	12.3	ug/Kg	78.3	B	9.7	19.5	ug/Kg	184	B	19	38.8	ug/Kg
Bisphenol A		<MDL	15	30.9	ug/Kg		<MDL	24	48.7	ug/Kg		<MDL	49	97.1	ug/Kg
Caffeine		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
Carbazole		<MDL	3.1	6.17	ug/Kg		<MDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
Chrysene	4.3	<RDL	3.1	6.17	ug/Kg	30.4	J	4.9	9.73	ug/Kg	50.5		9.7	19.4	ug/Kg
Coprostanol		<MDL	62	123	ug/Kg		<MDL	97	195	ug/Kg		<MDL	190	388	ug/Kg
Dibenzo(a,h)anthracene		<MDL	3.1	6.17	ug/Kg		<MDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
Dibenzofuran		<MDL	3.1	6.17	ug/Kg	9.2	<RDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
Diethyl Phthalate		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
Dimethyl Phthalate		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
Di-N-Butyl Phthalate	7.7	<RDL B	6.2	12.3	ug/Kg	15	<RDL B	9.7	19.5	ug/Kg	39	B	19	38.8	ug/Kg
Di-N-Octyl Phthalate		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
Fluoranthene	5.6	<RDL	3.1	6.17	ug/Kg	32.8		4.9	9.73	ug/Kg	97.6		9.7	19.4	ug/Kg
Fluorene		<MDL	3.1	6.17	ug/Kg	18.9		4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
Hexachlorobenzene		<MDL	0.15	0.309	ug/Kg		<MDL	0.24	0.487	ug/Kg		<MDL	0.49	0.971	ug/Kg
Hexachlorobutadiene		<MDL	0.77	1.54	ug/Kg		<MDL	1.2	2.43	ug/Kg		<MDL	2.4	4.85	ug/Kg
Hexachloroethane		<MDL	1.5	3.09	ug/Kg		<MDL	2.4	4.87	ug/Kg		<MDL	4.9	9.71	ug/Kg
Indeno(1,2,3-Cd)Pyrene		<MDL	3.1	6.17	ug/Kg	6.8	<RDL	4.9	9.73	ug/Kg	21		9.7	19.4	ug/Kg
Isophorone		<MDL	15	30.9	ug/Kg		<MDL	24	48.7	ug/Kg		<MDL	49	97.1	ug/Kg
Naphthalene		<MDL	3.1	6.17	ug/Kg		<MDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
Nitrobenzene		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
N-Nitrosodimethylamine		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
N-Nitrosodiphenylamine		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
Pentachlorophenol		<MDL	15	30.9	ug/Kg		<MDL	24	48.7	ug/Kg		<MDL	49	97.1	ug/Kg
Phenanthrene		<MDL	3.1	6.17	ug/Kg	40.1		4.9	9.73	ug/Kg	27.6		9.7	19.4	ug/Kg
Phenol		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
Pyrene	6.48		3.1	6.17	ug/Kg	38.2		4.9	9.73	ug/Kg	95.1		9.7	19.4	ug/Kg
Total 4-Nonylphenol		<MDL	31	61.7	ug/Kg		<MDL	49	97.3	ug/Kg		<MDL	97	194	ug/Kg
<b>OR TERNS (2002)</b>															
Estradiol		<MDL	0.077	0.778	ug/Kg		<MDL	0.12	1.23	ug/Kg		<MDL	0.24	2.45	ug/Kg
Estrone	0.17	<RDL	0.046	0.466	ug/Kg	0.16	<RDL	0.073	0.735	ug/Kg	0.43	<RDL	0.15	1.47	ug/Kg
Ethinyl estradiol		<MDL	0.077	0.778	ug/Kg		<MDL	0.12	1.23	ug/Kg		<MDL	0.24	2.45	ug/Kg
<b>OR WDOE NWTPH-DX</b>															
Diesel Range (>C12-C24)															
Lube Oil Range (>C24)	42		39	39	mg/Kg	72		61	61	mg/Kg	190		120	120	mg/Kg

\* Not converted to dry weight basis

# King County Environmental Lab Analytical Report

Project: 421240C  
 Locator: '0478  
 Descrip: LITTLE BEAR CREEK/  
 Sample: L48633-1  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 12:25  
 TimeSpan:  
 TotalSolid: 74.3  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: A434  
 Descrip: THORNTON CREEK//ON  
 Sample: L48633-2  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 14:15  
 TimeSpan:  
 TotalSolid: 35.5  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: '00631  
 Descrip: ISSAQUAH CREEK MOU  
 Sample: L48633-3  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 11:15  
 TimeSpan:  
 TotalSolid: 51.9  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
CV ASTM D422															
Clay*		<MDL	0.57	1.15	%	2.5		1.3	2.52	%		<MDL	0.95	1.89	%
Fines*	1.1		0.57	1.15	%	25.2		1.3	2.52	%	45.4		0.95	1.89	%
Gravel*	18.6		0.11	1.15	%	1.5		0.25	2.52	%		<MDL	0.19	1.89	%
p+0.00*	7.7		0.11	1.15	%	1.3		0.25	2.52	%		<MDL	0.19	1.89	%
p+1.00*	17.1		0.11	1.15	%	1.9		0.25	2.52	%	0.3	<RDL	0.19	1.89	%
p+10.0(equal/more than)*		<MDL	0.57	1.15	%		<MDL	1.3	2.52	%		<MDL	0.95	1.89	%
p+2.00*	33.8		0.11	1.15	%	12.3		0.25	2.52	%	1.7		0.19	1.89	%
p+3.00*	19.4		0.11	1.15	%	36		0.25	2.52	%	21.5		0.19	1.89	%
p+4.00*	3.1		0.11	1.15	%	18.3		0.25	2.52	%	23.2		0.19	1.89	%
p+5.00*		<MDL	0.57	1.15	%	17.6		1.3	2.52	%	32.2		0.95	1.89	%
p+6.00*		<MDL	0.57	1.15	%	2.5		1.3	2.52	%	5.7		0.95	1.89	%
p+7.00*		<MDL	0.57	1.15	%	2.5		1.3	2.52	%	3.8		0.95	1.89	%
p+8.00*	1.1		0.57	1.15	%		<MDL	1.3	2.52	%	3.8		0.95	1.89	%
p+9.00*		<MDL	0.57	1.15	%	2.5		1.3	2.52	%		<MDL	0.95	1.89	%
p-1.00*	5.5		0.11	1.15	%	0.9	<RDL	0.25	2.52	%		<MDL	0.19	1.89	%
p-2.00(less than)*	11.6		0.11	1.15	%	0.6	<RDL	0.25	2.52	%		<MDL	0.19	1.89	%
p-2.00*	1.5		0.11	1.15	%		<MDL	0.25	2.52	%		<MDL	0.19	1.89	%
Sand*	81		0.11	1.15	%	69.8		0.25	2.52	%	46.8		0.19	1.89	%
Silt*	1.1		0.57	1.15	%	22.6		1.3	2.52	%	45.4		0.95	1.89	%
CV EPA DEC 1991															
Sulfide, Acid Volatile															
CV KERQUEL & AMINOT 1997(KCL)															
Ammonia Nitrogen	1.7		0.067	0.135	mg/Kg	45.6		1.4	2.8	mg/Kg	20.6		1.8	3.7	mg/Kg
CV SM2540-G															
Total Solids*	74.3		0.005	0.01	%	35.5		0.005	0.01	%	51.9		0.005	0.01	%
CV SM4500-P-F OL															
Orthophosphate Phosphorus	6.69		1.3	3.36	mg/Kg	59.7		2.8	7.01	mg/Kg	17.5		1.8	4.59	mg/Kg
CV SW846 9045C															
pH*	7.47				pH	7.04				pH	6.96				pH
CV SW846 9060-PSEP96															
Total Organic Carbon	2020		480	972	mg/Kg	59200		6800	13400	mg/Kg	18900		1700	3410	mg/Kg
MT EPA 200.7															
Arsenic, Extractable, SEM															
Cadmium, Extractable, SEM															
Chromium, Extractable, SEM															
Copper, Extractable, SEM															
Lead, Extractable, SEM															
Nickel, Extractable, SEM															
Silver, Extractable, SEM															
Zinc, Extractable, SEM															
MT EPA 245.1*SW846 7470A															
Mercury, Extractable, SEM															
MT SW846 3050B*SW846 6020A															
Arsenic, Total, ICP-MS	3.24		0.032	0.164	mg/Kg	10.7		0.037	0.177	mg/Kg	4.53		0.025	0.123	mg/Kg
Cadmium, Total, ICP-MS	0.0861		0.016	0.0822	mg/Kg	0.51		0.018	0.0882	mg/Kg	0.108		0.012	0.0615	mg/Kg
Chromium, Total, ICP-MS	21.5		0.66	3.28	mg/Kg	40.8		0.7	3.52	mg/Kg	29.3		0.48	2.45	mg/Kg
Copper, Total, ICP-MS	7.17		1.3	6.58	mg/Kg	34.6		1.4	7.07	mg/Kg	26		0.98	4.91	mg/Kg
Lead, Total, ICP-MS	3.03		0.032	0.164	mg/Kg	58.3		0.037	0.177	mg/Kg	6.3		0.025	0.123	mg/Kg
Nickel, Total, ICP-MS	22.5		0.32	1.64	mg/Kg	40.6		0.37	1.77	mg/Kg	28.9		0.25	1.23	mg/Kg
Phosphorus, Total, ICP-MS		<MDL	320	1640	mg/Kg	620	<RDL	370	1770	mg/Kg	390	<RDL	250	1230	mg/Kg
Silver, Total, ICP-MS	0.02	<RDL	0.016	0.0822	mg/Kg	0.157		0.018	0.0882	mg/Kg	0.054	<RDL	0.012	0.0615	mg/Kg
Zinc, Total, ICP-MS	41.5		1.6	8.22	mg/Kg	221		1.8	8.82	mg/Kg	50.7		1.2	6.15	mg/Kg
MT SW846 7471B															
Mercury, Total, CVAA	0.0085	<RDL	0.0067	0.0666	mg/Kg	0.065	<RDL	0.014	0.138	mg/Kg	0.044	<RDL	0.0092	0.0933	mg/Kg
OR SW846 3550B*EPA 1614															
DecaBDE-209	0.353	J	0.044	0.0898	ug/Kg	78.6	J	0.093	0.188	ug/Kg	0.534	J	0.064	0.129	ug/Kg
HeptaBDE-183		<MDL	0.009	0.0179	ug/Kg	0.194		0.019	0.0375	ug/Kg		<MDL	0.013	0.0256	ug/Kg
HeptaBDE-190		<MDL	0.009	0.0179	ug/Kg		<MDL	0.019	0.0375	ug/Kg		<MDL	0.013	0.0256	ug/Kg
HexaBDE-138		<MDL,TA	0.009	0.0179	ug/Kg		<MDL,TA	0.019	0.0375	ug/Kg		<MDL,TA	0.013	0.0256	ug/Kg
HexaBDE-153	0.0332		0.009	0.0179	ug/Kg	0.196		0.019	0.0375	ug/Kg	0.021	<RDL	0.013	0.0256	ug/Kg
HexaBDE-154		<MDL	0.009	0.0179	ug/Kg	0.186		0.019	0.0375	ug/Kg	0.017	<RDL	0.013	0.0256	ug/Kg
PentaBDE-100		<MDL	0.009	0.0179	ug/Kg	0.266		0.019	0.0375	ug/Kg	0.018	<RDL	0.013	0.0256	ug/Kg
PentaBDE-85		<MDL	0.009	0.0179	ug/Kg	0.0772		0.019	0.0375	ug/Kg		<MDL	0.013	0.0256	ug/Kg
PentaBDE-99	0.0413	B	0.009	0.0179	ug/Kg	1.39		0.019	0.0375	ug/Kg	0.0788	B3	0.013	0.0256	ug/Kg
TetraBDE-47	0.0428	B	0.009	0.0179	ug/Kg	1.44		0.019	0.0375	ug/Kg	0.123	B3	0.013	0.0256	ug/Kg
TetraBDE-66		<MDL	0.009	0.0179	ug/Kg	0.201		0.019	0.0375	ug/Kg		<MDL	0.013	0.0256	ug/Kg
TetraBDE-71		<MDL,TA	0.009	0.0179	ug/Kg	0.693	TA	0.019	0.0375	ug/Kg		<MDL,TA	0.013	0.0256	ug/Kg
TriBDE-17		<MDL	0.009	0.0179	ug/Kg		<MDL	0.019	0.0375	ug/Kg		<MDL	0.013	0.0256	ug/Kg
TriBDE-28		<MDL,TA	0.009	0.0179	ug/Kg	0.028	<RDL,TA	0.019	0.0375	ug/Kg		<MDL,TA	0.013	0.0256	ug/Kg
OR SW846 3550B*SW846 8081B															
4,4'-DDD		<MDL	0.9	1.79	ug/Kg	5.52		1.9	3.75	ug/Kg		<MDL	1.3	2.56	ug/Kg
4,4'-DDE		<MDL	0.9	1.79	ug/Kg	8.25		1.9	3.75	ug/Kg		<MDL	1.3	2.56	ug/Kg
4,4'-DDT		<MDL	0.9	1.79	ug/Kg	5.46		1.9	3.75	ug/Kg		<MDL	1.3	2.56	ug/Kg
Aldrin		<MDL	0.9	1.79	ug/Kg		<MDL	1.9	3.75	ug/Kg		<MDL	1.3	2.56	ug/Kg
Alpha-BHC		<MDL	0.44	0.898	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.64	1.29	ug/Kg
Alpha-Chlordane		<MDL	0.44	0.898	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.64	1.29	ug/Kg
Beta-BHC		<MDL	0.44	0.898	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.64	1.29	ug/Kg
Delta-BHC		<MDL	0.44	0.898	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.64	1.29	ug/Kg
Dieldrin		<MDL	0.9	1.79	ug/Kg	2.1	<RDL	1.9	3.75	ug/Kg		<MDL	1.3	2.56	ug/Kg
Endosulfan I		<MDL	0.9	1.79	ug/Kg		<MDL	1.9	3.75	ug/Kg		<MDL	1.3	2.56	ug/Kg
Endosulfan II		<MDL	0.9	1.79	ug/Kg		<MDL	1.9	3.75	ug/Kg		<MDL	1.3	2.56	ug/Kg
Endosulfan Sulfate		<MDL	0.9	1.79	ug/Kg		<MDL	1.9	3.75	ug/Kg		<MDL	1.3	2.56	ug/Kg
Endrin		<MDL	0.9	1.79	ug/Kg		<MDL	1.9	3.75	ug/Kg		<MDL	1.3	2.56	ug/Kg
Endrin Aldehyde		<MDL	0.9	1.79	ug/Kg		<MDL	1.9	3.75	ug/Kg		<MDL	1.3	2.56	ug/Kg
Gamma-BHC (Lindane)		<MDL	0.44	0.898	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.64	1.29	ug/Kg
Gamma-Chlordane		<MDL	0.44	0.898	ug/Kg	1.8	<RDL	0.93	1.88	ug/Kg		<MDL	0.64	1.29	ug/Kg
Heptachlor		<MDL	0.44	0.898	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.64	1.29	ug/Kg
Heptachlor Epoxide		<MDL	0.44	0.898	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.64	1.29	ug/Kg
Methoxychlor		<MDL	4.4	8.98	ug/Kg		<MDL	9.3	18.8	ug/Kg		<MDL			

# King County Environmental Lab Analytical Report

Project: 421240C  
 Locator: '0478  
 Descr: LITTLE BEAR CREEK/  
 Sample: L48633-1  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 12:25  
 TimeSpan:  
 TotalSolid: 74.3  
 ClientLoc:  
 SampDepth:  
 DRY Weight Basis

Project: 421240C  
 Locator: A434  
 Descr: THORNTON CREEK//ON  
 Sample: L48633-2  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 14:15  
 TimeSpan:  
 TotalSolid: 35.5  
 ClientLoc:  
 SampDepth:  
 DRY Weight Basis

Project: 421240C  
 Locator: '00631  
 Descr: ISSAQUAH CREEK MOU  
 Sample: L48633-3  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 11:15  
 TimeSpan:  
 TotalSolid: 51.9  
 ClientLoc:  
 SampDepth:  
 DRY Weight Basis

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
Total Aroclors		<MDL	1.1	2.25	ug/Kg	76.1		2.3	4.7	ug/Kg		<MDL	1.6	3.22	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>															
1,2,4-Trichlorobenzene		<MDL	0.13	0.269	ug/Kg		<MDL	0.28	0.563	ug/Kg		<MDL	0.19	0.385	ug/Kg
1,2-Dichlorobenzene		<MDL	0.27	0.538	ug/Kg		<MDL	0.56	1.13	ug/Kg		<MDL	0.39	0.771	ug/Kg
1,2-Diphenylhydrazine		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
1,3-Dichlorobenzene		<MDL	0.27	0.538	ug/Kg		<MDL	0.56	1.13	ug/Kg		<MDL	0.39	0.771	ug/Kg
1,4-Dichlorobenzene		<MDL	0.27	0.538	ug/Kg		<MDL	0.56	1.13	ug/Kg		<MDL	0.39	0.771	ug/Kg
2,4,5-Trichlorophenol		<MDL	13	26.9	ug/Kg		<MDL	28	56.3	ug/Kg		<MDL	19	38.5	ug/Kg
2,4,6-Trichlorophenol		<MDL	13	26.9	ug/Kg		<MDL	28	56.3	ug/Kg		<MDL	19	38.5	ug/Kg
2,4-Dichlorophenol		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
2,4-Dimethylphenol		<MDL	1.3	2.69	ug/Kg		<MDL	2.8	5.63	ug/Kg		<MDL	1.9	3.85	ug/Kg
2,4-Dinitrotoluene		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
2,6-Dinitrotoluene		<MDL	13	26.9	ug/Kg		<MDL	28	56.3	ug/Kg		<MDL	19	38.5	ug/Kg
2-Chloronaphthalene		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
2-Chlorophenol		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
2-Methylnaphthalene		<MDL	2.7	5.38	ug/Kg	10	<RDL	5.6	11.3	ug/Kg		<MDL	3.9	7.71	ug/Kg
2-Methylphenol		<MDL	2.7	5.38	ug/Kg		<MDL	5.6	11.3	ug/Kg		<MDL	3.9	7.71	ug/Kg
2-Nitrophenol		<MDL	13	26.9	ug/Kg		<MDL	28	56.3	ug/Kg		<MDL	19	38.5	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
4-Methylphenol		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
Acenaphthene		<MDL	2.7	5.38	ug/Kg	18.2		5.6	11.3	ug/Kg		<MDL	3.9	7.71	ug/Kg
Acenaphthylene		<MDL	2.7	5.38	ug/Kg		<MDL	5.6	11.3	ug/Kg		<MDL	3.9	7.71	ug/Kg
Aniline		<MDL	5.4	10.8	ug/Kg		<MDL	110	225	ug/Kg		<MDL	7.7	15.4	ug/Kg
Anthracene		<MDL	2.7	5.38	ug/Kg	58.9		5.6	11.3	ug/Kg		<MDL	3.9	7.71	ug/Kg
Benzo(a)anthracene		<MDL	2.7	5.38	ug/Kg	304		5.6	11.3	ug/Kg	10.3		3.9	7.71	ug/Kg
Benzo(a)pyrene		<MDL	2.7	5.38	ug/Kg	332		5.6	11.3	ug/Kg	11.2		3.9	7.71	ug/Kg
Benzo(b)fluoranthene		<MDL	2.7	5.38	ug/Kg	417		5.6	11.3	ug/Kg	12.8		3.9	7.71	ug/Kg
Benzo(g,h,i)perylene		<MDL	2.7	5.38	ug/Kg	310		5.6	11.3	ug/Kg	5.4	<RDL	3.9	7.71	ug/Kg
Benzo(k)fluoranthene		<MDL	2.7	5.38	ug/Kg	335		5.6	11.3	ug/Kg	10.7		3.9	7.71	ug/Kg
Benzoic Acid	122		13	26.9	ug/Kg	1110		28	56.3	ug/Kg	256		19	38.5	ug/Kg
Benzyl Alcohol		<MDL	2.7	5.38	ug/Kg		<MDL	5.6	11.3	ug/Kg		<MDL	3.9	7.71	ug/Kg
Benzyl Butyl Phthalate		<MDL	5.4	10.8	ug/Kg	301		11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
Bis(2-ethylhexyl)adipate	23	<RDL	13	26.9	ug/Kg	105		28	56.3	ug/Kg	29	<RDL	19	38.5	ug/Kg
Bis(2-Ethylhexyl)Phthalate	46.4	B	5.4	10.8	ug/Kg	2490		11	22.5	ug/Kg	97.7	B	7.7	15.4	ug/Kg
Bisphenol A		<MDL	13	26.9	ug/Kg		<MDL	28	56.3	ug/Kg		<MDL	19	38.5	ug/Kg
Caffeine		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
Carbazole		<MDL	2.7	5.38	ug/Kg	42.8		5.6	11.3	ug/Kg		<MDL	3.9	7.71	ug/Kg
Chrysene		<MDL	2.7	5.38	ug/Kg	358		5.6	11.3	ug/Kg	12.5		3.9	7.71	ug/Kg
Coprostanol		<MDL	5.4	10.8	ug/Kg		<MDL	110	225	ug/Kg		<MDL	7.7	15.4	ug/Kg
Dibenzo(a,h)anthracene		<MDL	2.7	5.38	ug/Kg	112		5.6	11.3	ug/Kg		<MDL	3.9	7.71	ug/Kg
Dibenzofuran		<MDL	2.7	5.38	ug/Kg	9.3	<RDL	5.6	11.3	ug/Kg		<MDL	3.9	7.71	ug/Kg
Diethyl Phthalate		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
Dimethyl Phthalate	19.9		5.4	10.8	ug/Kg	76.1		11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
Di-N-Butyl Phthalate	7.4	<RDL,B	5.4	10.8	ug/Kg	36.6	B	11	22.5	ug/Kg	13	<RDL,B	7.7	15.4	ug/Kg
Di-N-Octyl Phthalate		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
Fluoranthene		<MDL	2.7	5.38	ug/Kg	535		5.6	11.3	ug/Kg	19		3.9	7.71	ug/Kg
Fluorene		<MDL	2.7	5.38	ug/Kg	20.2		5.6	11.3	ug/Kg		<MDL	3.9	7.71	ug/Kg
Hexachlorobenzene		<MDL	0.13	0.269	ug/Kg		<MDL	0.28	0.563	ug/Kg		<MDL	0.19	0.385	ug/Kg
Hexachlorobutadiene		<MDL	0.67	1.35	ug/Kg		<MDL	1.4	2.82	ug/Kg		<MDL	0.96	1.93	ug/Kg
Hexachloroethane		<MDL	1.3	2.69	ug/Kg		<MDL	2.8	5.63	ug/Kg		<MDL	1.9	3.85	ug/Kg
Indeno(1,2,3-Cd)Pyrene		<MDL	2.7	5.38	ug/Kg	277		5.6	11.3	ug/Kg	6.7	<RDL	3.9	7.71	ug/Kg
Isophorone		<MDL	13	26.9	ug/Kg		<MDL	28	56.3	ug/Kg		<MDL	19	38.5	ug/Kg
Naphthalene		<MDL	2.7	5.38	ug/Kg	7	<RDL	5.6	11.3	ug/Kg		<MDL	3.9	7.71	ug/Kg
Nitrobenzene		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
N-Nitrosodimethylamine		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
N-Nitrosodiphenylamine		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
Pentachlorophenol		<MDL	13	26.9	ug/Kg		<MDL	28	56.3	ug/Kg		<MDL	19	38.5	ug/Kg
Phenanthrene		<MDL	2.7	5.38	ug/Kg	304		5.6	11.3	ug/Kg	16.1		3.9	7.71	ug/Kg
Phenol		<MDL	5.4	10.8	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	7.7	15.4	ug/Kg
Pyrene	2.7	<RDL	2.7	5.38	ug/Kg	1010		5.6	11.3	ug/Kg	22.9		3.9	7.71	ug/Kg
Total 4-Nonylphenol		<MDL	27	53.8	ug/Kg		<MDL	56	113	ug/Kg		<MDL	39	77.1	ug/Kg
<b>OR TERNS (2002)</b>															
Estradiol		<MDL	0.067	0.678	ug/Kg		<MDL	0.14	1.42	ug/Kg		<MDL	0.096	0.971	ug/Kg
Estrone		<MDL	0.04	0.406	ug/Kg	0.31	<RDL	0.085	0.851	ug/Kg	0.58	<RDL	0.058	0.582	ug/Kg
Ethinyl estradiol		<MDL	0.067	0.678	ug/Kg		<MDL	0.14	1.42	ug/Kg		<MDL	0.096	0.971	ug/Kg
<b>OR WDOE NWTPH-DX</b>															
Diesel Range (>C12-C24)	51	TA,J	34	34	mg/Kg										
Lube Oil Range (>C24)	82	TA,J	34	34	mg/Kg	1000		70	70	mg/Kg	69		48	48	mg/Kg

\* Not converted to dry weight basis

# King County Environmental Lab Analytical Report

Project: 421240C  
 Locator: '0432  
 Descrip: MCALEER CREEK/ON  
 Sample: L48633-4  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 13:30  
 TimeSpan:  
 TotalSolid: 58.3  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: '0474  
 Descrip: NORTH CREEK/UPSTR  
 Sample: L48633-5  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 13:00  
 TimeSpan:  
 TotalSolid: 45.7  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: '0322  
 Descrip: NEWAUKUM CREEK DOW  
 Sample: L48633-6  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 11:40  
 TimeSpan:  
 TotalSolid: 39.9  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
CV ASTM D422															
Clay*		<MDL	0.74	1.49	%	2		1	2.03	%		<MDL	1.1	2.2	%
Fines*	8.9		0.74	1.49	%	24.4		1	2.03	%	24.2		1.1	2.2	%
Gravel*	3.6		0.15	1.49	%	0.9	<RDL	0.2	2.03	%	7.3		0.22	2.2	%
p+0.00*	6.6		0.15	1.49	%	1.8		0.2	2.03	%	3.3		0.22	2.2	%
p+1.00*	20		0.15	1.49	%	1.7		0.2	2.03	%	10.7		0.22	2.2	%
p+10.0(equal/more than)*		<MDL	0.74	1.49	%		<MDL	1	2.03	%		<MDL	1.1	2.2	%
p+2.00*	29.3		0.15	1.49	%	14.2		0.2	2.03	%	17.2		0.22	2.2	%
p+3.00*	19.3		0.15	1.49	%	32.3		0.2	2.03	%	19.4		0.22	2.2	%
p+4.00*	4.6		0.15	1.49	%	20.1		0.2	2.03	%	13.4		0.22	2.2	%
p+5.00*	6		0.74	1.49	%	18.3		1	2.03	%	22		1.1	2.2	%
p+6.00*	1.5		0.74	1.49	%	2		1	2.03	%	1.1		1.1	2.2	%
p+7.00*	0.7	<RDL	0.74	1.49	%	2		1	2.03	%	1.1		1.1	2.2	%
p+8.00*	0.7	<RDL	0.74	1.49	%		<MDL	1	2.03	%		<MDL	1.1	2.2	%
p+9.00*		<MDL	0.74	1.49	%	2		1	2.03	%		<MDL	1.1	2.2	%
p-1.00*	2.3		0.15	1.49	%	0.9	<RDL	0.2	2.03	%	1.5		0.22	2.2	%
p-2.00(less than)*	1.3		0.15	1.49	%		<MDL	0.2	2.03	%	5.8		0.22	2.2	%
p-2.00*		<MDL	0.15	1.49	%		<MDL	0.2	2.03	%		<MDL	0.22	2.2	%
Sand*	79.9		0.15	1.49	%	70		0.2	2.03	%	63.9		0.22	2.2	%
Silt*	8.9		0.74	1.49	%	22.4		1	2.03	%	24.2		1.1	2.2	%
CV EPA DEC 1991															
Sulfide, Acid Volatile												<MDL,JG	0.63	2.49	mg/Kg
CV KERQUEL & AMINOT 1997(KCL)															
Ammonia Nitrogen	10.3		0.43	0.847	mg/Kg	18.5		0.55	1.08	mg/Kg	18.7		0.63	1.24	mg/Kg
CV SM2540-G															
Total Solids*	58.3		0.005	0.01	%	45.7		0.005	0.01	%	39.9		0.005	0.01	%
CV SM4500-P-F OL															
Orthophosphate Phosphorus	22		1.6	4.01	mg/Kg	43.8		2.1	5.32	mg/Kg	34.8		2.5	6.17	mg/Kg
CV SW846 9045C															
pH*	7.31				pH	7.29				pH	7.29				pH
CV SW846 9060-PSEP96															
Total Organic Carbon	17800		1500	3000	mg/Kg	23600		1800	3650	mg/Kg	27300		2100	4140	mg/Kg
MT EPA 200.7															
Arsenic, Extractable, SEM											1.8	<RDL	1.3	6.24	mg/Kg
Cadmium, Extractable, SEM											0.12	<RDL	0.1	0.499	mg/Kg
Chromium, Extractable, SEM											1.64		0.15	0.747	mg/Kg
Copper, Extractable, SEM											8.82		0.2	0.997	mg/Kg
Lead, Extractable, SEM											3.8	<RDL	1	4.99	mg/Kg
Nickel, Extractable, SEM											3.16		0.25	1.25	mg/Kg
Silver, Extractable, SEM												<MDL	0.2	0.997	mg/Kg
Zinc, Extractable, SEM											26.6		0.25	1.25	mg/Kg
MT EPA 245.1*SW846 7470A															
Mercury, Extractable, SEM												<MDL	0.0025	0.00747	mg/Kg
MT SW846 3050B*SW846 6020A															
Arsenic, Total, ICP-MS	4.72		0.021	0.106	mg/Kg	8.25		0.028	0.139	mg/Kg	5.04		0.03	0.154	mg/Kg
Cadmium, Total, ICP-MS	0.119		0.011	0.053	mg/Kg	0.149		0.014	0.0696	mg/Kg	0.124		0.016	0.0772	mg/Kg
Chromium, Total, ICP-MS	29.5		0.43	2.13	mg/Kg	35.7		0.55	2.78	mg/Kg	23.3		0.63	3.08	mg/Kg
Copper, Total, ICP-MS	11.8		0.84	4.24	mg/Kg	15.6		1.1	5.58	mg/Kg	20.1		1.2	6.17	mg/Kg
Lead, Total, ICP-MS	12		0.021	0.106	mg/Kg	8.95		0.028	0.139	mg/Kg	5.41		0.03	0.154	mg/Kg
Nickel, Total, ICP-MS	33.6		0.21	1.06	mg/Kg	32.4		0.28	1.39	mg/Kg	22.3		0.3	1.54	mg/Kg
Phosphorus, Total, ICP-MS	330	<RDL	210	1060	mg/Kg	550	<RDL	280	1390	mg/Kg	600	<RDL	300	1540	mg/Kg
Silver, Total, ICP-MS	0.041	<RDL	0.011	0.053	mg/Kg	0.053	<RDL	0.014	0.0696	mg/Kg	0.063	<RDL	0.016	0.0772	mg/Kg
Zinc, Total, ICP-MS	77.4		1.1	5.3	mg/Kg	77.7		1.4	6.96	mg/Kg	62.2		1.6	7.72	mg/Kg
MT SW846 7471B															
Mercury, Total, CVAA	0.021	<RDL	0.0084	0.0844	mg/Kg	0.039	<RDL	0.011	0.106	mg/Kg	0.048	<RDL	0.012	0.123	mg/Kg
OR SW846 3550B*EPA 1614															
DecaBDE-209	1.32	J	0.057	0.114	ug/Kg	1.25	J	0.072	0.146	ug/Kg	0.193	J	0.083	0.167	ug/Kg
HeptaBDE-183		<MDL	0.011	0.0228	ug/Kg	0.021	<RDL	0.015	0.0291	ug/Kg		<MDL	0.017	0.0333	ug/Kg
HeptaBDE-190		<MDL	0.011	0.0228	ug/Kg		<MDL	0.015	0.0291	ug/Kg		<MDL	0.017	0.0333	ug/Kg
HexaBDE-138		<MDL,TA	0.011	0.0228	ug/Kg	0.024	<RDL,TA	0.015	0.0291	ug/Kg		<MDL,TA	0.017	0.0333	ug/Kg
HexaBDE-153	0.0588		0.011	0.0228	ug/Kg	0.0786		0.015	0.0291	ug/Kg	0.0632		0.017	0.0333	ug/Kg
HexaBDE-154	0.0262		0.011	0.0228	ug/Kg	0.0326		0.015	0.0291	ug/Kg		<MDL	0.017	0.0333	ug/Kg
PentaBDE-100	0.0396		0.011	0.0228	ug/Kg	0.0593		0.015	0.0291	ug/Kg	0.021	<RDL	0.017	0.0333	ug/Kg
PentaBDE-85		<MDL	0.011	0.0228	ug/Kg	0.02	<RDL	0.015	0.0291	ug/Kg		<MDL	0.017	0.0333	ug/Kg
PentaBDE-99	0.199		0.011	0.0228	ug/Kg	0.23		0.015	0.0291	ug/Kg	0.089	B3	0.017	0.0333	ug/Kg
TetraBDE-47	0.208		0.011	0.0228	ug/Kg	0.256		0.015	0.0291	ug/Kg	0.151	B3	0.017	0.0333	ug/Kg
TetraBDE-66		<MDL	0.011	0.0228	ug/Kg		<MDL	0.015	0.0291	ug/Kg		<MDL	0.017	0.0333	ug/Kg
TetraBDE-71		<MDL,TA	0.011	0.0228	ug/Kg	0.0328	TA	0.015	0.0291	ug/Kg		<MDL,TA	0.017	0.0333	ug/Kg
TriBDE-17		<MDL	0.011	0.0228	ug/Kg		<MDL	0.015	0.0291	ug/Kg		<MDL	0.017	0.0333	ug/Kg
TriBDE-28		<MDL,TA	0.011	0.0228	ug/Kg		<MDL,TA	0.015	0.0291	ug/Kg		<MDL,TA	0.017	0.0333	ug/Kg
OR SW846 3550B*SW846 8081B															
4,4'-DDD	3.5		1.1	2.28	ug/Kg		<MDL	1.5	2.91	ug/Kg		<MDL	1.7	3.33	ug/Kg
4,4'-DDE	3.02		1.1	2.28	ug/Kg		<MDL	1.5	2.91	ug/Kg		<MDL	1.7	3.33	ug/Kg
4,4'-DDT	4.31		1.1	2.28	ug/Kg		<MDL	1.5	2.91	ug/Kg		<MDL	1.7	3.33	ug/Kg
Aldrin		<MDL	1.1	2.28	ug/Kg		<MDL	1.5	2.91	ug/Kg		<MDL	1.7	3.33	ug/Kg
Alpha-BHC		<MDL	0.57	1.14	ug/Kg		<MDL	0.72	1.46	ug/Kg		<MDL	0.83	1.67	ug/Kg
Alpha-Chlordane		<MDL	0.57	1.14	ug/Kg		<MDL	0.72	1.46	ug/Kg		<MDL	0.83	1.67	ug/Kg
Beta-BHC		<MDL	0.57	1.14	ug/Kg		<MDL	0.72	1.46	ug/Kg		<MDL	0.83	1.67	ug/Kg
Delta-BHC		<MDL	0.57	1.14	ug/Kg		<MDL	0.72	1.46	ug/Kg		<MDL	0.83	1.67	ug/Kg
Dieldrin		<MDL	1.1	2.28	ug/Kg		<MDL	1.5	2.91	ug/Kg		<MDL	1.7	3.33	ug/Kg
Endosulfan I		<MDL	1.1	2.28	ug/Kg		<MDL	1.5	2.91	ug/Kg		<MDL	1.7	3.33	ug/Kg
Endosulfan II		<MDL	1.1	2.28	ug/Kg		<MDL	1.5	2.91	ug/Kg		<MDL	1.7	3.33	ug/Kg
Endosulfan Sulfate		<MDL	1.1	2.28	ug/Kg		<MDL	1.5	2.91	ug/Kg		<MDL	1.7	3.33	ug/Kg
Endrin		<MDL	1.1	2.28	ug/Kg		<MDL	1.5	2.91	ug/Kg		<MDL	1.7	3.33	ug/Kg
Endrin Aldehyde		<MDL	1.1	2.28	ug/Kg		<MDL	1.5	2.91	ug/Kg		<MDL	1.7	3.33	ug/Kg
Gamma-BHC (Lindane)		<MDL	0.57	1.14	ug/Kg		<MDL	0.72	1.46	ug/Kg		<MDL	0.83	1.67	ug/Kg
Gamma-Chlordane		<MDL	0.57	1.14	ug/Kg		<MDL	0.72	1.46	ug/Kg		<MDL	0.83	1.67	ug/Kg
Heptachlor		<MDL	0.57	1.14	ug/Kg		<MDL	0.72	1.46	ug/Kg		<MDL	0.83	1.67	ug/Kg
Heptachlor Epoxide		<MDL	0.57	1.14	ug/Kg		<MDL	0.72	1.46	ug/Kg		<MD			

# King County Environmental Lab Analytical Report

Project: 421240C  
 Locator: '0432  
 Descrip: MCALEER CREEK/ON  
 Sample: L48633-4  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 13:30  
 TimeSpan:  
 TotalSolid: 58.3  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: '0474  
 Descrip: NORTH CREEK/UPSTR  
 Sample: L48633-5  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 13:00  
 TimeSpan:  
 TotalSolid: 45.7  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: '0322  
 Descrip: NEWAUKUM CREEK DOW  
 Sample: L48633-6  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 11:40  
 TimeSpan:  
 TotalSolid: 39.9  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
Total Aroclors		<MDL	1.4	2.86	ug/Kg		<MDL	1.8	3.65	ug/Kg		<MDL	2.1	4.19	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>															
1,2,4-Trichlorobenzene		<MDL	0.17	0.343	ug/Kg		<MDL	0.22	0.438	ug/Kg		<MDL	0.25	0.501	ug/Kg
1,2-Dichlorobenzene		<MDL	0.34	0.686	ug/Kg		<MDL	0.44	0.875	ug/Kg		<MDL	0.5	1	ug/Kg
1,2-Diphenylhydrazine		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
1,3-Dichlorobenzene		<MDL	0.34	0.686	ug/Kg		<MDL	0.44	0.875	ug/Kg		<MDL	0.5	1	ug/Kg
1,4-Dichlorobenzene		<MDL	0.34	0.686	ug/Kg		<MDL	0.44	0.875	ug/Kg		<MDL	0.5	1	ug/Kg
2,4,5-Trichlorophenol		<MDL	17	34.3	ug/Kg		<MDL	22	43.8	ug/Kg		<MDL	25	50.1	ug/Kg
2,4,6-Trichlorophenol		<MDL	17	34.3	ug/Kg		<MDL	22	43.8	ug/Kg		<MDL	25	50.1	ug/Kg
2,4-Dichlorophenol		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
2,4-Dimethylphenol		<MDL	1.7	3.43	ug/Kg		<MDL	2.2	4.38	ug/Kg		<MDL	2.5	5.01	ug/Kg
2,6-Dinitrotoluene		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
2,6-Dinitrotoluene		<MDL	17	34.3	ug/Kg		<MDL	22	43.8	ug/Kg		<MDL	25	50.1	ug/Kg
2-Chloronaphthalene		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
2-Chlorophenol		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
2-Methylnaphthalene		<MDL	3.4	6.86	ug/Kg		<MDL	4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
2-Methylphenol		<MDL	3.4	6.86	ug/Kg		<MDL	4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
2-Nitrophenol		<MDL	17	34.3	ug/Kg		<MDL	22	43.8	ug/Kg		<MDL	25	50.1	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
4-Methylphenol		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
Acenaphthene		<MDL	3.4	6.86	ug/Kg		<MDL	4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Acenaphthylene		<MDL	3.4	6.86	ug/Kg		<MDL	4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Aniline		<MDL	69	137	ug/Kg		<MDL	88	175	ug/Kg		<MDL	100	201	ug/Kg
Anthracene	4.3	<RDL	3.4	6.86	ug/Kg		<MDL	4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Benzo(a)anthracene	16.2		3.4	6.86	ug/Kg	11.8		4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Benzo(a)pyrene	23.5		3.4	6.86	ug/Kg	17.7		4.4	8.75	ug/Kg	33.8		5	10	ug/Kg
Benzo(b)fluoranthene	26.9		3.4	6.86	ug/Kg	20.5		4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Benzo(g,h,i)perylene	16.4		3.4	6.86	ug/Kg	14.7		4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Benzo(k)fluoranthene	25.7		3.4	6.86	ug/Kg	20.1		4.4	8.75	ug/Kg	5.3	<RDL	5	10	ug/Kg
Benzoic Acid	201		17	34.3	ug/Kg	335		22	43.8	ug/Kg	258		25	50.1	ug/Kg
Benzyl Alcohol		<MDL	3.4	6.86	ug/Kg		<MDL	4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Benzyl Butyl Phthalate	61.9		6.9	13.7	ug/Kg	54.9		8.8	17.5	ug/Kg	59.6		10	20.1	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
Bis(2-ethylhexyl)adipate	73.1		17	34.3	ug/Kg	119		22	43.8	ug/Kg		<MDL	25	50.1	ug/Kg
Bis(2-Ethylhexyl)Phthalate	172	B	6.9	13.7	ug/Kg	176	B	8.8	17.5	ug/Kg	89.5	B	10	20.1	ug/Kg
Bisphenol A		<MDL	17	34.3	ug/Kg		<MDL	22	43.8	ug/Kg		<MDL	25	50.1	ug/Kg
Caffeine		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
Carbazole		<MDL	3.4	6.86	ug/Kg		<MDL	4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Chrysene	23.2		3.4	6.86	ug/Kg	17.8		4.4	8.75	ug/Kg	5.3	<RDL	5	10	ug/Kg
Coprostanol		<MDL	69	137	ug/Kg		<MDL	88	175	ug/Kg		<MDL	100	201	ug/Kg
Dibenzo(a,h)anthracene	5.7	<RDL	3.4	6.86	ug/Kg	5.9	<RDL	4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Dibenzofuran		<MDL	3.4	6.86	ug/Kg		<MDL	4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Diethyl Phthalate		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
Dimethyl Phthalate		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
Di-N-Butyl Phthalate	13	<RDL,B	6.9	13.7	ug/Kg	13	<RDL,B	8.8	17.5	ug/Kg	13	<RDL,B	10	20.1	ug/Kg
Di-N-Octyl Phthalate		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
Fluoranthene	32.8		3.4	6.86	ug/Kg	21.1		4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Fluorene		<MDL	3.4	6.86	ug/Kg		<MDL	4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Hexachlorobenzene		<MDL	0.17	0.343	ug/Kg		<MDL	0.22	0.438	ug/Kg		<MDL	0.25	0.501	ug/Kg
Hexachlorobutadiene		<MDL	0.86	1.72	ug/Kg		<MDL	1.1	2.19	ug/Kg		<MDL	1.3	2.51	ug/Kg
Hexachloroethane		<MDL	1.7	3.43	ug/Kg		<MDL	2.2	4.38	ug/Kg		<MDL	2.5	5.01	ug/Kg
Indeno(1,2,3-Cd)Pyrene	14.8		3.4	6.86	ug/Kg	12.8		4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Isophorone		<MDL	17	34.3	ug/Kg		<MDL	22	43.8	ug/Kg		<MDL	25	50.1	ug/Kg
Naphthalene		<MDL	3.4	6.86	ug/Kg		<MDL	4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Nitrobenzene		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
N-Nitrosodimethylamine		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
N-Nitrosodiphenylamine		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
Pentachlorophenol		<MDL	17	34.3	ug/Kg		<MDL	22	43.8	ug/Kg		<MDL	25	50.1	ug/Kg
Phenanthrene	17.7		3.4	6.86	ug/Kg	16.1		4.4	8.75	ug/Kg		<MDL	5	10	ug/Kg
Phenol		<MDL	6.9	13.7	ug/Kg		<MDL	8.8	17.5	ug/Kg		<MDL	10	20.1	ug/Kg
Pyrene	42.2		3.4	6.86	ug/Kg	30.9		4.4	8.75	ug/Kg	5.3	<RDL	5	10	ug/Kg
Total 4-Nonylphenol		<MDL	34	68.6	ug/Kg		<MDL	44	87.5	ug/Kg		<MDL	50	100	ug/Kg
<b>OR TERNS (2002)</b>															
Estradiol		<MDL	0.086	0.864	ug/Kg		<MDL	0.11	1.1	ug/Kg		<MDL	0.13	1.26	ug/Kg
Estrone	0.22	<RDL	0.051	0.518	ug/Kg	0.24	<RDL	0.066	0.661	ug/Kg	0.12	<RDL	0.075	0.757	ug/Kg
Ethinyl estradiol		<MDL	0.086	0.864	ug/Kg		<MDL	0.11	1.1	ug/Kg		<MDL	0.13	1.26	ug/Kg
<b>OR WDOE NWTPH-DX</b>															
Diesel Range (>C12-C24)												<MDL	63	63	mg/Kg
Lube Oil Range (>C24)	91		43	43	mg/Kg	140		55	55	mg/Kg		<MDL	63	63	mg/Kg

\* Not converted to dry weight basis

# King County Environmental Lab Analytical Report

Project: 421240C  
 Locator: A320  
 Descrip: BIG SOOS CREEK/US  
 Sample: L48633-7  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 8:55  
 TimeSpan:  
 TotalSolid: 50.6  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: '0317  
 Descrip: SPRINGBROOK CREEK/  
 Sample: L48633-8  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 9:10  
 TimeSpan:  
 TotalSolid: 40.9  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: A315  
 Descrip: HILL CREEK (MILL)/  
 Sample: L48633-9  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 10:05  
 TimeSpan:  
 TotalSolid: 40.4  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
CV ASTM D422															
Clay*		<MDL	1	2.02	%	3.5		1.2	2.33	%	2.2		1.1	2.15	%
Fines*	26.2		1	2.02	%	55.9		1.2	2.33	%	43.1		1.1	2.15	%
Gravel*		<MDL	0.2	2.02	%	2.6		0.23	2.33	%	4.4		0.22	2.15	%
p+0.00*	0.4	<RDL	0.2	2.02	%	1.1		0.23	2.33	%	2.2		0.22	2.15	%
p+1.00*	2.1		0.2	2.02	%	1.7		0.23	2.33	%	6.2		0.22	2.15	%
p+10.0(equal/more than)*		<MDL	1	2.02	%		<MDL	1.2	2.33	%		<MDL	1.1	2.15	%
p+2.00*	18.1		0.2	2.02	%	1.9		0.23	2.33	%	9.1		0.22	2.15	%
p+3.00*	33.9		0.2	2.02	%	10.8		0.23	2.33	%	13.6		0.22	2.15	%
p+4.00*	21.7		0.2	2.02	%	27.9		0.23	2.33	%	18.4		0.22	2.15	%
p+5.00*	22.2		1	2.02	%	39.6		1.2	2.33	%	32.3		1.1	2.15	%
p+6.00*	3		1	2.02	%	4.7		1.2	2.33	%	4.3		1.1	2.15	%
p+7.00*	1		1	2.02	%	4.7		1.2	2.33	%	4.3		1.1	2.15	%
p+8.00*		<MDL	1	2.02	%	3.5		1.2	2.33	%		<MDL	1.1	2.15	%
p+9.00*		<MDL	1	2.02	%	3.5		1.2	2.33	%	2.2		1.1	2.15	%
p-1.00*		<MDL	0.2	2.02	%	0.7	<RDL	0.23	2.33	%	2.1		0.22	2.15	%
p-2.00(less than)*		<MDL	0.2	2.02	%	1.9		0.23	2.33	%	2		0.22	2.15	%
p-2.00*		<MDL	0.2	2.02	%		<MDL	0.23	2.33	%	0.2	<RDL	0.22	2.15	%
Sand*	76.2		0.2	2.02	%	43.4		0.23	2.33	%	49.4		0.22	2.15	%
Silt*	26.2		1	2.02	%	52.4		1.2	2.33	%	40.9		1.1	2.15	%
CV EPA DEC 1991															
Sulfide, Acid Volatile															
CV KERQUEL & AMINOT 1997(KCL)															
Ammonia Nitrogen	10.4		0.3	0.589	mg/Kg	16.6		0.59	1.17	mg/Kg	23.5		0.59	1.2	mg/Kg
CV SM2540-G															
Total Solids*	50.6		0.005	0.01	%	40.9		0.005	0.01	%	40.4		0.005	0.01	%
CV SM4500-P-F OL															
Orthophosphate Phosphorus	16.7		1.9	4.84	mg/Kg	160		12	29.6	mg/Kg	102		11	28.5	mg/Kg
CV SW846 9045C															
pH*	7.34				pH	7.22				pH	7.18				pH
CV SW846 9060-PSEP96															
Total Organic Carbon	19000		1900	3740	mg/Kg	34200		3400	6890	mg/Kg	25000		2300	4530	mg/Kg
MT EPA 200.7															
Arsenic, Extractable, SEM															
Cadmium, Extractable, SEM															
Chromium, Extractable, SEM															
Copper, Extractable, SEM															
Lead, Extractable, SEM															
Nickel, Extractable, SEM															
Silver, Extractable, SEM															
Zinc, Extractable, SEM															
MT EPA 245.1*SW846 7470A															
Mercury, Extractable, SEM															
MT SW846 3050B*SW846 6020A															
Arsenic, Total, ICP-MS	5.69		0.026	0.125	mg/Kg	19.2		0.029	0.152	mg/Kg	12.9		0.032	0.155	mg/Kg
Cadmium, Total, ICP-MS	0.109		0.012	0.0625	mg/Kg	2.09		0.015	0.0758	mg/Kg	0.309		0.016	0.0775	mg/Kg
Chromium, Total, ICP-MS	37.2		0.49	2.49	mg/Kg	32.5		0.61	3.03	mg/Kg	20		0.62	3.09	mg/Kg
Copper, Total, ICP-MS	15.9		1	5	mg/Kg	45.2		1.2	6.06	mg/Kg	26.7		1.2	6.19	mg/Kg
Lead, Total, ICP-MS	6.17		0.026	0.125	mg/Kg	43.8		0.029	0.152	mg/Kg	19.8		0.032	0.155	mg/Kg
Nickel, Total, ICP-MS	40.1		0.26	1.25	mg/Kg	22.2		0.29	1.52	mg/Kg	17.9		0.32	1.55	mg/Kg
Phosphorus, Total, ICP-MS	400	<RDL	260	1250	mg/Kg	2120		290	1520	mg/Kg	1400	<RDL	320	1550	mg/Kg
Silver, Total, ICP-MS	0.051	<RDL	0.012	0.0625	mg/Kg	0.201		0.015	0.0758	mg/Kg	0.28		0.016	0.0775	mg/Kg
Zinc, Total, ICP-MS	46.6		1.2	6.25	mg/Kg	345		1.5	7.58	mg/Kg	113		1.6	7.75	mg/Kg
MT SW846 7471B															
Mercury, Total, CVAA	0.04	<RDL	0.0097	0.0974	mg/Kg	0.088	<RDL	0.012	0.12	mg/Kg	0.224		0.012	0.122	mg/Kg
OR SW846 3550B*EPA 1614															
DecaBDE-209	0.326	J	0.065	0.132	ug/Kg	80.7	J	0.081	0.163	ug/Kg	2.15	J	0.082	0.165	ug/Kg
HeptaBDE-183		<MDL	0.013	0.0263	ug/Kg	0.523		0.016	0.0325	ug/Kg		<MDL	0.017	0.0329	ug/Kg
HeptaBDE-190		<MDL	0.013	0.0263	ug/Kg	0.0792		0.016	0.0325	ug/Kg		<MDL	0.017	0.0329	ug/Kg
HexaBDE-138	0.015	<RDL,TA	0.013	0.0263	ug/Kg		<MDL,TA	0.016	0.0325	ug/Kg	0.02	<RDL,TA	0.017	0.0329	ug/Kg
HexaBDE-153	0.0603		0.013	0.0263	ug/Kg	0.653		0.016	0.0325	ug/Kg	0.0787		0.017	0.0329	ug/Kg
HexaBDE-154	0.016	<RDL	0.013	0.0263	ug/Kg	0.54		0.016	0.0325	ug/Kg	0.0584		0.017	0.0329	ug/Kg
PentaBDE-100	0.014	<RDL	0.013	0.0263	ug/Kg	0.961		0.016	0.0325	ug/Kg	0.0589		0.017	0.0329	ug/Kg
PentaBDE-85		<MDL	0.013	0.0263	ug/Kg	0.271		0.016	0.0325	ug/Kg	0.017	<RDL	0.017	0.0329	ug/Kg
PentaBDE-99	0.0389	B	0.013	0.0263	ug/Kg	4.91		0.016	0.0325	ug/Kg	0.257		0.017	0.0329	ug/Kg
TetraBDE-47	0.0783	B	0.013	0.0263	ug/Kg	1.96		0.016	0.0325	ug/Kg	0.214	B3	0.017	0.0329	ug/Kg
TetraBDE-66		<MDL	0.013	0.0263	ug/Kg	0.213		0.016	0.0325	ug/Kg		<MDL	0.017	0.0329	ug/Kg
TetraBDE-71	0.016	<RDL,TA	0.013	0.0263	ug/Kg	0.851	TA	0.016	0.0325	ug/Kg	0.025	<RDL,TA	0.017	0.0329	ug/Kg
TriBDE-17		<MDL	0.013	0.0263	ug/Kg		<MDL	0.016	0.0325	ug/Kg		<MDL	0.017	0.0329	ug/Kg
TriBDE-28		<MDL,TA	0.013	0.0263	ug/Kg	0.0355	TA	0.016	0.0325	ug/Kg		<MDL,TA	0.017	0.0329	ug/Kg
OR SW846 3550B*SW846 8081B															
4,4'-DDD		<MDL	1.3	2.63	ug/Kg		<MDL	1.6	3.25	ug/Kg	3.37		1.7	3.29	ug/Kg
4,4'-DDE		<MDL	1.3	2.63	ug/Kg		<MDL	1.6	3.25	ug/Kg		<MDL	1.7	3.29	ug/Kg
4,4'-DDT		<MDL	1.3	2.63	ug/Kg		<MDL	1.6	3.25	ug/Kg		<MDL	1.7	3.29	ug/Kg
Aldrin		<MDL	1.3	2.63	ug/Kg		<MDL	1.6	3.25	ug/Kg		<MDL	1.7	3.29	ug/Kg
Alpha-BHC		<MDL	0.65	1.32	ug/Kg		<MDL	0.81	1.63	ug/Kg		<MDL	0.82	1.65	ug/Kg
Alpha-Chlordane		<MDL	0.65	1.32	ug/Kg		<MDL	0.81	1.63	ug/Kg		<MDL	0.82	1.65	ug/Kg
Beta-BHC		<MDL	0.65	1.32	ug/Kg		<MDL	0.81	1.63	ug/Kg		<MDL	0.82	1.65	ug/Kg
Delta-BHC		<MDL	0.65	1.32	ug/Kg		<MDL	0.81	1.63	ug/Kg		<MDL	0.82	1.65	ug/Kg
Dieldrin		<MDL	1.3	2.63	ug/Kg		<MDL	1.6	3.25	ug/Kg		<MDL	1.7	3.29	ug/Kg
Endosulfan I		<MDL	1.3	2.63	ug/Kg		<MDL	1.6	3.25	ug/Kg		<MDL	1.7	3.29	ug/Kg
Endosulfan II		<MDL	1.3	2.63	ug/Kg		<MDL	1.6	3.25	ug/Kg		<MDL	1.7	3.29	ug/Kg
Endosulfan Sulfate		<MDL	1.3	2.63	ug/Kg		<MDL	1.6	3.25	ug/Kg		<MDL	1.7	3.29	ug/Kg
Endrin		<MDL	1.3	2.63	ug/Kg		<MDL	1.6	3.25	ug/Kg		<MDL	1.7	3.29	ug/Kg
Endrin Aldehyde		<MDL	1.3	2.63	ug/Kg		<MDL	1.6	3.25	ug/Kg		<MDL	1.7	3.29	ug/Kg
Gamma-BHC (Lindane)		<MDL	0.65	1.32	ug/Kg		<MDL	0.81	1.63	ug/Kg		<MDL	0.82	1.65	ug/Kg
Gamma-Chlordane		<MDL	0.65	1.32	ug/Kg		<MDL	0.81	1.63	ug/Kg		<MDL	0.82	1.65	ug/Kg
Heptachlor		<MDL	0.65	1.32	ug/Kg		<MDL	0.81	1.63	ug/Kg		<MDL	0.82	1.65	ug/Kg
Heptachlor Epoxide		<MDL	0.65	1.32	ug/Kg		<MDL	0.81	1.63	ug/Kg		<MDL	0.82	1.65	ug/Kg
Methoxychlor		<MDL	6.5	13.2	ug/Kg		<MDL	8.1	16.3	ug/Kg		<MDL	8.2	16.5	ug/Kg
Toxaphene		<MDL	13	26.3	ug/Kg		<MDL	16	32.5	ug/Kg		<MDL	17	32.9	ug/Kg
OR SW846 3550B*SW846 8082A															
Aroclor 1016		<MDL	1.6	3.3	ug/Kg		<MDL	2	4.08	ug/Kg		<MDL	2.1	4.13	ug/Kg
Aroclor 1221		<MDL	3.4	6.58	ug/Kg		<MDL	4.2	8.14	ug/Kg		<MDL	4.2	8.24	ug/Kg
Aroclor 1232		<MDL	3.4	6.58	ug/Kg		<MDL	4.2	8.14	ug/Kg		<MDL	4.2	8.24	ug/Kg
Aroclor 1242		<MDL	1.6	3.3	ug/Kg										

# King County Environmental Lab Analytical Report

Project: 421240C  
 Locator: A320  
 Descrip: BIG SOOS CREEK/US  
 Sample: L48633-7  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/10/09 8:55  
 TimeSpan:  
 TotalSolid: 50.6  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: '0317  
 Descrip: SPRINGBROOK CREEK/  
 Sample: L48633-8  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 9:10  
 TimeSpan:  
 TotalSolid: 40.9  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Project: 421240C  
 Locator: A315  
 Descrip: HILL CREEK (MILL)/  
 Sample: L48633-9  
 Matrix: SE FRSHWTRSED  
 ColDate: 8/12/09 10:05  
 TimeSpan:  
 TotalSolid: 40.4  
 ClientLoc:  
 SampDepth:  
**DRY Weight Basis**

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
Total Aroclors		<MDL	1.6	3.3	ug/Kg	20.2		2	4.08	ug/Kg	8.84		2.1	4.13	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>															
1,2,4-Trichlorobenzene		<MDL	0.2	0.395	ug/Kg		<MDL	0.24	0.489	ug/Kg		<MDL	0.25	0.495	ug/Kg
1,2-Dichlorobenzene		<MDL	0.4	0.791	ug/Kg		<MDL	0.49	0.978	ug/Kg		<MDL	0.5	0.99	ug/Kg
1,2-Diphenylhydrazine		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
1,3-Dichlorobenzene		<MDL	0.4	0.791	ug/Kg		<MDL	0.49	0.978	ug/Kg		<MDL	0.5	0.99	ug/Kg
1,4-Dichlorobenzene		<MDL	0.4	0.791	ug/Kg		<MDL	0.49	0.978	ug/Kg		<MDL	0.5	0.99	ug/Kg
2,4,5-Trichlorophenol		<MDL	20	39.5	ug/Kg		<MDL	24	48.9	ug/Kg		<MDL	25	49.5	ug/Kg
2,4,6-Trichlorophenol		<MDL	20	39.5	ug/Kg		<MDL	24	48.9	ug/Kg		<MDL	25	49.5	ug/Kg
2,4-Dichlorophenol		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
2,4-Dimethylphenol		<MDL	2	3.95	ug/Kg		<MDL	2.4	4.89	ug/Kg		<MDL	2.5	4.95	ug/Kg
2,4-Dinitrotoluene		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
2,6-Dinitrotoluene		<MDL	20	39.5	ug/Kg		<MDL	24	48.9	ug/Kg		<MDL	25	49.5	ug/Kg
2-Chloronaphthalene		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
2-Chlorophenol		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
2-Methylnaphthalene		<MDL	4	7.91	ug/Kg		<MDL	4.9	9.78	ug/Kg		<MDL	5	9.9	ug/Kg
2-Methylphenol		<MDL	4	7.91	ug/Kg		<MDL	4.9	9.78	ug/Kg		<MDL	5	9.9	ug/Kg
2-Nitrophenol		<MDL	20	39.5	ug/Kg		<MDL	24	48.9	ug/Kg		<MDL	25	49.5	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
4-Methylphenol		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
Acenaphthene		<MDL	4	7.91	ug/Kg		<MDL	4.9	9.78	ug/Kg		<MDL	5	9.9	ug/Kg
Acenaphthylene		<MDL	4	7.91	ug/Kg		<MDL	4.9	9.78	ug/Kg		<MDL	5	9.9	ug/Kg
Aniline		<MDL	79	158	ug/Kg		<MDL	98	196	ug/Kg		<MDL	99	198	ug/Kg
Anthracene	6.5	<RDL	4	7.91	ug/Kg	35.5		4.9	9.78	ug/Kg	6.2	<RDL	5	9.9	ug/Kg
Benzo(a)anthracene	10.8		4	7.91	ug/Kg	164		4.9	9.78	ug/Kg	27.7		5	9.9	ug/Kg
Benzo(a)pyrene	10.6		4	7.91	ug/Kg	279		4.9	9.78	ug/Kg	31.9		5	9.9	ug/Kg
Benzo(b)fluoranthene	11.9		4	7.91	ug/Kg	328		4.9	9.78	ug/Kg	33.9		5	9.9	ug/Kg
Benzo(g,h,i)perylene		<MDL	4	7.91	ug/Kg	359		4.9	9.78	ug/Kg	24.6		5	9.9	ug/Kg
Benzo(k)fluoranthene	11.8		4	7.91	ug/Kg	342		4.9	9.78	ug/Kg	35.1		5	9.9	ug/Kg
Benzoic Acid	241		20	39.5	ug/Kg	350		24	48.9	ug/Kg	418		25	49.5	ug/Kg
Benzyl Alcohol		<MDL	4	7.91	ug/Kg		<MDL	4.9	9.78	ug/Kg		<MDL	5	9.9	ug/Kg
Benzyl Butyl Phthalate		<MDL	7.9	15.8	ug/Kg	128		9.8	19.6	ug/Kg	87.9		9.9	19.8	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
Bis(2-ethylhexyl)adipate	57.1		20	39.5	ug/Kg	56		24	48.9	ug/Kg	90.1		25	49.5	ug/Kg
Bis(2-Ethylhexyl)Phthalate	73.9	B	7.9	15.8	ug/Kg	924		9.8	19.6	ug/Kg	186	B	9.9	19.8	ug/Kg
Bisphenol A		<MDL	20	39.5	ug/Kg		<MDL	24	48.9	ug/Kg		<MDL	25	49.5	ug/Kg
Caffeine		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
Carbazole		<MDL	4	7.91	ug/Kg	24		4.9	9.78	ug/Kg		<MDL	5	9.9	ug/Kg
Chrysene	20.6		4	7.91	ug/Kg	252		4.9	9.78	ug/Kg	33.9		5	9.9	ug/Kg
Coprostanol		<MDL	79	158	ug/Kg		<MDL	98	196	ug/Kg		<MDL	99	198	ug/Kg
Dibenzo(a,h)anthracene		<MDL	4	7.91	ug/Kg	109		4.9	9.78	ug/Kg	6.7	<RDL	5	9.9	ug/Kg
Dibenzofuran		<MDL	4	7.91	ug/Kg		<MDL	4.9	9.78	ug/Kg		<MDL	5	9.9	ug/Kg
Diethyl Phthalate		<MDL	7.9	15.8	ug/Kg	21.9		9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
Dimethyl Phthalate		<MDL	7.9	15.8	ug/Kg	35.5		9.8	19.6	ug/Kg	42.6		9.9	19.8	ug/Kg
Di-N-Butyl Phthalate	14	<RDL,B	7.9	15.8	ug/Kg	41.1	B	9.8	19.6	ug/Kg	16	<RDL,B	9.9	19.8	ug/Kg
Di-N-Octyl Phthalate		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
Fluoranthene	30.6		4	7.91	ug/Kg	333		4.9	9.78	ug/Kg	52.5		5	9.9	ug/Kg
Fluorene		<MDL	4	7.91	ug/Kg	5.4	<RDL	4.9	9.78	ug/Kg		<MDL	5	9.9	ug/Kg
Hexachlorobenzene		<MDL	0.2	0.395	ug/Kg		<MDL	0.24	0.489	ug/Kg		<MDL	0.25	0.495	ug/Kg
Hexachlorobutadiene		<MDL	0.99	1.98	ug/Kg		<MDL	1.2	2.44	ug/Kg		<MDL	1.2	2.48	ug/Kg
Hexachloroethane		<MDL	2	3.95	ug/Kg		<MDL	2.4	4.89	ug/Kg		<MDL	2.5	4.95	ug/Kg
Indeno(1,2,3-Cd)Pyrene		<MDL	4	7.91	ug/Kg	318		4.9	9.78	ug/Kg	24.4		5	9.9	ug/Kg
Isophorone		<MDL	20	39.5	ug/Kg		<MDL	24	48.9	ug/Kg		<MDL	25	49.5	ug/Kg
Naphthalene		<MDL	4	7.91	ug/Kg		<MDL	4.9	9.78	ug/Kg		<MDL	5	9.9	ug/Kg
Nitrobenzene		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
N-Nitrosodimethylamine		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
N-Nitrosodiphenylamine		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
Pentachlorophenol		<MDL	20	39.5	ug/Kg		<MDL	24	48.9	ug/Kg		<MDL	25	49.5	ug/Kg
Phenanthrene	17.8		4	7.91	ug/Kg	123		4.9	9.78	ug/Kg	26.5		5	9.9	ug/Kg
Phenol		<MDL	7.9	15.8	ug/Kg		<MDL	9.8	19.6	ug/Kg		<MDL	9.9	19.8	ug/Kg
Pyrene	28.5		4	7.91	ug/Kg	452		4.9	9.78	ug/Kg	67.6		5	9.9	ug/Kg
Total 4-Nonylphenol		<MDL	40	79.1	ug/Kg		<MDL	49	97.8	ug/Kg		<MDL	50	99	ug/Kg
<b>OR TERNS (2002)</b>															
Estradiol		<MDL	0.099	0.996	ug/Kg		<MDL	0.12	1.23	ug/Kg		<MDL	0.12	1.25	ug/Kg
Estrone	0.13	<RDL	0.059	0.597	ug/Kg	0.13	<RDL	0.073	0.738	ug/Kg	0.25	<RDL	0.074	0.748	ug/Kg
Ethinyl estradiol		<MDL	0.099	0.996	ug/Kg		<MDL	0.12	1.23	ug/Kg		<MDL	0.12	1.25	ug/Kg
<b>OR WDOE NWTPH-DX</b>															
Diesel Range (>C12-C24)															
Lube Oil Range (>C24)	55		49	49	mg/Kg	830		61	61	mg/Kg	250		62	62	mg/Kg
* Not converted to dry weight basis															

# King County Environmental Laboratory Batch Report

WG104244 (AVS for Streams Sediments) Department: 3 - Conventionals Move Date: 24-AUG-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	CVAVS	FRSHWTRSED	8/10/2009 11:10	8/19/2009 10:55	8/19/2009 13:50	WG104244-1, -2, -3, -4, -5, -6, -7	
L48629-2	421240C	STREAMS (sediment)	CVAVS	FRSHWTRSED	8/10/2009 9:50	8/19/2009 10:55	8/19/2009 13:50	WG104244-1, -2, -3, -4, -5, -6, -7	
L48629-3	421240C	STREAMS (sediment)	CVAVS	FRSHWTRSED	8/10/2009 12:10	8/19/2009 10:55	8/19/2009 13:50	WG104244-1, -2, -3, -4, -5, -6, -7	
L48629-4	421240C	STREAMS (sediment)	CVAVS	FRSHWTRSED	8/10/2009 12:40	8/19/2009 10:55	8/19/2009 13:50	WG104244-1, -2, -3, -4, -5, -6, -7	
L48629-5	421240C	STREAMS (sediment)	CVAVS	FRSHWTRSED	8/10/2009 13:00	8/19/2009 10:55	8/19/2009 13:50	WG104244-1, -2, -3, -4, -5, -6, -7	
L48629-6	421240C	STREAMS (sediment)	CVAVS	FRSHWTRSED	8/10/2009 13:22	8/19/2009 10:55	8/19/2009 13:50	WG104244-1, -2, -3, -4, -5, -6, -7	
L48629-7	421240C	STREAMS (sediment)	CVAVS	FRSHWTRSED	8/10/2009 13:55	8/20/2009 10:35	8/20/2009 12:47	WG104244-1, -2, -3, -4, -5, -6, -7	
L48629-8	421240C	STREAMS (sediment)	CVAVS	FRSHWTRSED	8/10/2009 14:25	8/20/2009 10:35	8/20/2009 12:47	WG104244-1, -2, -3, -4, -5, -6, -7	
L48629-9	421240C	STREAMS (sediment)	CVAVS	FRSHWTRSED	8/10/2009 15:15	8/20/2009 10:35	8/20/2009 12:47	WG104244-1, -2, -3, -4, -5, -6, -7	
L48633-6	421240C	STREAMS (sediment)	CVAVS	FRSHWTRSED	8/10/2009 11:40	8/20/2009 10:35	8/20/2009 12:47	WG104244-1, -2, -3, -4, -5, -6, -7	
WG104244-1	MB		CVAVS	OTHR SOLID		8/19/2009 10:55	8/19/2009 13:50	WG104244-1, -2, -3, -4, -5, -6, -7	MB1 8/19/09 10:55
WG104244-2	SB		CVAVS	OTHR SOLID		8/19/2009 10:55	8/19/2009 13:50	WG104244-1, -2, -3, -4, -5, -6, -7	WG104244-1
WG104244-3	LD		CVAVS	FRSHWTRSED		8/19/2009 10:55	8/19/2009 13:50	WG104244-1, -2, -3, -4, -5, -6, -7	L48629-3
WG104244-4	LT		CVAVS	FRSHWTRSED		8/19/2009 10:55	8/19/2009 13:50	WG104244-1, -2, -3, -4, -5, -6, -7	WG104244-3 L48629-3
WG104244-5	MS		CVAVS	FRSHWTRSED		8/19/2009 10:55	8/19/2009 13:50	WG104244-1, -2, -3, -4, -5, -6, -7	L48629-3
WG104244-6	MB		CVAVS	OTHR SOLID		8/20/2009 10:35	8/20/2009 12:47	WG104244-1, -2, -3, -4, -5, -6, -7	MB1 8/20/09 10:35
WG104244-7	SB		CVAVS	OTHR SOLID		8/20/2009 10:35	8/20/2009 12:47	WG104244-1, -2, -3, -4, -5, -6, -7	WG104244-6

# King County Environmental Laboratory Batch Report

WG105536 (NH3-KCL STREAMS SEDS) Department: 3 - Conventionals Move Date: 07-DEC-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/10/2009 11:10	10/20/2009 10:03	10/26/2009 15:16	WG105536-1, -2, -3, -4, -5, -6	
L48629-2	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/10/2009 9:50	10/20/2009 10:03	10/26/2009 14:28	WG105536-1, -2, -3, -4, -5, -6	
L48629-3	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/10/2009 12:10	10/20/2009 10:03	10/26/2009 14:30	WG105536-1, -2, -3, -4, -5, -6	
L48629-4	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/10/2009 12:40	10/20/2009 10:03	10/26/2009 14:32	WG105536-1, -2, -3, -4, -5, -6	
L48629-5	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/10/2009 13:00	10/20/2009 10:03	10/26/2009 14:34	WG105536-1, -2, -3, -4, -5, -6	
L48629-6	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/10/2009 13:22	10/20/2009 10:03	10/26/2009 14:36	WG105536-1, -2, -3, -4, -5, -6	
L48629-7	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/10/2009 13:55	10/20/2009 10:03	10/26/2009 14:38	WG105536-1, -2, -3, -4, -5, -6	
L48629-8	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/10/2009 14:25	10/20/2009 10:03	10/26/2009 14:57	WG105536-1, -2, -3, -4, -5, -6	
L48629-9	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/10/2009 15:15	10/20/2009 10:03	10/26/2009 14:59	WG105536-1, -2, -3, -4, -5, -6	
L48633-1	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/12/2009 12:25	10/20/2009 10:03	10/26/2009 15:30	WG105536-1, -2, -3, -4, -5, -6	
L48633-2	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/12/2009 14:15	10/20/2009 10:03	10/26/2009 15:01	WG105536-1, -2, -3, -4, -5, -6	
L48633-3	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/12/2009 11:15	10/20/2009 10:03	10/26/2009 16:25	WG105536-1, -2, -3, -4, -5, -6	
L48633-4	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/12/2009 13:30	10/20/2009 10:03	10/26/2009 15:03	WG105536-1, -2, -3, -4, -5, -6	
L48633-5	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/12/2009 13:00	10/20/2009 10:03	10/26/2009 15:05	WG105536-1, -2, -3, -4, -5, -6	
L48633-6	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/10/2009 11:40	10/20/2009 10:03	10/26/2009 15:08	WG105536-1, -2, -3, -4, -5, -6	
L48633-7	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/10/2009 8:55	10/20/2009 10:03	10/26/2009 15:10	WG105536-1, -2, -3, -4, -5, -6	
L48633-8	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/12/2009 9:10	10/20/2009 10:03	10/26/2009 15:12	WG105536-1, -2, -3, -4, -5, -6	
L48633-9	421240C	STREAMS (sediment)	CVNH3-KCL-FL	FRSHWTRSED	8/12/2009 10:05	10/20/2009 10:03	10/26/2009 15:14	WG105536-1, -2, -3, -4, -5, -6	
WG105536-1	MB		CVNH3-KCL-FL	OTHR SOLID		10/20/2009 10:03	10/26/2009 14:05	WG105536-1, -2, -3, -4, -5, -6	MB1 10/20/09
WG105536-2	SB		CVNH3-KCL-FL	OTHR SOLID		10/20/2009 10:03	10/26/2009 14:07	WG105536-1, -2, -3, -4, -5, -6	WG105536-1
WG105536-3	LCS		CVNH3-KCL-FL	OTHR SOLID		10/26/2009 15:45	10/26/2009 15:45	WG105536-1, -2, -3, -4, -5, -6	LEVEL1
WG105536-4	LD		CVNH3-KCL-FL	FRSHWTRSED		10/20/2009 10:03	10/26/2009 16:27	WG105536-1, -2, -3, -4, -5, -6	L48633-3
WG105536-5	LT		CVNH3-KCL-FL	FRSHWTRSED		10/20/2009 10:03	10/26/2009 16:29	WG105536-1, -2, -3, -4, -5, -6	WG105536-4 L48633-3
WG105536-6	MS		CVNH3-KCL-FL	FRSHWTRSED		10/20/2009 10:03	10/26/2009 16:31	WG105536-1, -2, -3, -4, -5, -6	L48633-3

# King County Environmental Laboratory Batch Report

WG105172 (ORTHOP-OL 421240C STRE) Department: 3 - Conventionals Move Date: 07-DEC-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/10/2009 11:10	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48629-2	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/10/2009 9:50	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48629-3	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/10/2009 12:10	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48629-4	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/10/2009 12:40	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48629-5	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/10/2009 13:00	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48629-6	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/10/2009 13:22	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48629-7	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/10/2009 13:55	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48629-8	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/10/2009 14:25	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48629-9	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/10/2009 15:15	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48633-1	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/12/2009 12:25	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48633-2	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/12/2009 14:15	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48633-3	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/12/2009 11:15	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48633-4	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/12/2009 13:30	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48633-5	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/12/2009 13:00	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48633-6	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/10/2009 11:40	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48633-7	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/10/2009 8:55	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48633-8	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/12/2009 9:10	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
L48633-9	421240C	STREAMS (sediment)	CVORTHOP-OL	FRSHWTRSED	8/12/2009 10:05	10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	
WG105172-1	MB		CVORTHOP-OL	OTHR SOLID		10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	MB1 10/06/09
WG105172-2	SB		CVORTHOP-OL	OTHR SOLID		10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	WG105172-1
WG105172-3	LCS		CVORTHOP-OL	OTHR SOLID		10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	LEVEL1
WG105172-4	LD		CVORTHOP-OL	FRSHWTRSED		10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	L48629-6
WG105172-5	LT		CVORTHOP-OL	FRSHWTRSED		10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	WG105172-4 L48629-6
WG105172-6	MS		CVORTHOP-OL	FRSHWTRSED		10/6/2009 8:35	10/6/2009 13:31	WG105172-1, -2, -3, -4, -5, -6	L48629-6

# King County Environmental Laboratory Batch Report

WG104050 (sed ph for 421240) Department: 3 - Conventionals Move Date: 29-OCT-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/10/2009 11:10	8/11/2009 13:45	8/11/2009 16:40	WG104050-2, -3	
L48629-2	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/10/2009 9:50	8/11/2009 13:45	8/11/2009 16:45	WG104050-2, -3	
L48629-3	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/10/2009 12:10	8/11/2009 13:45	8/11/2009 16:51	WG104050-2, -3	
L48629-4	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/10/2009 12:40	8/11/2009 13:45	8/11/2009 16:56	WG104050-2, -3	
L48629-5	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/10/2009 13:00	8/11/2009 13:45	8/11/2009 17:00	WG104050-2, -3	
L48629-6	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/10/2009 13:22	8/11/2009 13:50	8/11/2009 17:09	WG104050-2, -3	
L48629-7	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/10/2009 13:55	8/11/2009 13:45	8/11/2009 17:13	WG104050-2, -3	
L48629-8	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/10/2009 14:25	8/11/2009 13:45	8/11/2009 17:20	WG104050-2, -3	
L48629-9	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/10/2009 15:15	8/11/2009 13:45	8/11/2009 17:25	WG104050-2, -3	
L48633-6	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/10/2009 11:40	8/11/2009 13:45	8/11/2009 17:29	WG104050-2, -3	
L48633-7	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/10/2009 8:55	8/11/2009 13:45	8/11/2009 17:42	WG104050-2, -3	
WG104050-1	CS		CVPH	BLANK WTR		8/11/2009 13:45	8/11/2009 16:35	WG104050-1	LEVEL1
WG104050-2	LD		CVPH	FRSHWTRSED		8/11/2009 13:45	8/11/2009 17:33	WG104050-2, -3	L48633-6
WG104050-3	LT		CVPH	FRSHWTRSED		8/11/2009 13:45	8/11/2009 17:39	WG104050-2, -3	WG104050-2 L48633-6

# King County Environmental Laboratory Batch Report

WG104126 (ph for 421240) Department: 3 - Conventionals Move Date: 09-DEC-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48633-1	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/12/2009 12:25	8/13/2009 16:05	8/13/2009 16:05	WG104126-2, -3	
L48633-2	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/12/2009 14:15	8/13/2009 16:09	8/13/2009 16:09	WG104126-2, -3	
L48633-3	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/12/2009 11:15	8/13/2009 16:12	8/13/2009 16:12	WG104126-2, -3	
L48633-4	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/12/2009 13:30	8/13/2009 16:20	8/13/2009 16:20	WG104126-2, -3	
L48633-5	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/12/2009 13:00	8/13/2009 16:24	8/13/2009 16:24	WG104126-2, -3	
L48633-8	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/12/2009 9:10	8/13/2009 16:27	8/13/2009 16:27	WG104126-2, -3	
L48633-9	421240C	STREAMS (sediment)	CVPH	FRSHWTRSED	8/12/2009 10:05	8/13/2009 16:35	8/13/2009 16:35	WG104126-2, -3	
WG104126-1	CS		CVPH	BLANK WTR		8/13/2009 15:59	8/13/2009 15:59	WG104126-1	LEVEL1
WG104126-2	LD		CVPH	FRSHWTRSED		8/13/2009 16:14	8/13/2009 16:14	WG104126-2, -3	L48633-3
WG104126-3	LT		CVPH	FRSHWTRSED		8/13/2009 16:17	8/13/2009 16:17	WG104126-2, -3	WG104126-2 L48633-3

# King County Environmental Laboratory Batch Report

WG104481 (PSD) Department: 3 - Conventionals Move Date: 06-NOV-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/10/2009 11:10	9/28/2009 0:00	9/29/2009 0:00	WG104481-1, -2	
L48629-2	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/10/2009 9:50	9/28/2009 0:00	9/29/2009 0:00	WG104481-1, -2	
L48629-3	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/10/2009 12:10	9/28/2009 0:00	9/29/2009 0:00	WG104481-1, -2	
L48629-4	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/10/2009 12:40	10/13/2009 0:00	10/14/2009 0:00	WG104481-1, -2	
L48629-5	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/10/2009 13:00	9/28/2009 0:00	9/29/2009 0:00	WG104481-1, -2	
L48629-6	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/10/2009 13:22	9/28/2009 0:00	9/29/2009 0:00	WG104481-1, -2	
L48629-7	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/10/2009 13:55	10/13/2009 0:00	10/14/2009 0:00	WG104481-1, -2	
L48629-8	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/10/2009 14:25	9/28/2009 0:00	9/29/2009 0:00	WG104481-1, -2	
L48629-9	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/10/2009 15:15	9/28/2009 0:00	9/29/2009 0:00	WG104481-1, -2	
L48633-1	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/12/2009 12:25	10/26/2009 0:00	10/29/2009 0:00	WG104481-1, -2	
L48633-2	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/12/2009 14:15	10/26/2009 0:00	10/29/2009 0:00	WG104481-1, -2	
L48633-3	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/12/2009 11:15	10/13/2009 0:00	10/14/2009 0:00	WG104481-1, -2	
L48633-4	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/12/2009 13:30	10/26/2009 0:00	10/29/2009 0:00	WG104481-1, -2	
L48633-5	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/12/2009 13:00	10/26/2009 0:00	10/29/2009 0:00	WG104481-1, -2	
L48633-6	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/10/2009 11:40	10/26/2009 0:00	10/29/2009 0:00	WG104481-1, -2	
L48633-7	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/10/2009 8:55	10/26/2009 0:00	10/29/2009 0:00	WG104481-1, -2	
L48633-8	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/12/2009 9:10	10/26/2009 0:00	10/29/2009 0:00	WG104481-1, -2	
L48633-9	421240C	STREAMS (sediment)	CVPSD	FRSHWTRSED	8/12/2009 10:05	10/26/2009 0:00	10/29/2009 0:00	WG104481-1, -2	
WG104481-1	LD		CVPSD	FRSHWTRSED		10/13/2009 0:00	10/14/2009 0:00	WG104481-1, -2	L48633-3
WG104481-2	LT		CVPSD	FRSHWTRSED		10/13/2009 0:00	10/14/2009 0:00	WG104481-1, -2	WG104481-1 L48633-

# King County Environmental Laboratory Batch Report

WG104513 (TOC/Streams Sed) Department: 3 - Conventionals Move Date: 07-DEC-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/10/2009 11:10	8/31/2009 14:30	12/3/2009 11:23	WG104513-1, -2, -3, -4, -5, -6	
L48629-2	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/10/2009 9:50	8/31/2009 14:30	12/3/2009 11:46	WG104513-1, -2, -3, -4, -5, -6	
L48629-3	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/10/2009 12:10	8/31/2009 14:30	12/3/2009 12:08	WG104513-1, -2, -3, -4, -5, -6	
L48629-4	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/10/2009 12:40	8/31/2009 14:30	12/3/2009 12:36	WG104513-1, -2, -3, -4, -5, -6	
L48629-5	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/10/2009 13:00	8/31/2009 14:30	12/3/2009 12:58	WG104513-1, -2, -3, -4, -5, -6	
L48629-6	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/10/2009 13:22	8/31/2009 14:30	12/3/2009 13:28	WG104513-1, -2, -3, -4, -5, -6	
L48629-7	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/10/2009 13:55	8/31/2009 14:30	12/3/2009 13:57	WG104513-1, -2, -3, -4, -5, -6	
L48629-8	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/10/2009 14:25	8/31/2009 14:30	12/3/2009 14:21	WG104513-1, -2, -3, -4, -5, -6	
L48629-9	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/10/2009 15:15	8/31/2009 14:30	12/3/2009 14:43	WG104513-1, -2, -3, -4, -5, -6	
L48633-1	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/12/2009 12:25	8/31/2009 14:30	12/2/2009 13:48	WG104513-1, -2, -3, -4, -5, -6	
L48633-2	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/12/2009 14:15	8/31/2009 14:30	12/3/2009 15:06	WG104513-1, -2, -3, -4, -5, -6	
L48633-3	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/12/2009 11:15	8/31/2009 14:30	12/4/2009 8:47	WG104513-1, -2, -3, -4, -5, -6	
L48633-4	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/12/2009 13:30	8/31/2009 14:30	12/4/2009 9:12	WG104513-1, -2, -3, -4, -5, -6	
L48633-5	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/12/2009 13:00	8/31/2009 14:30	12/4/2009 9:38	WG104513-1, -2, -3, -4, -5, -6	
L48633-6	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/10/2009 11:40	8/31/2009 14:30	12/4/2009 10:02	WG104513-1, -2, -3, -4, -5, -6	
L48633-7	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/10/2009 8:55	8/31/2009 14:30	12/4/2009 10:24	WG104513-1, -2, -3, -4, -5, -6	
L48633-8	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/12/2009 9:10	8/31/2009 14:30	12/4/2009 11:16	WG104513-1, -2, -3, -4, -5, -6	
L48633-9	421240C	STREAMS (sediment)	CVTOC	FRSHWTRSED	8/12/2009 10:05	8/31/2009 14:30	12/4/2009 11:38	WG104513-1, -2, -3, -4, -5, -6	
WG104513-1	MB		CVTOC	OTHR SOLID		12/2/2009 12:26	12/2/2009 12:26	WG104513-1, -2, -3, -4, -5, -6	MB1 091202
WG104513-2	SRM		CVTOC	OTHR SOLID		12/2/2009 12:44	12/2/2009 12:44	WG104513-1, -2, -3, -4, -5, -6	HICONC
WG104513-3	SB		CVTOC	OTHR SOLID		12/2/2009 13:04	12/2/2009 13:04	WG104513-1, -2, -3, -4, -5, -6	WG104513-1
WG104513-4	LD		CVTOC	FRSHWTRSED		8/31/2009 14:30	12/2/2009 14:13	WG104513-1, -2, -3, -4, -5, -6	L48633-1
WG104513-5	LT		CVTOC	FRSHWTRSED		8/31/2009 14:30	12/2/2009 14:34	WG104513-1, -2, -3, -4, -5, -6	WG104513-4 L48633-1
WG104513-6	MS		CVTOC	FRSHWTRSED		8/31/2009 14:30	12/2/2009 15:23	WG104513-1, -2, -3, -4, -5, -6	L48633-1

# King County Environmental Laboratory Batch Report

WG104515 (TOTS/421240 Streams Sed) Department: 3 - Conventionals Move Date: 08-SEP-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/10/2009 11:10	8/31/2009 13:21	9/1/2009 8:57	WG104515-1, -2, -3	
L48629-2	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/10/2009 9:50	8/31/2009 13:21	9/1/2009 8:58	WG104515-1, -2, -3	
L48629-3	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/10/2009 12:10	8/31/2009 13:21	9/1/2009 8:58	WG104515-1, -2, -3	
L48629-4	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/10/2009 12:40	8/31/2009 13:21	9/1/2009 8:59	WG104515-1, -2, -3	
L48629-5	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/10/2009 13:00	8/31/2009 13:21	9/1/2009 9:00	WG104515-1, -2, -3	
L48629-6	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/10/2009 13:22	8/31/2009 13:21	9/1/2009 9:02	WG104515-1, -2, -3	
L48629-7	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/10/2009 13:55	8/31/2009 13:21	9/1/2009 9:03	WG104515-1, -2, -3	
L48629-8	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/10/2009 14:25	8/31/2009 13:21	9/1/2009 9:05	WG104515-1, -2, -3	
L48629-9	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/10/2009 15:15	8/31/2009 13:21	9/1/2009 9:05	WG104515-1, -2, -3	
L48633-1	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/12/2009 12:25	8/31/2009 13:21	9/1/2009 9:06	WG104515-1, -2, -3	
L48633-2	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/12/2009 14:15	8/31/2009 13:21	9/1/2009 9:06	WG104515-1, -2, -3	
L48633-3	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/12/2009 11:15	8/31/2009 13:21	9/1/2009 9:07	WG104515-1, -2, -3	
L48633-4	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/12/2009 13:30	8/31/2009 13:21	9/1/2009 9:08	WG104515-1, -2, -3	
L48633-5	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/12/2009 13:00	8/31/2009 13:21	9/1/2009 9:08	WG104515-1, -2, -3	
L48633-6	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/10/2009 11:40	8/31/2009 13:21	9/1/2009 9:08	WG104515-1, -2, -3	
L48633-7	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/10/2009 8:55	8/31/2009 13:21	9/1/2009 9:09	WG104515-1, -2, -3	
L48633-8	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/12/2009 9:10	8/31/2009 13:21	9/1/2009 9:09	WG104515-1, -2, -3	
L48633-9	421240C	STREAMS (sediment)	CVTOTS	FRSHWTRSED	8/12/2009 10:05	8/31/2009 13:21	9/1/2009 9:10	WG104515-1, -2, -3	
WG104515-1	MB		CVTOTS	OTHR SOLID		8/31/2009 13:21	9/1/2009 8:57	WG104515-1, -2, -3	MB1 090831
WG104515-2	LD		CVTOTS	FRSHWTRSED		8/31/2009 13:21	9/1/2009 9:03	WG104515-1, -2, -3	L48629-7
WG104515-3	LT		CVTOTS	FRSHWTRSED		8/31/2009 13:21	9/1/2009 9:04	WG104515-1, -2, -3	WG104515-2 L48629-7

# King County Environmental Laboratory Batch Report

WG104497 (STREAMS SEDIMENT (FRESHWA) Department: 6 - Metals Move Date: 15-SEP-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/10/2009 11:10	8/31/2009 8:35	8/31/2009 14:10	WG104497-1, -2, -3, -4, -5, -6	
L48629-2	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/10/2009 9:50	8/31/2009 8:35	8/31/2009 14:12	WG104497-1, -2, -3, -4, -5, -6	
L48629-3	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/10/2009 12:10	8/31/2009 8:35	8/31/2009 14:13	WG104497-1, -2, -3, -4, -5, -6	
L48629-4	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/10/2009 12:40	8/31/2009 8:35	8/31/2009 14:19	WG104497-1, -2, -3, -4, -5, -6	
L48629-5	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/10/2009 13:00	8/31/2009 8:35	8/31/2009 14:21	WG104497-1, -2, -3, -4, -5, -6	
L48629-6	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/10/2009 13:22	8/31/2009 8:35	8/31/2009 14:22	WG104497-1, -2, -3, -4, -5, -6	
L48629-7	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/10/2009 13:55	8/31/2009 8:35	8/31/2009 14:24	WG104497-1, -2, -3, -4, -5, -6	
L48629-8	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/10/2009 14:25	8/31/2009 8:35	8/31/2009 14:26	WG104497-1, -2, -3, -4, -5, -6	
L48629-9	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/10/2009 15:15	8/31/2009 8:35	8/31/2009 14:28	WG104497-1, -2, -3, -4, -5, -6	
L48633-1	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/12/2009 12:25	8/31/2009 8:35	8/31/2009 14:03	WG104497-1, -2, -3, -4, -5, -6	
L48633-2	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/12/2009 14:15	8/31/2009 8:35	8/31/2009 14:30	WG104497-1, -2, -3, -4, -5, -6	
L48633-3	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/12/2009 11:15	8/31/2009 8:35	8/31/2009 14:31	WG104497-1, -2, -3, -4, -5, -6	
L48633-4	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/12/2009 13:30	8/31/2009 8:35	8/31/2009 14:33	WG104497-1, -2, -3, -4, -5, -6	
L48633-5	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/12/2009 13:00	8/31/2009 8:35	8/31/2009 14:35	WG104497-1, -2, -3, -4, -5, -6	
L48633-6	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/10/2009 11:40	8/31/2009 8:35	8/31/2009 14:40	WG104497-1, -2, -3, -4, -5, -6	
L48633-7	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/10/2009 8:55	8/31/2009 8:35	8/31/2009 14:42	WG104497-1, -2, -3, -4, -5, -6	
L48633-8	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/12/2009 9:10	8/31/2009 8:35	8/31/2009 14:44	WG104497-1, -2, -3, -4, -5, -6	
L48633-9	421240C	STREAMS (sediment)	MTHG-MIDS	FRSHWTRSED	8/12/2009 10:05	8/31/2009 8:35	8/31/2009 14:46	WG104497-1, -2, -3, -4, -5, -6	
WG104497-1	LCS		MTHG-MIDS	FRSHWTRSED		8/31/2009 8:35	8/31/2009 13:57	WG104497-1, -2, -3, -4, -5, -6	WQB1
WG104497-2	MB		MTHG-MIDS	SOLIDBLANK		8/31/2009 8:35	8/31/2009 13:59	WG104497-1, -2, -3, -4, -5, -6	METHOD BLANK
WG104497-3	SB		MTHG-MIDS	SOLIDBLANK		8/31/2009 8:35	8/31/2009 14:01	WG104497-1, -2, -3, -4, -5, -6	WG104497-2 HG-SMID
WG104497-4	MS		MTHG-MIDS	FRSHWTRSED		8/31/2009 8:35	8/31/2009 14:04	WG104497-1, -2, -3, -4, -5, -6	L48633-1 HG-SMID
WG104497-5	MSD		MTHG-MIDS	FRSHWTRSED		8/31/2009 8:35	8/31/2009 14:06	WG104497-1, -2, -3, -4, -5, -6	WG104497-4 L48633-1 HG-SMID-MSD
WG104497-6	LD		MTHG-MIDS	FRSHWTRSED		8/31/2009 8:35	8/31/2009 14:08	WG104497-1, -2, -3, -4, -5, -6	L48633-1 RPD-SOL

# King County Environmental Laboratory Batch Report

WG104351 (STREAMS SEDIMENT - SEM) Department: 6 - Metals Move Date: 15-SEP-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	MTHG-SEM	FRSHWTRSED	8/10/2009 11:10	8/25/2009 8:10	8/25/2009 13:27	WG104351-1, -2, -3, -4, -5	
L48629-2	421240C	STREAMS (sediment)	MTHG-SEM	FRSHWTRSED	8/10/2009 9:50	8/25/2009 8:10	8/25/2009 13:29	WG104351-1, -2, -3, -4, -5	
L48629-3	421240C	STREAMS (sediment)	MTHG-SEM	FRSHWTRSED	8/10/2009 12:10	8/25/2009 8:10	8/25/2009 13:18	WG104351-1, -2, -3, -4, -5	
L48629-4	421240C	STREAMS (sediment)	MTHG-SEM	FRSHWTRSED	8/10/2009 12:40	8/25/2009 8:10	8/25/2009 13:31	WG104351-1, -2, -3, -4, -5	
L48629-5	421240C	STREAMS (sediment)	MTHG-SEM	FRSHWTRSED	8/10/2009 13:00	8/25/2009 8:10	8/25/2009 13:36	WG104351-1, -2, -3, -4, -5	
L48629-6	421240C	STREAMS (sediment)	MTHG-SEM	FRSHWTRSED	8/10/2009 13:22	8/25/2009 8:10	8/25/2009 13:38	WG104351-1, -2, -3, -4, -5	
L48629-7	421240C	STREAMS (sediment)	MTHG-SEM	FRSHWTRSED	8/10/2009 13:55	8/25/2009 8:10	8/25/2009 13:40	WG104351-1, -2, -3, -4, -6	
L48629-8	421240C	STREAMS (sediment)	MTHG-SEM	FRSHWTRSED	8/10/2009 14:25	8/25/2009 8:10	8/25/2009 13:41	WG104351-1, -2, -3, -4, -6	
L48629-9	421240C	STREAMS (sediment)	MTHG-SEM	FRSHWTRSED	8/10/2009 15:15	8/25/2009 8:10	8/25/2009 13:43	WG104351-1, -2, -3, -4, -6	
L48633-6	421240C	STREAMS (sediment)	MTHG-SEM	FRSHWTRSED	8/10/2009 11:40	8/25/2009 8:10	8/25/2009 13:45	WG104351-1, -2, -3, -4, -6	
WG104351-1	MB		MTHG-SEM	SOLIDBLANK		8/25/2009 8:10	8/25/2009 13:14	WG104351-1, -2, -3, -4, -5, -6	METHOD BLANK
WG104351-2	SB		MTHG-SEM	SOLIDBLANK		8/25/2009 8:10	8/25/2009 13:16	WG104351-1, -2, -3, -4, -5, -6	WG104351-1 HG-SMID
WG104351-3	MS		MTHG-SEM	FRSHWTRSED		8/25/2009 8:10	8/25/2009 13:20	WG104351-1, -2, -3, -4, -5	L48629-3 HG-SMID
WG104351-4	LD		MTHG-SEM	FRSHWTRSED		8/25/2009 8:10	8/25/2009 13:21	WG104351-1, -2, -3, -4, -5	L48629-3 RPD-SOL
WG104351-5	MB		MTHG-SEM	SOLIDBLANK		8/25/2009 8:10	8/25/2009 13:23	WG104351-1, -2, -3, -4, -5	EXTRACTION BLANK 090819
WG104351-6	MB		MTHG-SEM	SOLIDBLANK		8/25/2009 8:10	8/25/2009 13:25	WG104351-1, -2, -3, -4, -6	EXTRACTION BLANK 090820

# King County Environmental Laboratory Batch Report

WG104314 (SEM 24-AUG-09) Department: 6 - Metals Move Date: 18-SEP-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	MTICP-SEM	FRSHWTRSED	8/10/2009 11:10	8/24/2009 9:00	8/24/2009 10:51	WG104314-1, -2, -5, -4, -3	
L48629-2	421240C	STREAMS (sediment)	MTICP-SEM	FRSHWTRSED	8/10/2009 9:50	8/24/2009 9:00	8/24/2009 10:57	WG104314-1, -2, -5, -4, -3	
L48629-3	421240C	STREAMS (sediment)	MTICP-SEM	FRSHWTRSED	8/10/2009 12:10	8/24/2009 9:00	8/24/2009 11:02	WG104314-1, -2, -5, -4, -3	
L48629-4	421240C	STREAMS (sediment)	MTICP-SEM	FRSHWTRSED	8/10/2009 12:40	8/24/2009 9:00	8/24/2009 11:19	WG104314-1, -2, -5, -4, -3	
L48629-5	421240C	STREAMS (sediment)	MTICP-SEM	FRSHWTRSED	8/10/2009 13:00	8/24/2009 9:00	8/24/2009 11:24	WG104314-1, -2, -5, -4, -3	
L48629-6	421240C	STREAMS (sediment)	MTICP-SEM	FRSHWTRSED	8/10/2009 13:22	8/24/2009 9:00	8/24/2009 11:41	WG104314-1, -2, -5, -4, -3	
L48629-7	421240C	STREAMS (sediment)	MTICP-SEM	FRSHWTRSED	8/10/2009 13:55	8/24/2009 9:00	8/24/2009 11:52	WG104314-1, -2, -4, -3, -6	
L48629-8	421240C	STREAMS (sediment)	MTICP-SEM	FRSHWTRSED	8/10/2009 14:25	8/24/2009 9:00	8/24/2009 11:58	WG104314-1, -2, -4, -3, -6	
L48629-9	421240C	STREAMS (sediment)	MTICP-SEM	FRSHWTRSED	8/10/2009 15:15	8/24/2009 9:00	8/24/2009 12:03	WG104314-1, -2, -4, -3, -6	
L48633-6	421240C	STREAMS (sediment)	MTICP-SEM	FRSHWTRSED	8/10/2009 11:40	8/24/2009 9:00	8/24/2009 12:09	WG104314-1, -2, -4, -3, -6	
WG104314-1	SB		MTICP-SEM	SOLIDBLANK		8/24/2009 9:00	8/24/2009 10:34	WG104314-1, -2, -5, -4, -3, -6	WG104314-2 ICPH
WG104314-2	MB		MTICP-SEM	SOLIDBLANK		8/24/2009 9:00	8/24/2009 10:40	WG104314-1, -2, -5, -4, -3, -6	METHOD BLANK
WG104314-3	LD		MTICP-SEM	FRSHWTRSED		8/24/2009 9:00	8/24/2009 11:13	WG104314-1, -2, -5, -4, -3	L48629-3 RPD-SOL
WG104314-4	MS		MTICP-SEM	FRSHWTRSED		8/24/2009 9:00	8/24/2009 11:08	WG104314-1, -2, -5, -4, -3	L48629-3 ICPH
WG104314-5	MB		MTICP-SEM	SOLIDBLANK		8/24/2009 9:00	8/24/2009 10:45	WG104314-1, -2, -5, -4, -3	EXTRACTION BLANK 081909
WG104314-6	MB		MTICP-SEM	SOLIDBLANK		8/24/2009 9:00	8/24/2009 11:46	WG104314-1, -2, -4, -3, -6	EXTRACTION BLANK 082009

# King County Environmental Laboratory Batch Report

WG105676 (10/27/09 Streams Sediment) Department: 6 - Metals Move Date: 16-NOV-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/10/2009 11:10	10/27/2009 8:00	11/2/2009 14:40	WG105676-1, -2, -5, -6, -3, -4	
L48629-2	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/10/2009 9:50	10/27/2009 8:00	11/2/2009 14:45	WG105676-1, -2, -5, -6, -3, -4	
L48629-3	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/10/2009 12:10	10/27/2009 8:00	11/2/2009 14:50	WG105676-1, -2, -5, -6, -3, -4	
L48629-4	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/10/2009 12:40	10/27/2009 8:00	11/2/2009 14:56	WG105676-1, -2, -5, -6, -3, -4	
L48629-5	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/10/2009 13:00	10/27/2009 8:00	11/2/2009 15:01	WG105676-1, -2, -5, -6, -3, -4	
L48629-6	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/10/2009 13:22	10/27/2009 8:00	11/2/2009 15:06	WG105676-1, -2, -5, -6, -3, -4	
L48629-7	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/10/2009 13:55	10/27/2009 8:00	11/2/2009 15:21	WG105676-1, -2, -5, -6, -3, -4	
L48629-8	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/10/2009 14:25	10/27/2009 8:00	11/2/2009 15:37	WG105676-1, -2, -5, -6, -3, -4	
L48629-9	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/10/2009 15:15	10/27/2009 8:00	11/2/2009 15:42	WG105676-1, -2, -5, -6, -3, -4	
L48633-1	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/12/2009 12:25	10/27/2009 8:00	11/2/2009 15:47	WG105676-1, -2, -5, -6, -3, -4	
L48633-2	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/12/2009 14:15	10/27/2009 8:00	11/2/2009 15:52	WG105676-1, -2, -5, -6, -3, -4	
L48633-3	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/12/2009 11:15	10/27/2009 8:00	11/2/2009 15:57	WG105676-1, -2, -5, -6, -3, -4	
L48633-4	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/12/2009 13:30	10/27/2009 8:00	11/2/2009 16:02	WG105676-1, -2, -5, -6, -3, -4	
L48633-5	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/12/2009 13:00	10/27/2009 8:00	11/2/2009 16:08	WG105676-1, -2, -5, -6, -3, -4	
L48633-6	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/10/2009 11:40	10/27/2009 8:00	11/2/2009 16:23	WG105676-1, -2, -5, -6, -3, -4	
L48633-7	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/10/2009 8:55	10/27/2009 8:00	11/2/2009 16:28	WG105676-1, -2, -5, -6, -3, -4	
L48633-8	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/12/2009 9:10	10/27/2009 8:00	11/2/2009 16:33	WG105676-1, -2, -5, -6, -3, -4	
L48633-9	421240C	STREAMS (sediment)	MTICPMS-SED	FRSHWTRSED	8/12/2009 10:05	10/27/2009 8:00	11/2/2009 16:38	WG105676-1, -2, -5, -6, -3, -4	
WG105676-1	MB		MTICPMS-SED	SOLIDBLANK		10/27/2009 8:00	11/2/2009 14:19	WG105676-1, -2, -5, -6, -3, -4	METHOD BLANK
WG105676-2	SB		MTICPMS-SED	SOLIDBLANK		10/27/2009 8:00	11/2/2009 14:24	WG105676-1, -2, -5, -6, -3, -4	WG105676-1 MS-100 SPK BLK
WG105676-3	LD		MTICPMS-SED	FRSHWTRSED		10/27/2009 8:00	11/2/2009 15:26	WG105676-1, -2, -5, -6, -3, -4	L48629-7 RPD-SOL LAB DUP
WG105676-4	MS		MTICPMS-SED	FRSHWTRSED		10/27/2009 8:00	11/2/2009 15:32	WG105676-1, -2, -5, -6, -3, -4	L48629-7 MS-100 MAT SPK
WG105676-5	LCS		MTICPMS-SED	SOIL		10/27/2009 8:00	11/2/2009 14:30	WG105676-1, -2, -5, -6, -3, -4	ERASOIL LAB CONTROL SAMP
WG105676-6	LCS		MTICPMS-SED	FRSHWTRSED		10/27/2009 8:00	11/2/2009 14:35	WG105676-1, -2, -5, -6, -3, -4	BUFFSED LAB CONTROL SAMP

# King County Environmental Laboratory Batch Report

WG104189 (bs#325 bna11full) Department: 7 - Organics Move Date: 17-DEC-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/10/2009 11:10	10/29/2009 8:00	11/19/2009 19:08	WG104189-1, -2, -3, -4, -5, -6	
L48629-2	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/10/2009 9:50	10/29/2009 8:00	11/19/2009 19:54	WG104189-1, -2, -3, -4, -5, -6	
L48629-3	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/10/2009 12:10	10/29/2009 8:00	11/19/2009 20:40	WG104189-1, -2, -3, -4, -5, -6	
L48629-4	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/10/2009 12:40	10/29/2009 8:00	11/20/2009 0:16	WG104189-1, -2, -3, -4, -5, -6	
L48629-5	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/10/2009 13:00	10/29/2009 8:00	11/20/2009 1:02	WG104189-1, -2, -3, -4, -5, -6	
L48629-6	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/10/2009 13:22	10/29/2009 8:00	11/20/2009 1:48	WG104189-1, -2, -3, -4, -5, -6	
L48629-7	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/10/2009 13:55	10/29/2009 8:00	11/20/2009 2:34	WG104189-1, -2, -3, -4, -5, -6	
L48629-8	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/10/2009 14:25	10/29/2009 8:00	11/20/2009 3:20	WG104189-1, -2, -3, -4, -5, -6	
L48629-9	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/10/2009 15:15	10/29/2009 8:00	11/20/2009 4:07	WG104189-1, -2, -3, -4, -5, -6	
L48633-1	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/12/2009 12:25	10/29/2009 8:00	11/20/2009 4:53	WG104189-1, -2, -3, -4, -5, -6	
L48633-2	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/12/2009 14:15	10/29/2009 8:00	11/20/2009 5:39	WG104189-1, -2, -3, -4, -5, -6	
L48633-3	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/12/2009 11:15	10/29/2009 8:00	11/20/2009 6:25	WG104189-1, -2, -3, -4, -5, -6	
L48633-4	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/12/2009 13:30	10/29/2009 8:00	11/20/2009 7:11	WG104189-1, -2, -3, -4, -5, -6	
L48633-5	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/12/2009 13:00	10/29/2009 8:00	11/20/2009 7:57	WG104189-1, -2, -3, -4, -5, -6	
L48633-6	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/10/2009 11:40	10/29/2009 8:00	11/20/2009 8:43	WG104189-1, -2, -3, -4, -5, -6	
L48633-7	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/10/2009 8:55	10/29/2009 8:00	11/20/2009 9:30	WG104189-1, -2, -3, -4, -5, -6	
L48633-8	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/12/2009 9:10	10/29/2009 8:00	11/20/2009 10:16	WG104189-1, -2, -3, -4, -5, -6	
L48633-9	421240C	STREAMS (sediment)	ORBNALLFULL	FRSHWTRSED	8/12/2009 10:05	10/29/2009 8:00	11/20/2009 11:02	WG104189-1, -2, -3, -4, -5, -6	
WG104189-1	MB		ORBNALLFULL	OTHR SOLID		10/29/2009 8:00	11/19/2009 9:55	WG104189-1, -2, -3, -4, -5, -6	MB090818
WG104189-2	SB		ORBNALLFULL	OTHR SOLID		10/29/2009 8:00	11/19/2009 10:41	WG104189-1, -2, -3, -4, -5, -6	WG104189-1
WG104189-3	MS		ORBNALLFULL	FRSHWTRSED		10/29/2009 8:00	11/19/2009 16:03	WG104189-1, -2, -3, -4, -5, -6	L48633-1
WG104189-4	MSD		ORBNALLFULL	FRSHWTRSED		10/29/2009 8:00	11/19/2009 16:49	WG104189-1, -2, -3, -4, -5, -6	WG104189-3 L48633-1
WG104189-5	SRM		ORBNALLFULL	FRSHWTRSED		10/29/2009 8:00	11/19/2009 17:35	WG104189-1, -2, -3, -4, -5, -6	1944
WG104189-6	LD		ORBNALLFULL	FRSHWTRSED		10/29/2009 8:00	11/19/2009 18:21	WG104189-1, -2, -3, -4, -5, -6	L48629-8

# King County Environmental Laboratory Batch Report

WG104190 (bs#325 edc) Department: 7 - Organics Move Date: 16-DEC-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/10/2009 11:10	10/29/2009 8:00	11/19/2009 19:08	WG104190-1, -2, -3, -4, -6	
L48629-2	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/10/2009 9:50	10/29/2009 8:00	11/19/2009 19:54	WG104190-1, -2, -3, -4, -6	
L48629-3	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/10/2009 12:10	10/29/2009 8:00	11/19/2009 20:40	WG104190-1, -2, -3, -4, -6	
L48629-4	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/10/2009 12:40	10/29/2009 8:00	11/20/2009 0:16	WG104190-1, -2, -3, -4, -6	
L48629-5	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/10/2009 13:00	10/29/2009 8:00	11/20/2009 1:02	WG104190-1, -2, -3, -4, -6	
L48629-6	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/10/2009 13:22	10/29/2009 8:00	11/20/2009 1:48	WG104190-1, -2, -3, -4, -6	
L48629-7	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/10/2009 13:55	10/29/2009 8:00	11/20/2009 2:34	WG104190-1, -2, -3, -4, -6	
L48629-8	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/10/2009 14:25	10/29/2009 8:00	11/20/2009 3:20	WG104190-1, -2, -3, -4, -6	
L48629-9	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/10/2009 15:15	10/29/2009 8:00	11/20/2009 4:07	WG104190-1, -2, -3, -4, -6	
L48633-1	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/12/2009 12:25	10/29/2009 8:00	11/20/2009 4:53	WG104190-1, -2, -3, -4, -6	
L48633-2	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/12/2009 14:15	10/29/2009 8:00	11/20/2009 5:39	WG104190-1, -2, -3, -4, -6	
L48633-3	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/12/2009 11:15	10/29/2009 8:00	11/20/2009 6:25	WG104190-1, -2, -3, -4, -6	
L48633-4	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/12/2009 13:30	10/29/2009 8:00	11/20/2009 7:11	WG104190-1, -2, -3, -4, -6	
L48633-5	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/12/2009 13:00	10/29/2009 8:00	11/20/2009 7:57	WG104190-1, -2, -3, -4, -6	
L48633-6	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/10/2009 11:40	10/29/2009 8:00	11/20/2009 8:43	WG104190-1, -2, -3, -4, -6	
L48633-7	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/10/2009 8:55	10/29/2009 8:00	11/20/2009 9:30	WG104190-1, -2, -3, -4, -6	
L48633-8	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/12/2009 9:10	10/29/2009 8:00	11/20/2009 10:16	WG104190-1, -2, -3, -4, -6	
L48633-9	421240C	STREAMS (sediment)	OREDC	FRSHWTRSED	8/12/2009 10:05	10/29/2009 8:00	11/20/2009 11:02	WG104190-1, -2, -3, -4, -6	
WG104190-1	MB		OREDC	OTHR SOLID		10/29/2009 8:00	11/19/2009 9:55	WG104190-1, -2, -3, -4, -6	MB090818
WG104190-2	SB		OREDC	OTHR SOLID		10/29/2009 8:00	11/19/2009 10:41	WG104190-1, -2, -3, -4, -6	WG104190-1
WG104190-3	MS		OREDC	FRSHWTRSED		10/29/2009 8:00	11/19/2009 16:03	WG104190-1, -2, -3, -4, -6	L48633-1
WG104190-4	MSD		OREDC	FRSHWTRSED		10/29/2009 8:00	11/19/2009 16:49	WG104190-1, -2, -3, -4, -6	WG104190-3 L48633-1
WG104190-6	LD		OREDC	FRSHWTRSED		10/29/2009 8:00	11/19/2009 18:21	WG104190-1, -2, -3, -4, -6	L48629-8

# King County Environmental Laboratory Batch Report

WG104595 (EDCS#7 EDC-LVI) Department: 7 - Organics Move Date: 13-OCT-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/10/2009 11:10	9/9/2009	10/1/2009 11:32	WG104595-1, -2, -3, -4, -5	
L48629-2	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/10/2009 9:50		10/1/2009 12:02	WG104595-1, -2, -3, -4, -5	
L48629-3	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/10/2009 12:10		10/1/2009 12:32	WG104595-1, -2, -3, -4, -5	
L48629-4	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/10/2009 12:40		10/1/2009 13:03	WG104595-1, -2, -3, -4, -5	
L48629-5	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/10/2009 13:00		10/1/2009 13:33	WG104595-1, -2, -3, -4, -5	
L48629-6	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/10/2009 13:22		10/1/2009 14:03	WG104595-1, -2, -3, -4, -5	
L48629-7	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/10/2009 13:55		10/1/2009 14:33	WG104595-1, -2, -3, -4, -5	
L48629-8	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/10/2009 14:25		10/1/2009 15:03	WG104595-1, -2, -3, -4, -5	
L48629-9	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/10/2009 15:15		10/1/2009 15:33	WG104595-1, -2, -3, -4, -5	
L48633-1	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/12/2009 12:25		10/1/2009 11:02	WG104595-1, -2, -3, -4, -5	
L48633-2	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/12/2009 14:15		10/1/2009 16:03	WG104595-1, -2, -3, -4, -5	
L48633-3	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/12/2009 11:15		10/1/2009 16:33	WG104595-1, -2, -3, -4, -5	
L48633-4	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/12/2009 13:30		10/1/2009 17:04	WG104595-1, -2, -3, -4, -5	
L48633-5	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/12/2009 13:00		10/1/2009 17:34	WG104595-1, -2, -3, -4, -5	
L48633-6	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/10/2009 11:40		10/2/2009 8:15	WG104595-1, -2, -3, -4, -5	
L48633-7	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/10/2009 8:55		10/2/2009 8:46	WG104595-1, -2, -3, -4, -5	
L48633-8	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/12/2009 9:10		10/2/2009 9:16	WG104595-1, -2, -3, -4, -5	
L48633-9	421240C	STREAMS (sediment)	OREDC-LVI	FRSHWTRSED	8/12/2009 10:05		10/2/2009 9:46	WG104595-1, -2, -3, -4, -5	
WG104595-1	MB		OREDC-LVI	OTHR SOLID			10/1/2009 8:01	WG104595-1, -2, -3, -4, -5	MB090908
WG104595-2	SB		OREDC-LVI	OTHR SOLID			10/1/2009 8:32	WG104595-1, -2, -3, -4, -5	WG104595-1
WG104595-3	MS		OREDC-LVI	FRSHWTRSED			10/1/2009 9:02	WG104595-1, -2, -3, -4, -5	L48633-1
WG104595-4	MSD		OREDC-LVI	FRSHWTRSED			10/1/2009 9:32	WG104595-1, -2, -3, -4, -5	WG104595-3 L48633-1
WG104595-5	LD		OREDC-LVI	FRSHWTRSED			10/1/2009 10:32	WG104595-1, -2, -3, -4, -5	L48629-1

# King County Environmental Laboratory Batch Report

WG104212 (pplls#82 pbde) Department: 7 - Organics Move Date: 07-JAN-10

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/10/2009 11:10	8/19/2009 7:00	9/25/2009 22:32	WG104212-1, -2, -3, -4, -6, -5	
L48629-2	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/10/2009 9:50	8/19/2009 7:00	9/25/2009 22:52	WG104212-1, -2, -3, -4, -6, -5	
L48629-3	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/10/2009 12:10	8/19/2009 7:00	9/25/2009 23:12	WG104212-1, -2, -3, -4, -6, -5	
L48629-4	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/10/2009 12:40	8/19/2009 7:00	9/25/2009 23:33	WG104212-1, -2, -3, -4, -6, -5	
L48629-5	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/10/2009 13:00	8/19/2009 7:00	9/25/2009 23:53	WG104212-1, -2, -3, -4, -6, -5	
L48629-6	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/10/2009 13:22	8/19/2009 7:00	9/26/2009 0:14	WG104212-1, -2, -3, -4, -6, -5	
L48629-7	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/10/2009 13:55	8/19/2009 7:00	9/26/2009 0:34	WG104212-1, -2, -3, -4, -6, -5	
L48629-8	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/10/2009 14:25	8/19/2009 7:00	9/26/2009 0:54	WG104212-1, -2, -3, -4, -6, -5	
L48629-9	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/10/2009 15:15	8/19/2009 7:00	9/26/2009 1:15	WG104212-1, -2, -3, -4, -6, -5	
L48633-1	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/12/2009 12:25	8/19/2009 7:00	9/26/2009 1:35	WG104212-1, -2, -3, -4, -6, -5	
L48633-2	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/12/2009 14:15	8/19/2009 7:00	9/26/2009 1:56	WG104212-1, -2, -3, -4, -6, -5	
L48633-3	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/12/2009 11:15	8/19/2009 7:00	9/26/2009 2:16	WG104212-1, -2, -3, -4, -6, -5	
L48633-4	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/12/2009 13:30	8/19/2009 7:00	9/26/2009 2:36	WG104212-1, -2, -3, -4, -6, -5	
L48633-5	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/12/2009 13:00	8/19/2009 7:00	9/26/2009 2:57	WG104212-1, -2, -3, -4, -6, -5	
L48633-6	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/10/2009 11:40	8/19/2009 7:00	9/26/2009 3:17	WG104212-1, -2, -3, -4, -6, -5	
L48633-7	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/10/2009 8:55	8/19/2009 7:00	9/26/2009 3:38	WG104212-1, -2, -3, -4, -6, -5	
L48633-8	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/12/2009 9:10	8/19/2009 7:00	9/26/2009 3:58	WG104212-1, -2, -3, -4, -6, -5	
L48633-9	421240C	STREAMS (sediment)	ORPBDE	FRSHWTRSED	8/12/2009 10:05	8/19/2009 7:00	9/26/2009 4:19	WG104212-1, -2, -3, -4, -6, -5	
WG104212-1	MB		ORPBDE	OTHR SOLID		8/19/2009 7:00	9/25/2009 20:29	WG104212-1, -2, -3, -4, -6, -5	MB090819
WG104212-2	SB		ORPBDE	OTHR SOLID		8/19/2009 7:00	9/25/2009 20:49	WG104212-1, -2, -3, -4, -6, -5	WG104212-1
WG104212-3	MS		ORPBDE	FRSHWTRSED		8/19/2009 7:00	9/25/2009 21:10	WG104212-1, -2, -3, -4, -6, -5	L48633-3
WG104212-4	MSD		ORPBDE	FRSHWTRSED		8/19/2009 7:00	9/25/2009 21:30	WG104212-1, -2, -3, -4, -6, -5	WG104212-3 L48633-3
WG104212-5	LCS		ORPBDE	OTHR SOLID		8/19/2009 7:00	9/25/2009 21:51	WG104212-5	2585
WG104212-6	LD		ORPBDE	FRSHWTRSED		8/19/2009 7:00	9/25/2009 22:11	WG104212-1, -2, -3, -4, -6, -5	L48629-8

# King County Environmental Laboratory Batch Report

WG104211 (pps#422 pcbII) Department: 7 - Organics Move Date: 12-NOV-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/10/2009 11:10	9/30/2009 7:00	10/22/2009 22:22	WG104211-1, -2, -3, -4, -5, -6	
L48629-2	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/10/2009 9:50	9/30/2009 7:00	10/22/2009 23:04	WG104211-1, -2, -3, -4, -5, -6	
L48629-3	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/10/2009 12:10	9/30/2009 7:00	10/22/2009 23:43	WG104211-1, -2, -3, -4, -5, -6	
L48629-4	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/10/2009 12:40	9/30/2009 7:00	10/23/2009 0:22	WG104211-1, -2, -3, -4, -5, -6	
L48629-5	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/10/2009 13:00	9/30/2009 7:00	10/23/2009 1:01	WG104211-1, -2, -3, -4, -5, -6	
L48629-6	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/10/2009 13:22	9/30/2009 7:00	10/23/2009 1:40	WG104211-1, -2, -3, -4, -5, -6	
L48629-7	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/10/2009 13:55	9/30/2009 7:00	10/23/2009 2:19	WG104211-1, -2, -3, -4, -5, -6	
L48629-8	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/10/2009 14:25	9/30/2009 7:00	10/23/2009 2:58	WG104211-1, -2, -3, -4, -5, -6	
L48629-9	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/10/2009 15:15	9/30/2009 7:00	10/23/2009 3:37	WG104211-1, -2, -3, -4, -5, -6	
L48633-1	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/12/2009 12:25	9/30/2009 7:00	10/23/2009 6:18	WG104211-1, -2, -3, -4, -5, -6	
L48633-2	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/12/2009 14:15	9/30/2009 7:00	10/23/2009 6:59	WG104211-1, -2, -3, -4, -5, -6	
L48633-3	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/12/2009 11:15	9/30/2009 7:00	10/23/2009 7:40	WG104211-1, -2, -3, -4, -5, -6	
L48633-4	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/12/2009 13:30	9/30/2009 7:00	10/23/2009 8:22	WG104211-1, -2, -3, -4, -5, -6	
L48633-5	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/12/2009 13:00	9/30/2009 7:00	10/23/2009 9:03	WG104211-1, -2, -3, -4, -5, -6	
L48633-6	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/10/2009 11:40	9/30/2009 7:00	10/23/2009 9:45	WG104211-1, -2, -3, -4, -5, -6	
L48633-7	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/10/2009 8:55	9/30/2009 7:00	10/23/2009 10:25	WG104211-1, -2, -3, -4, -5, -6	
L48633-8	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/12/2009 9:10	9/30/2009 7:00	10/23/2009 11:06	WG104211-1, -2, -3, -4, -5, -6	
L48633-9	421240C	STREAMS (sediment)	ORPCBLL	FRSHWTRSED	8/12/2009 10:05	9/30/2009 7:00	10/23/2009 11:48	WG104211-1, -2, -3, -4, -5, -6	
WG104211-1	MB		ORPCBLL	OTHR SOLID		9/30/2009 7:00	10/22/2009 16:12	WG104211-1, -2, -3, -4, -5, -6	MB090930
WG104211-2	SB		ORPCBLL	OTHR SOLID		9/30/2009 7:00	10/22/2009 17:35	WG104211-1, -2, -3, -4, -5, -6	WG104211-1
WG104211-3	MS		ORPCBLL	FRSHWTRSED		9/30/2009 7:00	10/22/2009 18:17	WG104211-1, -2, -3, -4, -5, -6	L48633-1
WG104211-4	MSD		ORPCBLL	FRSHWTRSED		9/30/2009 7:00	10/22/2009 18:58	WG104211-1, -2, -3, -4, -5, -6	WG104211-3 L48633-1
WG104211-5	SRM		ORPCBLL	FRSHWTRSED		9/30/2009 7:00	10/22/2009 19:39	WG104211-1, -2, -3, -4, -5, -6	HS-2
WG104211-6	LD		ORPCBLL	FRSHWTRSED		9/30/2009 7:00	10/22/2009 16:54	WG104211-1, -2, -3, -4, -5, -6	L48633-4

# King County Environmental Laboratory Batch Report

WG104210 (pplls#82 pestll) Department: 7 - Organics Move Date: 12-NOV-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/10/2009 11:10	8/19/2009 7:00	9/17/2009 18:29	WG104210-1, -2, -3, -4, -5, -6	
L48629-2	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/10/2009 9:50	8/19/2009 7:00	9/17/2009 19:06	WG104210-1, -2, -3, -4, -5, -6	
L48629-3	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/10/2009 12:10	8/19/2009 7:00	9/17/2009 19:43	WG104210-1, -2, -3, -4, -5, -6	
L48629-4	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/10/2009 12:40	8/19/2009 7:00	9/17/2009 22:12	WG104210-1, -2, -3, -4, -5, -6	
L48629-5	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/10/2009 13:00	8/19/2009 7:00	9/17/2009 22:49	WG104210-1, -2, -3, -4, -5, -6	
L48629-6	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/10/2009 13:22	8/19/2009 7:00	9/17/2009 23:26	WG104210-1, -2, -3, -4, -5, -6	
L48629-7	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/10/2009 13:55	8/19/2009 7:00	9/18/2009 0:04	WG104210-1, -2, -3, -4, -5, -6	
L48629-8	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/10/2009 14:25	8/19/2009 7:00	9/18/2009 0:41	WG104210-1, -2, -3, -4, -5, -6	
L48629-9	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/10/2009 15:15	8/19/2009 7:00	9/18/2009 1:18	WG104210-1, -2, -3, -4, -5, -6	
L48633-1	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/12/2009 12:25	8/19/2009 7:00	9/18/2009 1:55	WG104210-1, -2, -3, -4, -5, -6	
L48633-2	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/12/2009 14:15	8/19/2009 7:00	9/18/2009 2:32	WG104210-1, -2, -3, -4, -5, -6	
L48633-3	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/12/2009 11:15	8/19/2009 7:00	9/18/2009 3:10	WG104210-1, -2, -3, -4, -5, -6	
L48633-4	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/12/2009 13:30	8/19/2009 7:00	9/18/2009 5:39	WG104210-1, -2, -3, -4, -5, -6	
L48633-5	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/12/2009 13:00	8/19/2009 7:00	9/18/2009 6:16	WG104210-1, -2, -3, -4, -5, -6	
L48633-6	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/10/2009 11:40	8/19/2009 7:00	9/18/2009 6:53	WG104210-1, -2, -3, -4, -5, -6	
L48633-7	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/10/2009 8:55	8/19/2009 7:00	9/18/2009 7:30	WG104210-1, -2, -3, -4, -5, -6	
L48633-8	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/12/2009 9:10	8/19/2009 7:00	9/18/2009 8:07	WG104210-1, -2, -3, -4, -5, -6	
L48633-9	421240C	STREAMS (sediment)	ORPESTLL	FRSHWTRSED	8/12/2009 10:05	8/19/2009 7:00	9/18/2009 8:45	WG104210-1, -2, -3, -4, -5, -6	
WG104210-1	MB		ORPESTLL	OTHR SOLID		8/19/2009 7:00	9/17/2009 14:46	WG104210-1, -2, -3, -4, -5, -6	MB090819
WG104210-2	SB		ORPESTLL	OTHR SOLID		8/19/2009 7:00	9/17/2009 15:23	WG104210-1, -2, -3, -4, -5, -6	WG104210-1
WG104210-3	MS		ORPESTLL	FRSHWTRSED		8/19/2009 7:00	9/17/2009 16:00	WG104210-1, -2, -3, -4, -5, -6	L48633-1
WG104210-4	MSD		ORPESTLL	FRSHWTRSED		8/19/2009 7:00	9/17/2009 16:37	WG104210-1, -2, -3, -4, -5, -6	WG104210-3 L48633-1
WG104210-5	SRM		ORPESTLL	FRSHWTRSED		8/19/2009 7:00	9/17/2009 17:15	WG104210-1, -2, -3, -4, -5, -6	1944
WG104210-6	LD		ORPESTLL	FRSHWTRSED		8/19/2009 7:00	9/17/2009 17:52	WG104210-1, -2, -3, -4, -5, -6	L48629-2

# King County Environmental Laboratory Batch Report

WG104158 (WTPH-DS#275) Department: 7 - Organics Move Date: 11-DEC-09

Sample	Project	Project Description	List Type	Matrix	Col. Date	Prep Date	Anal Date	QC Association	Comments
L48629-1	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/10/2009 11:10	8/17/2009 10:00	9/18/2009 19:01	WG104158-1, -2, -3, -4, -5	
L48629-2	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/10/2009 9:50	8/17/2009 10:00	9/18/2009 19:46	WG104158-1, -2, -3, -4, -5	
L48629-3	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/10/2009 12:10	8/17/2009 10:00	9/18/2009 20:30	WG104158-1, -2, -3, -4, -5	
L48629-4	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/10/2009 12:40	8/17/2009 10:00	9/18/2009 21:15	WG104158-1, -2, -3, -4, -5	
L48629-5	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/10/2009 13:00	8/17/2009 10:00	9/19/2009 0:15	WG104158-1, -2, -3, -4, -5	
L48629-6	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/10/2009 13:22	8/17/2009 10:00	9/19/2009 1:00	WG104158-1, -2, -3, -4, -5	
L48629-7	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/10/2009 13:55	8/17/2009 10:00	9/19/2009 1:45	WG104158-1, -2, -3, -4, -5	
L48629-8	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/10/2009 14:25	8/17/2009 10:00	9/19/2009 2:30	WG104158-1, -2, -3, -4, -5	
L48629-9	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/10/2009 15:15	8/17/2009 10:00	9/19/2009 3:15	WG104158-1, -2, -3, -4, -5	
L48633-1	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/12/2009 12:25	8/17/2009 10:00	9/19/2009 4:01	WG104158-1, -2, -3, -4, -5	
L48633-2	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/12/2009 14:15	8/17/2009 10:00	9/19/2009 4:46	WG104158-1, -2, -3, -4, -5	
L48633-3	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/12/2009 11:15	8/17/2009 10:00	9/19/2009 5:31	WG104158-1, -2, -3, -4, -5	
L48633-4	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/12/2009 13:30	8/17/2009 10:00	9/19/2009 6:16	WG104158-1, -2, -3, -4, -5	
L48633-5	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/12/2009 13:00	8/17/2009 10:00	9/19/2009 9:17	WG104158-1, -2, -3, -4, -5	
L48633-6	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/10/2009 11:40	8/17/2009 10:00	9/19/2009 10:02	WG104158-1, -2, -3, -4, -5	
L48633-7	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/10/2009 8:55	8/17/2009 10:00	9/19/2009 10:47	WG104158-1, -2, -3, -4, -5	
L48633-8	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/12/2009 9:10	8/17/2009 10:00	9/19/2009 11:32	WG104158-1, -2, -3, -4, -5	
L48633-9	421240C	STREAMS (sediment)	ORWTPH-DX	FRSHWTRSED	8/12/2009 10:05	8/17/2009 10:00	9/19/2009 12:17	WG104158-1, -2, -3, -4, -5	
WG104158-1	MB		ORWTPH-DX	OTHR SOLID		8/17/2009 10:00	9/18/2009 15:18	WG104158-1, -2, -3, -4, -5	MB090817
WG104158-2	SB		ORWTPH-DX	OTHR SOLID		8/17/2009 10:00	9/18/2009 16:02	WG104158-1, -2, -3, -4, -5	WG104158-1 SB-MO
WG104158-3	SB		ORWTPH-DX	OTHR SOLID		8/17/2009 10:00	9/18/2009 16:47	WG104158-1, -2, -3, -4, -5	WG104158-1 SB-DSL
WG104158-4	LD		ORWTPH-DX	FRSHWTRSED		8/17/2009 10:00	9/18/2009 17:32	WG104158-1, -2, -3, -4, -5	L48629-1
WG104158-5	LD		ORWTPH-DX	FRSHWTRSED		8/17/2009 10:00	9/18/2009 18:16	WG104158-1, -2, -3, -4, -5	L48633-1

\* End of XX\_14944B.xls

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104244 (AVS for Streams Sediments) Run ID: R137071

MB:WG104244-1 Matrix: OTHR SOLID Listtype: CVAVS Method: EPA DEC 1991 Project: (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	

SB:WG104244-2 MB:WG104244-1 Matrix: OTHR SOLID Listtype: CVAVS Method: EPA DEC 1991 Project: NONE (Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Sulfide, Acid Volatile	2.5	10	mg/Kg	<MDL	25.2	24.5	97		80--120

LT:WG104244-4 LD:WG104244-3 L48629-3 Matrix: FRSHWTRSED Listtype: CVAVS Method: EPA DEC 1991 Project: 421240C (Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
Sulfide, Acid Volatile	0.25	0.994	mg/Kg	<MDL	<MDL	<MDL			20

MS:WG104244-5 L48629-3 Matrix: FRSHWTRSED Listtype: CVAVS Method: EPA DEC 1991 Project: 421240C (Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Sulfide, Acid Volatile	2.5	9.95	mg/Kg	<MDL	25.1	13.1	52 *		65--135

MB:WG104244-6 Matrix: OTHR SOLID Listtype: CVAVS Method: EPA DEC 1991 Project: (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	

SB:WG104244-7 MB:WG104244-6 Matrix: OTHR SOLID Listtype: CVAVS Method: EPA DEC 1991 Project: NONE (Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Sulfide, Acid Volatile	2.5	10	mg/Kg	<MDL	24.4	24.1	99		80--120

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG105536 (NH3-KCL STREAMS SEDS) Run ID: R139071

MB:WG105536-1 Matrix: OTHR SOLID Listtype: CVNH3-KCL-FL Method: KEROUEL & AMINOT 1997(KCL) Project: (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Ammonia Nitrogen	0.05	0.1	mg/Kg	<MDL	

SB:WG105536-2 MB:WG105536-1 Matrix: OTHR SOLID Listtype: CVNH3-KCL-FL Method: KEROUEL & AMINOT 1997(KCL) Project: NONE (Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.5	1	mg/Kg	<MDL	10	10.6	106		80--120

LCS:WG105536-3 Matrix: OTHR SOLID Listtype: CVNH3-KCL-FL Method: KEROUEL & AMINOT 1997(KCL) Project: NONE (Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.05	0.1	mg/Kg	1	0.995	100		80--120

LT:WG105536-5 LD:WG105536-4 L48633-3 Matrix: FRSHWTRSED Listtype: CVNH3-KCL-FL Method: KEROUEL & AMINOT 1997(KCL) Project: 421240C (Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
Ammonia Nitrogen	0.98	1.97	mg/Kg	10.7	10.4	10.3	2		20

MS:WG105536-6 L48633-3 Matrix: FRSHWTRSED Listtype: CVNH3-KCL-FL Method: KEROUEL & AMINOT 1997(KCL) Project: 421240C (Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.98	1.95	mg/Kg	10.7	9.7652	20.1	96		75--125

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG105172 (ORTHOP-OL 421240C STRE) Run ID: R138490

MB:WG105172-1 Matrix: OTHR SOLID Listtype: CVORTHOP-OL Method: SM4500-P-F OL Project: (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Orthophosphate Phosphorus	1	2.5	mg/Kg	<MDL	

SB:WG105172-2 MB:WG105172-1 Matrix: OTHR SOLID Listtype: CVORTHOP-OL Method: SM4500-P-F OL Project: NONE (Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Orthophosphate Phosphorus	1	2.5	mg/Kg	<MDL	8	7.99	100		80--120

LCS:WG105172-3 Matrix: OTHR SOLID Listtype: CVORTHOP-OL Method: SM4500-P-F OL Project: NONE (Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Orthophosphate Phosphorus	1	2.5	mg/Kg	16	16.2	101		80--120

LT:WG105172-5 LD:WG105172-4 L48629-6 Matrix: FRSHWTRSED Listtype: CVORTHOP-OL Method: SM4500-P-F OL Project: 421240C (Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
Orthophosphate Phosphorus	0.99	2.46	mg/Kg	17.9	18.7	17.7	3		20

MS:WG105172-6 L48629-6 Matrix: FRSHWTRSED Listtype: CVORTHOP-OL Method: SM4500-P-F OL Project: 421240C (Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Orthophosphate Phosphorus	1	2.5	mg/Kg	17.9	7.99	24.8	86		70--130

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104050 (sed ph for 421240) Run ID: R138756

CS:WG104050-1 Matrix: BLANK WTR Listtype: CVPH Method: SM4500-H-B Project: NONE  
(Check Standard)

Parameter	MDL	RDL	Units	True Value	CS Value	% Rec.	Lab Qual	Lab Limit
pH			pH	6.86	6.86	100		98--102

LT:WG104050-3 LD:WG104050-2 L48633-6 Matrix: FRSHWTRSED Listtype: CVPH Method: SW846 9045C Project: 421240C  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
pH			pH	7.29	7.3	7.3	0		5

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104126 (ph for 421240) Run ID: R140206

CS:WG104126-1 Matrix: BLANK WTR Listtype: CVPH Method: SM4500-H-B Project: NONE  
(Check Standard)

Parameter	MDL	RDL	Units	True Value	CS Value	% Rec.	Lab Qual	Lab Limit
pH			pH	6.86	6.89	100		98--102

LT:WG104126-3 LD:WG104126-2 L48633-3 Matrix: FRSHWTRSED Listtype: CVPH Method: SW846 9045C Project: 421240C  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
pH			pH	6.96	6.86	6.92	1		5

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104481 (PSD) Run ID: R139256

LT:WG104481-2 LD:WG104481-1 L48633-3 Matrix: FRSHWTRSED Listtype: CVPSD Method: ASTM D422 Project: 421240C  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP			RSD Qual	Lab Limit
				Value	LD Value	LT Value		
Clay	0.93	1.85	%	<MDL	<MDL	<MDL		20
Gravel	0.19	1.85	%	<MDL	<MDL	<MDL		20
Sand	0.19	1.85	%	46.8	53.2	55.4	9	20
Silt	0.93	1.85	%	45.4	47.1	48.2	3	20

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104513 (TOC/Streams Sed) Run ID: R140144

MB:WG104513-1 Matrix: OTHR SOLID Listtype: CVTOC Method: SW846 9060-PSEP96 Project: (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	500	1000	mg/Kg	<MDL	

SRM:WG104513-2 Matrix: OTHR SOLID Listtype: CVTOC Method: SW846 9060-PSEP96 Project: NONE (Std Reference Material)

Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Lab Qual Limit
Total Organic Carbon	2600	5210	mg/Kg	33480	34200	102	80--120

SB:WG104513-3 MB:WG104513-1 Matrix: OTHR SOLID Listtype: CVTOC Method: SW846 9060-PSEP96 Project: NONE (Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	500	1000	mg/Kg	<MDL	2500	2710	108		80--120

LT:WG104513-5 LD:WG104513-4 L48633-1 Matrix: FRSHWTRSED Listtype: CVTOC Method: SW846 9060-PSEP96 Project: 421240C (Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
Total Organic Carbon	370	740	mg/Kg	1500	1770	2100	17		20

MS:WG104513-6 L48633-1 Matrix: FRSHWTRSED Listtype: CVTOC Method: SW846 9060-PSEP96 Project: 421240C (Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	370	731	mg/Kg	1500	1826	3240	95		75--125

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104515 (TOTS/421240 Streams Sed) Run ID: R137393

MB:WG104515-1 Matrix: OTHR SOLID Listtype: CVTOTS Method: SM2540-G Project:  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Solids	0.005	0.01	%	<MDL	

LT:WG104515-3 LD:WG104515-2 L48629-7 Matrix: FRSHWTRSED Listtype: CVTOTS Method: SM2540-G Project: 421240C  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
Total Solids	0.005	0.01	%	64.8	65.7	68.7	3		20

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104497 (STREAMS SEDIMENT (FRESHWA) Run ID: R137381

LCS:WG104497-1 Matrix: FRSHWTRSED Listtype: MTHG-MIDS Method: SW846 7471B Project: NONE

(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Lab Qual	Lab Limit
Mercury, Total, CVAA	0.13	1.28	mg/Kg	1.09	0.99	90		80--120

MB:WG104497-2 Matrix: SOLIDBLANK Listtype: MTHG-MIDS Method: SW846 7471B Project:

(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Total, CVAA	0.0048	0.0476	mg/Kg	<MDL	

SB:WG104497-3 MB:WG104497-2 Matrix: SOLIDBLANK Listtype: MTHG-MIDS Method: SW846 7471B Project: NONE

(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Mercury, Total, CVAA	0.0048	0.0476	mg/Kg	<MDL	0.0952	0.0993	104		85--115

MSD:WG104497-5 MS:WG104497-4 L48633-1 Matrix: FRSHWTRSED Listtype: MTHG-MIDS Method: SW846 7471B Project: 421240C

(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Mercury, Total, CVAA	0.0049	0.0493	mg/Kg	0.0063	0.1	0.105	99		75--125	0.0986	0.101	96		3		20

LD:WG104497-6 L48633-1 Matrix: FRSHWTRSED Listtype: MTHG-MIDS Method: SW846 7471B Project: 421240C

(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD^	Lab Qual	Lab Limit
Mercury, Total, CVAA	0.0049	0.0489	mg/Kg	0.0063	0.0072			20

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104351 (STREAMS SEDIMENT - SEM) Run ID: R137270

MB:WG104351-1 Matrix: SOLIDBLANK Listtype: MTHG-SEM Method: EPA 245.1\*SW846 7470A Project: (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	

SB:WG104351-2 MB:WG104351-1 Matrix: SOLIDBLANK Listtype: MTHG-SEM Method: EPA 245.1\*SW846 7470A Project: NONE (Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	0.02	0.0202	101		85--115

MS:WG104351-3 L48629-3 Matrix: FRSHWTRSED Listtype: MTHG-SEM Method: EPA 245.1\*SW846 7470A Project: 421240C (Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Mercury, Extractable, SEM	0.001	0.00299	mg/Kg	<MDL	0.02	0.0201	101		75--125

LD:WG104351-4 L48629-3 Matrix: FRSHWTRSED Listtype: MTHG-SEM Method: EPA 245.1\*SW846 7470A Project: 421240C (Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD^	Qual	Lab Limit
Mercury, Extractable, SEM	0.00099	0.00297	mg/Kg	<MDL	<MDL			20

MB:WG104351-5 Matrix: SOLIDBLANK Listtype: MTHG-SEM Method: EPA 245.1\*SW846 7470A Project: (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	

MB:WG104351-6 Matrix: SOLIDBLANK Listtype: MTHG-SEM Method: EPA 245.1\*SW846 7470A Project: (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104314 (SEM 24-AUG-09) Run ID: R137786

SB:WG104314-1 MB:WG104314-2 Matrix: SOLIDBLANK Listtype: MTICP-SEM Method: EPA 200.7 Project: NONE  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	20	19.1	96		85--115
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	20	19.5	98		85--115
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	20	19.2	96		85--115
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	20	19	95		85--115
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	20	18.8	94		85--115
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	20	18.8	94		85--115
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	20	19.2	96		85--115
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	20	19	95		85--115

MB:WG104314-2 Matrix: SOLIDBLANK Listtype: MTICP-SEM Method: EPA 200.7 Project:  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	

LD:WG104314-3 L48629-3 Matrix: FRSHWTRSED Listtype: MTICP-SEM Method: EPA 200.7 Project: 421240C  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD^	Qual	Lab Limit
Arsenic, Extractable, SEM	0.49	2.47	mg/Kg	0.5	<MDL			20
Cadmium, Extractable, SEM	0.04	0.198	mg/Kg	<MDL	0.043			20
Chromium, Extractable, SEM	0.059	0.297	mg/Kg	0.547	0.552	1		20
Copper, Extractable, SEM	0.079	0.396	mg/Kg	2.27	2.12	7		20
Lead, Extractable, SEM	0.4	1.98	mg/Kg	1.4	1.5			20
Nickel, Extractable, SEM	0.099	0.495	mg/Kg	0.519	0.497	4		20
Silver, Extractable, SEM	0.079	0.396	mg/Kg	<MDL	<MDL			20
Zinc, Extractable, SEM	0.099	0.495	mg/Kg	10.7	10.1	6		20

# King County Environmental Laboratory Analytical QC Report

**MS:WG104314-4 L48629-3 Matrix: FRSHWTRSED Listtype: MTICP-SEM Method: EPA 200.7 Project: 421240C**  
**(Matrix Spike)**

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec. Qual	Lab Limit
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	0.5	20	18.8	92	75--125
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	20	18.9	95	75--125
Chromium, Extractable, SEM	0.06	0.299	mg/Kg	0.547	20	19.1	93	75--125
Copper, Extractable, SEM	0.08	0.399	mg/Kg	2.27	20	20.9	94	75--125
Lead, Extractable, SEM	0.4	2	mg/Kg	1.4	20	19.6	91	75--125
Nickel, Extractable, SEM	0.1	0.499	mg/Kg	0.519	20	18.8	92	75--125
Silver, Extractable, SEM	0.08	0.399	mg/Kg	<MDL	20	18.8	94	75--125
Zinc, Extractable, SEM	0.1	0.499	mg/Kg	10.7	20	28.3	88	75--125

**MB:WG104314-5 Matrix: SOLIDBLANK Listtype: MTICP-SEM Method: EPA 200.7 Project:**  
**(Method Blank)**

Parameter	MDL	RDL	Units	MB Value	Qual
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	

**MB:WG104314-6 Matrix: SOLIDBLANK Listtype: MTICP-SEM Method: EPA 200.7 Project:**  
**(Method Blank)**

Parameter	MDL	RDL	Units	MB Value	Qual
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG105676 (10/27/09 Streams Sediment) Run ID: R139236

MB:WG105676-1 Matrix: SOLIDBLANK Listtype: MTICPMS-SED Method: SW846 3050B\*SW846 6020A Project: (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Arsenic, Total, ICP-MS	0.012	0.061	mg/Kg	<MDL	
Cadmium, Total, ICP-MS	0.0061	0.0305	mg/Kg	<MDL	
Chromium, Total, ICP-MS	0.024	0.122	mg/Kg	<MDL	
Copper, Total, ICP-MS	0.049	0.244	mg/Kg	<MDL	
Lead, Total, ICP-MS	0.012	0.061	mg/Kg	<MDL	
Nickel, Total, ICP-MS	0.012	0.061	mg/Kg	<MDL	
Phosphorus, Total, ICP-MS	12	61	mg/Kg	<MDL	
Silver, Total, ICP-MS	0.0061	0.0305	mg/Kg	<MDL	
Zinc, Total, ICP-MS	0.061	0.305	mg/Kg	<MDL	

SB:WG105676-2 MB:WG105676-1 Matrix: SOLIDBLANK Listtype: MTICPMS-SED Method: SW846 3050B\*SW846 6020A Project: NONE (Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Arsenic, Total, ICP-MS	0.012	0.061	mg/Kg	<MDL	2.44	2.66	109		85--115
Cadmium, Total, ICP-MS	0.0061	0.0305	mg/Kg	<MDL	2.44	2.53	104		85--115
Chromium, Total, ICP-MS	0.024	0.122	mg/Kg	<MDL	2.44	2.45	100		85--115
Copper, Total, ICP-MS	0.049	0.244	mg/Kg	<MDL	2.44	2.55	104		85--115
Lead, Total, ICP-MS	0.012	0.061	mg/Kg	<MDL	2.44	2.61	107		85--115
Nickel, Total, ICP-MS	0.012	0.061	mg/Kg	<MDL	2.44	2.52	103		85--115
Phosphorus, Total, ICP-MS	12	61	mg/Kg	<MDL	610	628	103		85--115
Silver, Total, ICP-MS	0.0061	0.0305	mg/Kg	<MDL	2.44	2.7	111		85--115
Zinc, Total, ICP-MS	0.061	0.305	mg/Kg	<MDL	2.44	2.56	105		85--115

LD:WG105676-3 L48629-7 Matrix: FRSHWTRSED Listtype: MTICPMS-SED Method: SW846 3050B\*SW846 6020A Project: 421240C (Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD^	Lab Qual	Lab Limit
Arsenic, Total, ICP-MS	0.012	0.0619	mg/Kg	1.97	1.95	1		20
Cadmium, Total, ICP-MS	0.0062	0.0309	mg/Kg	0.0569	0.0558	2		20
Chromium, Total, ICP-MS	0.25	1.24	mg/Kg	9.41	6.84	32	*	20
Copper, Total, ICP-MS	0.5	2.48	mg/Kg	8.48	9.15	8		20
Lead, Total, ICP-MS	0.012	0.0619	mg/Kg	3.65	3.82	5		20
Nickel, Total, ICP-MS	0.12	0.619	mg/Kg	5.46	4.89	11		20
Phosphorus, Total, ICP-MS	120	619	mg/Kg	310	300			20
Silver, Total, ICP-MS	0.0062	0.0309	mg/Kg	0.028	0.027			20
Zinc, Total, ICP-MS	0.62	3.09	mg/Kg	39.3	43.3	10		20

# King County Environmental Laboratory Analytical QC Report

**MS:WG105676-4 L48629-7 Matrix: FRSHWTRSED Listtype: MTICPMS-SED Method: SW846 3050B\*SW846 6020A Project: 421240C (Matrix Spike)**

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Arsenic, Total, ICP-MS	0.012	0.0618	mg/Kg	1.97	2.47	4.8	114		75--125
Cadmium, Total, ICP-MS	0.0062	0.0309	mg/Kg	0.0569	2.47	2.53	100		75--125
Chromium, Total, ICP-MS	0.25	1.24	mg/Kg	9.41	2.47	10	25 *		75--125
Copper, Total, ICP-MS	0.49	2.47	mg/Kg	8.48	2.47	10.8	94		75--125
Lead, Total, ICP-MS	0.012	0.0618	mg/Kg	3.65	2.47	6.37	110		75--125
Nickel, Total, ICP-MS	0.12	0.618	mg/Kg	5.46	2.47	7.44	80		75--125
Phosphorus, Total, ICP-MS	120	618	mg/Kg	310	618	862	89		75--125
Silver, Total, ICP-MS	0.0062	0.0309	mg/Kg	0.028	2.47	2.51	100		75--125
Zinc, Total, ICP-MS	0.62	3.09	mg/Kg	39.3	2.47	47.6 MS/MSD %Rec. due to 4x rule)			

**LCS:WG105676-5 Matrix: SOIL Listtype: MTICPMS-SED Method: SW846 3050B\*SW846 6020A Project: NONE (Lab Control Sample)**

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Arsenic, Total, ICP-MS	0.1	0.512	mg/Kg	129	152	118		79--121
Cadmium, Total, ICP-MS	0.051	0.256	mg/Kg	68.3	69.1	101		80--120
Chromium, Total, ICP-MS	0.2	1.02	mg/Kg	70.4	70	99		73--127
Copper, Total, ICP-MS	0.41	2.05	mg/Kg	65.4	69.3	106		80--120
Lead, Total, ICP-MS	0.1	0.512	mg/Kg	131	135	103		80--120
Nickel, Total, ICP-MS	0.1	0.512	mg/Kg	55.4	57.4	104		80--120
Silver, Total, ICP-MS	0.051	0.256	mg/Kg	112	118	106		47--154
Zinc, Total, ICP-MS	0.51	2.56	mg/Kg	176	185	105		78--121

**LCS:WG105676-6 Matrix: FRSHWTRSED Listtype: MTICPMS-SED Method: SW846 3050B\*SW846 6020A Project: NONE (Lab Control Sample)**

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Arsenic, Total, ICP-MS	0.1	0.512	mg/Kg	17	17.6	103		80--120
Cadmium, Total, ICP-MS	0.051	0.256	mg/Kg	2.94	3.08	105		80--120
Chromium, Total, ICP-MS	0.2	1.02	mg/Kg	121.9	70.6	58		40--80
Lead, Total, ICP-MS	0.1	0.512	mg/Kg	150	149	99		80--120
Nickel, Total, ICP-MS	0.1	0.512	mg/Kg	42.9	37.3	87		80--120
Zinc, Total, ICP-MS	0.51	2.56	mg/Kg	408	380	93		69--109

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104189 (bs#325 bna11full) Run ID: R140572

MB:WG104189-1 Matrix: OTHR SOLID Listtype: ORBNALLFULL Method: SW846 3550B\*SW846 8270D Project: 421240C  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	
2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	
2-Chloronaphthalene	4	8	ug/Kg	<MDL	
2-Chlorophenol	4	8	ug/Kg	<MDL	
2-Methylnaphthalene	2	4	ug/Kg	<MDL	
2-Methylphenol	2	4	ug/Kg	<MDL	
2-Nitrophenol	10	20	ug/Kg	<MDL	
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	
4-Methylphenol	4	8	ug/Kg	<MDL	
Acenaphthene	2	4	ug/Kg	<MDL	
Acenaphthylene	2	4	ug/Kg	<MDL	
Aniline	40	80	ug/Kg	<MDL	
Anthracene	2	4	ug/Kg	<MDL	
Benzo(a)anthracene	2	4	ug/Kg	<MDL	
Benzo(a)pyrene	2	4	ug/Kg	<MDL	
Benzo(b)fluoranthene	2	4	ug/Kg	<MDL	
Benzo(g,h,i)perylene	2	4	ug/Kg	<MDL	
Benzo(k)fluoranthene	2	4	ug/Kg	<MDL	
Benzoic Acid	10	20	ug/Kg	<MDL	
Benzyl Alcohol	2	4	ug/Kg	<MDL	
Benzyl Butyl Phthalate	4	8	ug/Kg	<MDL	
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	26.2	B
Caffeine	4	8	ug/Kg	<MDL	
Carbazole	2	4	ug/Kg	<MDL	
Chrysene	2	4	ug/Kg	<MDL	
Coprostanol	40	80	ug/Kg	<MDL	
Di-N-Butyl Phthalate	4	8	ug/Kg	4	B

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Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL
Dibenzofuran	2	4	ug/Kg	<MDL
Diethyl Phthalate	4	8	ug/Kg	<MDL
Dimethyl Phthalate	4	8	ug/Kg	<MDL
Fluoranthene	2	4	ug/Kg	<MDL
Fluorene	2	4	ug/Kg	<MDL
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL
Hexachloroethane	1	2	ug/Kg	<MDL
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	<MDL
Isophorone	10	20	ug/Kg	<MDL
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL
Naphthalene	2	4	ug/Kg	<MDL
Nitrobenzene	4	8	ug/Kg	<MDL
Pentachlorophenol	10	20	ug/Kg	<MDL
Phenanthrene	2	4	ug/Kg	<MDL
Phenol	4	8	ug/Kg	<MDL
Pyrene	2	4	ug/Kg	<MDL

# King County Environmental Laboratory Analytical QC Report

SB:WG104189-2 MB:WG104189-1 Matrix: OTHR SOLID Listtype: ORBNALLFULL Method: SW846 3550B\*SW846 8270D Project: 421240C  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec. Qual	Lab Limit
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	100	47.8	48	13--110
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	57.9	58	10--116
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	100	57.8	58	32--125
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	58.4	58	18--95
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	55.3	55	21--99
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	100	55.2	55	33--113
2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	100	41.9	42	27--98
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	100	33.2	33	24--103
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	100	12.3	12	10--81
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	100	65.9	66	35--148
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	100	63.7	64	46--110
2-Chloronaphthalene	4	8	ug/Kg	<MDL	100	40.8	41	25--96
2-Chlorophenol	4	8	ug/Kg	<MDL	100	60.7	61	10--102
2-Methylnaphthalene	2	4	ug/Kg	<MDL	100	43.6	44	22--99
2-Methylphenol	2	4	ug/Kg	<MDL	100	33.9	34	16--91
2-Nitrophenol	10	20	ug/Kg	<MDL	100	55.5	56	21--98
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	70.8	71	47--113
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	65.9	66	39--101
4-Methylphenol	4	8	ug/Kg	<MDL	100	28.3	28	10--125
Acenaphthene	2	4	ug/Kg	<MDL	100	56.2	56	29--102
Acenaphthylene	2	4	ug/Kg	<MDL	100	58.5	59	31--101
Aniline	40	80	ug/Kg	<MDL	100	<MDL	0 *	10--102
Anthracene	2	4	ug/Kg	<MDL	100	68.9	69	45--114
Benzo(a)anthracene	2	4	ug/Kg	<MDL	100	89.7	90	69--117
Benzo(a)pyrene	2	4	ug/Kg	<MDL	100	78	78	15--137
Benzo(b)fluoranthene	2	4	ug/Kg	<MDL	100	77.7	78	50--121
Benzo(g,h,i)perylene	2	4	ug/Kg	<MDL	100	78.9	79	46--126
Benzo(k)fluoranthene	2	4	ug/Kg	<MDL	100	85.5	85	58--128
Benzoic Acid	10	20	ug/Kg	<MDL	100	63.2	63	10--170
Benzyl Alcohol	2	4	ug/Kg	<MDL	100	53.3	53	10--119
Benzyl Butyl Phthalate	4	8	ug/Kg	<MDL	100	97.5	97	15--183
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	100	47.3	47	19--103
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	100	53.5	54	18--82
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	100	56.4	56	10--104
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	26.2	100	93.8	68	10--182
Caffeine	4	8	ug/Kg	<MDL	100	80.6	81	45--159
Carbazole	2	4	ug/Kg	<MDL	100	73.2	73	44--179
Chrysene	2	4	ug/Kg	<MDL	100	73.2	73	69--111
Coprostanol	40	80	ug/Kg	<MDL	1000	492	49	10--159
Di-N-Butyl Phthalate	4	8	ug/Kg	4	100	105	101	17--180
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	100	95.8	96	10--200
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL	100	86.9	87	53--129

## King County Environmental Laboratory Analytical QC Report

Dibenzofuran	2	4	ug/Kg	<MDL	100	55.2	55	37--97
Diethyl Phthalate	4	8	ug/Kg	<MDL	100	80.4	80	51--118
Dimethyl Phthalate	4	8	ug/Kg	<MDL	100	66.6	67	38--114
Fluoranthene	2	4	ug/Kg	<MDL	100	79.3	79	55--132
Fluorene	2	4	ug/Kg	<MDL	100	61.5	62	39--106
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	100	66.6	67	40--111
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	100	44.9	45	10--97
Hexachloroethane	1	2	ug/Kg	<MDL	100	49.9	50	17--92
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	<MDL	100	87.8	88	51--132
Isophorone	10	20	ug/Kg	<MDL	100	58.3	58	10--131
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	100	62.8	63	10--146
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	100	65.7	66	14--101
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	100	39.9	40	11--148
Naphthalene	2	4	ug/Kg	<MDL	100	49.9	50	17--94
Nitrobenzene	4	8	ug/Kg	<MDL	100	48	48	10--112
Pentachlorophenol	10	20	ug/Kg	<MDL	100	61.3	61	38--124
Phenanthrene	2	4	ug/Kg	<MDL	100	68.3	68	57--104
Phenol	4	8	ug/Kg	<MDL	100	64.6	65	10--107
Pyrene	2	4	ug/Kg	<MDL	100	85.3	85	48--132

# King County Environmental Laboratory Analytical QC Report

MSD:WG104189-4 MS:WG104189-3 L48633-1 Matrix: FRSHWTRSED Listtype: ORBNALLFULL Method: SW846 3550B\*SW846 8270D Project: 421240C  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	100	47.3	47		10--115	100	53.4	53		12		35
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	49.7	50		10--105	100	55.9	56		11		35
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	100	66.6	67		16--162	100	74.5	74		10		35
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	41.2	41		10--103	100	55.4	55		29		35
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	43.2	43		10--104	100	55.2	55		24		35
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	100	87.7	88		23--166	100	94.3	94		7		35
2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	100	60.3	60		26--153	100	73.8	74		21		35
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	100	34.6	35		24--142	100	43.6	44		23		35
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	100	14.2	14		10--150	100	30.2	30		73	*	35
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	100	79.7	80		27--166	100	76.3	76		5		35
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	100	85.5	85		10--183	100	93.1	93		9		35
2-Chloronaphthalene	4	8	ug/Kg	<MDL	100	35.1	35		26--111	100	40.3	40		13		35
2-Chlorophenol	4	8	ug/Kg	<MDL	100	57.3	57		10--112	100	69	69		19		35
2-Methylnaphthalene	2	4	ug/Kg	<MDL	100	44.3	44		22--112	100	44.6	45		2		35
2-Methylphenol	2	4	ug/Kg	<MDL	100	35.4	35		10--142	100	44.1	44		23		35
2-Nitrophenol	10	20	ug/Kg	<MDL	100	56.2	56		20--107	100	61.3	61		9		35
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	84.2	84		30--146	100	90.9	91		8		35
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	92.5	93		25--139	100	97.1	97		4		35
4-Methylphenol	4	8	ug/Kg	<MDL	100	29.2	29		10--163	100	36.4	36		22		35
Acenaphthene	2	4	ug/Kg	<MDL	100	60.5	61		25--130	100	67.2	67		9		35
Acenaphthylene	2	4	ug/Kg	<MDL	100	62.2	62		27--132	100	68.2	68		9		35
Aniline	40	80	ug/Kg	<MDL	100	<MDL	0 *		10--67	100	<MDL	0 *				35
Anthracene	2	4	ug/Kg	<MDL	100	76.1	76		10--181	100	81	81		6		35
Benzo(a)anthracene	2	4	ug/Kg	<MDL	100	95.3	95		32--168	100	103	103		8		35
Benzo(a)pyrene	2	4	ug/Kg	<MDL	100	87.6	88		10--200	100	97.6	98		11		35
Benzo(b)fluoranthene	2	4	ug/Kg	<MDL	100	86	86		10--199	100	97.1	97		12		35
Benzo(g,h,i)perylene	2	4	ug/Kg	<MDL	100	76	76		10--173	100	87.6	88		15		35
Benzo(k)fluoranthene	2	4	ug/Kg	<MDL	100	93.4	93		10--192	100	109	109		16		35
Benzoic Acid	10	20	ug/Kg	90.8	100	149	58		10--158	100	157	66		13		35
Benzyl Alcohol	2	4	ug/Kg	<MDL	100	46.9	47		10--138	100	54.4	54		14		35
Benzyl Butyl Phthalate	4	8	ug/Kg	<MDL	100	116	116		41--145	100	128	128		10		35
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	100	45.2	45		23--103	100	41.1	41		9		35
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	100	44.5	45		10--80	100	49.3	49		9		35
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	100	55.9	56		10--142	100	62.8	63		12		35
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	34.5	100	122	87		10--189	100	141	106		20		35
Caffeine	4	8	ug/Kg	<MDL	100	71.3	71		17--195	100	78.3	78		9		35
Carbazole	2	4	ug/Kg	<MDL	100	66.6	67		16--200	100	73.9	74		10		35
Chrysene	2	4	ug/Kg	<MDL	100	78.6	79		14--184	100	84.3	84		6		35
Coprostanol	40	80	ug/Kg	<MDL	1000	592	59		10--183	1000	654	65		10		35
Di-N-Butyl Phthalate	4	8	ug/Kg	5.5	100	111	106		10--194	100	123	118		11		35
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	100	127	127		52--151	100	156	156 *		20		35
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL	100	83.9	84		10--166	100	95.5	95		12		35

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Dibenzofuran	2	4	ug/Kg	<MDL	100	68.7	69	21--134	100	75.4	75	8	35
Diethyl Phthalate	4	8	ug/Kg	<MDL	100	109	109	31--150	100	109	109	0	35
Dimethyl Phthalate	4	8	ug/Kg	14.8	100	88.3	73	13--162	100	95.4	81	10	35
Fluoranthene	2	4	ug/Kg	<MDL	100	83	83	12--188	100	84.1	84	1	35
Fluorene	2	4	ug/Kg	<MDL	100	86.4	86	22--147	100	89.1	89	3	35
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	100	74.7	75	18--151	100	79.9	80	6	35
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	100	45.7	46	10--97	100	52.2	52	12	35
Hexachloroethane	1	2	ug/Kg	<MDL	100	42.9	43	10--89	100	48.9	49	13	35
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	<MDL	100	87.2	87	10--177	100	97.5	98	12	35
Isophorone	10	20	ug/Kg	<MDL	100	53.6	54	16--130	100	45.7	46	16	35
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	100	49.4	49	10--176	100	46.1	46	6	35
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	100	57.1	57	10--119	100	91	91	46	35
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	100	66	66	10--169	100	71.8	72	9	35
Naphthalene	2	4	ug/Kg	<MDL	100	48.9	49	12--97	100	50.8	51	4	35
Nitrobenzene	4	8	ug/Kg	<MDL	100	47.9	48	10--105	100	52.4	52	8	35
Pentachlorophenol	10	20	ug/Kg	<MDL	100	75.2	75	17--170	100	86.8	87	15	35
Phenanthrene	2	4	ug/Kg	<MDL	100	81.2	81	10--200	100	81.5	82	1	35
Phenol	4	8	ug/Kg	<MDL	100	54.3	54	10--127	100	63.1	63	15	35
Pyrene	2	4	ug/Kg	2	100	115	113	20--174	100	113	111	2	35

# King County Environmental Laboratory Analytical QC Report

SRM:WG104189-5 Matrix: FRSHWTRSED Listtype: ORBNALLFULL Method: SW846 3550B\*SW846 8270D Project: 421240C  
(Std Reference Material)

Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Lab Qual Limit
Anthracene	270	533	ug/Kg	1750	794	45	28--98
Benzo(a)anthracene	270	533	ug/Kg	4660	4670	100	66--124
Benzo(a)pyrene	270	533	ug/Kg	4240	3380	80	60--116
Benzo(b)fluoranthene	270	533	ug/Kg	3820	3300	86	52--190
Benzo(g,h,i)perylene	270	533	ug/Kg	2800	2120	76	15--121
Benzo(k)fluoranthene	270	533	ug/Kg	2270	2380	105	60--146
Chrysene	270	533	ug/Kg	4800	4940	103	77--136
Dibenzo(a,h)anthracene	270	533	ug/Kg	419	500	119	10--200
Fluoranthene	270	533	ug/Kg	8800	7790	89	45--126
Indeno(1,2,3-Cd)Pyrene	270	533	ug/Kg	2740	2160	79	33--121
Naphthalene	270	533	ug/Kg	1630	440	27	10--29
Phenanthrene	270	533	ug/Kg	5200	4480	86	51--106
Pyrene	270	533	ug/Kg	9570	9590	100	36--135

LD:WG104189-6 L48629-8 Matrix: FRSHWTRSED Listtype: ORBNALLFULL Method: SW846 3550B\*SW846 8270D Project: 421240C  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD^	Lab Qual Limit
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	<MDL		35
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	<MDL		35
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	<MDL		35
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	<MDL		35
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	<MDL		35
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	<MDL		35
2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	<MDL		35
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	<MDL		35
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	<MDL		35
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	<MDL		35
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	<MDL		35
2-Chloronaphthalene	4	8	ug/Kg	<MDL	<MDL		35
2-Chlorophenol	4	8	ug/Kg	<MDL	<MDL		35
2-Methylnaphthalene	2	4	ug/Kg	<MDL	<MDL		35
2-Methylphenol	2	4	ug/Kg	<MDL	<MDL		35
2-Nitrophenol	10	20	ug/Kg	<MDL	<MDL		35
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	<MDL		35
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	<MDL		35
4-Methylphenol	4	8	ug/Kg	<MDL	<MDL		35
Acenaphthene	2	4	ug/Kg	4.61	6.06	27	35
Acenaphthylene	2	4	ug/Kg	<MDL	<MDL		35
Aniline	40	80	ug/Kg	<MDL	<MDL		35
Anthracene	2	4	ug/Kg	3.1	3.4		35
Benzo(a)anthracene	2	4	ug/Kg	6.93	6.74	3	35

# King County Environmental Laboratory Analytical QC Report

Benzo(a)pyrene	2	4	ug/Kg	5.23	6.03	14	35
Benzo(b)fluoranthene	2	4	ug/Kg	8.04	7.25	10	35
Benzo(g,h,i)perylene	2	4	ug/Kg	3	3.8		35
Benzo(k)fluoranthene	2	4	ug/Kg	7.63	7.36	4	35
Benzoic Acid	10	20	ug/Kg	121	133	9	35
Benzyl Alcohol	2	4	ug/Kg	<MDL	<MDL		35
Benzyl Butyl Phthalate	4	8	ug/Kg	23.5	23.8	1	35
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	<MDL		35
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	<MDL		35
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	<MDL		35
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	32.2	33.1	3	35
Caffeine	4	8	ug/Kg	<MDL	<MDL		35
Carbazole	2	4	ug/Kg	<MDL	<MDL		35
Chrysene	2	4	ug/Kg	12.5	8.32	40	* 35
Coprostanol	40	80	ug/Kg	<MDL	<MDL		35
Di-N-Butyl Phthalate	4	8	ug/Kg	6.1	5.2		35
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	<MDL		35
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL	<MDL		35
Dibenzofuran	2	4	ug/Kg	3.8	4.33	13	35
Diethyl Phthalate	4	8	ug/Kg	<MDL	4.1		35
Dimethyl Phthalate	4	8	ug/Kg	<MDL	<MDL		35
Fluoranthene	2	4	ug/Kg	13.5	15	11	35
Fluorene	2	4	ug/Kg	7.75	8.37	8	35
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	<MDL		35
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	<MDL		35
Hexachloroethane	1	2	ug/Kg	<MDL	<MDL		35
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	2.8	3.9		35
Isophorone	10	20	ug/Kg	<MDL	<MDL		35
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	<MDL		35
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	<MDL		35
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	<MDL		35
Naphthalene	2	4	ug/Kg	<MDL	2.2		35
Nitrobenzene	4	8	ug/Kg	<MDL	<MDL		35
Pentachlorophenol	10	20	ug/Kg	<MDL	<MDL		35
Phenanthrene	2	4	ug/Kg	16.5	21.6	27	35
Phenol	4	8	ug/Kg	<MDL	<MDL		35
Pyrene	2	4	ug/Kg	15.7	18.4	16	35

# King County Environmental Laboratory Analytical QC Report

Surrogate: (Lab Limits)	2,4,6- Tribromo phenol 29--112	2-Fluoro biphenyl 31--101	2-Fluoro phenol 10--112	d14-Ter phenyl 51--130	d4-1,2- Dichloro benzene 24--91	d4-2- Chloro phenol 11--105	d5-Nitro benzene 28--94	d5-Phenol 10--106
L48629-1	104	38	49	102	42	59	53	61
L48629-2	103	44	50	87	48	68	66	64
L48629-3	84	43	58	81	42	67	58	70
L48629-4	83	42	51	91	44	67	66	61
L48629-5	82	39	54	86	45	67	61	65
L48629-6	69	46	63	88	50	66	69	52
L48629-7	71	42	60	90	51	65	77	51
L48629-8	71	38	46	87	40	50	55	38
L48629-9	70	46	60	87	58	69	75	47
L48633-1	53	31	37	90	38	44	51	31
L48633-2	62	57	109	114	50	69	71	57
L48633-3	64	54	64	85	50	66	78	42
L48633-4	61	45	46	91	43	58	61	47
L48633-5	59	52	63	93	46	59	71	40
L48633-6	51	37	44	84	44	52	65	37
L48633-7	49	48	47	85	45	51	65	34
L48633-8	49	51	47	99	42	55	66	39
L48633-9	58	50	58	88	50	57	67	35
WG104189-1	40	38	45	70	50	51	51	44
WG104189-2	62	42	55	78	59	60	47	62
WG104189-3	94	34	45	88	51	54	49	51
WG104189-4	100	37	56	95	57	62	57	59
WG104189-5	80	79	79	112	86	100	98 *	108 *
WG104189-6	106	37	49	89	40	60	54	58

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104190 (bs#325 edc) Run ID: R140543

MB:WG104190-1 Matrix: OTHR SOLID Listtype: OREDC Method: SW846 3550B\*SW846 8270D Project: 421240C  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Bis(2-ethylhexyl)adipate	10	20	ug/Kg	<MDL	
Bisphenol A	10	20	ug/Kg	<MDL	
Total 4-Nonylphenol	20	40	ug/Kg	<MDL	

SB:WG104190-2 MB:WG104190-1 Matrix: OTHR SOLID Listtype: OREDC Method: SW846 3550B\*SW846 8270D Project: 421240C  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Bis(2-ethylhexyl)adipate	10	20	ug/Kg	<MDL	200	152	76		25--150
Bisphenol A	10	20	ug/Kg	<MDL	100	38.6	39		25--150
Total 4-Nonylphenol	20	40	ug/Kg	<MDL	100	68.6	69		25--150

MSD:WG104190-4 MS:WG104190-3 L48633-1 Matrix: FRSHWTRSED Listtype: OREDC Method: SW846 3550B\*SW846 8270D Project: 421240C  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Bis(2-ethylhexyl)adipate	10	20	ug/Kg	17	200	169	76		25--150	200	193	88		15		35
Bisphenol A	10	20	ug/Kg	<MDL	100	38.4	38		25--150	100	38.7	39		3		35
Total 4-Nonylphenol	20	40	ug/Kg	<MDL	100	95.2	95		25--150	100	128	128		30		35

LD:WG104190-6 L48629-8 Matrix: FRSHWTRSED Listtype: OREDC Method: SW846 3550B\*SW846 8270D Project: 421240C  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD^	Lab Qual	Lab Limit
Bis(2-ethylhexyl)adipate	10	20	ug/Kg	<MDL	11			35
Bisphenol A	10	20	ug/Kg	<MDL	<MDL			35
Total 4-Nonylphenol	20	40	ug/Kg	<MDL	<MDL			35

## King County Environmental Laboratory Analytical QC Report

Surrogate: (Lab Limits)	'LPHENOL 25--150
L48629-1	115
L48629-2	119
L48629-3	142
L48629-4	155 *
L48629-5	161 *
L48629-6	137
L48629-7	124
L48629-8	95
L48629-9	97
L48633-1	66
L48633-2	134
L48633-3	109
L48633-4	111
L48633-5	103
L48633-6	105
L48633-7	91
L48633-8	82
L48633-9	119
WG104190-1	42
WG104190-2	79
WG104190-3	101
WG104190-4	126
WG104190-6	125

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104595 (EDCS#7 EDC-LVI) Run ID: R138304

MB:WG104595-1 Matrix: OTHR SOLID Listtype: OREDC-LVI Method: TERNS (2002) Project: 421240C  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Estradiol	0.05	0.504	ug/Kg	<MDL	
Estrone	0.03	0.302	ug/Kg	<MDL	
Ethynyl estradiol	0.05	0.504	ug/Kg	<MDL	

SB:WG104595-2 MB:WG104595-1 Matrix: OTHR SOLID Listtype: OREDC-LVI Method: TERNS (2002) Project: 421240C  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Estradiol	0.05	0.504	ug/Kg	<MDL	2.02	2.1	104		50--150
Estrone	0.03	0.302	ug/Kg	<MDL	2.02	2.41	120		50--150
Ethynyl estradiol	0.05	0.504	ug/Kg	<MDL	2.02	2	99		50--150

MSD:WG104595-4 MS:WG104595-3 L48633-1 Matrix: FRSHWTRSED Listtype: OREDC-LVI Method: TERNS (2002) Project: 421240C  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Estradiol	0.05	0.504	ug/Kg	<MDL	2.02	2.11	105		50--150	2.02	2.14	106		1		35
Estrone	0.03	0.302	ug/Kg	<MDL	2.02	2.34	116		50--150	2.02	2.37	118		2		35
Ethynyl estradiol	0.05	0.504	ug/Kg	<MDL	2.02	1.99	99		50--150	2.02	2.02	100		1		35

LD:WG104595-5 L48629-1 Matrix: FRSHWTRSED Listtype: OREDC-LVI Method: TERNS (2002) Project: 421240C  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD^	Lab Qual	Lab Limit
Estradiol	0.05	0.504	ug/Kg	<MDL	<MDL			35
Estrone	0.03	0.302	ug/Kg	<MDL	0.038			35
Ethynyl estradiol	0.05	0.504	ug/Kg	<MDL	<MDL			35

## King County Environmental Laboratory Analytical QC Report

Surrogate: (Lab Limits)	estradiol-d4 30--200	estrone-d4 30--200	estradiol-d4 30--200
L48629-1	95	99	101
L48629-2	88	98	94
L48629-3	119	121	125
L48629-4	131	125	133
L48629-5	131	135	139
L48629-6	106	105	121
L48629-7	97	104	103
L48629-8	83	96	92
L48629-9	99	110	110
L48633-1	113	105	117
L48633-2	163	144	131
L48633-3	114	121	145
L48633-4	118	113	125
L48633-5	103	105	115
L48633-6	96	97	92
L48633-7	93	94	96
L48633-8	45	55	48
L48633-9	104	110	111
WG104595-1	74	70	74
WG104595-2	81	75	82
WG104595-3	96	91	104
WG104595-4	101	96	107
WG104595-5	84	90	87

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104212 (pplls#82 pbde) Run ID: R140324

MB:WG104212-1 Matrix: OTHR SOLID Listtype: ORPBDE Method: SW846 3550B\*EPA 1614 Project: 421240C  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
DecaBDE-209	0.033	0.0667	ug/Kg	<MDL	
HeptaBDE-183	0.0067	0.0133	ug/Kg	<MDL	
HeptaBDE-190	0.0067	0.0133	ug/Kg	<MDL	
HexaBDE-138	0.0067	0.0133	ug/Kg	<MDL	
HexaBDE-153	0.0067	0.0133	ug/Kg	<MDL	
HexaBDE-154	0.0067	0.0133	ug/Kg	<MDL	
PentaBDE-100	0.0067	0.0133	ug/Kg	<MDL	
PentaBDE-85	0.0067	0.0133	ug/Kg	<MDL	
PentaBDE-99	0.0067	0.0133	ug/Kg	0.007	B
TetraBDE-47	0.0067	0.0133	ug/Kg	0.0089	B
TetraBDE-66	0.0067	0.0133	ug/Kg	<MDL	
TetraBDE-71	0.0067	0.0133	ug/Kg	<MDL	
TriBDE-17	0.0067	0.0133	ug/Kg	<MDL	
TriBDE-28	0.0067	0.0133	ug/Kg	<MDL	

SB:WG104212-2 MB:WG104212-1 Matrix: OTHR SOLID Listtype: ORPBDE Method: SW846 3550B\*EPA 1614 Project: 421240C  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
DecaBDE-209	0.067	0.133	ug/Kg	<MDL	2.08	0.759	36	*	50--150
HeptaBDE-183	0.013	0.0267	ug/Kg	<MDL	0.417	0.313	75		50--150
HeptaBDE-190	0.013	0.0267	ug/Kg	<MDL	0.417	0.3	72		50--150
HexaBDE-138	0.013	0.0267	ug/Kg	<MDL	0.417	0.329	79		50--150
HexaBDE-153	0.013	0.0267	ug/Kg	<MDL	0.417	0.313	75		50--150
HexaBDE-154	0.013	0.0267	ug/Kg	<MDL	0.417	0.288	69		50--150
PentaBDE-100	0.013	0.0267	ug/Kg	<MDL	0.417	0.291	70		50--150
PentaBDE-85	0.013	0.0267	ug/Kg	<MDL	0.417	0.319	77		50--150
PentaBDE-99	0.013	0.0267	ug/Kg	0.007	0.417	0.331	78		50--150
TetraBDE-47	0.013	0.0267	ug/Kg	0.0089	0.417	0.355	83		50--150
TetraBDE-66	0.013	0.0267	ug/Kg	<MDL	0.417	0.404	97		50--150
TetraBDE-71	0.013	0.0267	ug/Kg	<MDL	0.417	0.323	78		50--150
TriBDE-17	0.013	0.0267	ug/Kg	<MDL	0.417	0.34	82		50--150
TriBDE-28	0.013	0.0267	ug/Kg	<MDL	0.417	0.319	76		50--150

# King County Environmental Laboratory Analytical QC Report

MSD:WG104212-4 MS:WG104212-3 L48633-3 Matrix: FRSHWTRSED Listtype: ORPBDE Method: SW846 3550B\*EPA 1614 Project: 421240C  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
DecaBDE-209	0.067	0.133	ug/Kg	0.277	2.08	1.19	44	*	50--150	2.08	2.25	95		73	*	35
HeptaBDE-183	0.013	0.0267	ug/Kg	<MDL	0.417	0.303	73		50--150	0.417	0.293	70		4		35
HeptaBDE-190	0.013	0.0267	ug/Kg	<MDL	0.417	0.278	67		50--150	0.417	0.264	63		6		35
HexaBDE-138	0.013	0.0267	ug/Kg	<MDL	0.417	0.333	80		50--150	0.417	0.334	80		0		35
HexaBDE-153	0.013	0.0267	ug/Kg	0.011	0.417	0.332	77		50--150	0.417	0.324	75		3		35
HexaBDE-154	0.013	0.0267	ug/Kg	0.0087	0.417	0.293	68		50--150	0.417	0.292	68		0		35
PentaBDE-100	0.013	0.0267	ug/Kg	0.0091	0.417	0.287	67		50--150	0.417	0.296	69		3		35
PentaBDE-85	0.013	0.0267	ug/Kg	<MDL	0.417	0.315	76		50--150	0.417	0.321	77		1		35
PentaBDE-99	0.013	0.0267	ug/Kg	0.0409	0.417	0.379	81		50--150	0.417	0.37	79		3		35
TetraBDE-47	0.013	0.0267	ug/Kg	0.0636	0.417	0.404	82		50--150	0.417	0.412	84		2		35
TetraBDE-66	0.013	0.0267	ug/Kg	<MDL	0.417	0.397	95		50--150	0.417	0.408	98		3		35
TetraBDE-71	0.013	0.0267	ug/Kg	<MDL	0.417	0.317	76		50--150	0.417	0.322	77		1		35
TriBDE-17	0.013	0.0267	ug/Kg	<MDL	0.417	0.319	77		50--150	0.417	0.311	75		3		35
TriBDE-28	0.013	0.0267	ug/Kg	<MDL	0.417	0.319	77		50--150	0.417	0.324	78		1		35

LCS:WG104212-5 Matrix: OTHR SOLID Listtype: ORPBDE Method: SW846 3550B\*EPA 1614 Project: NONE  
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Lab Qual Limit
DecaBDE-209	4	8	ug/Kg	2460	5100	207	* 80--120
HeptaBDE-183	0.8	1.6	ug/Kg	42.1	41.4	98	80--120
HexaBDE-138	0.8	1.6	ug/Kg	14.9	13.5	91	80--120
HexaBDE-153	0.8	1.6	ug/Kg	117	101	87	80--120
HexaBDE-154	0.8	1.6	ug/Kg	81.7	74.9	92	80--120
PentaBDE-100	0.8	1.6	ug/Kg	142	121	85	80--120
PentaBDE-85	0.8	1.6	ug/Kg	42.9	51	119	80--120
PentaBDE-99	0.8	1.6	ug/Kg	873	843	97	80--120
TetraBDE-47	0.8	1.6	ug/Kg	487	507	104	80--120
TriBDE-17	0.8	1.6	ug/Kg	11.3	16.4	145	* 80--120
TriBDE-28	0.8	1.6	ug/Kg	45.9	46.9	102	80--120

# King County Environmental Laboratory Analytical QC Report

LD:WG104212-6 L48629-8 Matrix: FRSHWTRSED Listtype: ORPBDE Method: SW846 3550B\*EPA 1614 Project: 421240C  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP		RPD^	Lab	
				Value	LD Value		Qual	Limit
DecaBDE-209	0.067	0.133	ug/Kg	0.127	0.269	72	*	35
HeptaBDE-183	0.013	0.0267	ug/Kg	<MDL	<MDL			35
HeptaBDE-190	0.013	0.0267	ug/Kg	<MDL	<MDL			35
HexaBDE-138	0.013	0.0267	ug/Kg	0.012	0.019			35
HexaBDE-153	0.013	0.0267	ug/Kg	0.0579	0.0636	9		35
HexaBDE-154	0.013	0.0267	ug/Kg	0.012	<MDL			35
PentaBDE-100	0.013	0.0267	ug/Kg	0.0099	0.014			35
PentaBDE-85	0.013	0.0267	ug/Kg	<MDL	<MDL			35
PentaBDE-99	0.013	0.0267	ug/Kg	0.034	0.0455	29		35
TetraBDE-47	0.013	0.0267	ug/Kg	0.048	0.0671	33		35
TetraBDE-66	0.013	0.0267	ug/Kg	<MDL	<MDL			35
TetraBDE-71	0.013	0.0267	ug/Kg	<MDL	<MDL			35
TriBDE-17	0.013	0.0267	ug/Kg	<MDL	<MDL			35
TriBDE-28	0.013	0.0267	ug/Kg	<MDL	<MDL			35

## King County Environmental Laboratory Analytical QC Report

<b>Surrogate: (Lab Limits)</b>	<b>Decachloro biphenyl 12--158</b>
L48629-1	90
L48629-2	82
L48629-3	90
L48629-4	83
L48629-5	87
L48629-6	89
L48629-7	81
L48629-8	86
L48629-9	87
L48633-1	82
L48633-2	95
L48633-3	82
L48633-4	96
L48633-5	90
L48633-6	87
L48633-7	92
L48633-8	94
L48633-9	83
WG104212-1	90
WG104212-2	87
WG104212-3	80
WG104212-4	84
WG104212-5	95
WG104212-6	89

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104211 (pps#422 pcbll) Run ID: R138964

MB:WG104211-1 Matrix: OTHR SOLID Listtype: ORPCBLL Method: SW846 3550B\*SW846 8082A Project: NONE  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Aroclor 1016	0.83	1.67	ug/Kg	<MDL	
Aroclor 1221	1.7	3.33	ug/Kg	<MDL	
Aroclor 1232	1.7	3.33	ug/Kg	<MDL	
Aroclor 1242	0.83	1.67	ug/Kg	<MDL	
Aroclor 1248	0.83	1.67	ug/Kg	<MDL	
Aroclor 1254	0.83	1.67	ug/Kg	<MDL	
Aroclor 1260	0.83	1.67	ug/Kg	<MDL	
Total Aroclors	0.83	1.67	ug/Kg	<MDL	

SB:WG104211-2 MB:WG104211-1 Matrix: OTHR SOLID Listtype: ORPCBLL Method: SW846 3550B\*SW846 8082A Project: NONE  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Aroclor 1016	0.83	1.67	ug/Kg	<MDL	25	17.5	70		39--121
Aroclor 1260	0.83	1.67	ug/Kg	<MDL	25	15.5	62		53--140

MSD:WG104211-4 MS:WG104211-3 L48633-1 Matrix: FRSHWTRSED Listtype: ORPCBLL Method: SW846 3550B\*SW846 8082A Project: 421240C  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Aroclor 1016	0.83	1.67	ug/Kg	<MDL	25	15.6	62		32--164	25	15.7	63		2		35
Aroclor 1260	0.83	1.67	ug/Kg	<MDL	25	17.1	68		28--144	25	16.3	65		5		35

SRM:WG104211-5 Matrix: FRSHWTRSED Listtype: ORPCBLL Method: SW846 3550B\*SW846 8082A Project: NONE  
(Std Reference Material)

Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Lab Qual	Lab Limit
Aroclor 1254	2.7	5.33	ug/Kg	112	83.5	75		57--139

# King County Environmental Laboratory Analytical QC Report

LD:WG104211-6 L48633-4 Matrix: FRSHWTRSED Listtype: ORPCBLL Method: SW846 3550B\*SW846 8082A Project: 421240C  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD^	Lab Qual	Limit
Aroclor 1016	0.83	1.67	ug/Kg	<MDL	<MDL		35	
Aroclor 1221	1.7	3.33	ug/Kg	<MDL	<MDL		35	
Aroclor 1232	1.7	3.33	ug/Kg	<MDL	<MDL		35	
Aroclor 1242	0.83	1.67	ug/Kg	<MDL	<MDL		35	
Aroclor 1248	0.83	1.67	ug/Kg	<MDL	<MDL		35	
Aroclor 1254	0.83	1.67	ug/Kg	<MDL	<MDL		35	
Aroclor 1260	0.83	1.67	ug/Kg	<MDL	<MDL		35	
Total Aroclors	0.83	1.67	ug/Kg	<MDL	<MDL		35	

Surrogate: (Lab Limits)	2,4,5,6- Tetra chloro m- xylene 10--118	Decachlo ro biphenyl 12--158
L48629-1	55	56
L48629-2	61	66
L48629-3	59	63
L48629-4	61	65
L48629-5	61	61
L48629-6	59	55
L48629-7	54	62
L48629-8	50	63
L48629-9	58	62
L48633-1	54	71
L48633-2	64	47
L48633-3	57	64
L48633-4	60	55
L48633-5	62	60
L48633-6	54	61
L48633-7	60	61
L48633-8	69	45
L48633-9	63	54
WG104211-1	50	77
WG104211-2	43	62
WG104211-3	48	72
WG104211-4	50	67
WG104211-5	64	48
WG104211-6	64	67

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104210 (pplls#82 pestll) Run ID: R138205

MB:WG104210-1 Matrix: OTHR SOLID Listtype: ORPESTLL Method: SW846 3550B\*SW846 8081B Project: NONE  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	
Aldrin	0.67	1.33	ug/Kg	<MDL	
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	
Alpha-Chlordane	0.33	0.667	ug/Kg	<MDL	
Beta-BHC	0.33	0.667	ug/Kg	<MDL	
Delta-BHC	0.33	0.667	ug/Kg	<MDL	
Dieldrin	0.67	1.33	ug/Kg	<MDL	
Endosulfan I	0.67	1.33	ug/Kg	<MDL	
Endosulfan II	0.67	1.33	ug/Kg	<MDL	
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL	
Endrin	0.67	1.33	ug/Kg	<MDL	
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL	
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL	
Gamma-Chlordane	0.33	0.667	ug/Kg	<MDL	
Heptachlor	0.33	0.667	ug/Kg	<MDL	
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL	
Methoxychlor	3.3	6.67	ug/Kg	<MDL	
Toxaphene	6.7	13.3	ug/Kg	<MDL	

# King County Environmental Laboratory Analytical QC Report

SB:WG104210-2 MB:WG104210-1 Matrix: OTHR SOLID Listtype: ORPESTLL Method: SW846 3550B\*SW846 8081B Project: NONE  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	6.67	4.68	70	*	78--121
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	6.67	4.7	70	*	75--111
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	6.67	4.51	68		57--145
Aldrin	0.67	1.33	ug/Kg	<MDL	6.67	3.33	50		28--113
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	6.67	3.5	53		20--99
Beta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	4.15	62	*	66--102
Delta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	3.75	56	*	63--108
Dieldrin	0.67	1.33	ug/Kg	<MDL	6.67	4.62	69		58--139
Endosulfan I	0.67	1.33	ug/Kg	<MDL	6.67	4.11	62		62--104
Endosulfan II	0.67	1.33	ug/Kg	<MDL	6.67	4.69	70	*	72--109
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL	6.67	4.03	60	*	61--104
Endrin	0.67	1.33	ug/Kg	<MDL	6.67	4.4	66		60--160
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL	6.67	0.87	13		10--77
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL	6.67	3.63	54		27--130
Heptachlor	0.33	0.667	ug/Kg	<MDL	6.67	3.62	54		20--137
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL	6.67	3.98	60		59--107
Methoxychlor	3.3	6.67	ug/Kg	<MDL	6.67	5.2	78		72--131

MSD:WG104210-4 MS:WG104210-3 L48633-1 Matrix: FRSHWTRSED Listtype: ORPESTLL Method: SW846 3550B\*SW846 8081B Project: 421240C  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	6.67	4.6	69		41--157	6.67	3.91	59		16		35
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	6.67	4.81	72		59--125	6.67	3.76	56	*	25		35
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	6.67	4.54	68		50--144	6.67	3.88	58		16		35
Aldrin	0.67	1.33	ug/Kg	<MDL	6.67	3.81	57	*	61--119	6.67	3.28	49	*	15		35
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	6.67	3.92	59		59--111	6.67	3.34	50	*	17		35
Beta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	4.34	65		60--119	6.67	3.61	54	*	18		35
Delta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	3.71	56		54--126	6.67	3.28	49	*	13		35
Dieldrin	0.67	1.33	ug/Kg	<MDL	6.67	4.77	72		60--139	6.67	4.06	61		17		35
Endosulfan I	0.67	1.33	ug/Kg	<MDL	6.67	4.45	67		64--113	6.67	3.71	56	*	18		35
Endosulfan II	0.67	1.33	ug/Kg	<MDL	6.67	4.35	65		36--146	6.67	3.53	53		20		35
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL	6.67	3.61	54		46--113	6.67	2.35	35	*	43	*	35
Endrin	0.67	1.33	ug/Kg	<MDL	6.67	4.6	69		62--166	6.67	3.77	57	*	19		35
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL	6.67	<MDL	0	*	10--66	6.67	<MDL	0	*			35
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL	6.67	3.94	59	*	61--135	6.67	3.5	52	*	13		35
Heptachlor	0.33	0.667	ug/Kg	<MDL	6.67	4.11	62		52--157	6.67	3.63	54		14		35
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL	6.67	4.29	64		61--118	6.67	3.77	56	*	13		35
Methoxychlor	3.3	6.67	ug/Kg	<MDL	6.67	5.2	78		53--129	6.67	4.1	61		24		35

# King County Environmental Laboratory Analytical QC Report

SRM:WG104210-5 Matrix: FRSHWTRSED Listtype: ORPESTLL Method: SW846 3550B\*SW846 8081B Project: NONE  
(Std Reference Material)

Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Qual	Lab Limit
4,4'-DDT	5.3	10.7	ug/Kg	119	138	116		10--200
Alpha-Chlordane	2.7	5.33	ug/Kg	16.5	15.2	92		48--144

LD:WG104210-6 L48629-2 Matrix: FRSHWTRSED Listtype: ORPESTLL Method: SW846 3550B\*SW846 8081B Project: 421240C  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD^	Qual	Lab Limit
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	<MDL			35
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	<MDL			35
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	<MDL			35
Aldrin	0.67	1.33	ug/Kg	<MDL	<MDL			35
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	<MDL			35
Alpha-Chlordane	0.33	0.667	ug/Kg	<MDL	<MDL			35
Beta-BHC	0.33	0.667	ug/Kg	<MDL	<MDL			35
Delta-BHC	0.33	0.667	ug/Kg	<MDL	<MDL			35
Dieldrin	0.67	1.33	ug/Kg	<MDL	<MDL			35
Endosulfan I	0.67	1.33	ug/Kg	<MDL	<MDL			35
Endosulfan II	0.67	1.33	ug/Kg	<MDL	<MDL			35
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL	<MDL			35
Endrin	0.67	1.33	ug/Kg	<MDL	<MDL			35
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL	<MDL			35
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL	<MDL			35
Gamma-Chlordane	0.33	0.667	ug/Kg	<MDL	<MDL			35
Heptachlor	0.33	0.667	ug/Kg	<MDL	<MDL			35
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL	<MDL			35
Methoxychlor	3.3	6.67	ug/Kg	<MDL	<MDL			35
Toxaphene	6.7	13.3	ug/Kg	<MDL	<MDL			35

# King County Environmental Laboratory Analytical QC Report

Surrogate: (Lab Limits)	2,4,5,6- Tetra chloro m- xylene 10--118	Decachlo ro biphenyl 12--158
L48629-1	33	51
L48629-2	43	58
L48629-3	44	63
L48629-4	43	55
L48629-5	41	61
L48629-6	47	63
L48629-7	46	56
L48629-8	36	51
L48629-9	44	62
L48633-1	39	57
L48633-2	34	52
L48633-3	36	49
L48633-4	43	65
L48633-5	40	52
L48633-6	47	58
L48633-7	37	57
L48633-8	46	49
L48633-9	37	51
WG104210-1	47	69
WG104210-2	40	64
WG104210-3	44	57
WG104210-4	38	57
WG104210-5	51	66
WG104210-6	36	50

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG104158 (WTPH-DS#275) Run ID: R140203

MB:WG104158-1 Matrix: OTHR SOLID Listtype: ORWTPH-DX Method: WDOE NWTPH-DX Project: NONE  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Diesel Range (>C12-C24)	25	25	mg/Kg	<MDL	
Lube Oil Range (>C24)	25	25	mg/Kg	<MDL	

SB:WG104158-2 MB:WG104158-1 Matrix: OTHR SOLID Listtype: ORWTPH-DX Method: WDOE NWTPH-DX Project: NONE  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Lube Oil Range (>C24)	25	25	mg/Kg	<MDL	150	146	97		50--150

SB:WG104158-3 MB:WG104158-1 Matrix: OTHR SOLID Listtype: ORWTPH-DX Method: WDOE NWTPH-DX Project: NONE  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Diesel Range (>C12-C24)	25	25	mg/Kg	<MDL	150	143	95		50--150

LD:WG104158-4 L48629-1 Matrix: FRSHWTRSED Listtype: ORWTPH-DX Method: WDOE NWTPH-DX Project: 421240C  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD^	Qual	Lab Limit
Diesel Range (>C12-C24)	25	25	mg/Kg	<MDL	<MDL			35
Lube Oil Range (>C24)	25	25	mg/Kg	<MDL	<MDL			35

LD:WG104158-5 L48633-1 Matrix: FRSHWTRSED Listtype: ORWTPH-DX Method: WDOE NWTPH-DX Project: 421240C  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD^	Qual	Lab Limit
Diesel Range (>C12-C24)	25	25	mg/Kg	37.9	<MDL	200	*	35
Lube Oil Range (>C24)	25	25	mg/Kg	61	<MDL	200	*	35

# King County Environmental Laboratory Analytical QC Report

Surrogate: (Lab Limits)	2-Fluoro biphenyl 50--150	Penta cosane 50--150
L48629-1	100	125
L48629-2	100	136
L48629-3	101	139
L48629-4	98	131
L48629-5	98	126
L48629-6	105	146
L48629-7	106	133
L48629-8	98	130
L48629-9	100	140
L48633-1	104	130
L48633-2	107	209 *
L48633-3	106	137
L48633-4	101	135
L48633-5	105	146
L48633-6	106	137
L48633-7	105	138
L48633-8	100	130
L48633-9	108	171 *
WG104158-1	100	119
WG104158-2	96	117
WG104158-3	118	120
WG104158-4	98	120
WG104158-5	102	123

**KING COUNTY ENVIRONMENTAL LABORATORY  
QUALITY ASSURANCE REVIEW**

for

**2010 Stream Sediment Monitoring Program**

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## INTRODUCTION

This quality assurance (QA) narrative is intended to document the QA review conducted on the chemistry analyses performed for the 2010 Stream Sediment Monitoring program. The QA narrative is organized into the five sections listed below.

- General Comments
- Sample Collection
- Conventional Analyses
- Metal Chemistry
- Organic Chemistry

An overview of the approach used for the QA review is detailed in the *General Comments* section. This review is a comparison of the requirements and specifications in the Sampling and Analysis Plan (SAP) and the actual sample collection and analysis that was performed. Additional information specific to each analysis is included in the appropriate analytical section.

This QA review and narrative (specifically defined as QA1) have been conducted in accordance with guidelines established through the Puget Sound Dredged Disposal Analysis (PSDDA) program, Sediment Management Standards (WAC 173-204-610) and the Sediment Sampling and Analysis Appendix (SAPA), WDOE 2008.

## GENERAL COMMENTS

### **Scope of Samples Submitted**

This QA review is associated with freshwater sediment samples collected July 26 and 27, 2010 as part of the 2010 Stream Sediment Monitoring program. The Stream Sediment Monitoring Sampling and Analysis Plan (SAP), draft version from June 2008, generally defines the criteria used in this review.

All analyses have been conducted by the King County Environmental Laboratory (KCEL). Sediment analytical data are reported with associated data qualifiers and have undergone QA1 review, as summarized in this narrative report.

### **Completeness**

Completeness has been evaluated for this data submission and QA review by considering the following criteria:

- Comparing reported data to the planned project analyses summarized in Table 1.
- Compliance with storage conditions and holding times.
- Frequency of analysis of the complete set of quality control (QC) samples outlined in Table 2.

### **Methods**

Analytical methods are noted in the applicable analytical sections of this QA review.

### **Target Lists**

The reported target lists have been compared to the target analytes listed in *Development of Freshwater Sediment Quality Values for Use in Washington State, Phase II Report* (Ecology, 2003) and may also be compared to *Table 3 - Puget Sound Marine Sediment Cleanup Screening Levels Chemical Criteria* contained in Chapter 173-204 WAC.

In 2010, no samples were tested for Fecal Coliforms.

### **Detection Limits**

As part of the QA1 review, the detection limits reported for each parameter have been reviewed against the detection limit requirements defined in the SAP. Unfortunately, the 2008 draft SAP was not updated to reflect current organics detection limits available at the time the samples were analyzed. When sample results have been reported as less than the Method Detection Limit (<MDL) and the associated detection limits are higher than those defined in the SAP, the particular samples and parameters have been identified and the circumstances explained. These summaries are included with each analytical section of this QA review.

The KC Laboratory reports include both the reporting detection limit (RDL) and the method detection limit (MDL) for each sample and parameter, where applicable. The RDL is defined as *the minimum concentration of a chemical constituent that can be reliably quantified while the MDL is defined as the minimum concentration of a chemical constituent that can be detected*. For some methods the detection limits reported may vary from sample to sample depending on the amount of sample analyzed and any additional dilutions required.

### **Storage Conditions and Holding Times**

Storage conditions and holding times have been evaluated using guidelines defined in the project SAP. Preparation and analysis holding times for each method are summarized in each analytical section.

### **Method Blanks**

Method blank results have been used to evaluate the possible laboratory contamination of samples. Method blank results have been reviewed for the presence of analytes detected at or greater than the MDL. For analytes where the method blank response was at or above the MDL associated sample results may be qualified with a B, B2 or B3 flag, depending on the concentration in the sample compared to the method blank.

### **Standard Reference Materials and Lab Control Samples**

Standard reference material (SRM) and lab control sample (LCS) recoveries have been used to evaluate possible low or high analytical bias on a batch-specific basis. LCS and SRM analysis is included with selected organic, metals and conventional parameters (see Table 2). Sample results may be qualified if the LCS or SRM recoveries indicate a potential bias in the associated batch of samples.

### **Matrix Spikes**

Matrix spike recoveries have been used to evaluate possible low or high analytical bias on a matrix and batch-specific basis. Matrix spikes are analyzed with metals, organics and selected conventional parameters (see Table 2). All associated sample results may be qualified if the MS recoveries indicate a potential bias with all samples in the batch but it is more typical that only the sample used as the spike will be qualified.

For Metals only, matrix spike recovery results are used to qualify sample data only when the sample levels in the spiked sample are less than 4 times the spiked concentration. High sample levels relative to the spiked concentration can compromise the measurement of accurate spike recoveries.

### **Laboratory Replicate Samples**

Replicate analysis (laboratory duplicates or triplicates) is used as an indicator of method precision and is used to qualify data on an analyte and batch-specific basis. Not all replicate data are used, however, as an indicator for data qualification. Only sets of replicate results which include at least one result greater than the RDL are considered for data qualification. These guidelines have been used to account for the fact that precision obtained near the detection limit is not representative of precision obtained throughout the entire analytical range. The precision of lab replicates is used to qualify data only when it is clear that the excessive variability has influenced the associated sample results. Duplicate matrix spikes are also used for selected methods where analyte levels are not routinely above the RDL. The precision of duplicate matrix spikes is used to qualify data only when it is clear that the variability may have influenced the sample result.

### **Surrogates**

Surrogates are only analyzed for organic parameters. Surrogate recoveries have been used to evaluate possible low or high analytical bias on a sample-specific basis. Individual sample results are flagged only if unacceptable recoveries indicate the sample results are biased.

### **Data Qualifiers**

The data qualification guidelines described above has been summarized in Table 3. This table conforms to the guidelines in the current SAPA (2008).

### **Units and Significant Figures**

Units and the reporting basis vary, depending on the parameter and are explained in the analytical sections below. Data generally have been reported to three significant figures if above the RDL and two significant figures if equal to or below the RDL.

## SAMPLE COLLECTION

This section describes sampling activities associated with the 18 freshwater sediment samples collected July 26 and 27, 2010. Sampling activities were conducted following general guidance suggested in the Puget Sound Protocols (PSEP, 1996 and 1998), and in the SAP.

### **Sampling Locations and Station Positioning**

Sampling locations (stations) were selected and the prescribed coordinates determined prior to field activities. Stations were selected in order to characterize and evaluate the potential effect(s) of point and non-point sources on freshwater sediment quality in selected WRIA 8 and WRIA 9 stream basins. A number of these stations are part of King County's long-term ongoing monitoring program; other stations were newly created in 2010. The prescribed coordinates for these stations are presented in the following table. All station coordinates are recorded in state plane coordinate system North American Datum 1983 (NAD83).

Lab ID #	Station Name	Station Description	Prescribed Northing (y-plan)	Prescribed Easting (x-plan)
L51247-1	0478	Little Bear Cr.- mouth at bike trail	278818	1312537
L51247-2	A434	Thornton Creek mouth- last footbridge in park	256883	1285033
L51247-3	00631	Issaquah Creek mouth- last footbridge in park	206430	1336885
L51247-4	0432	McAleer Creek, 16750 Shore Drive Sheridan Beach	277057	1284888
L51247-5	0474	North Creek, Under bike trail bridge	278813	1307015
L51247-6	X322	Newaukum Creek, near mouth off 358 <sup>th</sup> SE	105523	1334258
L51247-7	A320	Big Soos Creek, USGS gauge station 12112600, 0.25 mile upstream of hatchery	116821	1309972
L51247-8	0317	Springbrook Creek, bridge at north end of Longacres	173079	1294315
L51247-9	A315	Hill (Mill) Creek, bridge at 68th and S. 261st	137218	1289725
L51247-10	0484	Bear-Evans Creek, upstream of first railroad/trail bridge	246843	1325858
L51298-1	0320	NEWAUKUM Creek//USGS gauging station on N left bank downstream from bridge on 219TH SE	115400	1309035
L51298-2	AA320	BIG SOOS Creek, downstream of Jenkins, East of 154TH AVE SE at SE 296TH ST	125229	1317684
L51298-3	GG320	BIG SOOS Creek, downstream of Kent-Black Diamond Rd.	128035	1317645
L51298-4	Q320	BIG SOOS Creek, at 272 <sup>nd</sup> SE near fire station	133287	1319226
L51298-5	HH320	BIG SOOS Creek at trail bridge, downstream of 256 <sup>th</sup> St.	137405	1315790
L51298-6	P320	BIG SOOS Creek, 256th	140841	1316205
L51298-7	II320	BIG SOOS Creek at trail access 148 <sup>th</sup> /240 <sup>th</sup>	143630	1315845
L51298-8	RR320	BIG SOOS Creek near trail crossing 224 <sup>th</sup> SE	149220	1312470
L51298-9	SS320	BIG SOOS Creek – Gary Grant Park at 208th	154955	1312305
L51298-10	L320	BIG SOOS Creek at Grant Park	155792	1311576

Sediment grab samples were collected by wading into the stream. Core samples were collected within the width and reach of each station such that representative depositional material was obtained. This is consistent with the specifications in the SAP.

**Sample Description Table**

Lab Sample #	Locator	Sample Collection	Sediment Depth (from surface, cm)	Sample Usage
L51247-1	0478	Surface Grabs	5	Chemistry
L51247-2	A434	Surface Grabs	10	Chemistry
L51247-3	00631	Surface Grabs	10	Chemistry
L51247-4	0432	Surface Grabs	5	Chemistry
L51247-5	0474	Surface Grabs	5	Chemistry
L51247-6	X322	Surface Grabs	5	Chemistry
L51247-7	A320	Surface Grabs	5	Chemistry
L51247-8	0317	Surface Grabs	5	Chemistry
L51247-9	A315	Surface Grabs	5	Chemistry
L51247-10	0484	Surface Grabs	5	Chemistry
L51298-1	0320	Surface Grabs	5	Chemistry
L51298-2	AA320	Surface Grabs	5	Chemistry
L51298-3	GG320	Surface Grabs	5	Chemistry
L51298-4	Q320	Surface Grabs	10	Chemistry
L51298-5	HH320	Surface Grabs	10	Chemistry
L51298-6	P320	Surface Grabs	10	Chemistry
L51298-7	II320	Surface Grabs	10	Chemistry
L51298-8	RR320	Surface Grabs	5	Chemistry
L51298-9	SS320	Surface Grabs	5	Chemistry
L51298-10	L320	Surface Grabs	5	Chemistry

#### **Sample Collection**

Sediment was collected at each station using precleaned PVC core tubes or stainless steel spoons. Cored samples were collected from shallow water (<3 ft) by pushing the core tubes into the sediment to a depth of 5 cm. A stainless steel spatula or gloved hand was inserted under the tube mouth to trap the sediment inside as the tube was removed from the stream. Tubes may have been slightly angled to allow drainage of excess water, but fines were not allowed to escape. Sediment in the tube was then transferred to a clean, stainless steel compositing container. Several separate cores may have been collected in order to acquire sufficient sample volume to perform all chemistry analyses. A spoon was used at a number of locations with very thin sediment layers or if the core tubes would not easily penetrate to 5 cm. Sediment was scooped up as efficiently as possible with the spoons and transferred to a stainless steel bucket for compositing.

#### **Sample Handling**

For cored samples, the entire contents of all core tubes collected at a given site were emptied directly into a stainless steel bucket. If excess water was present, it was decanted once the fines had been allowed to settle. A stainless steel spoon or spatula was then used to homogenize the sample by stirring. Rocks or other debris one half-inch or larger in diameter were removed and discarded. For spooned samples, the contents of as many spoons of material as needed were emptied directly into a stainless steel bowl. Excess water if present was decanted once the fines had been allowed to settle. The spoon was then used to homogenize the sample by stirring. Any rocks or other debris one half-inch or larger in diameter were removed and discarded. For AVS, an undisturbed portion of sediment was placed in a sample jar. Aliquots of the homogenized sediment were subsampled into individual, pre-labeled containers for chemistry testing except as noted above. Chemical preservative, if needed, was added. Sample containers were supplied by the King County Environmental Laboratory and were pre-cleaned according to analytical specifications.

#### **Decontamination**

Dedicated sets of core tubes, spoons and other homogenizing/subsampling equipment were dedicated to each station, precluding the need for decontamination in the field.

**Sample Storage and Preservation**

Samples were stored in ice-filled coolers from the time of collection until delivery to the King County Environmental Laboratory. Samples were delivered under chain-of-custody and maintained as such throughout the analytical process. Samples were stored frozen (-18°C) by the laboratory until analysis with the exception of samples for particle size distribution (PSD) analysis and acid volatile sulfide. Sample aliquots for these analyses were stored refrigerated at approximately 4°C. A more complete description of sample handling and storage can be found in each analytical chemistry section of this narrative.

Copies of chain-of-custody forms and field notes are included as an appendix to this QA review narrative.

## CONVENTIONAL ANALYSES

### **Completeness**

Conventional data are reported for all samples and parameters summarized in Table 1. These samples were analyzed in association with the complete set of QC samples outlined in Table 2.

### **Subcontracted Analyses**

All analyses were performed at the King County Environmental Laboratory.

### **Methods**

Acid volatile sulfide analyses were performed in accordance with EPA *Methods for Chemical Analysis of Water and Wastes*, 1991.

Ammonia analysis was performed using the fluorescence method (KEROUEL & AMINOT 1997) following a KCl extraction (Plumb, 1981).

pH analyses were performed in accordance with SW846 9045C.

PSD analysis was performed in accordance with ASTM D422.

TOC analysis was performed in accordance with SM5310-B and EPA 9060.

Ortho-phosphate phosphorus analyses were performed in accordance with SM4500-P-F following an Olsen extraction.

Total solids analyses were performed in accordance with SM2540-G.

### **Detection Limits**

The method detection limits (MDLs) reported for conventional parameters are within the requirements defined in the SAP with the following exceptions.

For ammonia, ortho-phosphate phosphorus and TOC, reported MDLs and RDLs were higher than SAP requirements for most samples. All samples that had higher detection limits had reportable levels of these parameters thus the project goals were not compromised.

For PSD analysis, several samples have MDLs above the SAP values for Clay but no detectable levels. It is not expected that this has compromised the project goals since the other three PSD parameters (sand, gravel and silt) had reportable levels.

### **Reporting Requirements (significant figures, units, basis and qualifiers)**

For analyses performed at the KC Laboratory, data are reported in accordance with laboratory policy at the time the data were generated. Data are reported to three significant figures for results greater than the RDL and two significant figures for results equal to or less than the RDL. For results reported with less than two or three significant figures, significant zeroes are implied. This may not apply to subcontracted data.

In the attached Comprehensive Report, conventional parameters are reported in mg/Kg, dry weight basis, for TOC, ammonia, ortho-phosphate phosphorus and AVS. Particle Size Distribution (PSD) and Total Solids are reported in percent, wet weight basis. For all parameters, the MDL and RDL values for each individual sample are reported in the same units and basis as the sample result. Any result measured at less than the MDL or less than the RDL, a <MDL or <RDL qualifier is added, respectively. Other qualifiers added are based on QC failures and are individually explained in this narrative.

### **Storage Conditions and Holding Times**

Sample storage conditions and holding times have been evaluated using guidelines established in the SAP. The dates and holding time criteria for the actual storage conditions used for conventional analyses are listed in the table below.

Parameter	Lab ID#	Collect Date	Preparation Date	Analysis Date	Holding Time*	Holding Time**
Ammonia	All	July 26-27, 2010	30-Jul-10	13-Aug-10	6 Months at -18°C	14 days at -18°C
Particle Size Distribution	All	July 26-27, 2010	7-Sep thru 7-Oct-10	16 Sep thru 13-Oct-10	6 Months at 4°C	NA
Total Organic Carbon (TOC)	L51247-1 to 10, L51298-1 to 8, 10	July 26-27, 2010	9-Aug-10	15-Sep thru, 16-Sep 10	6 Months at -18°C	6 Months at -18°C
	L51298-9	July 26, 2010	15-Sep-10	16-Sep-10	6 Months at -18°C	6 Months at -18°C
Orthophosphate Phosphorous	All	July 26-27, 2010	11-Oct-10	12-Oct-10	6 Months at -18°C	14 days at -18°C
Total Solids	All	July 26-27, 2010	16-Aug-10	17-Aug-10	6 Months at -18°C	NA
pH	L51298-1 thru -10 and L51247-6, -7	July 26, 2010	27-Jul-10	27-Jul-10	1 day at 4°C	NA
	L51298-1 thru -5, -8, -9, -10	July 27, 2010	28-Jul-10	28-Jul-10		
Acid Volatile Sulfide (AVS)	L51298-1 thru -8	July 26, 2010	3-Aug-10	3-Aug-10	14 days at 4°C	7 days at 4°C
	L51247-7, L51298-9, 10	July 26, 2010	4-Aug-10	4-Aug-10		

\* = Holding time from collection to preparation.

\*\* = Holding time from preparation to analysis.

Sample storage conditions and holding times were met for all samples in this data submission.

#### **Method Blanks**

Method blanks were analyzed in connection with ammonia nitrogen, orthophosphate phosphorus, total solids, total organic carbon and acid volatile sulfide analyses. All method blank results were less than the MDL.

#### **Standard Reference Material and/or Laboratory Control Sample (LCS)**

An SRM was analyzed in connection with TOC and LCS samples were analyzed for Ammonia, nitrogen and Orthophosphate Phosphorous the frequency noted in Table 2. All percent recoveries were within the acceptance limits.

#### **Matrix Spikes**

Matrix spikes (MS) were analyzed in conjunction with ammonia nitrogen, orthophosphate phosphorus, TOC and AVS at the frequency noted in Table 2. All matrix spike percent recoveries were within the acceptance limits listed in the SAP, except for the following:

The AVS matrix spike recovery was outside the control limit of 65 – 135% for spiked sample L51298-3, with a measured recovery of 10%. The spike blank recovery associated with this matrix spike was within the control limit of 80 – 120% recovery. AVS matrix spike recoveries for freshwater sediments are routinely below the lower acceptance limit while spike blank recoveries are acceptable; therefore, the low MS recovery is assumed to be due to matrix interference. All sample results for AVS have been qualified with a JG flag to indicate that a low bias likely exists. The extent of the bias is uncertain.

#### **Laboratory Replicate Samples**

A set of laboratory triplicates was analyzed for each of the conventional parameters at the frequency noted in Table 2. The percent relative standard deviation (%RSD) for each triplicate analyzed using samples from this project was less than or equal to the 20% acceptance limit for all parameters.

#### **Additional QA Issues**

None.

## METALS CHEMISTRY

### **Completeness**

Metals data are reported for all samples listed in Table 1. These samples were analyzed in association with the complete set of QC samples outlined in Table 2.

### **Methods**

SEM extracts were prepared by the Conventional unit of the KCEL using the EPA method for AVS (1991). These extracts were analyzed by EPA methods 245.1 rev 3 (CVAA Mercury) and 200.7 (ICP metals). Total recoverable metals were analyzed in accordance with EPA method 6020A (ICPMS metals) and EPA method 7471B (CVAA Mercury).

### **Target List**

The reported target list includes the following for total recoverable metals: silver, arsenic, cadmium, chromium, copper, nickel, lead, phosphorus, zinc and mercury. The reported target list for SEM includes: silver, arsenic, cadmium, chromium, copper, nickel, lead, zinc and mercury.

### **Detection Limits**

The method detection limits (MDLs) reported for Metals parameters are within the requirements defined in the draft SAP or detectable levels were reported for all samples.

### **Reporting Requirements (significant figures, units, basis and qualifiers)**

For analyses performed at the KCEL, data are reported in accordance with laboratory policy at the time the data were generated. Data are reported to three significant figures for results greater than the RDL and two significant figures for results equal to or less than the RDL. For results reported with less than two or three significant figures, significant zeroes are implied.

In the Comprehensive Report attached, Metals parameters are reported in mg/Kg, dry weight basis, for all elements. The MDL and RDL values for each individual sample are reported in the same units and basis as the sample result. For any result measured at less than the MDL or less than the RDL, a <MDL or <RDL qualifier is added, respectively. Other qualifiers added are based on QC failures and are individually explained in this narrative.

### **Storage Conditions and Holding Times**

Sample storage conditions and holding times have been evaluated using guidelines established during the SAP. The dates and holding time criteria for the actual storage conditions used for metals analyses are listed in the tables below.

#### **Total Metals**

Parameter	Lab ID#	Date Collected	Date Digested	Date Analyzed	Sample Holding Time	Digestate/Extract Holding Time
Total metals by ICPMS <sup>a</sup>	All	26,27-Jul-10	28-Sep-10	29-Sep-10	2 years at -18°C	6 months at 20°C
Total Hg by CVAA	All	26,27-Jul-10	16-Aug-10	17-Aug-10	28 days at -18°C	NA

<sup>a</sup> Total Metals by ICPMS include Ag, As, Cd, Cr, Cu, Ni, P, Pb, Zn

#### **Simultaneously Extractable Metals (SEM)**

Parameter	Lab ID#	Date Collected	Date AVS/SEM Extracted	Date Analyzed	Sample Holding Time	Digestate/Extract Holding Time
SEM by ICP <sup>a</sup>	L51298-1 thru -8	26-Jul-10	3-Aug-10	10-Aug-10	14 days at 4°C	14 days at 20°C
	L51247-7, L51298-9, 10	26-Jul-10	4-Aug-10			
SEM Hg by CVAA	L51298-1 thru -8	26-Jul-10	3-Aug-10	10-Aug-10	14 days at 4°C	14 days at 20°C
	L51247-7, L51298-9, 10	26-Jul-10	4-Aug-10			

<sup>a</sup> SEM by ICP include Ag, As, Cd, Cr, Cu, Ni, Pb, Zn

Sample storage conditions and holding times were met for all samples in this data submission.

**Method Blanks**

All method blanks were less than the MDL except for Total Lead and Total Zinc for ICPMS. The measured concentrations in the samples were higher than 10 times the amounts detected in the method blank so no significant bias is expected.

**Laboratory Control Samples**

For total metals, multiple LCS samples were run in order to cover as many reported elements as possible (no LCS is available for phosphorus). Two LCS' were analyzed in association with total recoverable metals included in this data submission. All LCS recoveries were within the defined QC limits for total metals analyses.

No sediment LCS or Standard Reference Material (SRM) is available for the SEM procedure. Spike blanks were run to evaluate the performance of the ICP and CVAA analyses of the extracts. All spike blank recoveries were within acceptance limits.

**Matrix Spikes**

Matrix spike percent recoveries were within the 75% - 125% QC limits for all total metals and SEM analyses. Note: several of the total metals had background levels higher than 4 times the spike level so no recoveries were calculated.

**Matrix Spike Duplicate Samples**

Matrix spike duplicate (MSD) samples were analyzed for total mercury only. All matrix spike duplicate (MSD) recoveries were within the 75% - 125% QC limit for total mercury analyses. The relative percent differences (RPDs) for the MSD results were less than or equal to the QC limit of 20%.

**Laboratory Replicate Samples**

The relative percent differences (RPDs) for laboratory duplicate (LD) results for all total metals and SEM were less than or equal to the QC limit of 20%.

## ORGANIC CHEMISTRY

### Completeness

Organics data are reported for all samples and parameters summarized in Table 1. These samples were analyzed in association with the complete set of QC samples outlined in Table 2.

### Methods

BNAs and selected EDCs (bis(2-ethylhexyl)adipate, bisphenol A, total 4-nonylphenol) were extracted and analyzed in accordance with EPA methods 3550B and 8270D. The hormonal EDCs were analyzed by the Ternes Method (2002). Polybrominated Diphenyl Ethers (PBDE) were analyzed in accordance with EPA Method 1614 modified with GC/ICPMS detection. PCB and chlorinated pesticides analysis was performed in accordance with EPA methods 8082A and 8081B. WTPH-Dx analysis was conducted according to Ecology method NWTPH-DX.

### Target List

The reported BNA target list includes all compounds specified in *Table 1 - Marine Sediment Quality Standards Chemical Criteria* and *Table 3 - Puget Sound Marine Sediment Cleanup Screening Levels Chemical Criteria* contained in Chapter 173-204 WAC with the exception of benzo(j)fluoranthene. The KC Laboratory has verified that analytical conditions are sufficient to calculate a total benzofluoranthene result using the reported *b* and *k* isomers.

The reported EDC target lists includes bis(2-ethylhexyl)adipate, bisphenol A, total 4-nonylphenol, estrone, estradiol and ethynyl estradiol.

Gamma-Chlordane has been renamed as Trans-Chlordane.

Reported PCB data include Aroclors 1016, 1221, 1232, 1242, 1248, 1254 and 1260.

### Detection Limits, Units and Significant Figures

The detection limits (MDLs) for Organics parameters met those listed in the draft SAP (2008).

The original SAP (2004) defines TOC-normalized MDL requirements for Non-ionizable Organic parameters, based on a nominal dry-weight TOC concentration of 5,000 mg/Kg, or 0.5%. All samples, except L51247-7 and L51298-2, had dry-weight TOC values above 5,000 mg/Kg and thus could be compared to the listed TOC-normalized MDLs. All MDLs for samples with dry-weight TOC values above 5000 mg/Kg for the Non-ionizable Organic parameters were below the associated SMS criteria. This allows comparison of sample results to SMS levels without the problem of detection limits higher than the SMS levels.

### Reporting Requirements (significant figures, units, basis and qualifiers)

For analyses performed at the KC Laboratory, data are reported in accordance with laboratory policy at the time the data were generated. Data are reported to three significant figures for results greater than the RDL and two significant figures for results equal to or less than the RDL. For results reported with less than two or three significant figures, significant zeroes are implied.

In the Comprehensive Report attached, Organics parameters are reported on a dry weight basis. For all parameters, the MDL and RDL values for each individual sample are reported in the same units and basis as the sample result. Any result measured at less than the MDL or less than the RDL, a <MDL or <RDL qualifier is added, respectively. Other qualifiers added are based on QC failures and are individually explained in this narrative.

### Storage Conditions and Holding Times

Sample storage conditions and holding times have been evaluated using guidelines established in the SAP. The dates and holding time criteria for the actual storage conditions used for organics analyses are listed in the table below.

Parameter	Lab ID#	Date Collected	Date Extracted	Date Analyzed	Sample Holding Time	Extract Holding Time
BNAs	All	26,27-Jul-10	23-Sep-2010	15 thru 21-Oct-2010	1 years at -18°C	40 days at 4°C
Hormonal EDCs	All	26,27-Jul-10	29-Sep-2010	18,19-Oct-2010	1 years at -18°C	40 days at 4°C
PBDEs	All	26,27-Jul-10	28-Jul-2010	30-Aug-2010	1 years at -18°C	40 days at 4°C
Pesticides	All	26,27-Jul-10	28-Jul-2010	24, 25-Aug-2010	1 years at -18°C	40 days at 4°C
PCBs	All	26,27-Jul-10	28-Jul-2010	3, 4-Sep-2010	1 years at -18°C	40 days at 4°C
WTPH-Dx	All	26,27-Jul-10	30-Jul-2010	24,25-Aug-2010	14 days at 4°C	40 days at 4°C

Sample storage conditions and holding times were met for all samples in this data submission.

### **Method Blanks**

Method blanks were analyzed for all Organics parameters and all method blank results were less than the MDL, except as noted below:

1. BNAs  
The method blank analyzed with BNAs had results below the MDL except for the following:
  - a) Benzoic Acid had a measured result of 28.9 ug/Kg. All sample results were less than 10 times that amount and were qualified with a B or B3 flag. All flagged data may be biased high.
  - b) Bis(2-ethylhexyl) Phthalate had a measured result of 4.6 ug/Kg. All samples except L51247-1, -2, -4, -8 and -10 had results less than 10 times that amount and were qualified with a B or B2 flag. All flagged data may be biased high. Samples L51247-1, -2, -4, -8 and -10 had results greater than 10 so should not be significantly biased by the contamination detected in the method blank.
  - c) Di-N-Butyl Phthalate had a measured result of 11.2 ug/Kg. All samples had reported results less than 5 times that amount. All samples except L51247-4 and -5 are qualified with a B flag and the results may be biased high. Samples L51247-4 and -5 were <MDL so the reported results were not biased by the contamination detected in the method blank.
2. PBDEs  
The method blank analyzed with the PBDEs had results below the MDL except for the following:
  - a) PentaBDE-99 had a measured result of 0.013 ug/Kg. All samples except L51247-1, -2, -4, -8 and L51298-3 had results less than 10 times that amount and were qualified with a B or B3 flag. All flagged data may be biased high. Samples L51247-1, -2, -4, -8 and L51298-3 had results greater than 10 so should not be significantly biased by the contamination detected in the method blank.
  - b) TetraBDE-47 had a measured result of 0.0198 ug/Kg. All samples except L51247-2, -4, -8 and L51298-3 had results less than 10 times that amount and were qualified with a B or B3 flag. All flagged data may be biased high. Samples L51247-2, -4, -8 and L51298-3 had results greater than 10 so should not be significantly biased by the contamination detected in the method blank.
3. Hormonal EDCs  
The method blank analyzed with the Hormonal EDCs had results below the MDL except for Estrone, which had a measured result of 0.077 ug/Kg. All sample results for Estrone, except L51247-2, are qualified with a B flag and the results may be biased high. Sample L51247-2 was <MDL so the reported result was not biased by the contamination detected in the method blank.

### **Surrogate Recoveries**

Surrogate recovery acceptance limits for sediment samples have been developed based on historical lab performance using the current analytical methods. The exception to this is Method NWTPH-Dx where method-defined surrogate acceptance limits are applied.

#### **1. BNAs**

For BNA sample data, surrogate recoveries may be evaluated separately for the acid and base/neutral fractions. Within each fraction, 2 or more surrogates must be outside the acceptance limits in order to qualify the associated sample data. No BNA sample had more than 1 surrogate outside the acceptance limits for each fraction.

#### **2. PCBs**

Sample data may be qualified when individual surrogate recoveries are outside lab-specific acceptance limits. All surrogate recoveries were within the lab-specific acceptance limits for all samples in this data submission.

#### **3. Chlorinated Pesticides**

Sample data may be qualified when individual surrogate recoveries are outside lab-specific acceptance limits. All surrogate recoveries were within the lab-specific acceptance limits for all samples in this data submission.

#### **4. WTPH-Dx**

All surrogate recoveries were within the method-specific acceptance limits for 2-fluorobiphenyl for all samples in this data submission. Recovery of pentacosane from Samples L51247-2 exceeded the upper control limit. The associated WTPH-Dx sample results were not qualified since the high recovery is likely due to interference from background pentacosane or a similar coeluting compound. This type of interference does not necessarily indicate a positive bias to the WTPH-Dx results.

#### **5. EDC**

Sample data may be qualified when individual surrogate recoveries are outside lab-specific acceptance limits. All surrogate recoveries were within the lab-specific acceptance limits for all samples in this data submission except for sample L51247-2. The recovery for D4-4-Nonyl Phenol was above the 150% upper limit at 205%. The results for the associated sample were <MDL so it is unlikely the data is biased.

#### **6. PBDEs**

Sample data may be qualified when individual surrogate recoveries are outside lab-specific acceptance limits. All surrogate recoveries were within the lab-specific acceptance limits for all samples in this data submission.

### **Standard Reference Material (SRM) and/or Laboratory Control Sample (LCS)**

SRMs are available only for selected parameters for the BNAs, Chlorinated Pesticides and PCBs. Acceptance limits for the certified parameters reported in this data set have been developed using historical lab data. SRM recoveries outside these lab-defined limits indicate the method has not performed as expected and the associated sample data may be qualified.

An LCS is available for 11 of the individual PBDE parameters reported. Acceptance limits are 80% to 120% for each.

#### **1. BNAs**

The sediment SRM analyzed in association with the reported BNA results is 1944, certified by the National Institute of Standards and Technology (NIST). The certified organics parameters in SRM 1944 are only a partial list of all the BNA compounds reported in this analysis. All measured recoveries for this SRM were within acceptance limits, except for Benzo(a)pyrene. The measured recovery for Benzo(a)pyrene was 59% which is just below the lower limit of 60%.

Since the SB, MS and MSD recoveries were all acceptable, along with all calibration QC for Benzo(a)pyrene, it is not expected the slightly low recovery indicates a bias in the sample results.

## 2. Chlorinated Pesticides

The sediment SRM analyzed in association with the reported Chlorinated Pesticides results is 1944, certified by the NIST. SRM 1944 contains certified levels of 4,4'-DDT and alpha-Chlordane. All measured recoveries for this SRM were within acceptance limits.

## 3. PCBs

The sediment SRM analyzed in association with the reported PCB results is HS2, certified by the National Research Council of Canada. SRM HS2 contains Aroclor 1254. The measured recovery for this SRM was within acceptance limits.

## 4. PBDEs

The LCS analyzed with the PBDE samples has certified values for 11 of the 14 parameters analyzed by this method. The recoveries for DecaBDE-209, HexaBDE-138, PentaBDE-99, TetraBDE-47, TriBDE-17, TriBDE-28, were above the 80 to 120% acceptance limits. Shortly after this sample set was analyzed, performance-based acceptance limits were created and are shown on the QC report. All recovery values are within the performance-based limits except DecaBDE-209, which had a recovery of 302%. Since the recovery for DecaBDE-209 was acceptable in the MS/MSD samples, no corrective action was taken.

### **Matrix Spikes and Spike Blanks**

Matrix Spikes (MS) and/or Spike Blanks (SB) have been analyzed for BNAs, EDCs, PBDEs, PCBs, WTPH-Dx and Chlorinated Pesticides. All MS, MSD and SB recoveries were within acceptance limits except for the following:

#### 1. BNAs

- The recovery for Aniline in the MS was 0% compared to the lower acceptance limit of 10%. The Aniline result for the background sample was qualified with a JG flag to indicate a possible low bias.
- The recovery for Benzoic Acid in the MS and SB were 2% and 9%, respectively, compared to the lower acceptance limit of 10%. All Benzoic Acid results for all samples in this set were qualified with a J flag to indicate the results should be used as estimated values.

### **Laboratory Replicate Samples**

A laboratory duplicate sample(s) was analyzed for each Organics parameter. The relative percent differences (RPDs) for laboratory duplicates are compared to the acceptance limits when at least one value is at or above the RDL. All RPD values that met this were less than or equal to the acceptance limit of 35%, except for the following:

#### 1. BNAs

The RPD value for Benzoic Acid and Phenol for Sample L51298-10 were outside the 35% limit at 102% and 200%, respectively. A J flag has been applied to both parameters for Sample L51298-10 to indicate the reported value should be treated as an estimate.

#### 2. PBDEs

The RPD value for HexaBDE-138 for Sample L51298-10 was outside the 35% limit at 41%. A J flag has been applied to HexaBDE-138 for Sample L51298-10 to indicate the reported value should be treated as an estimate.

#### 3. WTPH-Dx

The RPD values for the Lube Oil Range results for Sample L51298-1 were both outside the 35% limit at 200%. Since the Lab Duplicate for Lube Oil Range was just below the MDL value and the sample just above, the actual precision would be considered acceptable. The sample result has therefore not been qualified.

### **Additional Data Quality Issues**

1. BNAs

The measured concentration for Bis(2-EthylHexyl) phthalate was above the instrument calibration range for Sample L51247-8. The analysis could not be repeated before the holding time expired. The result has been qualified with an E flag and should be treated as an estimated value.

2. EDCs

The daily calibration check for Bisphenol A and Bis(2-EthylHexyl) adipate were below the method acceptance limits. Samples L51298-9 and -10 were the only samples effected and results for those 2 samples for Bisphenol A and Bis(2-EthylHexyl) adipate have been qualified with a JG flag to indicate a possible low bias.

**TABLE 1 SEDIMENT SAMPLE INVENTORY**

Sample	Locator	AVS	PSD	Nutrients <sup>1</sup>	Solids, <sup>2</sup> pH	TOC	Total Metals <sup>3</sup>	SEM <sup>4</sup>	BNAs <sup>5</sup>	EDCs <sup>6</sup>	Pest/PCBs/PBDEs	WTPH-Dx
L51247-1	0478		X	X	X	X	X		X	X	X	X
L51247-2	A434		X	X	X	X	X		X	X	X	X
L51247-3	00631		X	X	X	X	X		X	X	X	X
L51247-4	0432		X	X	X	X	X		X	X	X	X
L51247-5	0474		X	X	X	X	X		X	X	X	X
L51247-6	X322		X	X	X	X	X		X	X	X	X
L51247-7	A320	X	X	X	X	X	X	X	X	X	X	X
L51247-8	0317		X	X	X	X	X		X	X	X	X
L51247-9	A315		X	X	X	X	X		X	X	X	X
L51247-10	0484		X	X	X	X	X		X	X	X	X
L51298-1	0320	X	X	X	X	X	X	X	X	X	X	X
L51298-2	AA320	X	X	X	X	X	X	X	X	X	X	X
L51298-3	GG320	X	X	X	X	X	X	X	X	X	X	X
L51298-4	Q320	X	X	X	X	X	X	X	X	X	X	X
L51298-5	HH320	X	X	X	X	X	X	X	X	X	X	X
L51298-6	P320	X	X	X	X	X	X	X	X	X	X	X
L51298-7	II320	X	X	X	X	X	X	X	X	X	X	X
L51298-8	RR320	X	X	X	X	X	X	X	X	X	X	X
L51298-9	SS320	X	X	X	X	X	X	X	X	X	X	X
L51298-10	L320	X	X	X	X	X	X	X	X	X	X	X

1 Nutrients = Ammonia nitrogen,  $\alpha$ -Phosphate, Total phosphorus (analyzed and reported with Metals).

2 Solids = Total Solids.

3 Total Metals = Hg, Ag, As, Cd, Cr, Cu, Pb, Ni, P and Zn.

4 SEM = Ag, As, Cd, Cr, Cu, Hg, Ni, Pb and Zn.

5 BNAs = low-level, including chlorobenzenes.

6 EDCs = bis(2-ethylhexyl)adipate, bisphenol A, total 4-nonylphenol, estrone, estradiol and ethynyl estradiol

**TABLE 2**  
**QC SAMPLE FREQUENCY FOR SEDIMENT MICROBIAL, CHEMICAL AND PHYSICAL PARAMETERS**

<b>Parameter</b>	<b>Method Blank</b>	<b>Duplicate</b>	<b>Triplicate</b>	<b>Matrix Spike</b>	<b>SRM / LCS</b>	<b>Surrogates</b>
Ammonia Nitrogen, o-Phosphate	1 per QC batch	See Triplicate	5% minimum, 1 per QC batch	5% minimum, 1 per QC batch	No	No
pH	No	See Triplicate	5% minimum, 1 per QC batch	No	No	No
PSD	No	See Triplicate	5% minimum, 1 per QC batch	No	No	No
Total Solids	1 per QC batch	See Triplicate	5% minimum, 1 per QC batch	No	No	No
TOC	1 per QC batch	See Triplicate	5% minimum, 1 per QC batch	5% minimum, 1 per QC batch	1 per QC batch	No
AVS	1 per QC batch	See Triplicate	5% minimum, 1 per QC batch	5% minimum, 1 per QC batch	No	No
Metals, SEM Metals	1 per QC batch	5% minimum, 1 per QC batch	No	5% minimum, 1 per QC batch	1 or more LCS per QC batch (total metals only)	No
BNAs / EDCs	1 per QC batch	5% minimum, 1 per QC batch	No	5% minimum, 1 per QC batch	1 per QC batch (BNAs only)	Yes
PCBs/Chlorinated Pesticides	1 per QC batch	5% minimum, 1 per QC batch	No	5% minimum, 1 per QC batch	1 per QC batch	Yes
WTPH-Dx	1 per QC batch	5% minimum, 1 per QC batch	No	No	No	Yes

**TABLE 3 - SUMMARY OF DATA QUALIFIERS**

Qualifier	Definition
<MDL	Applied when a target analyte is not detected or detected at a concentration less than the associated method detection limit (MDL). The MDL is the lowest concentration at which a sample result will be reported.
<RDL	Applied when a target analyte is detected at a concentration greater than or equal to the associated MDL but less than the associated reporting detection limit (RDL). RDL is defined as the lowest concentration at which an analyte can reliably be quantified.
RDL	Applied when a target analyte is detected at a concentration that, in the raw data is equal to the RDL.
TA	Applied to a sample result when additional narrative information is available in the text field. The additional information may help to qualify the sample result but is not necessarily covered by any other qualifier.
B	<p><b>B (including B2 and B3)</b> are applied when the parameter was detected at a concentration at or above the MDL in the associated blank(s) and has met the appropriate rule or condition, as defined by the method or regulatory program.</p> <p>Use: Application of the “B” flags depends on the ratio of the sample to blank result and the particular parameter according to these rules:</p> <ul style="list-style-type: none"> <li>- Add a “B” flag to all parameters if the associated blank is <math>\geq</math> the MDL and the sample result is <math>\geq</math> MDL but <math>\leq 5</math> times the blank.</li> <li>- Add a “B2” flag to common organic lab contaminants (Acetone, 2-Butanone, Methylene Chloride, Bis(2-ethylhexyl) Phthalate, Butyl Benzyl Phthalate and Di-n-butyl Phthalate) if the method blank is <math>\geq</math> the MDL and the sample result is <math>&gt; 5</math> and <math>\leq 10</math> times the blank.</li> <li>- Add a “B3” flag to all other parameters if the associated blank is <math>\geq</math> the MDL and the sample result is <math>&gt; 5</math> and <math>\leq 10</math> times the blank.</li> </ul>
E	Applied to a sample result that was measured at a concentration greater than the calibration range of the method. It is applied when the detected analyte concentration exceeds the upper instrument calibration limit and further dilution is not feasible. The reported value is an estimated analyte concentration.
J	Applied to a sample result that is considered an estimated value.
JG	Applied to a sample result that is considered an estimated value with a low bias. This will typically be applied when QC results indicate the recovery of the analyte is below the expected limits of the method.
JL	Applied to a sample result that is considered an estimated value with a high bias. This will typically be applied when QC results indicate the recovery of the analyte is above the expected limits of the method.

## ORGANIC CHEMISTRY Detection Limit Values

Method = EPA 3550B / 8270C (GC/MS)

LIMS Product = BNALL

ug/Kg wet weight basis

Analyte	MDL	RDL	Analyte	MDL	RDL
1,2,4-Trichlorobenzene	0.27	0.53	Benzo(g,h,i)perylene	2.7	5.3
1,2-Dichlorobenzene	0.27	0.53	Benzoic Acid	13	26.7
1,2-Diphenylhydrazine	2.7	5.3	Benzyl alcohol	5.3	10.7
1,3-Dichlorobenzene	0.27	0.53	Benzyl Butyl Phthalate	5.3	10.7
1,4-Dichlorobenzene	0.27	0.53	Bis(2-Chloroethoxy)Methane	13	26.7
2,4,5-Trichlorophenol	13	26.7	Bis(2-Chloroethyl)Ether	13	26.7
2,4,6-Trichlorophenol	13	26.7	Bis(2-Chloroisopropyl)Ether	13	26.7
2,4-Dichlorophenol	13	26.7	Bis(2-ethylhexyl)Phthalate	5.3	10.7
2,4-Dimethylphenol	2.7	5.3	Caffeine	5.3	10.7
2,4-Dinitrophenol	27	53.3	Carbazole	2.7	5.3
2,4-Dinitrotoluene	27	53.3	Chrysene	2.7	5.3
2,6-Dinitrotoluene	27	53.3	Coprostanol	53	107
2-Chloronaphthalene	5.3	10.7	Dibenzo(a,h)anthracene	2.7	5.3
2-Chlorophenol	5.3	10.7	Dibenzofuran	2.7	5.3
2-Methylnaphthalene	2.7	5.3	Diethyl Phthalate	5.3	10.7
2-Methylphenol	5.3	10.7	Dimethyl Phthalate	5.3	10.7
2-Nitroaniline	27	53.3	Di-N-Butyl Phthalate	5.3	10.7
2-Nitrophenol	27	53.3	Di-N-Octyl Phthalate	5.3	10.7
3,3'-Dichlorobenzidine	27	53.3	Fluoranthene	2.7	5.33
3-Methylphenol	5.3	10.7	Fluorene	2.7	5.33
3-Nitroaniline	27	53.3	Hexachlorobenzene	0.53	1.07
4,6-Dinitro-O-Cresol	27	53.3	Hexachlorobutadiene	1.3	2.7
4-Bromophenyl Phenyl Ether	13	26.7	Hexachlorocyclobutadiene	27	53.3
4-Chloro-3-Methylphenol	13	26.7	Hexachloroethane	13	26.7
4-Chloroaniline	27	53.3	Indeno(1,2,3-cd)Pyrene	2.7	5.3
4-Chlorophenyl Phenyl Ether	13	26.7	Isophorone	5.3	10.7
4-Methylphenol	5.3	10.7	Naphthalene	2.7	5.3
4-Nitroaniline	27	53.3	Nitrobenzene	5.3	10.7
4-Nitrophenol	27	53.3	N-Nitrosodimethylamine	13	26.7
Acenaphthene	2.7	5.33	N-Nitrosodi-N-Propylamine	5.3	10.7
Acenaphthylene	2.7	5.3	N-Nitrosodiphenylamine	5.3	10.7
Aniline	13	26.7	Pentachlorophenol	13	26.7
Anthracene	2.7	5.3	Phenanthrene	2.7	5.3
Benzo(a)anthracene	2.7	5.3	Phenol	5.3	10.7
Benzo(a)pyrene	2.7	5.3	Pyrene	2.7	5.3
Benzo(b)fluoranthene	2.7	5.3	Pyridine	26	53.3
Benzo(k)fluoranthene	2.7	5.3			

Method = EPA 8081A/8082 (GC/ECD)

LIMS Product = PESTLL

ug/Kg wet weight basis

Analyte	MDL	RDL
4,4'-DDD	0.67	1.33
4,4'-DDE	0.67	1.33
4,4'-DDT	0.67	1.33
Aldrin	0.67	1.33
Alpha-BHC	0.33	0.667
Alpha-Chlordane	0.33	0.667
Beta-BHC	0.33	0.667
Delta-BHC	0.33	0.667

Dieldrin	0.67	1.33
Endosulfan I	0.67	1.33
Endosulfan II	0.67	1.33
Endosulfan Sulfate	0.67	1.33
Endrin	0.67	1.33
Endrin Aldehyde	0.67	1.33
Gamma-BHC (Lindane)	0.33	0.667
Gamma-Chlordane	0.33	0.667
Heptachlor	0.33	0.667
Heptachlor Epoxide	0.33	0.667
Methoxychlor	3.3	6.67
Toxaphene	6.7	13.3

**Method = EPA 8081A/8082 (GC/ECD)**

**LIMS Product = PCBLL**

**ug/Kg wet weight basis**

Analyte	MDL	RDL
Aroclor 1016	0.83	1.67
Aroclor 1221	1.7	3.33
Aroclor 1232	1.7	3.33
Aroclor 1242	0.83	1.67
Aroclor 1248	0.83	1.67
Aroclor 1254	0.83	1.67
Aroclor 1260	0.83	1.67

**Method = EPA 3550B / 8270C (GC/MS)**

**LIMS Product = EDC**

**ug/Kg wet weight basis**

Analyte	MDL	RDL
Bis(2-ethylhexyl)adipate	10	20
Bisphenol A	10	20
Total 4-Nonylphenol	20	40

**Method = NWTPH-DX (GC/FID)**

**LIMS Product = WTPH-Dx**

**mg/Kg wet weight basis**

Analyte	MDL	RDL
Diesel range (C13 - C24)	25	25
Lube oil range (>C24)	25	25

## **CHAIN OF CUSTODY FORMS**

SAMPLENUM	P51247-1	P51247-2	P51247-3
Login: P51247	7 SE PCBLL	7 SE PCBLL	7 SE PCBLL
Project: 421240C	7 SE PESTLL	7 SE PESTLL	7 SE PESTLL
	7 SE WTPH-DX	7 SE WTPH-DX	7 SE WTPH-DX
RELINQUISHED BY	JEAN POWER	Date	7/27/2010
RECEIVED BY	WIKI	Time	1632
Sample Number(s)	LS1247	1-5	(All)

SAMPLENUM	P51247-1	P51247-2	P51247-3
QC LINK			
LOCATOR	'0478	A434	'00631
Short Loc. Desc.	LTLE BEAR	T_ST LG-2	ISSMOUTH
Locator Desc	LITTLE BEAR CREEK//522 E, WOODINVILLE WA	THORNTON CREEK//ON NE 93RD ACROSS FROM M	ISSAQUAH CREEK MOUTH
SITE	STREAMS	STREAMS	STREAMS
COMMENTS	Little Bear Creek-mouth JP	Thornton Creek-footbridge JP	Issaquah Creek-mouth
Start Date/Time	27-JUL-10/1135	27-JUL-10/0920	27-JUL-10/1305
End Date/Time	UNDER P.S. OF TRAIL BRIDGE	JUST P.S. OF FOOTBRIDGE	UNDER PEDESTRIAN BRIDGE
Time Span			
Sample Depth			
SAMP INFO			
SED DEPTH	0-5 cm	0-10 cm	0-10 cm
SED TYPE	0-5 3ZP21	23 P 26	23 021
Dept. Matrix Prod	3 SE NH3-KCL BROWN 3 SE ORTHOP-OL SAND 3 SE PH SILT 3 SE PSD W/P 3 SE TOC NAT. ODOR 3 SE TOTS ~20 SPOONS 5 SE FG-MPN DELETED 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE	EXTRA JTP FOR 3 SE NH3-KCL PSD GL 3 SE ORTHOP-OL 3 SE PH BROWN 3 SE PSD SILT 3 SE TOC SAND 3 SE TOTS W/P 5 SE FG-MPN H2S SLIGHT 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS ~8 CORE 6 SE AS-SEM, EXT TUBES 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE	3 SE NH3-KCL BROWN 3 SE ORTHOP-OL SILT 3 SE PH SAND 3 SE PSD & DEBRIS 3 SE TOC NAT ODOR 3 SE TOTS Lamprey's 5 SE FG-MPN 8 SPOONS 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE

SAMPLENUM	P51247-1	P51247-2	P51247-3
	7 SE PCBLL 7 SE PESTLL 7 SE WTPH-DX	7 SE PCBLL 7 SE PESTLL 7 SE WTPH-DX	7 SE PCBLL 7 SE PESTLL 7 SE WTPH-DX

Login: P51247

STREAMS SEDIMENTS- LEGACY  
2010

Personnel: \_\_\_\_\_

Project: 421240C

SAMPLENUM	P51247-4	P51247-5	P51247-6
QC LINK			
LOCATOR	'0432	'0474	'0322
Short Loc. Desc.	T_ST_LG-4	NORTH CR	NEWAK CR
Locator Desc	MCALDER CREEK//ON UPSTREAM SIDE OF SHORE	NORTH CREEK//UPSTREAM SIDE OF FREEWAY BR	NEWAUKUM CREEK//USGS GAGING STATION ON L
SITE	STREAMS	STREAMS	STREAMS
COMMENTS	McAlder Creek	North Creek	Newaukum Creek
Start Date/Time	27-JUL-10/1015	27-JUL-10/1100	7/26/2010/
End Date/Time	UNDER + D.S. OF BRIDGE - SEDIMENT DEPOSITS FACIL	UNDER BRIDGE + BETWEEN ROCKS	SHIP
Time Span	SIDE OF GRAVEL BAR	CHALLENGING TO FIND FINE MATERIAL	
Sample Depth			
SAMP INFO			
SED DEPTH	0-5 cm	0-5 cm	
SED TYPE	23 P 26	32 P 21	
Dept. Matrix Prod	3 SE NH3-KCL BROWN 3 SE ORTHOP-OL SILT 3 SE PH SAND 3 SE PSD W/P 3 SE TOC H2SSL. 3 SE TOTS ~15 spoons <del>5 SE FC-MPN</del> 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE	3 SE NH3-KCL BROWN 3 SE ORTHOP-OL SAND 3 SE PH SILT 3 SE PSD W/P 3 SE TOC NATURAL 3 SE TOTS ~20 spoons <del>5 SE FC-MPN</del> 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE	<del>3 SE AVS → DELETED</del> 3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS <del>5 SE FC-MPN</del> 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI

Monday

- Monday

SAMPLENUM	P51247-4	P51247-5	P51247-6
	7 SE PCBLL 7 SE PESTLL 7 SE WTPH-DX	7 SE PCBLL 7 SE PESTLL 7 SE WTPH-DX	7 SE PBDE 7 SE PCBLL 7 SE PESTLL 7 SE WTPH-DX

Login: P51247

STREAMS SEDIMENTS- LEGACY  
2010Personnel: SH/JP

Project: 421240C

JEAN POWER 1557 7/26/10  
 1777  
 1776-10 +557  
 L51247 607

→ FET of SET TUESDAY, 7/29/10

SAMPLENUM	P51247-4	P51247-5	P51247-6
QC LINK			
LOCATOR	'0432	'0474	'0322
Short Loc. Desc.	T_ST_LG-4	NORTH CR	NEWAK CR
Locator Desc	MCALER CREEK//ON UPSTREAM SIDE OF SHORE	NORTH CREEK//UPSTREAM SIDE OF FREEWAY BR	NEWAUKUM CREEK//USGS GAGING STATION ON L
SITE	STREAMS	STREAMS	STREAMS
COMMENTS	McAler Creek	North Creek	Newaukum Creek
Start Date/Time			26-JUL-10/0945
End Date/Time			SH/JP
Time Span			
Sample Depth			
SAMP INFO			ROAD END--"TRAIL" TO CREEK
SED DEPTH			0-5 cm
SED TYPE			32 φ 2 φ
Dept. Matrix Prod	3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS <del>5 SE FG-MPN DELETED</del> 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE	3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS <del>5 SE FC-MPN</del> 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE	<del>3 SE AVS DELETED</del> 3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS <del>5 SE FG-MPN</del> 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI

~20 SPOONS  
 BROWN  
 NO DEBRIS  
 NO ODOR  
 SAND  
 SILT

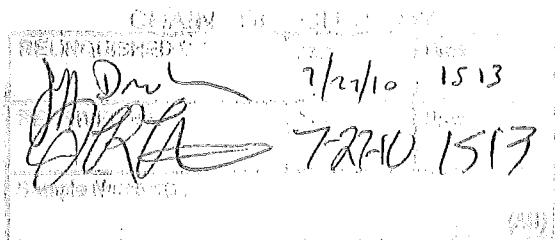
Project: 421240C

(MONDAY) (JEFF) (JEFF)			
SAMPLENUM	P51247-7	P51247-8	P51247-9
QC LINK			
LOCATOR	A320	'0317	A315
Short Loc. Desc.	BIG SOOS	SPRBR CR	MILL CR
Locator Desc	BIG SOOS CREEK//USGS GAGING STATION 1211	SPRINGBROOK CREEK//BRIDGE AT N END OF LO	HILL CREEK (MILL)//BRIDGE AT 68TH AND S
SITE	STREAMS	STREAMS	STREAMS
COMMENTS	Soos Creek	Springbrook Creek-under bridge	Mill Creek
Start Date/Time	26-JUL-10/1035		
End Date/Time			
Time Span			
Sample Depth			
SAMP INFO	D.S. OF DRIVEWAY BRIDGE		
SED DEPTH	0-5 cm		
SED TYPE	32 P26		
Dept. Matrix Prod	+ANS 3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH BROWN 3 SE PSD 3 SE TOC SAND-SILT 3 SE TOTS W/P 5 SE FC-MPN SLIGHT 6 SE AG-ICPMS 1125 6 SE AG-SEM, EXT SLIGHT 6 SE AS-ICPMS OIL 6 SE AS-SEM, EXT SITEEN 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE	3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 5 SE FC-MPN 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE	3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 5 SE FC-MPN 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE

Login: P51247

STREAMS SEDIMENTS- LEGACY  
2010Personnel: JD

Project: 421240C



SAMPLENUM	P51247-7	P51247-8	P51247-9
QC LINK			
LOCATOR	A320	0317	A315
Short Loc. Desc.	BIG SOOS	SPRBR CR	MILL CR
Locator Desc	BIG SOOS CREEK//USGS GAGING STATION 1211	SPRINGBROOK CREEK//BRIDGE AT N END OF LO	HILL CREEK (MILL)//BRIDGE AT 68TH AND S
SITE	STREAMS	STREAMS	STREAMS
COMMENTS	Soos Creek	Springbrook Creek-under bridge	Mill Creek
Start Date/Time		7/27/10 1005	27-JUL-10 1105
End Date/Time			
Time Span			
Sample Depth			
SAMP INFO		UNDER BRIDGE U.S. OF WA SITE	
SED DEPTH		0-5 cm	0-5 cm
SED TYPE		2ØPZ1	2ØPZØ
Dept. Matrix Prod	ANS 3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 5 SE FC-MPN 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE	3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 5 SE FC-MPN 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE BROWN <del>ANALYST</del> SILT no 20 natural nonspec. odor 21 spoonfuls GREAT DEPOSITION AL AREAS ABOVE LEFT BANK UNDER BRIDGE ON TRAIL	3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 5 SE FC-MPN 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE BROWN SILT/mud twigs no odor Lot of deposition at normal water quality site

SAMPLENUM	P51247-7	P51247-8	P51247-9
	7 SE PCBLL 7 SE PESTLL 7 SE WTPH-DX	7 SE PCBLL 7 SE PESTLL 7 SE WTPH-DX	7 SE PCBLL 7 SE PESTLL 7 SE WTPH-DX

Project: 421240C

SAMPLENUM	P51247-10		
QC LINK			
LOCATOR	'0484		
Short Loc. Desc.	BEAR EVANS		
Locator Desc	BEAR CREEK//FIRST RAILROAD BRIDGE SOUTH		
SITE	STREAMS		
COMMENTS	<del>Mill Creek</del> BEAR EVANS		
Start Date/Time	27-JUL-10/1249		
End Date/Time			
Time Span			
Sample Depth			
SAMP INFO			
SED DEPTH	0-5 cm		
SED TYPE	2ØP26		
Dept. Matrix Prod	3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS <del>5 SE FC-MPN</del> 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC 7 SE EDC-LVI 7 SE PBDE	BROWN silt/mud (more like soft peat) 2° = plant material slight H <sub>2</sub> S 14 spoonfuls Go to regular water site - enter from 520 on ramp 40' short of bridge take trail on right toward 30' high willow. 10' before willow take a sharp right on trail to river. site on left bank even with west corner of fishing barge. Mouth is totally closed off with fences (mechanical barriers)	

SAMPLENUM	P51247-10		
	7 SE PCBLL 7 SE PESTLL 7 SE WTPH-DX		

Project: 421240C

## CHAIN OF CUSTODY

RELINQUISHED BY <u>Jean Power</u>	Date <u>7/26/10</u>	Time <u>1557</u>
RECEIVED BY <u>[Signature]</u>	Date <u>7-26-10</u>	Time <u>1557</u>
Sample Number(s) <u>P51298 1-10</u>		(All)

SAMPLENUM	P51298-1	P51298-2	P51298-3
QC LINK			
LOCATOR	'0320	AA320	GG320
Short Loc. Desc.	SOOS CR	BSOOSRR	BIGSOOS
Locator Desc	BIG SOOS CREEK//FOOTBRIDGE AT HATCHERY N	BIG SOOS CREEK, DOWNSTREAM OF JENKINS, E	BIG SOOS CREEK DOWNSTREAM OF KENT BLACK
SITE	STREAMS	STREAMS	STREAMS
COMMENTS	Footbridge d.s. of hatchery	154th SE/SE 296th St. TMDL	Kent-Blk Dia. Rd. SE 288th Ln.
Start Date/Time	<u>26-JUL-10/1020</u>	<u>26-JUL-10/1115</u>	<u>26-JUL-10/1145</u>
End Date/Time		HIGH-15% GRADIENT - NOT MANY FINES	BEAVER DAM ON U.S. SIDE OF BRIDGE
Time Span			
Sample Depth			
PERSONNEL	<u>SH/JP</u>	<u>SH/JP</u>	<u>SH/JP</u>
SAMP INFO			
SED DEPTH	<u>0-5 cm</u>	<u>0-5</u>	<u>0-5</u>
SED TYPE	<u>3ZP26</u>	<u>34P26</u>	<u>23P26</u>
Dept. Matrix Prod	BROWN, <del>NO</del> SLIGHT 3 SE AVS <u>H2S</u> 3 SE NH3-KCL <u>W/P</u> 3 SE ORTHOP-OL 3 SE PH 3 SE PSD <u>~20 spoons</u> 3 SE TOC <u>SAND</u> 3 SE TOTS <u>SILT</u> 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC	BROWN 3 SE AVS <u>SAND</u> 3 SE NH3-KCL <u>Gravel</u> 3 SE ORTHOP-OL <u>W/P</u> 3 SE PH 3 SE PSD <u>No odor</u> 3 SE TOC 3 SE TOTS <u>~20 spoon</u> 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC	BROWN 3 SE AVS 3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC

WG110834  
R 148005

Project: 421240C

SAMPLENUM	P51298-4	P51298-5	P51298-6
QC LINK			
LOCATOR	Q320	HH320	P320
Short Loc. Desc.	Big Soos	SOOS CR	BSOOS256th
Locator Desc	BIG SOOS CR. AT SE 272 NEAR FIRE STATION	BIG SOOS CREEK AT TRAIL BRIDGE DOWNSTREA	BIG SOOS 256TH
SITE	STREAMS	STREAMS	STREAMS
COMMENTS	Kent-Kangly/160th	G. Grant Pk@256th St.	G. Grant Pk@148th Ave. SE
Start Date/Time	26-JUL-10/1205	26-JUL-10/1235	26-JUL-10/1235 1300
End Date/Time	MUCH FINE, FLOC-Y MATERIAL		
Time Span			
Sample Depth			
PERSONNEL	SH/JP	SH/JP	SH/JP
SAMP INFO			
SED DEPTH	0-10 cm	0-10 cm	0-10 cm
SED TYPE	23P26	23P20	23P21
Dept. Matrix Prod	3 SE AVS 3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC	3 SE AVS 3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC	3 SE AVS 3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC

Project: 421240C

✓ ~~FIX~~ LOCATOR

SAMPLENUM	P51298-7	P51298-8	P51298-9
QC LINK			
LOCATOR	H320 <del>II320</del>	RR320	SS320
Short Loc. Desc.	T_ST_SD-7	SOOS CR	SOOS CR
Locator Desc	JENKINS CREEK TRIBUTARY LAKE LUGERNE OUTLET	BIG SOOS CREEK NEAR TRAIL CROSSING S.E.	BIG SOOS CREEK-GARY GRANT PARK AT 208TH
SITE	STREAMS <del>SOOS CREEK</del>	STREAMS	STREAMS
COMMENTS	Trail -Y at 148th/240th	Trail-SE 224th wetland	G. Grant Pk. @208th
Start Date/Time	26-JUL-10/1320	→ /1356	26-JUL-10/1415
End Date/Time	FOUND LOVELY TERRA COTTA CANDLES...	almost no flow - Water surface Stagnant - pond weed difficult to sample	OVER FENCE AT STREAM OVERLOOK Platform
Time Span			
Sample Depth			
PERSONNEL	SHJP	SHJP	SHJP
SAMP INFO			
SED DEPTH	0-10 cm	0-10 cm	0-5 cm
SED TYPE	23 P 26	34 P 36	32 P 21
Dept. Matrix Prod	3 SE AVS 3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC	3 SE AVS 3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC	3 SE AVS 3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC

Project: 421240C

SAMPLENUM	P51298-10		
QC LINK			
LOCATOR	L320		
Short Loc. Desc.	Big Soos		
Locator Desc	BIG SOOS AT GRANT PARK		
SITE	STREAMS		
COMMENTS	Lake Young's Way/SE 204th		
Start Date/Time	26-Jul-10/1445		
End Date/Time	POOL JUST U.S. UP CUMULATIVE UNDER RAMP		
Time Span			
Sample Depth			
PERSONNEL	SK/JP		
SAMP INFO			
SED DEPTH	0-5 cm		
SED TYPE	32P21		
Dept. Matrix Prod	3 SE AVS 3 SE NH3-KCL 3 SE ORTHOP-OL 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE AG-ICPMS 6 SE AG-SEM, EXT 6 SE AS-ICPMS 6 SE AS-SEM, EXT 6 SE CD-ICPMS 6 SE CD-SEM, EXT 6 SE CR-ICPMS 6 SE CR-SEM, EXT 6 SE CU-ICPMS 6 SE CU-SEM, EXT 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NI-ICPMS 6 SE NI-SEM, EXT 6 SE PB-ICPMS 6 SE PB-SEM, EXT 6 SE P-ICPMS 6 SE ZN-ICPMS 6 SE ZN-SEM, EXT 7 SE BNALLFULL 7 SE EDC	BROWN SAND SILT W/P NAT ODDER	

## King County Environmental Laboratory Batch Report

## Streams Sediment, 2010, L51247, L51298

## WG110545 AVS

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-7	421240C-300	Freshwater Streams Sediment	CVAVS	FRSHWTRSED	7/26/2010 10:35	8/4/2010 10:35	8/4/2010 12:13	WG110545-1,-2,-3,-4,- 5,-6,-7	
L51298-1	421240C-300		CVAVS	FRSHWTRSED	7/26/2010 10:20	8/3/2010 10:05	8/3/2010 13:48		
L51298-2	421240C-300		CVAVS	FRSHWTRSED	7/26/2010 11:15	8/3/2010 10:05	8/3/2010 13:48		
L51298-3	421240C-300		CVAVS	FRSHWTRSED	7/26/2010 11:45	8/3/2010 10:05	8/3/2010 13:48		
L51298-4	421240C-300		CVAVS	FRSHWTRSED	7/26/2010 12:05	8/3/2010 10:05	8/3/2010 13:48		
L51298-5	421240C-300		CVAVS	FRSHWTRSED	7/26/2010 12:35	8/3/2010 10:05	8/3/2010 13:48		
L51298-6	421240C-300		CVAVS	FRSHWTRSED	7/26/2010 13:00	8/3/2010 10:05	8/3/2010 13:48		
L51298-7	421240C-300		CVAVS	FRSHWTRSED	7/26/2010 13:20	8/3/2010 10:05	8/3/2010 13:48		
L51298-8	421240C-300		CVAVS	FRSHWTRSED	7/26/2010 13:50	8/3/2010 10:05	8/3/2010 13:48		
L51298-9	421240C-300		CVAVS	FRSHWTRSED	7/26/2010 14:15	8/4/2010 10:35	8/4/2010 12:13		
L51298-10	421240C-300		CVAVS	FRSHWTRSED	7/26/2010 14:45	8/4/2010 10:35	8/4/2010 12:13		
WG110545-1	MB		CVAVS	OTHR SOLID		8/3/2010 10:05	8/3/2010 13:48		MB1 8/3/10
WG110545-2	SB		CVAVS	OTHR SOLID		8/3/2010 10:05	8/3/2010 13:48		WG110545-1
WG110545-3	LD		CVAVS	FRSHWTRSED		8/3/2010 10:05	8/3/2010 13:48		L51298-3
WG110545-4	LT		CVAVS	FRSHWTRSED		8/3/2010 10:05	8/3/2010 13:48		WG110545-3 L51298-3
WG110545-5	MS		CVAVS	FRSHWTRSED		8/3/2010 10:05	8/3/2010 13:48		L51298-3
WG110545-6	MB		CVAVS	OTHR SOLID		8/4/2010 10:35	8/4/2010 12:13		MB1 8/4/10
WG110545-7	SB		CVAVS	OTHR SOLID		8/4/2010 10:35	8/4/2010 12:13		WG110545-6

# King County Environmental Laboratory Batch Report

Streams Sediment, 2010, L51247, L51298

WG110446 Ammonia

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	CVNH3-KCL	FRSHWTRSED	7/27/2010 11:35	7/30/2010 13:00	8/13/2010 15:35	WG110446-1,-4,-5,-6,- 2,-3	
L51247-2	421240C-300		CVNH3-KCL	FRSHWTRSED	7/27/2010 9:20	7/30/2010 13:00	8/13/2010 14:28		
L51247-3	421240C-300		CVNH3-KCL	FRSHWTRSED	7/27/2010 13:05	7/30/2010 13:00	8/13/2010 14:30		
L51247-4	421240C-300		CVNH3-KCL	FRSHWTRSED	7/27/2010 10:15	7/30/2010 13:00	8/13/2010 14:32		
L51247-5	421240C-300		CVNH3-KCL	FRSHWTRSED	7/27/2010 11:00	7/30/2010 13:00	8/13/2010 15:37		
L51247-6	421240C-300		CVNH3-KCL	FRSHWTRSED	7/26/2010 9:45	7/30/2010 13:00	8/13/2010 14:36		
L51247-7	421240C-300		CVNH3-KCL	FRSHWTRSED	7/26/2010 10:35	7/30/2010 13:00	8/13/2010 14:38		
L51247-8	421240C-300		CVNH3-KCL	FRSHWTRSED	7/27/2010 10:05	7/30/2010 13:00	8/13/2010 14:55		
L51247-9	421240C-300		CVNH3-KCL	FRSHWTRSED	7/27/2010 11:05	7/30/2010 13:00	8/13/2010 14:57		
L51247-10	421240C-300		CVNH3-KCL	FRSHWTRSED	7/27/2010 12:49	7/30/2010 13:00	8/13/2010 14:59		
L51298-1	421240C-300		CVNH3-KCL	FRSHWTRSED	7/26/2010 10:20	7/30/2010 13:00	8/13/2010 15:01		
L51298-2	421240C-300		CVNH3-KCL	FRSHWTRSED	7/26/2010 11:15	7/30/2010 13:00	8/13/2010 15:03		
L51298-3	421240C-300		CVNH3-KCL	FRSHWTRSED	7/26/2010 11:45	7/30/2010 13:00	8/13/2010 15:05		
L51298-4	421240C-300		CVNH3-KCL	FRSHWTRSED	7/26/2010 12:05	7/30/2010 13:00	8/13/2010 15:07		
L51298-5	421240C-300		CVNH3-KCL	FRSHWTRSED	7/26/2010 12:35	7/30/2010 13:00	8/13/2010 15:10		
L51298-6	421240C-300		CVNH3-KCL	FRSHWTRSED	7/26/2010 13:00	7/30/2010 13:00	8/13/2010 15:12		
L51298-7	421240C-300		CVNH3-KCL	FRSHWTRSED	7/26/2010 13:20	7/30/2010 13:00	8/13/2010 16:13		
L51298-8	421240C-300		CVNH3-KCL	FRSHWTRSED	7/26/2010 13:50	7/30/2010 13:00	8/13/2010 16:16		
L51298-9	421240C-300		CVNH3-KCL	FRSHWTRSED	7/26/2010 14:15	7/30/2010 13:00	8/13/2010 15:26		
L51298-10	421240C-300		CVNH3-KCL	FRSHWTRSED	7/26/2010 14:45	7/30/2010 13:00	8/13/2010 15:28		
WG110446-1	MB		CVNH3-KCL	OTHR SOLID		7/30/2010 13:00	8/13/2010 14:11		CONNUTS1
WG110446-2	SB		CVNH3-KCL	OTHR SOLID		7/30/2010 13:00	8/13/2010 15:30		WG110446-1
WG110446-3	LCS		CVNH3-KCL	OTHR SOLID		7/30/2010 13:00	8/13/2010 15:33		LEVEL1
WG110446-4	LD		CVNH3-KCL	FRSHWTRSED		7/30/2010 13:00	8/13/2010 14:40		L51247-7
WG110446-5	LT		CVNH3-KCL	FRSHWTRSED		7/30/2010 13:00	8/13/2010 14:42		WG110446-4 L51247- 7
WG110446-6	MS		CVNH3-KCL	FRSHWTRSED		7/30/2010 13:00	8/13/2010 14:45		L51247-7

## King County Environmental Laboratory Batch Report

## Streams Sediment, 2010, L51247, L51298

## WG111574 Orthophosphate Phosphorus

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	CVORTHOP-OL	FRSHWTRSED	7/27/2010 11:35	10/11/2010 13:45	10/12/2010 12:58	WG111574-1,-2,-4,-5,- 6,-7,-9,-10,-11,-3,-8	
L51247-2	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/27/2010 9:20	10/11/2010 13:45	10/12/2010 12:58		
L51247-3	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/27/2010 13:05	10/11/2010 13:45	10/12/2010 12:58		
L51247-4	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/27/2010 10:15	10/11/2010 13:45	10/12/2010 12:58		
L51247-5	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/27/2010 11:00	10/11/2010 13:45	10/12/2010 12:58		
L51247-6	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/26/2010 9:45	10/11/2010 13:45	10/12/2010 12:58		
L51247-7	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/26/2010 10:35	10/11/2010 13:45	10/12/2010 12:58		
L51247-8	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/27/2010 10:05	10/11/2010 13:45	10/12/2010 12:58		
L51247-9	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/27/2010 11:05	10/11/2010 13:45	10/12/2010 12:58		
L51247-10	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/27/2010 12:49	10/11/2010 13:45	10/12/2010 12:58		
L51298-1	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/26/2010 10:20	10/11/2010 13:45	10/12/2010 12:58		
L51298-2	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/26/2010 11:15	10/11/2010 13:45	10/12/2010 12:58		
L51298-3	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/26/2010 11:45	10/11/2010 13:45	10/12/2010 12:58		
L51298-4	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/26/2010 12:05	10/11/2010 13:45	10/12/2010 12:58		
L51298-5	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/26/2010 12:35	10/11/2010 13:45	10/12/2010 12:58		
L51298-6	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/26/2010 13:00	10/11/2010 13:45	10/12/2010 12:58		
L51298-7	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/26/2010 13:20	10/11/2010 13:45	10/12/2010 12:58		
L51298-8	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/26/2010 13:50	10/11/2010 13:45	10/12/2010 12:58		
L51298-9	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/26/2010 14:15	10/11/2010 13:45	10/12/2010 12:58		
L51298-10	421240C-300		CVORTHOP-OL	FRSHWTRSED	7/26/2010 14:45	10/11/2010 13:45	10/12/2010 12:58		
L51549-2	421235	MAJOR LAKES (wtr col)	CVORTHOP-OL	FRSHWTRSED	8/24/2010 9:15	10/11/2010 13:45	10/12/2010 12:58		
L51549-4	421235		CVORTHOP-OL	FRSHWTRSED	8/23/2010 9:40	10/11/2010 13:45	10/12/2010 12:58		
L51549-6	421235		CVORTHOP-OL	FRSHWTRSED	8/23/2010 10:30	10/11/2010 13:45	10/12/2010 12:58		
L51549-8	421235		CVORTHOP-OL	FRSHWTRSED	8/24/2010 10:00	10/11/2010 13:45	10/12/2010 12:58		
L51549-10	421235		CVORTHOP-OL	FRSHWTRSED	8/24/2010 9:48	10/11/2010 13:45	10/12/2010 12:58		
L51549-12	421235		CVORTHOP-OL	FRSHWTRSED	8/23/2010 11:15	10/11/2010 13:45	10/12/2010 12:58		
L51549-14	421235		CVORTHOP-OL	FRSHWTRSED	8/23/2010 12:00	10/11/2010 13:45	10/12/2010 12:58		
L51549-16	421235		CVORTHOP-OL	FRSHWTRSED	8/23/2010 12:20	10/11/2010 13:45	10/12/2010 12:58		
L51549-18	421235		CVORTHOP-OL	FRSHWTRSED	8/24/2010 10:50	10/11/2010 13:45	10/12/2010 12:58		
L51549-20	421235		CVORTHOP-OL	FRSHWTRSED	8/23/2010 13:15	10/11/2010 13:45	10/12/2010 12:58		
L51549-22	421235		CVORTHOP-OL	FRSHWTRSED	8/23/2010 12:55	10/11/2010 13:45	10/12/2010 12:58		
L51549-24	421235		CVORTHOP-OL	FRSHWTRSED	8/23/2010 14:30	10/11/2010 13:45	10/12/2010 12:58		
L51549-26	421235		CVORTHOP-OL	FRSHWTRSED	8/23/2010 13:50	10/11/2010 13:45	10/12/2010 12:58		
L51549-28	421235		CVORTHOP-OL	FRSHWTRSED	8/24/2010 11:20	10/11/2010 13:45	10/12/2010 12:58		
L51549-30	421235		CVORTHOP-OL	FRSHWTRSED	8/24/2010 11:40	10/11/2010 13:45	10/12/2010 12:58		
L51549-32	421235		CVORTHOP-OL	FRSHWTRSED	8/24/2010 9:50	10/11/2010 13:45	10/12/2010 12:58		
L51549-34	421235		CVORTHOP-OL	FRSHWTRSED	8/24/2010 11:37	10/11/2010 13:45	10/12/2010 12:58		
L51549-36	421235		CVORTHOP-OL	FRSHWTRSED	8/24/2010 14:05	10/11/2010 13:45	10/12/2010 12:58		
L51549-38	421235		CVORTHOP-OL	FRSHWTRSED	8/25/2010 8:58	10/11/2010 13:45	10/12/2010 12:58		
L51549-40	421235		CVORTHOP-OL	FRSHWTRSED	8/25/2010 9:35	10/11/2010 13:45	10/12/2010 12:58		
WG111574-1	MB		CVORTHOP-OL	OTHR SOLID		10/11/2010 13:45	10/12/2010 12:58	WG111574-1 LEVEL1	CONNUTS1
WG111574-2	SB		CVORTHOP-OL	OTHR SOLID		10/11/2010 13:45	10/12/2010 12:58		
WG111574-3	LCS		CVORTHOP-OL	OTHR SOLID		10/12/2010 14:00	10/12/2010 12:58		

# King County Environmental Laboratory Batch Report

# Streams Sediment, 2010, L51247, L51298

WG111574-4	LD	CVORTHOP-OL	FRSHWTRSED	10/11/2010 13:45	10/12/2010 12:58		L51247-4
WG111574-5	LT	CVORTHOP-OL	FRSHWTRSED	10/11/2010 13:45	10/12/2010 12:58		WG111574-4 L51247-4
WG111574-6	MS	CVORTHOP-OL	FRSHWTRSED	10/11/2010 13:45	10/12/2010 12:58		L51247-4
WG111574-7	MB	CVORTHOP-OL	OTHR SOLID	10/11/2010 13:45	10/12/2010 12:58		CONNUTS1
WG111574-8	LCS	CVORTHOP-OL	OTHR SOLID	10/12/2010 14:00	10/12/2010 12:58		LEVEL1
WG111574-9	LD	CVORTHOP-OL	FRSHWTRSED	10/11/2010 13:45	10/12/2010 12:58		L51549-20
WG111574-10	LT	CVORTHOP-OL	FRSHWTRSED	10/11/2010 13:45	10/12/2010 12:58		WG111574-9 L51549-20
WG111574-11	MS	CVORTHOP-OL	FRSHWTRSED	10/11/2010 13:45	10/12/2010 12:58		L51549-20

## King County Environmental Laboratory Batch Report

## Streams Sediment, 2010, L51247, L51298

WG110361 pH

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	CVPH	FRSHWTRSED	7/27/2010 11:35	7/28/2010 8:30	7/28/2010 9:37	WG110361-2,-3	
L51247-2	421240C-300		CVPH	FRSHWTRSED	7/27/2010 9:20	7/28/2010 8:30	7/28/2010 9:40		
L51247-3	421240C-300		CVPH	FRSHWTRSED	7/27/2010 13:05	7/28/2010 8:30	7/28/2010 9:42		
L51247-4	421240C-300		CVPH	FRSHWTRSED	7/27/2010 10:15	7/28/2010 8:30	7/28/2010 9:45		
L51247-5	421240C-300		CVPH	FRSHWTRSED	7/27/2010 11:00	7/28/2010 8:30	7/28/2010 9:47		
L51247-6	421240C-300		CVPH	FRSHWTRSED	7/26/2010 9:45	7/27/2010 10:45	7/27/2010 11:13		
L51247-7	421240C-300		CVPH	FRSHWTRSED	7/26/2010 10:35	7/27/2010 10:45	7/27/2010 11:15		
L51247-8	421240C-300		CVPH	FRSHWTRSED	7/27/2010 10:05	7/28/2010 8:30	7/28/2010 9:50		
L51247-9	421240C-300		CVPH	FRSHWTRSED	7/27/2010 11:05	7/28/2010 8:30	7/28/2010 9:54		
L51247-10	421240C-300		CVPH	FRSHWTRSED	7/27/2010 12:49	7/28/2010 8:30	7/28/2010 10:00		
L51298-1	421240C-300		CVPH	FRSHWTRSED	7/26/2010 10:20	7/27/2010 10:45	7/27/2010 11:17		
L51298-2	421240C-300		CVPH	FRSHWTRSED	7/26/2010 11:15	7/27/2010 10:45	7/27/2010 11:18		
L51298-3	421240C-300		CVPH	FRSHWTRSED	7/26/2010 11:45	7/27/2010 10:45	7/27/2010 11:20		
L51298-4	421240C-300		CVPH	FRSHWTRSED	7/26/2010 12:05	7/27/2010 10:45	7/27/2010 11:21		
L51298-5	421240C-300		CVPH	FRSHWTRSED	7/26/2010 12:35	7/27/2010 10:45	7/27/2010 11:22		
L51298-6	421240C-300		CVPH	FRSHWTRSED	7/26/2010 13:00	7/27/2010 10:45	7/27/2010 11:23		
L51298-7	421240C-300		CVPH	FRSHWTRSED	7/26/2010 13:20	7/27/2010 10:45	7/27/2010 11:25		
L51298-8	421240C-300		CVPH	FRSHWTRSED	7/26/2010 13:50	7/27/2010 10:45	7/27/2010 11:26		
L51298-9	421240C-300		CVPH	FRSHWTRSED	7/26/2010 14:15	7/27/2010 10:45	7/27/2010 11:28		
L51298-10	421240C-300		CVPH	FRSHWTRSED	7/26/2010 14:45	7/27/2010 10:45	7/27/2010 11:30		
WG110361-1	CS		CVPH	BLANK WTR		7/27/2010 11:12	7/27/2010 11:12	WG110361-1,-4,-5	LEVEL1
WG110361-2	LD		CVPH	FRSHWTRSED		7/27/2010 10:45	7/27/2010 11:32	WG110361-2,-3	L51298-10
WG110361-3	LT		CVPH	FRSHWTRSED		7/27/2010 10:45	7/27/2010 11:34		WG110361-2 L51298-10
WG110361-4	CS		CVPH	BLANK WTR		7/27/2010 11:35	7/27/2010 11:35	WG110361-1,-4,-5	LEVEL2
WG110361-5	CS		CVPH	BLANK WTR		7/28/2010 9:35	7/28/2010 9:35		LEVEL1

## King County Environmental Laboratory Batch Report

## Streams Sediment, 2010, L51247, L51298

## WG111141 PSD

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	CVPSD	FRSHWTRSED	7/27/2010 11:35	7-Sep-10	16-Sep-10	WG111141-3,-4	
L51247-2	421240C-300		CVPSD	FRSHWTRSED	7/27/2010 9:20	7-Sep-10	16-Sep-10		
L51247-3	421240C-300		CVPSD	FRSHWTRSED	7/27/2010 13:05	7-Sep-10	16-Sep-10		
L51247-4	421240C-300		CVPSD	FRSHWTRSED	7/27/2010 10:15	7-Sep-10	16-Sep-10		
L51247-5	421240C-300		CVPSD	FRSHWTRSED	7/27/2010 11:00	7-Sep-10	16-Sep-10		
L51247-6	421240C-300		CVPSD	FRSHWTRSED	7/26/2010 9:45	7-Sep-10	16-Sep-10		
L51247-7	421240C-300		CVPSD	FRSHWTRSED	7/26/2010 10:35	7-Sep-10	16-Sep-10		
L51247-8	421240C-300		CVPSD	FRSHWTRSED	7/27/2010 10:05	7-Sep-10	16-Sep-10		
L51247-9	421240C-300		CVPSD	FRSHWTRSED	7/27/2010 11:05	7-Sep-10	16-Sep-10		
L51247-10	421240C-300		CVPSD	FRSHWTRSED	7/27/2010 12:49	7-Sep-10	16-Sep-10		
L51298-1	421240C-300		CVPSD	FRSHWTRSED	7/26/2010 10:20	7-Oct-10	13-Oct-10		
L51298-2	421240C-300		CVPSD	FRSHWTRSED	7/26/2010 11:15	7-Oct-10	13-Oct-10		
L51298-3	421240C-300		CVPSD	FRSHWTRSED	7/26/2010 11:45	7-Oct-10	13-Oct-10		
L51298-4	421240C-300		CVPSD	FRSHWTRSED	7/26/2010 12:05	7-Oct-10	13-Oct-10		
L51298-5	421240C-300		CVPSD	FRSHWTRSED	7/26/2010 12:35	7-Oct-10	13-Oct-10		
L51298-6	421240C-300		CVPSD	FRSHWTRSED	7/26/2010 13:00	7-Oct-10	13-Oct-10		
L51298-7	421240C-300		CVPSD	FRSHWTRSED	7/26/2010 13:20	7-Oct-10	13-Oct-10		
L51298-8	421240C-300		CVPSD	FRSHWTRSED	7/26/2010 13:50	7-Oct-10	13-Oct-10		
L51298-9	421240C-300		CVPSD	FRSHWTRSED	7/26/2010 14:15	7-Oct-10	13-Oct-10		
L51298-10	421240C-300		CVPSD	FRSHWTRSED	7/26/2010 14:45	7-Oct-10	13-Oct-10		
WG111141-3	LD		CVPSD	FRSHWTRSED		7-Sep-10	16-Sep-10		L51247-2
WG111141-4	LT		CVPSD	FRSHWTRSED		7-Sep-10	16-Sep-10		WG111141-3 L51247-2

# King County Environmental Laboratory Batch Report

Streams Sediment, 2010, L51247, L51298

## WG110748 TOC

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	CVTOC	FRSHWTRSED	7/27/2010 11:35	8/9/2010 15:45	9/15/2010 12:53	WG110748-1,-2,-3,-4,-6,-7,-8,-5	
L51247-2	421240C-300		CVTOC	FRSHWTRSED	7/27/2010 9:20	8/9/2010 15:45	9/15/2010 13:14		
L51247-3	421240C-300		CVTOC	FRSHWTRSED	7/27/2010 13:05	8/9/2010 15:45	9/15/2010 13:35		
L51247-4	421240C-300		CVTOC	FRSHWTRSED	7/27/2010 10:15	8/9/2010 15:45	9/15/2010 13:56		
L51247-5	421240C-300		CVTOC	FRSHWTRSED	7/27/2010 11:00	8/9/2010 15:45	9/16/2010 8:57		
L51247-6	421240C-300		CVTOC	FRSHWTRSED	7/26/2010 9:45	8/9/2010 15:45	9/16/2010 9:18		
L51247-7	421240C-300		CVTOC	FRSHWTRSED	7/26/2010 10:35	8/9/2010 15:45	9/16/2010 9:40		
L51247-8	421240C-300		CVTOC	FRSHWTRSED	7/27/2010 10:05	8/9/2010 15:45	9/16/2010 10:01		
L51247-9	421240C-300		CVTOC	FRSHWTRSED	7/27/2010 11:05	8/9/2010 15:45	9/16/2010 10:22		
L51247-10	421240C-300		CVTOC	FRSHWTRSED	7/27/2010 12:49	8/9/2010 15:45	9/16/2010 10:43		
L51298-1	421240C-300		CVTOC	FRSHWTRSED	7/26/2010 10:20	8/9/2010 15:45	9/15/2010 9:05		
L51298-2	421240C-300		CVTOC	FRSHWTRSED	7/26/2010 11:15	8/9/2010 15:45	9/15/2010 9:26		
L51298-3	421240C-300		CVTOC	FRSHWTRSED	7/26/2010 11:45	8/9/2010 15:45	9/15/2010 9:57		
L51298-4	421240C-300		CVTOC	FRSHWTRSED	7/26/2010 12:05	8/9/2010 15:45	9/15/2010 10:18		
L51298-5	421240C-300		CVTOC	FRSHWTRSED	7/26/2010 12:35	8/9/2010 15:45	9/15/2010 10:47		
L51298-6	421240C-300		CVTOC	FRSHWTRSED	7/26/2010 13:00	8/9/2010 15:45	9/15/2010 11:10		
L51298-7	421240C-300		CVTOC	FRSHWTRSED	7/26/2010 13:20	8/9/2010 15:45	9/15/2010 11:31		
L51298-8	421240C-300		CVTOC	FRSHWTRSED	7/26/2010 13:50	8/9/2010 15:45	9/15/2010 11:53		
L51298-9	421240C-300		CVTOC	FRSHWTRSED	7/26/2010 14:15	9/15/2010 12:09	9/16/2010 13:00		
L51298-10	421240C-300		CVTOC	FRSHWTRSED	7/26/2010 14:45	8/9/2010 15:45	9/15/2010 12:13		
WG110748-1	MB		CVTOC	OTHR SOLID		9/14/2010 11:45	9/14/2010 11:45		MB1 100914
WG110748-2	SRM		CVTOC	OTHR SOLID		9/14/2010 12:18	9/14/2010 12:18		HICONC
WG110748-3	MB		CVTOC	OTHR SOLID		9/15/2010 8:49	9/15/2010 8:49		MB1 100915
WG110748-4	MB		CVTOC	OTHR SOLID		9/16/2010 8:37	9/16/2010 8:37		MB1 100916
WG110748-5	SB		CVTOC	OTHR SOLID		9/16/2010 12:32	9/16/2010 12:32		WG110748-4
WG110748-6	LD		CVTOC	FRSHWTRSED		9/15/2010 12:09	9/16/2010 13:14		L51298-9
WG110748-7	LT		CVTOC	FRSHWTRSED		9/15/2010 12:09	9/16/2010 13:36		WG110748-6 L51298-9
WG110748-8	MS		CVTOC	FRSHWTRSED		9/15/2010 12:09	9/16/2010 13:57		L51298-9

## King County Environmental Laboratory Batch Report

## Streams Sediment, 2010, L51247, L51298

## WG110785 Total Solids

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	CVTOTS	FRSHWTRSED	7/27/2010 11:35	8/16/2010 14:30	8/17/2010 9:42	WG110785-2,-3,-1,-4,-5	
L51247-2	421240C-300		CVTOTS	FRSHWTRSED	7/27/2010 9:20	8/16/2010 14:30	8/17/2010 9:41		
L51247-3	421240C-300		CVTOTS	FRSHWTRSED	7/27/2010 13:05	8/16/2010 14:30	8/17/2010 9:41		
L51247-4	421240C-300		CVTOTS	FRSHWTRSED	7/27/2010 10:15	8/16/2010 14:30	8/17/2010 9:41		
L51247-5	421240C-300		CVTOTS	FRSHWTRSED	7/27/2010 11:00	8/16/2010 14:30	8/17/2010 9:40		
L51247-6	421240C-300		CVTOTS	FRSHWTRSED	7/26/2010 9:45	8/16/2010 14:30	8/17/2010 9:55		
L51247-7	421240C-300		CVTOTS	FRSHWTRSED	7/26/2010 10:35	8/16/2010 14:30	8/17/2010 9:55		
L51247-8	421240C-300		CVTOTS	FRSHWTRSED	7/27/2010 10:05	8/16/2010 14:30	8/17/2010 9:55		
L51247-9	421240C-300		CVTOTS	FRSHWTRSED	7/27/2010 11:05	8/16/2010 14:30	8/17/2010 9:39		
L51247-10	421240C-300		CVTOTS	FRSHWTRSED	7/27/2010 12:49	8/16/2010 14:30	8/17/2010 9:39		
L51278-1	421195-180	Mercer Island Stormwater Monitoring	CVTOTS	FRSHWTRSED	7/27/2010 14:00	8/16/2010 14:30	8/17/2010 9:48	WG110783-1,WG110785-2,-3,-1,-	
L51278-2	421195-180		CVTOTS	FRSHWTRSED	7/27/2010 14:45	8/16/2010 14:30	8/17/2010 9:48		
L51298-1	421240C-300	Freshwater Streams Sediment	CVTOTS	FRSHWTRSED	7/26/2010 10:20	8/16/2010 14:30	8/17/2010 9:44	WG110785-2,-3,-1,-4,-5	
L51298-2	421240C-300		CVTOTS	FRSHWTRSED	7/26/2010 11:15	8/16/2010 14:30	8/17/2010 9:44		
L51298-3	421240C-300		CVTOTS	FRSHWTRSED	7/26/2010 11:45	8/16/2010 14:30	8/17/2010 9:45		
L51298-4	421240C-300		CVTOTS	FRSHWTRSED	7/26/2010 12:05	8/16/2010 14:30	8/17/2010 9:45		
L51298-5	421240C-300		CVTOTS	FRSHWTRSED	7/26/2010 12:35	8/16/2010 14:30	8/17/2010 9:46		
L51298-6	421240C-300		CVTOTS	FRSHWTRSED	7/26/2010 13:00	8/16/2010 14:30	8/17/2010 9:52		
L51298-7	421240C-300		CVTOTS	FRSHWTRSED	7/26/2010 13:20	8/16/2010 14:30	8/17/2010 9:53		
L51298-8	421240C-300		CVTOTS	FRSHWTRSED	7/26/2010 13:50	8/16/2010 14:30	8/17/2010 9:53		
L51298-9	421240C-300		CVTOTS	FRSHWTRSED	7/26/2010 14:15	8/16/2010 14:30	8/17/2010 9:54		
L51298-10	421240C-300		CVTOTS	FRSHWTRSED	7/26/2010 14:45	8/16/2010 14:30	8/17/2010 9:54		
WG110783-1	MB		CVTOTS	OTHR SOLID		8/16/2010 14:30	8/17/2010 9:36		MB1 8/16/10
WG110785-1	MB		CVTOTS	OTHR SOLID		8/16/2010 14:30	8/17/2010 9:40		MB2 8/16/10
WG110785-2	LD		CVTOTS	FRSHWTRSED		8/16/2010 14:30	8/17/2010 9:47	WG110783-1,WG110785-2,-3,-1,-4,-5	L51278-2
WG110785-3	LT		CVTOTS	FRSHWTRSED		8/16/2010 14:30	8/17/2010 9:47		WG110785-2 L51278-2
WG110785-4	LD		CVTOTS	FRSHWTRSED		8/16/2010 14:30	8/17/2010 9:43	WG110785-2,-3,-1,-4,-5	L51247-3
WG110785-5	LT		CVTOTS	FRSHWTRSED		8/16/2010 14:30	8/17/2010 9:43		WG110785-4 L51247-3

# King County Environmental Laboratory Batch Report

# Streams Sediment, 2010, L51247, L51298

## WG110756 Total Mercury

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	MTHG-MIDS	FRSHWTRSED	7/27/2010 11:35	8/16/2010 10:05	8/17/2010 11:29	WG110756-1,-2,-3,-4,- 5,-6,-7	
L51247-2	421240C-300		MTHG-MIDS	FRSHWTRSED	7/27/2010 9:20	8/16/2010 10:05	8/17/2010 11:31		
L51247-3	421240C-300		MTHG-MIDS	FRSHWTRSED	7/27/2010 13:05	8/16/2010 10:05	8/17/2010 11:36		
L51247-4	421240C-300		MTHG-MIDS	FRSHWTRSED	7/27/2010 10:15	8/16/2010 10:05	8/17/2010 11:38		
L51247-5	421240C-300		MTHG-MIDS	FRSHWTRSED	7/27/2010 11:00	8/16/2010 10:05	8/17/2010 11:22		
L51247-6	421240C-300		MTHG-MIDS	FRSHWTRSED	7/26/2010 9:45	8/16/2010 10:05	8/17/2010 11:40		
L51247-7	421240C-300		MTHG-MIDS	FRSHWTRSED	7/26/2010 10:35	8/16/2010 10:05	8/17/2010 11:42		
L51247-8	421240C-300		MTHG-MIDS	FRSHWTRSED	7/27/2010 10:05	8/16/2010 10:05	8/17/2010 11:43		
L51247-9	421240C-300		MTHG-MIDS	FRSHWTRSED	7/27/2010 11:05	8/16/2010 10:05	8/17/2010 11:45		
L51247-10	421240C-300		MTHG-MIDS	FRSHWTRSED	7/27/2010 12:49	8/16/2010 10:05	8/17/2010 11:47		
L51298-1	421240C-300		MTHG-MIDS	FRSHWTRSED	7/26/2010 10:20	8/16/2010 10:05	8/17/2010 11:49		
L51298-2	421240C-300		MTHG-MIDS	FRSHWTRSED	7/26/2010 11:15	8/16/2010 10:05	8/17/2010 11:51		
L51298-3	421240C-300		MTHG-MIDS	FRSHWTRSED	7/26/2010 11:45	8/16/2010 10:05	8/17/2010 11:52		
L51298-4	421240C-300		MTHG-MIDS	FRSHWTRSED	7/26/2010 12:05	8/16/2010 10:05	8/17/2010 11:58		
L51298-5	421240C-300		MTHG-MIDS	FRSHWTRSED	7/26/2010 12:35	8/16/2010 10:05	8/17/2010 12:00		
L51298-6	421240C-300		MTHG-MIDS	FRSHWTRSED	7/26/2010 13:00	8/16/2010 10:05	8/17/2010 12:01		
L51298-7	421240C-300		MTHG-MIDS	FRSHWTRSED	7/26/2010 13:20	8/16/2010 10:05	8/17/2010 12:03		
L51298-8	421240C-300		MTHG-MIDS	FRSHWTRSED	7/26/2010 13:50	8/16/2010 10:05	8/17/2010 12:05		
L51298-9	421240C-300		MTHG-MIDS	FRSHWTRSED	7/26/2010 14:15	8/16/2010 10:05	8/17/2010 12:07		
L51298-10	421240C-300		MTHG-MIDS	FRSHWTRSED	7/26/2010 14:45	8/16/2010 10:05	8/17/2010 12:09		
WG110756-1	LCS		MTHG-MIDS	FRSHWTRSED		8/16/2010 10:05	8/17/2010 11:14		WQB1
WG110756-2	LCS		MTHG-MIDS	FRSHWTRSED		8/16/2010 10:05	8/17/2010 11:16		WQB1
WG110756-3	MB		MTHG-MIDS	SOLIDBLANK		8/16/2010 10:05	8/17/2010 11:18		METHOD BLANK
WG110756-4	SB		MTHG-MIDS	SOLIDBLANK		8/16/2010 10:05	8/17/2010 11:20		WG110756-3 HG- SMID
WG110756-5	MS		MTHG-MIDS	FRSHWTRSED		8/16/2010 10:05	8/17/2010 11:23		L51247-5 HG-SMID
WG110756-6	MSD		MTHG-MIDS	FRSHWTRSED		8/16/2010 10:05	8/17/2010 11:25		WG110756-5 L51247- 5 HG-SMID-MSD
WG110756-7	LD		MTHG-MIDS	FRSHWTRSED		8/16/2010 10:05	8/17/2010 11:27		L51247-5 RPD-SOL

# King County Environmental Laboratory Batch Report

Streams Sediment, 2010, L51247, L51298

## WG110587 SEM Mercury

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-7	421240C-300	Freshwater Streams Sediment	MTHG-SEM	FRSHWTRSED	7/26/2010 10:35	8/9/2010 9:55	8/10/2010 10:51	WG110587-1,-2,-6	
L51298-1	421240C-300		MTHG-SEM	FRSHWTRSED	7/26/2010 10:20	8/9/2010 9:55	8/10/2010 10:32	WG110587-1,-2,-3,-4,-5	
L51298-2	421240C-300		MTHG-SEM	FRSHWTRSED	7/26/2010 11:15	8/9/2010 9:55	8/10/2010 10:33		
L51298-3	421240C-300		MTHG-SEM	FRSHWTRSED	7/26/2010 11:45	8/9/2010 9:55	8/10/2010 10:22		
L51298-4	421240C-300		MTHG-SEM	FRSHWTRSED	7/26/2010 12:05	8/9/2010 9:55	8/10/2010 10:35		
L51298-5	421240C-300		MTHG-SEM	FRSHWTRSED	7/26/2010 12:35	8/9/2010 9:55	8/10/2010 10:41		
L51298-6	421240C-300		MTHG-SEM	FRSHWTRSED	7/26/2010 13:00	8/9/2010 9:55	8/10/2010 10:42		
L51298-7	421240C-300		MTHG-SEM	FRSHWTRSED	7/26/2010 13:20	8/9/2010 9:55	8/10/2010 10:44		
L51298-8	421240C-300		MTHG-SEM	FRSHWTRSED	7/26/2010 13:50	8/9/2010 9:55	8/10/2010 10:46		
L51298-9	421240C-300		MTHG-SEM	FRSHWTRSED	7/26/2010 14:15	8/9/2010 9:55	8/10/2010 10:48	WG110587-1,-2,-6	
L51298-10	421240C-300		MTHG-SEM	FRSHWTRSED	7/26/2010 14:45	8/9/2010 9:55	8/10/2010 10:50	WG110587-1,-2,-3,-4,-5,-6	
WG110587-1	MB		MTHG-SEM	SOLIDBLANK		8/9/2010 9:55	8/10/2010 10:19		METHOD BLANK
WG110587-2	SB		MTHG-SEM	SOLIDBLANK		8/9/2010 9:55	8/10/2010 10:21		WG110587-1 HG-SMID
WG110587-3	MS		MTHG-SEM	FRSHWTRSED		8/9/2010 9:55	8/10/2010 10:24	WG110587-1,-2,-3,-4,-5	L51298-3 HG-SMID
WG110587-4	LD		MTHG-SEM	FRSHWTRSED		8/9/2010 9:55	8/10/2010 10:26		L51298-3 RPD-SOL
WG110587-5	MB		MTHG-SEM	SOLIDBLANK		8/9/2010 9:55	8/10/2010 10:28		EXTRACTION BLANK 8/3/10
WG110587-6	MB		MTHG-SEM	SOLIDBLANK		8/9/2010 9:55	8/10/2010 10:30	WG110587-1,-2,-6	EXTRACTION BLANK 8/4/10

## King County Environmental Laboratory Batch Report

## Streams Sediment, 2010, L51247, L51298

## WG110606 SEM Metals

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-7	421240C-300	Freshwater Streams Sediment	MTICP-SEM	FRSHWTRSED	7/26/2010 10:35	8/10/2010 8:00	8/10/2010 10:15	WG110606-1,-2,-3,-4,- 6	
L51298-1	421240C-300		MTICP-SEM	FRSHWTRSED	7/26/2010 10:20	8/10/2010 8:00	8/10/2010 10:21		
L51298-2	421240C-300		MTICP-SEM	FRSHWTRSED	7/26/2010 11:15	8/10/2010 8:00	8/10/2010 10:26		
L51298-3	421240C-300		MTICP-SEM	FRSHWTRSED	7/26/2010 11:45	8/10/2010 8:00	8/10/2010 10:32		
L51298-4	421240C-300		MTICP-SEM	FRSHWTRSED	7/26/2010 12:05	8/10/2010 8:00	8/10/2010 11:01		
L51298-5	421240C-300		MTICP-SEM	FRSHWTRSED	7/26/2010 12:35	8/10/2010 8:00	8/10/2010 11:06		
L51298-6	421240C-300		MTICP-SEM	FRSHWTRSED	7/26/2010 13:00	8/10/2010 8:00	8/10/2010 11:12		
L51298-7	421240C-300		MTICP-SEM	FRSHWTRSED	7/26/2010 13:20	8/10/2010 8:00	8/10/2010 11:18		
L51298-8	421240C-300		MTICP-SEM	FRSHWTRSED	7/26/2010 13:50	8/10/2010 8:00	8/10/2010 11:23		
L51298-9	421240C-300		MTICP-SEM	FRSHWTRSED	7/26/2010 14:15	8/10/2010 8:00	8/10/2010 11:29		
L51298-10	421240C-300		MTICP-SEM	FRSHWTRSED	7/26/2010 14:45	8/10/2010 8:00	8/10/2010 11:35		
WG110606-1	SB		MTICP-SEM	SOLIDBLANK		8/10/2010 8:00	8/10/2010 9:53	WG110606-1,-2,-3,-4,- 5,-6	WG110606-2 ICPH
WG110606-2	MB		MTICP-SEM	SOLIDBLANK		8/10/2010 8:00	8/10/2010 9:59		METHOD BLANK
WG110606-3	LD		MTICP-SEM	FRSHWTRSED		8/10/2010 8:00	8/10/2010 10:38	WG110606-1,-2,-3,-4,- 5	L51298-3 RPD-SOL
WG110606-4	MS		MTICP-SEM	FRSHWTRSED		8/10/2010 8:00	8/10/2010 10:44		L51298-3 ICPH
WG110606-5	MB		MTICP-SEM	SOLIDBLANK		8/10/2010 8:00	8/10/2010 10:04		EXTRACTION
									BLANK 080310
									(L51298-1-8)
WG110606-6	MB		MTICP-SEM	SOLIDBLANK		8/10/2010 8:00	8/10/2010 10:10		EXTRACTION
									BLANK 080410
									(L51247-7, L51298- 9,10)

# King County Environmental Laboratory Batch Report

Streams Sediment, 2010, L51247, L51298

## WG111413 Total Metals

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	MTICPMS-SED	FRSHWTRSED	7/27/2010 11:35	9/28/2010 8:00	9/29/2010 12:16	WG111413-1,-2,-3,-4,-5,-6	
L51247-2	421240C-300		MTICPMS-SED	FRSHWTRSED	7/27/2010 9:20	9/28/2010 8:00	9/29/2010 12:21		
L51247-3	421240C-300		MTICPMS-SED	FRSHWTRSED	7/27/2010 13:05	9/28/2010 8:00	9/29/2010 12:26		
L51247-4	421240C-300		MTICPMS-SED	FRSHWTRSED	7/27/2010 10:15	9/28/2010 8:00	9/29/2010 12:31		
L51247-5	421240C-300		MTICPMS-SED	FRSHWTRSED	7/27/2010 11:00	9/28/2010 8:00	9/29/2010 12:36		
L51247-6	421240C-300		MTICPMS-SED	FRSHWTRSED	7/26/2010 9:45	9/28/2010 8:00	9/29/2010 12:41		
L51247-7	421240C-300		MTICPMS-SED	FRSHWTRSED	7/26/2010 10:35	9/28/2010 8:00	9/29/2010 12:56		
L51247-8	421240C-300		MTICPMS-SED	FRSHWTRSED	7/27/2010 10:05	9/28/2010 8:00	9/29/2010 13:11		
L51247-9	421240C-300		MTICPMS-SED	FRSHWTRSED	7/27/2010 11:05	9/28/2010 8:00	9/29/2010 13:16		
L51247-10	421240C-300		MTICPMS-SED	FRSHWTRSED	7/27/2010 12:49	9/28/2010 8:00	9/29/2010 13:21		
L51298-1	421240C-300		MTICPMS-SED	FRSHWTRSED	7/26/2010 10:20	9/28/2010 8:00	9/29/2010 13:26		
L51298-2	421240C-300		MTICPMS-SED	FRSHWTRSED	7/26/2010 11:15	9/28/2010 8:00	9/29/2010 13:31		
L51298-3	421240C-300		MTICPMS-SED	FRSHWTRSED	7/26/2010 11:45	9/28/2010 8:00	9/29/2010 13:36		
L51298-4	421240C-300		MTICPMS-SED	FRSHWTRSED	7/26/2010 12:05	9/28/2010 8:00	9/29/2010 13:41		
L51298-5	421240C-300		MTICPMS-SED	FRSHWTRSED	7/26/2010 12:35	9/28/2010 8:00	9/29/2010 13:56		
L51298-6	421240C-300		MTICPMS-SED	FRSHWTRSED	7/26/2010 13:00	9/28/2010 8:00	9/29/2010 14:01		
L51298-7	421240C-300		MTICPMS-SED	FRSHWTRSED	7/26/2010 13:20	9/28/2010 8:00	9/29/2010 14:06		
L51298-8	421240C-300		MTICPMS-SED	FRSHWTRSED	7/26/2010 13:50	9/28/2010 8:00	9/29/2010 14:11		
L51298-9	421240C-300		MTICPMS-SED	FRSHWTRSED	7/26/2010 14:15	9/28/2010 8:00	9/29/2010 14:16		
L51298-10	421240C-300		MTICPMS-SED	FRSHWTRSED	7/26/2010 14:45	9/28/2010 8:00	9/29/2010 14:21		
WG111413-1	MB		MTICPMS-SED	SOLIDBLANK		9/28/2010 8:00	9/29/2010 12:01		METHOD BLANK
WG111413-2	SB		MTICPMS-SED	SOLIDBLANK		9/28/2010 8:00	9/29/2010 12:06		WG111413-1 MS-100
WG111413-3	LCS		MTICPMS-SED	FRSHWTRSED		9/28/2010 8:00	9/29/2010 12:11		BUFFSED
WG111413-4	LCS		MTICPMS-SED	FRSHWTRSED		9/28/2010 8:00	9/29/2010 14:26		ERASOIL
WG111413-5	LD		MTICPMS-SED	FRSHWTRSED		9/28/2010 8:00	9/29/2010 13:01		L51247-7 RPD-SOL
WG111413-6	MS		MTICPMS-SED	FRSHWTRSED		9/28/2010 8:00	9/29/2010 13:06		L51247-7 MS-100

## King County Environmental Laboratory Batch Report

## Streams Sediment, 2010, L51247, L51298

## WG110469 Semi Volatile Organics

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	ORBNALLFULL	FRSHWTRSED	7/27/2010 11:35	9/23/2010 7:00	10/20/2010 10:38	WG110469-6,-1,-2,-3,-4,-5	
L51247-2	421240C-300		ORBNALLFULL	FRSHWTRSED	7/27/2010 9:20	9/23/2010 7:00	10/20/2010 11:16		
L51247-3	421240C-300		ORBNALLFULL	FRSHWTRSED	7/27/2010 13:05	9/23/2010 7:00	10/20/2010 11:54		
L51247-4	421240C-300		ORBNALLFULL	FRSHWTRSED	7/27/2010 10:15	9/23/2010 7:00	10/20/2010 12:32		
L51247-5	421240C-300		ORBNALLFULL	FRSHWTRSED	7/27/2010 11:00	9/23/2010 7:00	10/20/2010 13:10		
L51247-6	421240C-300		ORBNALLFULL	FRSHWTRSED	7/26/2010 9:45	9/23/2010 7:00	10/20/2010 13:48		
L51247-7	421240C-300		ORBNALLFULL	FRSHWTRSED	7/26/2010 10:35	9/23/2010 7:00	10/20/2010 14:26		
L51247-8	421240C-300		ORBNALLFULL	FRSHWTRSED	7/27/2010 10:05	9/23/2010 7:00	10/20/2010 15:04		
L51247-9	421240C-300		ORBNALLFULL	FRSHWTRSED	7/27/2010 11:05	9/23/2010 7:00	10/20/2010 15:43		
L51247-10	421240C-300		ORBNALLFULL	FRSHWTRSED	7/27/2010 12:49	9/23/2010 7:00	10/20/2010 16:21		
L51298-1	421240C-300		ORBNALLFULL	FRSHWTRSED	7/26/2010 10:20	9/23/2010 7:00	10/21/2010 9:08		
L51298-2	421240C-300		ORBNALLFULL	FRSHWTRSED	7/26/2010 11:15	9/23/2010 7:00	10/21/2010 9:46		
L51298-3	421240C-300		ORBNALLFULL	FRSHWTRSED	7/26/2010 11:45	9/23/2010 7:00	10/21/2010 10:24		
L51298-4	421240C-300		ORBNALLFULL	FRSHWTRSED	7/26/2010 12:05	9/23/2010 7:00	10/21/2010 11:02		
L51298-5	421240C-300		ORBNALLFULL	FRSHWTRSED	7/26/2010 12:35	9/23/2010 7:00	10/21/2010 11:40		
L51298-6	421240C-300		ORBNALLFULL	FRSHWTRSED	7/26/2010 13:00	9/23/2010 7:00	10/21/2010 12:18		
L51298-7	421240C-300		ORBNALLFULL	FRSHWTRSED	7/26/2010 13:20	9/23/2010 7:00	10/21/2010 12:56		
L51298-8	421240C-300		ORBNALLFULL	FRSHWTRSED	7/26/2010 13:50	9/23/2010 7:00	10/21/2010 13:34		
L51298-9	421240C-300		ORBNALLFULL	FRSHWTRSED	7/26/2010 14:15	9/23/2010 7:00	10/15/2010 16:54		
L51298-10	421240C-300		ORBNALLFULL	FRSHWTRSED	7/26/2010 14:45	9/23/2010 7:00	10/15/2010 17:32		
WG110469-1	MB		ORBNALLFULL	OTHR SOLID		9/23/2010 7:00	10/15/2010 8:09		MB100803
WG110469-2	SB		ORBNALLFULL	OTHR SOLID		9/23/2010 7:00	10/15/2010 8:47		WG110469-1
WG110469-3	MS		ORBNALLFULL	FRSHWTRSED		9/23/2010 7:00	10/15/2010 14:23		L51298-9
WG110469-4	MSD		ORBNALLFULL	FRSHWTRSED		9/23/2010 7:00	10/15/2010 15:01		WG110469-3 L51298-9
WG110469-5	SRM		ORBNALLFULL	FRSHWTRSED		9/23/2010 7:00	10/15/2010 15:38	WG110469-5	1944
WG110469-6	LD		ORBNALLFULL	FRSHWTRSED		9/23/2010 7:00	10/15/2010 16:16	WG110469-6,-1,-2,-3,-4,-5	L51298-10

# King County Environmental Laboratory Batch Report

Streams Sediment, 2010, L51247, L51298

## WG110470 EDC Compounds

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	OREDC	FRSHWTRSED	7/27/2010 11:35	9/23/2010 7:00	10/20/2010 10:38	WG110470-6,-1,-2,-3,-4	
L51247-2	421240C-300		OREDC	FRSHWTRSED	7/27/2010 9:20	9/23/2010 7:00	10/20/2010 11:16		
L51247-3	421240C-300		OREDC	FRSHWTRSED	7/27/2010 13:05	9/23/2010 7:00	10/20/2010 11:54		
L51247-4	421240C-300		OREDC	FRSHWTRSED	7/27/2010 10:15	9/23/2010 7:00	10/20/2010 12:32		
L51247-5	421240C-300		OREDC	FRSHWTRSED	7/27/2010 11:00	9/23/2010 7:00	10/20/2010 13:10		
L51247-6	421240C-300		OREDC	FRSHWTRSED	7/26/2010 9:45	9/23/2010 7:00	10/20/2010 13:48		
L51247-7	421240C-300		OREDC	FRSHWTRSED	7/26/2010 10:35	9/23/2010 7:00	10/20/2010 14:26		
L51247-8	421240C-300		OREDC	FRSHWTRSED	7/27/2010 10:05	9/23/2010 7:00	10/20/2010 15:04		
L51247-9	421240C-300		OREDC	FRSHWTRSED	7/27/2010 11:05	9/23/2010 7:00	10/20/2010 15:43		
L51247-10	421240C-300		OREDC	FRSHWTRSED	7/27/2010 12:49	9/23/2010 7:00	10/20/2010 16:21		
L51298-1	421240C-300		OREDC	FRSHWTRSED	7/26/2010 10:20	9/23/2010 7:00	10/21/2010 9:08		
L51298-2	421240C-300		OREDC	FRSHWTRSED	7/26/2010 11:15	9/23/2010 7:00	10/21/2010 9:46		
L51298-3	421240C-300		OREDC	FRSHWTRSED	7/26/2010 11:45	9/23/2010 7:00	10/21/2010 10:24		
L51298-4	421240C-300		OREDC	FRSHWTRSED	7/26/2010 12:05	9/23/2010 7:00	10/21/2010 11:02		
L51298-5	421240C-300		OREDC	FRSHWTRSED	7/26/2010 12:35	9/23/2010 7:00	10/21/2010 11:40		
L51298-6	421240C-300		OREDC	FRSHWTRSED	7/26/2010 13:00	9/23/2010 7:00	10/21/2010 12:18		
L51298-7	421240C-300		OREDC	FRSHWTRSED	7/26/2010 13:20	9/23/2010 7:00	10/21/2010 12:56		
L51298-8	421240C-300		OREDC	FRSHWTRSED	7/26/2010 13:50	9/23/2010 7:00	10/21/2010 13:34		
L51298-9	421240C-300		OREDC	FRSHWTRSED	7/26/2010 14:15	9/23/2010 7:00	10/15/2010 16:54		
L51298-10	421240C-300		OREDC	FRSHWTRSED	7/26/2010 14:45	9/23/2010 7:00	10/15/2010 17:32		
WG110470-1	MB		OREDC	OTHR SOLID		9/23/2010 7:00	10/15/2010 8:09		MB100803
WG110470-2	SB		OREDC	OTHR SOLID		9/23/2010 7:00	10/15/2010 8:47		WG110470-1
WG110470-3	MS		OREDC	FRSHWTRSED		9/23/2010 7:00	10/15/2010 14:23		L51298-9
WG110470-4	MSD		OREDC	FRSHWTRSED		9/23/2010 7:00	10/15/2010 15:01		WG110470-3 L51298-9
WG110470-6	LD		OREDC	FRSHWTRSED		9/23/2010 7:00	10/15/2010 16:16		L51298-10

# King County Environmental Laboratory Batch Report

Streams Sediment, 2010, L51247, L51298

## WG111561 EDC Compounds

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	OREDC-LVI	FRSHWTRSED	7/27/2010 11:35	9/29/2010 7:00	10/18/2010 12:05	WG111561-1,-2,-3,-4,-5	
L51247-2	421240C-300		OREDC-LVI	FRSHWTRSED	7/27/2010 9:20	9/29/2010 7:00	10/18/2010 12:35		
L51247-3	421240C-300		OREDC-LVI	FRSHWTRSED	7/27/2010 13:05	9/29/2010 7:00	10/18/2010 13:06		
L51247-4	421240C-300		OREDC-LVI	FRSHWTRSED	7/27/2010 10:15	9/29/2010 7:00	10/18/2010 13:36		
L51247-5	421240C-300		OREDC-LVI	FRSHWTRSED	7/27/2010 11:00	9/29/2010 7:00	10/18/2010 14:06		
L51247-6	421240C-300		OREDC-LVI	FRSHWTRSED	7/26/2010 9:45	9/29/2010 7:00	10/18/2010 14:36		
L51247-7	421240C-300		OREDC-LVI	FRSHWTRSED	7/26/2010 10:35	9/29/2010 7:00	10/18/2010 15:06		
L51247-8	421240C-300		OREDC-LVI	FRSHWTRSED	7/27/2010 10:05	9/29/2010 7:00	10/19/2010 8:06		
L51247-9	421240C-300		OREDC-LVI	FRSHWTRSED	7/27/2010 11:05	9/29/2010 7:00	10/19/2010 8:36		
L51247-10	421240C-300		OREDC-LVI	FRSHWTRSED	7/27/2010 12:49	9/29/2010 7:00	10/19/2010 9:06		
L51298-1	421240C-300		OREDC-LVI	FRSHWTRSED	7/26/2010 10:20	9/29/2010 7:00	10/19/2010 9:36		
L51298-2	421240C-300		OREDC-LVI	FRSHWTRSED	7/26/2010 11:15	9/29/2010 7:00	10/19/2010 10:06		
L51298-3	421240C-300		OREDC-LVI	FRSHWTRSED	7/26/2010 11:45	9/29/2010 7:00	10/19/2010 10:36		
L51298-4	421240C-300		OREDC-LVI	FRSHWTRSED	7/26/2010 12:05	9/29/2010 7:00	10/19/2010 11:06		
L51298-5	421240C-300		OREDC-LVI	FRSHWTRSED	7/26/2010 12:35	9/29/2010 7:00	10/19/2010 11:37		
L51298-6	421240C-300		OREDC-LVI	FRSHWTRSED	7/26/2010 13:00	9/29/2010 7:00	10/19/2010 12:07		
L51298-7	421240C-300		OREDC-LVI	FRSHWTRSED	7/26/2010 13:20	9/29/2010 7:00	10/19/2010 12:37		
L51298-8	421240C-300		OREDC-LVI	FRSHWTRSED	7/26/2010 13:50	9/29/2010 7:00	10/19/2010 13:07		
L51298-9	421240C-300		OREDC-LVI	FRSHWTRSED	7/26/2010 14:15	9/29/2010 7:00	10/19/2010 13:37		
L51298-10	421240C-300		OREDC-LVI	FRSHWTRSED	7/26/2010 14:45	9/29/2010 7:00	10/19/2010 14:07		
WG111561-1	MB		OREDC-LVI	OTHR SOLID		9/29/2010 7:00	10/18/2010 9:05		MB100929
WG111561-2	SB		OREDC-LVI	OTHR SOLID		9/29/2010 7:00	10/18/2010 9:35		WG111561-1
WG111561-3	MS		OREDC-LVI	FRSHWTRSED		9/29/2010 7:00	10/18/2010 10:05		L51298-2
WG111561-4	MSD		OREDC-LVI	FRSHWTRSED		9/29/2010 7:00	10/18/2010 10:35		WG111561-3 L51298-2
WG111561-5	LD		OREDC-LVI	FRSHWTRSED		9/29/2010 7:00	10/18/2010 11:35		L51298-9

# King County Environmental Laboratory Batch Report

Streams Sediment, 2010, L51247, L51298

## WG110374 PBDE

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	ORPBDE	FRSHWTRSED	7/27/2010 11:35	7/28/2010 7:00	8/30/2010 14:16	WG110374-1,-2,-3,-4,-5,-6	
L51247-2	421240C-300		ORPBDE	FRSHWTRSED	7/27/2010 9:20	7/28/2010 7:00	8/30/2010 14:36		
L51247-3	421240C-300		ORPBDE	FRSHWTRSED	7/27/2010 13:05	7/28/2010 7:00	8/30/2010 14:57		
L51247-4	421240C-300		ORPBDE	FRSHWTRSED	7/27/2010 10:15	7/28/2010 7:00	8/30/2010 15:17		
L51247-5	421240C-300		ORPBDE	FRSHWTRSED	7/27/2010 11:00	7/28/2010 7:00	8/30/2010 15:38		
L51247-6	421240C-300		ORPBDE	FRSHWTRSED	7/26/2010 9:45	7/28/2010 7:00	8/30/2010 15:58		
L51247-7	421240C-300		ORPBDE	FRSHWTRSED	7/26/2010 10:35	7/28/2010 7:00	8/30/2010 16:19		
L51247-8	421240C-300		ORPBDE	FRSHWTRSED	7/27/2010 10:05	7/28/2010 7:00	8/30/2010 16:39		
L51247-9	421240C-300		ORPBDE	FRSHWTRSED	7/27/2010 11:05	7/28/2010 7:00	8/30/2010 17:15		
L51247-10	421240C-300		ORPBDE	FRSHWTRSED	7/27/2010 12:49	7/28/2010 7:00	8/30/2010 17:20		
L51298-1	421240C-300		ORPBDE	FRSHWTRSED	7/26/2010 10:20	7/28/2010 7:00	8/30/2010 17:41		
L51298-2	421240C-300		ORPBDE	FRSHWTRSED	7/26/2010 11:15	7/28/2010 7:00	8/30/2010 18:01		
L51298-3	421240C-300		ORPBDE	FRSHWTRSED	7/26/2010 11:45	7/28/2010 7:00	8/30/2010 18:22		
L51298-4	421240C-300		ORPBDE	FRSHWTRSED	7/26/2010 12:05	7/28/2010 7:00	8/30/2010 18:42		
L51298-5	421240C-300		ORPBDE	FRSHWTRSED	7/26/2010 12:35	7/28/2010 7:00	8/30/2010 19:03		
L51298-6	421240C-300		ORPBDE	FRSHWTRSED	7/26/2010 13:00	7/28/2010 7:00	8/30/2010 19:23		
L51298-7	421240C-300		ORPBDE	FRSHWTRSED	7/26/2010 13:20	7/28/2010 7:00	8/30/2010 19:44		
L51298-8	421240C-300		ORPBDE	FRSHWTRSED	7/26/2010 13:50	7/28/2010 7:00	8/30/2010 20:04		
L51298-9	421240C-300		ORPBDE	FRSHWTRSED	7/26/2010 14:15	7/28/2010 7:00	8/30/2010 20:25		
L51298-10	421240C-300		ORPBDE	FRSHWTRSED	7/26/2010 14:45	7/28/2010 7:00	8/30/2010 20:45		
WG110374-1	MB		ORPBDE	OTHR SOLID		7/28/2010 7:00	8/30/2010 12:13		MB100728
WG110374-2	SB		ORPBDE	OTHR SOLID		7/28/2010 7:00	8/30/2010 12:33		WG110374-1
WG110374-3	MS		ORPBDE	FRSHWTRSED		7/28/2010 7:00	8/30/2010 12:54		L51298-2
WG110374-4	MSD		ORPBDE	FRSHWTRSED		7/28/2010 7:00	8/30/2010 13:14		WG110374-3 L51298-2
WG110374-5	LCS		ORPBDE	OTHR SOLID		7/28/2010 7:00	8/30/2010 13:35		2585
WG110374-6	LD		ORPBDE	FRSHWTRSED		7/28/2010 7:00	8/30/2010 13:55	WG110374-6	L51298-10

# King County Environmental Laboratory Batch Report

Streams Sediment, 2010, L51247, L51298

WG110373 PCB

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	ORPCBLL	FRSHWTRSED	7/27/2010 11:35	7/28/2010 7:00	9/3/2010 18:51	WG110373-6,-5,-4,-3,-2,-1	
L51247-2	421240C-300		ORPCBLL	FRSHWTRSED	7/27/2010 9:20	7/28/2010 7:00	9/3/2010 19:28		
L51247-3	421240C-300		ORPCBLL	FRSHWTRSED	7/27/2010 13:05	7/28/2010 7:00	9/3/2010 21:19		
L51247-4	421240C-300		ORPCBLL	FRSHWTRSED	7/27/2010 10:15	7/28/2010 7:00	9/3/2010 21:57		
L51247-5	421240C-300		ORPCBLL	FRSHWTRSED	7/27/2010 11:00	7/28/2010 7:00	9/3/2010 22:34		
L51247-6	421240C-300		ORPCBLL	FRSHWTRSED	7/26/2010 9:45	7/28/2010 7:00	9/3/2010 23:11		
L51247-7	421240C-300		ORPCBLL	FRSHWTRSED	7/26/2010 10:35	7/28/2010 7:00	9/3/2010 23:48		
L51247-8	421240C-300		ORPCBLL	FRSHWTRSED	7/27/2010 10:05	7/28/2010 7:00	9/4/2010 0:25		
L51247-9	421240C-300		ORPCBLL	FRSHWTRSED	7/27/2010 11:05	7/28/2010 7:00	9/4/2010 1:02		
L51247-10	421240C-300		ORPCBLL	FRSHWTRSED	7/27/2010 12:49	7/28/2010 7:00	9/4/2010 1:39		
L51298-1	421240C-300		ORPCBLL	FRSHWTRSED	7/26/2010 10:20	7/28/2010 7:00	9/3/2010 16:23		
L51298-2	421240C-300		ORPCBLL	FRSHWTRSED	7/26/2010 11:15	7/28/2010 7:00	9/4/2010 2:16		
L51298-3	421240C-300		ORPCBLL	FRSHWTRSED	7/26/2010 11:45	7/28/2010 7:00	9/4/2010 2:53		
L51298-4	421240C-300		ORPCBLL	FRSHWTRSED	7/26/2010 12:05	7/28/2010 7:00	9/4/2010 4:45		
L51298-5	421240C-300		ORPCBLL	FRSHWTRSED	7/26/2010 12:35	7/28/2010 7:00	9/4/2010 5:22		
L51298-6	421240C-300		ORPCBLL	FRSHWTRSED	7/26/2010 13:00	7/28/2010 7:00	9/4/2010 5:59		
L51298-7	421240C-300		ORPCBLL	FRSHWTRSED	7/26/2010 13:20	7/28/2010 7:00	9/4/2010 6:36		
L51298-8	421240C-300		ORPCBLL	FRSHWTRSED	7/26/2010 13:50	7/28/2010 7:00	9/4/2010 7:13		
L51298-9	421240C-300		ORPCBLL	FRSHWTRSED	7/26/2010 14:15	7/28/2010 7:00	9/3/2010 17:37		
L51298-10	421240C-300		ORPCBLL	FRSHWTRSED	7/26/2010 14:45	7/28/2010 7:00	9/4/2010 7:50		
WG110373-1	MB		ORPCBLL	OTHR SOLID		7/28/2010 7:00	9/3/2010 13:54		MB100728
WG110373-2	SB		ORPCBLL	OTHR SOLID		7/28/2010 7:00	9/3/2010 14:31		WG110373-1
WG110373-3	MS		ORPCBLL	FRSHWTRSED		7/28/2010 7:00	9/3/2010 15:09		L51298-1
WG110373-4	MSD		ORPCBLL	FRSHWTRSED		7/28/2010 7:00	9/3/2010 15:46		WG110373-3 L51298-1
WG110373-5	SRM		ORPCBLL	OTHR SOLID		7/28/2010 7:00	9/3/2010 18:14		HS2
WG110373-6	LD		ORPCBLL	FRSHWTRSED		7/28/2010 7:00	9/3/2010 17:00		L51298-9

# King County Environmental Laboratory Batch Report

Streams Sediment, 2010, L51247, L51298

## WG110372 Pesticides

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	ORPESTLL	FRSHWTRSED	7/27/2010 11:35	7/28/2010 7:00	8/24/2010 16:59	WG110372-6,-4,-2,-1,-5,-3	
L51247-2	421240C-300		ORPESTLL	FRSHWTRSED	7/27/2010 9:20	7/28/2010 7:00	8/24/2010 17:37		
L51247-3	421240C-300		ORPESTLL	FRSHWTRSED	7/27/2010 13:05	7/28/2010 7:00	8/24/2010 20:05		
L51247-4	421240C-300		ORPESTLL	FRSHWTRSED	7/27/2010 10:15	7/28/2010 7:00	8/24/2010 20:42		
L51247-5	421240C-300		ORPESTLL	FRSHWTRSED	7/27/2010 11:00	7/28/2010 7:00	8/24/2010 21:20		
L51247-6	421240C-300		ORPESTLL	FRSHWTRSED	7/26/2010 9:45	7/28/2010 7:00	8/24/2010 21:57		
L51247-7	421240C-300		ORPESTLL	FRSHWTRSED	7/26/2010 10:35	7/28/2010 7:00	8/24/2010 14:31		
L51247-8	421240C-300		ORPESTLL	FRSHWTRSED	7/27/2010 10:05	7/28/2010 7:00	8/24/2010 23:11		
L51247-9	421240C-300		ORPESTLL	FRSHWTRSED	7/27/2010 11:05	7/28/2010 7:00	8/24/2010 23:11		
L51247-10	421240C-300		ORPESTLL	FRSHWTRSED	7/27/2010 12:49	7/28/2010 7:00	8/24/2010 23:48		
L51298-1	421240C-300		ORPESTLL	FRSHWTRSED	7/26/2010 10:20	7/28/2010 7:00	8/25/2010 0:25		
L51298-2	421240C-300		ORPESTLL	FRSHWTRSED	7/26/2010 11:15	7/28/2010 7:00	8/25/2010 1:02		
L51298-3	421240C-300		ORPESTLL	FRSHWTRSED	7/26/2010 11:45	7/28/2010 7:00	8/25/2010 1:39		
L51298-4	421240C-300		ORPESTLL	FRSHWTRSED	7/26/2010 12:05	7/28/2010 7:00	8/25/2010 4:08		
L51298-5	421240C-300		ORPESTLL	FRSHWTRSED	7/26/2010 12:35	7/28/2010 7:00	8/25/2010 4:45		
L51298-6	421240C-300		ORPESTLL	FRSHWTRSED	7/26/2010 13:00	7/28/2010 7:00	8/25/2010 5:22		
L51298-7	421240C-300		ORPESTLL	FRSHWTRSED	7/26/2010 13:20	7/28/2010 7:00	8/25/2010 5:59		
L51298-8	421240C-300		ORPESTLL	FRSHWTRSED	7/26/2010 13:50	7/28/2010 7:00	8/25/2010 6:37		
L51298-9	421240C-300		ORPESTLL	FRSHWTRSED	7/26/2010 14:15	7/28/2010 7:00	8/24/2010 15:45		
L51298-10	421240C-300		ORPESTLL	FRSHWTRSED	7/26/2010 14:45	7/28/2010 7:00	8/25/2010 7:14		
WG110372-1	MB		ORPESTLL	OTHR SOLID		7/28/2010 7:00	8/24/2010 12:02		MB100728
WG110372-2	SB		ORPESTLL	OTHR SOLID		7/28/2010 7:00	8/24/2010 12:39		WG110372-1
WG110372-3	MS		ORPESTLL	FRSHWTRSED		7/28/2010 7:00	8/24/2010 13:16	WG110372-5,-3	L51247-7
WG110372-4	MSD		ORPESTLL	FRSHWTRSED		7/28/2010 7:00	8/24/2010 13:54	WG110372-6,-4,-2,-1,-5,-3	WG110372-3 L51247-7
WG110372-5	SRM		ORPESTLL	OTHR SOLID		7/28/2010 7:00	8/24/2010 16:22	WG110372-5,-3	1944
WG110372-6	LD		ORPESTLL	FRSHWTRSED		7/28/2010 7:00	8/24/2010 15:08	WG110372-6,-4,-2,-1,-5,-3	L51298-9

# King County Environmental Laboratory Batch Report

Streams Sediment, 2010, L51247, L51298

WG110421 WTPH-Dx

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Anal Date	QC Association	Comments
L51247-1	421240C-300	Freshwater Streams Sediment	ORWTPH-DX	FRSHWTRSED	7/27/2010 11:35	7/30/2010 6:00	8/24/2010 18:51	WG110421-5,-4,-3,-2,-1	
L51247-2	421240C-300		ORWTPH-DX	FRSHWTRSED	7/27/2010 9:20	7/30/2010 6:00	8/24/2010 19:36		
L51247-3	421240C-300		ORWTPH-DX	FRSHWTRSED	7/27/2010 13:05	7/30/2010 6:00	8/24/2010 20:21		
L51247-4	421240C-300		ORWTPH-DX	FRSHWTRSED	7/27/2010 10:15	7/30/2010 6:00	8/24/2010 23:21		
L51247-5	421240C-300		ORWTPH-DX	FRSHWTRSED	7/27/2010 11:00	7/30/2010 6:00	8/25/2010 0:05		
L51247-6	421240C-300		ORWTPH-DX	FRSHWTRSED	7/26/2010 9:45	7/30/2010 6:00	8/25/2010 0:50		
L51247-7	421240C-300		ORWTPH-DX	FRSHWTRSED	7/26/2010 10:35	7/30/2010 6:00	8/25/2010 1:35		
L51247-8	421240C-300		ORWTPH-DX	FRSHWTRSED	7/27/2010 10:05	7/30/2010 6:00	8/25/2010 2:20		
L51247-9	421240C-300		ORWTPH-DX	FRSHWTRSED	7/27/2010 11:05	7/30/2010 6:00	8/24/2010 16:36		
L51247-10	421240C-300		ORWTPH-DX	FRSHWTRSED	7/27/2010 12:49	7/30/2010 6:00	8/25/2010 3:04		
L51298-1	421240C-300		ORWTPH-DX	FRSHWTRSED	7/26/2010 10:20	7/30/2010 6:00	8/25/2010 3:49		
L51298-2	421240C-300		ORWTPH-DX	FRSHWTRSED	7/26/2010 11:15	7/30/2010 6:00	8/25/2010 4:34		
L51298-3	421240C-300		ORWTPH-DX	FRSHWTRSED	7/26/2010 11:45	7/30/2010 6:00	8/25/2010 8:18		
L51298-4	421240C-300		ORWTPH-DX	FRSHWTRSED	7/26/2010 12:05	7/30/2010 6:00	8/25/2010 9:03		
L51298-5	421240C-300		ORWTPH-DX	FRSHWTRSED	7/26/2010 12:35	7/30/2010 6:00	8/25/2010 9:48		
L51298-6	421240C-300		ORWTPH-DX	FRSHWTRSED	7/26/2010 13:00	7/30/2010 6:00	8/25/2010 10:33		
L51298-7	421240C-300		ORWTPH-DX	FRSHWTRSED	7/26/2010 13:20	7/30/2010 6:00	8/25/2010 11:18		
L51298-8	421240C-300		ORWTPH-DX	FRSHWTRSED	7/26/2010 13:50	7/30/2010 6:00	8/25/2010 12:03		
L51298-9	421240C-300		ORWTPH-DX	FRSHWTRSED	7/26/2010 14:15	7/30/2010 6:00	8/25/2010 12:48		
L51298-10	421240C-300		ORWTPH-DX	FRSHWTRSED	7/26/2010 14:45	7/30/2010 6:00	8/25/2010 13:33		
WG110421-1	MB		ORWTPH-DX	OTHR SOLID		7/30/2010 6:00	8/24/2010 14:22		MB100730
WG110421-2	SB		ORWTPH-DX	OTHR SOLID		7/30/2010 6:00	8/24/2010 15:07		WG110421-1 SB-MO
WG110421-3	SB		ORWTPH-DX	OTHR SOLID		7/30/2010 6:00	8/24/2010 15:51		WG110421-1 SB-DSL
WG110421-4	LD		ORWTPH-DX	FRSHWTRSED		7/30/2010 6:00	8/24/2010 17:21		L51247-7
WG110421-5	LD		ORWTPH-DX	FRSHWTRSED		7/30/2010 6:00	8/24/2010 18:06		L51298-1

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG110545 AVS

MB:WG110545-1 Matrix: OTHR SOLID Listtype:CVAVS Method:EPA DEC 1991 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	

SB:WG110545-2 MB:WG110545-1 Matrix: OTHR SOLID Listtype:CVAVS Method:EPA DEC 1991 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	25.8	25.5	99		80--120

LT:WG110545-4 LD:WG110545-3 L51298-3 Matrix: FRSHWTRSED Listtype:CVAVS Method:EPA DEC 1991 Project:421240C-300 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
Sulfide, Acid Volatile	0.24	0.961	mg/Kg	<MDL	<MDL	<MDL			0--20

MS:WG110545-5 L51298-3 Matrix: FRSHWTRSED Listtype:CVAVS Method:EPA DEC 1991 Project:421240C-300 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Sulfide, Acid Volatile	0.24	0.976	mg/Kg	<MDL	24.2	2.32	10	*	65--135

MB:WG110545-6 Matrix: OTHR SOLID Listtype:CVAVS Method:EPA DEC 1991 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	

SB:WG110545-7 MB:WG110545-6 Matrix: OTHR SOLID Listtype:CVAVS Method:EPA DEC 1991 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	25.5	26	102		80--120

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG110446 Ammonia

MB:WG110446-1 Matrix: OTHR SOLID Listtype:CVNH3-KCL Method:SM4500-NH3-G KCL Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Ammonia Nitrogen	0.1	0.2	mg/Kg	<MDL	

SB:WG110446-2 MB:WG110446-1 Matrix: OTHR SOLID Listtype:CVNH3-KCL Method:SM4500-NH3-G KCL Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.1	0.2	mg/Kg	<MDL	1	1.21	121	*	80--120

LCS:WG110446-3 Matrix: OTHR SOLID Listtype:CVNH3-KCL Method:SM4500-NH3-G KCL Project: Pkey:STD  
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.1	0.2	mg/Kg	1	1.09	109		80--120

LT:WG110446-5 LD:WG110446-4 L51247-7 Matrix: FRSHWTRSED Listtype:CVNH3-KCL Method:SM4500-NH3-G KCL Project:421240C-300 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
Ammonia Nitrogen	0.099	0.198	mg/Kg	1.98	1.98	2	1		0--20

MS:WG110446-6 L51247-7 Matrix: FRSHWTRSED Listtype:CVNH3-KCL Method:SM4500-NH3-G KCL Project:421240C-300 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Ammonia Nitrogen	0.096	0.192	mg/Kg	1.98	1	3.01	109		75--125

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG111574 Orthophosphate Phosphorus

MB:WG111574-1 Matrix: OTHR SOLID Listtype:CVORTHOP-OL Method:SM4500-P-F OL Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Orthophosphate Phosphorus	1	2.5	mg/Kg	<MDL	

SB:WG111574-2 MB:WG111574-1 Matrix: OTHR SOLID Listtype:CVORTHOP-OL Method:SM4500-P-F OL Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Orthophosphate Phosphorus	1	2.5	mg/Kg	<MDL	8	7.75	97		80--120

LCS:WG111574-3 Matrix: OTHR SOLID Listtype:CVORTHOP-OL Method:SM4500-P-F OL Project: Pkey:STD  
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Orthophosphate Phosphorus	1	2.5	mg/Kg	16	17.3	108		80--120

LT:WG111574-5 LD:WG111574-4 L51247-4 Matrix: FRSHWTRSED Listtype:CVORTHOP-OL Method:SM4500-P-F OL Project:421240C-300 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
Orthophosphate Phosphorus	0.99	2.46	mg/Kg	13.1	12.1	12.2	4		0--20

MS:WG111574-6 L51247-4 Matrix: FRSHWTRSED Listtype:CVORTHOP-OL Method:SM4500-P-F OL Project:421240C-300 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Orthophosphate Phosphorus	1	2.49	mg/Kg	13.1	8	18.7	70		70--130

MB:WG111574-7 Matrix: OTHR SOLID Listtype:CVORTHOP-OL Method:SM4500-P-F OL Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Orthophosphate Phosphorus	1	2.5	mg/Kg	<MDL	

LCS:WG111574-8 Matrix: OTHR SOLID Listtype:CVORTHOP-OL Method:SM4500-P-F OL Project: Pkey:STD  
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Orthophosphate Phosphorus	1	2.5	mg/Kg	16	15.7	98		80--120

# King County Environmental Laboratory Analytical QC Report

LT:WG111574-10 LD:WG111574-9 L51549-20 Matrix: FRSHWTRSED Listtype:CVORTHOP-OL Method:SM4500-P-F OL Project:421235 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP			RSD Qual	Lab Limit
				Value	LD Value	LT Value		
Orthophosphate Phosphorus	0.99	2.48	mg/Kg	2.4	3.31	2.3	21 *	0--20

MS:WG111574-11 L51549-20 Matrix: FRSHWTRSED Listtype:CVORTHOP-OL Method:SM4500-P-F OL Project:421235 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec. Qual	Lab Limit
Orthophosphate Phosphorus	0.96	2.39	mg/Kg	2.4	8	10.1	98	70--130

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG110361 pH

CS:WG110361-1 Matrix: BLANK WTR Listtype:CVPH Method:SM4500-H-B Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	True Value	CS Value	% Rec.	Qual	Lab Limit
pH			pH	6.86	6.94	101		98--102

LT:WG110361-3 LD:WG110361-2 L51298-10 Matrix: FRSHWTRSED Listtype:CVPH Method:SW846 9045C Project:421240C-300 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
pH			pH	6.94	7.03	6.98	1		0--5

CS:WG110361-4 Matrix: BLANK WTR Listtype:CVPH Method:SM4500-H-B Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	True Value	CS Value	% Rec.	Qual	Lab Limit
pH			pH	9.18	9.2	100		99--101

CS:WG110361-5 Matrix: BLANK WTR Listtype:CVPH Method:SM4500-H-B Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	True Value	CS Value	% Rec.	Qual	Lab Limit
pH			pH	6.86	6.96	101		98--102

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG111141 PSD

LT:WG111141-4 LD:WG111141-3 L51247-2 Matrix: FRSHWTRSED Listtype:CVPSD Method:ASTM D422 Project:421240C-300 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP			RSD Qual	Lab Limit
				Value	LD Value	LT Value		
Gravel	0.33	3.35	%	4.3	6.1	5.3	17	0--20
Sand	0.33	3.35	%	55.4	60.8	65.1	8	0--20
Silt	1.7	3.35	%	31.6	30.1	28.4	5	0--20
Clay	1.7	3.35	%	3.5	3.3	3.2	5	0--20

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG110748 TOC

MB:WG110748-1 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	500	1000	mg/Kg	<MDL	

SRM:WG110748-2 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Std Reference Material)

Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	2600	5120	mg/Kg	33510	33800	101		80--120

MB:WG110748-3 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	500	1000	mg/Kg	<MDL	

MB:WG110748-4 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	500	1000	mg/Kg	<MDL	

SB:WG110748-5 MB:WG110748-4 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	500	1000	mg/Kg	<MDL	2500	2720	109		80--120

LT:WG110748-7 LD:WG110748-6 L51298-9 Matrix: FRSHWTRSED Listtype:CVTOC Method:SW846 9060-PSEP96 Project:421240C-300 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
Total Organic Carbon	710	1420	mg/Kg	5380	5050	4930	5		0--20

MS:WG110748-8 L51298-9 Matrix: FRSHWTRSED Listtype:CVTOC Method:SW846 9060-PSEP96 Project:421240C-300 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Total Organic Carbon	710	1430	mg/Kg	5380	3568	9010	102		75--125

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG110785 Total Solids

MB:WG110785-1 Matrix: OTHR SOLID Listtype:CVTOTS Method:SM2540-G Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Solids	0.005	0.01	%	<MDL	

LT:WG110785-3 LD:WG110785-2 L51278-2 Matrix: FRSHWTRSED Listtype:CVTOTS Method:SM2540-G Project:421195-180 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
Total Solids	0.005	0.01	%	77.9	78.1	79.2	1		0--20

LT:WG110785-5 LD:WG110785-4 L51247-3 Matrix: FRSHWTRSED Listtype:CVTOTS Method:SM2540-G Project:421240C-300 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	Lab Limit
Total Solids	0.005	0.01	%	48.4	47.7	47.8	1		0--20

King County Environmental Laboratory Analytical QC Report

Workgroup: WG110756 Total Mercury

LCS:WG110756-1 Matrix: FRSHWTRSED Listtype:MTHG-MIDS Method:SW846 7471B Project: Pkey:SED  
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Mercury, Total, CVAA	0.026	0.255	mg/Kg	1.09	1.06	97		80--120

LCS:WG110756-2 Matrix: FRSHWTRSED Listtype:MTHG-MIDS Method:SW846 7471B Project: Pkey:SED  
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Mercury, Total, CVAA	0.026	0.255	mg/Kg	1.09	1.05	96		80--120

MB:WG110756-3 Matrix: SOLIDBLANK Listtype:MTHG-MIDS Method:SW846 7471B Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Total, CVAA	0.0048	0.0476	mg/Kg	<MDL	

SB:WG110756-4 MB:WG110756-3 Matrix: SOLIDBLANK Listtype:MTHG-MIDS Method:SW846 7471B Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Mercury, Total, CVAA	0.0048	0.0476	mg/Kg	<MDL	0.0952	0.0975	102		85--115

MSD:WG110756-6 MS:WG110756-5 L51247-5 Matrix: FRSHWTRSED Listtype:MTHG-MIDS Method:SW846 7471B Project:421240C-300 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Mercury, Total, CVAA	0.005	0.0496	mg/Kg	0.014	0.0992	0.113	100		75--125	0.099	0.115	102		2		0--20

LD:WG110756-7 L51247-5 Matrix: FRSHWTRSED Listtype:MTHG-MIDS Method:SW846 7471B Project:421240C-300 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Mercury, Total, CVAA	0.005	0.0496	mg/Kg	0.014	0.015			0--20

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG110587 SEM Mercury

MB:WG110587-1 Matrix: SOLIDBLANK Listtype:MTHG-SEM Method:EPA 245.1\*SW846 7470A Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	

SB:WG110587-2 MB:WG110587-1 Matrix: SOLIDBLANK Listtype:MTHG-SEM Method:EPA 245.1\*SW846 7470A Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec. Qual	Lab Limit
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	0.02	0.0183	92	85--115

MS:WG110587-3 L51298-3 Matrix: FRSHWTRSED Listtype:MTHG-SEM Method:EPA 245.1\*SW846 7470A Project:421240C-300 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec. Qual	Lab Limit
Mercury, Extractable, SEM	0.00098	0.00293	mg/Kg	0.0015	0.0195	0.0193	91	75--125

LD:WG110587-4 L51298-3 Matrix: FRSHWTRSED Listtype:MTHG-SEM Method:EPA 245.1\*SW846 7470A Project:421240C-300 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Lab Qual Limit
Mercury, Extractable, SEM	0.00098	0.00293	mg/Kg	0.0015	0.0015		0--20

MB:WG110587-5 Matrix: SOLIDBLANK Listtype:MTHG-SEM Method:EPA 245.1\*SW846 7470A Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	

MB:WG110587-6 Matrix: SOLIDBLANK Listtype:MTHG-SEM Method:EPA 245.1\*SW846 7470A Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG110606 SEM Metals

SB:WG110606-1 MB:WG110606-2 Matrix: SOLIDBLANK Listtype:MTICP-SEM Method:EPA 200.7 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	20	19.5	98		85--115
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	20	19.6	98		85--115
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	20	19.1	95		85--115
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	20	19.5	98		85--115
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	20	19.8	99		85--115
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	20	18.8	94		85--115
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	20	18.9	95		85--115
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	20	18.9	94		85--115

MB:WG110606-2 Matrix: SOLIDBLANK Listtype:MTICP-SEM Method:EPA 200.7 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	

LD:WG110606-3 L51298-3 Matrix: FRSHWTRSED Listtype:MTICP-SEM Method:EPA 200.7 Project:421240C-300 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Silver, Extractable, SEM	0.078	0.391	mg/Kg	0.088	0.079			0--20
Arsenic, Extractable, SEM	0.49	2.44	mg/Kg	3.02	3.14	4		0--20
Cadmium, Extractable, SEM	0.039	0.195	mg/Kg	0.076	0.071			0--20
Chromium, Extractable, SEM	0.059	0.293	mg/Kg	0.311	0.3	3		0--20
Copper, Extractable, SEM	0.078	0.391	mg/Kg	2.09	2.07	1		0--20
Nickel, Extractable, SEM	0.098	0.488	mg/Kg	0.843	0.819	3		0--20
Lead, Extractable, SEM	0.39	1.95	mg/Kg	4.13	4.29	4		0--20
Zinc, Extractable, SEM	0.098	0.488	mg/Kg	13.5	13.5	0		0--20

# King County Environmental Laboratory Analytical QC Report

**MS:WG110606-4 L51298-3 Matrix: FRSHWTRSED Listtype:MTICP-SEM Method:EPA 200.7 Project:421240C-300 Pkey:SED (Matrix Spike)**

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec. Qual	Lab Limit
Silver, Extractable, SEM	0.078	0.391	mg/Kg	0.088	19.5	19.3	98	75--125
Arsenic, Extractable, SEM	0.49	2.44	mg/Kg	3.02	19.5	19.9	87	75--125
Cadmium, Extractable, SEM	0.039	0.195	mg/Kg	0.076	19.5	16.6	85	75--125
Chromium, Extractable, SEM	0.059	0.293	mg/Kg	0.311	19.5	19.2	97	75--125
Copper, Extractable, SEM	0.078	0.391	mg/Kg	2.09	19.5	19.3	88	75--125
Nickel, Extractable, SEM	0.098	0.488	mg/Kg	0.843	19.5	19.2	94	75--125
Lead, Extractable, SEM	0.39	1.95	mg/Kg	4.13	19.5	22.4	94	75--125
Zinc, Extractable, SEM	0.098	0.488	mg/Kg	13.5	19.5	29.4	82	75--125

**MB:WG110606-5 Matrix: SOLIDBLANK Listtype:MTICP-SEM Method:EPA 200.7 Project: Pkey:STD (Method Blank)**

Parameter	MDL	RDL	Units	MB Value	Qual
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	

**MB:WG110606-6 Matrix: SOLIDBLANK Listtype:MTICP-SEM Method:EPA 200.7 Project: Pkey:STD (Method Blank)**

Parameter	MDL	RDL	Units	MB Value	Qual
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG111413 Total Metals

MB:WG111413-1 Matrix: SOLIDBLANK Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Phosphorus, Total, ICP-MS	12	61	mg/Kg	<MDL	
Chromium, Total, ICP-MS	0.024	0.122	mg/Kg	<MDL	
Nickel, Total, ICP-MS	0.012	0.061	mg/Kg	<MDL	
Copper, Total, ICP-MS	0.049	0.244	mg/Kg	<MDL	
Zinc, Total, ICP-MS	0.061	0.305	mg/Kg	0.072	B
Arsenic, Total, ICP-MS	0.012	0.061	mg/Kg	<MDL	
Silver, Total, ICP-MS	0.0061	0.0305	mg/Kg	<MDL	
Cadmium, Total, ICP-MS	0.0061	0.0305	mg/Kg	<MDL	
Lead, Total, ICP-MS	0.012	0.061	mg/Kg	0.03	B

SB:WG111413-2 MB:WG111413-1 Matrix: SOLIDBLANK Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Phosphorus, Total, ICP-MS	12	61	mg/Kg	<MDL	610	594	97		85--115
Chromium, Total, ICP-MS	0.024	0.122	mg/Kg	<MDL	2.44	2.31	95		85--115
Nickel, Total, ICP-MS	0.012	0.061	mg/Kg	<MDL	2.44	2.47	101		85--115
Copper, Total, ICP-MS	0.049	0.244	mg/Kg	<MDL	2.44	2.46	101		85--115
Zinc, Total, ICP-MS	0.061	0.305	mg/Kg	0.072	2.44	2.68	107		85--115
Arsenic, Total, ICP-MS	0.012	0.061	mg/Kg	<MDL	2.44	2.36	97		85--115
Silver, Total, ICP-MS	0.0061	0.0305	mg/Kg	<MDL	2.44	2.4	98		85--115
Cadmium, Total, ICP-MS	0.0061	0.0305	mg/Kg	<MDL	2.44	2.34	96		85--115
Lead, Total, ICP-MS	0.012	0.061	mg/Kg	0.03	2.44	2.42	98		85--115

LCS:WG111413-3 Matrix: FRSHWTRSED Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project: Pkey:SED  
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Chromium, Total, ICP-MS	0.18	0.916	mg/Kg	121.9	62.7	51		40--80
Nickel, Total, ICP-MS	0.092	0.458	mg/Kg	42.9	34.6	81		80--120
Zinc, Total, ICP-MS	0.46	2.29	mg/Kg	408	369	91		69--109
Arsenic, Total, ICP-MS	0.092	0.458	mg/Kg	17	14.7	86		80--120
Cadmium, Total, ICP-MS	0.046	0.229	mg/Kg	2.94	2.86	97		76--116
Lead, Total, ICP-MS	0.092	0.458	mg/Kg	150	157	105		71--111

# King County Environmental Laboratory Analytical QC Report

**LCS:WG111413-4 Matrix: FRSHWTRSED Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project: Pkey:SED**  
**(Lab Control Sample)**

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit
Chromium, Total, ICP-MS	0.2	1.01	mg/Kg	105	96.9	92		80--120
Nickel, Total, ICP-MS	0.1	0.506	mg/Kg	130	126	97		80--120
Copper, Total, ICP-MS	0.4	2.02	mg/Kg	110	102	93		80--120
Zinc, Total, ICP-MS	0.51	2.53	mg/Kg	223	230	103		80--121
Arsenic, Total, ICP-MS	0.1	0.506	mg/Kg	138	143	104		80--120
Silver, Total, ICP-MS	0.051	0.253	mg/Kg	45.1	47.7	106		66--134
Cadmium, Total, ICP-MS	0.051	0.253	mg/Kg	71	70.1	99		80--120
Lead, Total, ICP-MS	0.1	0.506	mg/Kg	144	158	110		80--120

**LD:WG111413-5 L51247-7 Matrix: FRSHWTRSED Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project:421240C-300 Pkey:SED**  
**(Lab Duplicate)**

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Phosphorus, Total, ICP-MS	13	64	mg/Kg	284	276	3		0--20
Chromium, Total, ICP-MS	0.051	0.256	mg/Kg	16.1	19.6	20		0--20
Nickel, Total, ICP-MS	0.026	0.128	mg/Kg	20.5	24.8	19		0--20
Copper, Total, ICP-MS	0.1	0.512	mg/Kg	7.28	7.87	8		0--20
Zinc, Total, ICP-MS	0.064	0.32	mg/Kg	26.7	26	3		0--20
Arsenic, Total, ICP-MS	0.013	0.064	mg/Kg	2.59	2.89	11		0--20
Silver, Total, ICP-MS	0.0064	0.032	mg/Kg	0.02	0.019			0--20
Cadmium, Total, ICP-MS	0.0064	0.032	mg/Kg	0.0428	0.0427	0		0--20
Lead, Total, ICP-MS	0.013	0.064	mg/Kg	2.14	2.13	1		0--20

**MS:WG111413-6 L51247-7 Matrix: FRSHWTRSED Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project:421240C-300 Pkey:SED**  
**(Matrix Spike)**

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit
Phosphorus, Total, ICP-MS	13	64	mg/Kg	284	634	848	89		75--125
Chromium, Total, ICP-MS	0.051	0.256	mg/Kg	16.1	2.54	19.7		4xRule	75--125
Nickel, Total, ICP-MS	0.026	0.128	mg/Kg	20.5	2.54	22.7		4xRule	75--125
Copper, Total, ICP-MS	0.1	0.512	mg/Kg	7.28	2.54	9.4	84		75--125
Zinc, Total, ICP-MS	0.064	0.32	mg/Kg	26.7	2.54	27.5		4xRule	75--125
Arsenic, Total, ICP-MS	0.013	0.064	mg/Kg	2.59	2.54	4.84	89		75--125
Silver, Total, ICP-MS	0.0064	0.032	mg/Kg	0.02	2.54	2.35	92		75--125
Cadmium, Total, ICP-MS	0.0064	0.032	mg/Kg	0.0428	2.54	2.43	94		75--125
Lead, Total, ICP-MS	0.013	0.064	mg/Kg	2.14	2.54	5.3	125		75--125

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG110469 Semi Volatile Organics

MB:WG110469-1 Matrix: OTHR SOLID Listtype:ORBNALLFULL Method:SW846 3550B\*SW846 8270D Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	
Phenol	4	8	ug/Kg	<MDL	
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	
2-Chlorophenol	4	8	ug/Kg	<MDL	
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	
Hexachloroethane	1	2	ug/Kg	<MDL	
Nitrobenzene	4	8	ug/Kg	<MDL	
Isophorone	10	20	ug/Kg	<MDL	
2-Nitrophenol	10	20	ug/Kg	<MDL	
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	
Naphthalene	2	4	ug/Kg	<MDL	
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	
2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	
2-Chloronaphthalene	4	8	ug/Kg	<MDL	
Acenaphthylene	2	4	ug/Kg	<MDL	
Dimethyl Phthalate	4	8	ug/Kg	<MDL	
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	
Acenaphthene	2	4	ug/Kg	<MDL	
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	
Fluorene	2	4	ug/Kg	<MDL	
Diethyl Phthalate	4	8	ug/Kg	<MDL	
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	
Pentachlorophenol	10	20	ug/Kg	<MDL	
Phenanthrene	2	4	ug/Kg	<MDL	
Anthracene	2	4	ug/Kg	<MDL	
Di-N-Butyl Phthalate	4	8	ug/Kg	11.2	B
Fluoranthene	2	4	ug/Kg	<MDL	
Pyrene	2	4	ug/Kg	<MDL	
Benzyl Butyl Phthalate	4	8	ug/Kg	<MDL	

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Benzo(a)anthracene	2	4	ug/Kg	<MDL	
Chrysene	2	4	ug/Kg	<MDL	
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	4.6	B
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	
Benzo(b)fluoranthene	2	4	ug/Kg	<MDL	
Benzo(k)fluoranthene	2	4	ug/Kg	<MDL	
Benzo(a)pyrene	2	4	ug/Kg	<MDL	
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	<MDL	
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL	
Benzo(g,h,i)perylene	2	4	ug/Kg	<MDL	
Aniline	40	80	ug/Kg	<MDL	
Benzyl Alcohol	2	4	ug/Kg	<MDL	
2-Methylphenol	2	4	ug/Kg	<MDL	
4-Methylphenol	4	8	ug/Kg	<MDL	
Benzoic Acid	10	20	ug/Kg	28.9	B
2-Methylnaphthalene	2	4	ug/Kg	<MDL	
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	
Dibenzofuran	2	4	ug/Kg	<MDL	
Carbazole	2	4	ug/Kg	<MDL	
Coprostanol	40	80	ug/Kg	<MDL	
Caffeine	4	8	ug/Kg	<MDL	

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SB:WG110469-2 MB:WG110469-1 Matrix: OTHR SOLID Listtype:ORBNALLFULL Method:SW846 3550B\*SW846 8270D Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	100	58.9	59		14--101
Phenol	4	8	ug/Kg	<MDL	100	45.2	45		10--107
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	100	62.4	62		18--82
2-Chlorophenol	4	8	ug/Kg	<MDL	100	61.9	62		10--102
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	65.7	66		18--95
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	66	66		21--99
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	70.4	70		10--116
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	100	65.9	66		10--104
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	100	69.9	70		10--146
Hexachloroethane	1	2	ug/Kg	<MDL	100	64.5	65		17--92
Nitrobenzene	4	8	ug/Kg	<MDL	100	61.3	61		10--112
Isophorone	10	20	ug/Kg	<MDL	100	56.7	57		10--131
2-Nitrophenol	10	20	ug/Kg	<MDL	100	50.9	51		21--98
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	100	1.5	2 *		10--81
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	100	56.9	57		19--103
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	100	43.7	44		24--103
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	100	67.7	68		30--110
Naphthalene	2	4	ug/Kg	<MDL	100	70.6	71		17--94
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	100	89.9	90		10--97
2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	100	55.9	56		27--98
2-Chloronaphthalene	4	8	ug/Kg	<MDL	100	61.9	62		25--96
Acenaphthylene	2	4	ug/Kg	<MDL	100	78.6	79		31--101
Dimethyl Phthalate	4	8	ug/Kg	<MDL	100	94.5	94		38--114
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	100	80.2	80		46--110
Acenaphthene	2	4	ug/Kg	<MDL	100	76.6	77		29--102
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	100	73.7	74		35--148
Fluorene	2	4	ug/Kg	<MDL	100	89.9	90		39--106
Diethyl Phthalate	4	8	ug/Kg	<MDL	100	90.4	90		51--118
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	85.7	86		39--101
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	100	53.5	53		11--148
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	100	74.8	75		32--125
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	94.4	94		47--113
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	100	73	73		40--111
Pentachlorophenol	10	20	ug/Kg	<MDL	100	39.1	39		38--124
Phenanthrene	2	4	ug/Kg	<MDL	100	83.2	83		57--104
Anthracene	2	4	ug/Kg	<MDL	100	80.6	81		45--114
Di-N-Butyl Phthalate	4	8	ug/Kg	11.2	100	91.7	81		17--180
Fluoranthene	2	4	ug/Kg	<MDL	100	102	102		55--132
Pyrene	2	4	ug/Kg	<MDL	100	86.6	87		48--132
Benzyl Butyl Phthalate	4	8	ug/Kg	<MDL	100	78.1	78		15--183
Benzo(a)anthracene	2	4	ug/Kg	<MDL	100	82.9	83		69--117
Chrysene	2	4	ug/Kg	<MDL	100	78.9	79		69--111

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Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	4.6	100	83.3	79	10--182
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	100	77.5	77	10--200
Benzo(b)fluoranthene	2	4	ug/Kg	<MDL	100	64.4	64	50--121
Benzo(k)fluoranthene	2	4	ug/Kg	<MDL	100	80.4	80	58--128
Benzo(a)pyrene	2	4	ug/Kg	<MDL	100	61.8	62	15--137
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	<MDL	100	90.6	91	51--132
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL	100	87.4	87	53--129
Benzo(g,h,i)perylene	2	4	ug/Kg	<MDL	100	88.1	88	46--126
Aniline	40	80	ug/Kg	<MDL	100	69	69	10--102
Benzyl Alcohol	2	4	ug/Kg	<MDL	100	59.4	59	10--119
2-Methylphenol	2	4	ug/Kg	<MDL	100	29.1	29	16--91
4-Methylphenol	4	8	ug/Kg	<MDL	100	32.5	33	10--125
Benzoic Acid	10	20	ug/Kg	28.9	100	37.9	9 *	10--170
2-Methylnaphthalene	2	4	ug/Kg	<MDL	100	71.1	71	22--99
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	100	68.3	68	33--113
Dibenzofuran	2	4	ug/Kg	<MDL	100	79.6	80	37--97
Carbazole	2	4	ug/Kg	<MDL	100	99	99	44--179
Coprostanol	40	80	ug/Kg	<MDL	1000	347	35	10--159
Caffeine	4	8	ug/Kg	<MDL	100	98.1	98	45--159

# King County Environmental Laboratory Analytical QC Report

MSD:WG110469-4 MS:WG110469-3 L51298-9 Matrix: FRSHWTRSED Listtype:ORBNALLFULL Method:SW846 3550B\*SW846 8270D Project:421240C-300 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	100	47	47		10--119	100	56	56		17		0--100
Phenol	4	8	ug/Kg	<MDL	100	38.7	39		10--127	100	39	39		0		0--100
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	100	42.5	42		10--80	100	46	46		9		0--100
2-Chlorophenol	4	8	ug/Kg	<MDL	100	45.4	45		10--112	100	48.6	49		9		0--100
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	43.7	44		10--103	100	51.7	52		17		0--100
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	45.4	45		10--104	100	51.8	52		14		0--100
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	100	47.8	48		10--105	100	55.4	55		14		0--100
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	100	54.1	54		10--142	100	64.1	64		17		0--100
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	100	59.2	59		10--176	100	63.1	63		7		0--100
Hexachloroethane	1	2	ug/Kg	<MDL	100	43.3	43		10--89	100	51.6	52		19		0--100
Nitrobenzene	4	8	ug/Kg	<MDL	100	50.5	51		10--105	100	54.8	55		8		0--100
Isophorone	10	20	ug/Kg	<MDL	100	65	65		16--130	100	65.3	65		0		0--100
2-Nitrophenol	10	20	ug/Kg	<MDL	100	47	47		20--107	100	53.6	54		14		0--100
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	100	68.2	68		10--150	100	74.7	75		10		0--100
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	100	52	52		23--103	100	56.6	57		9		0--100
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	100	72.9	73		24--142	100	74.6	75		3		0--100
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	100	50.3	50		10--115	100	55.4	55		10		0--100
Naphthalene	2	4	ug/Kg	<MDL	100	49.5	49		12--97	100	53.6	54		10		0--100
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	100	56.1	56		10--97	100	59.1	59		5		0--100
2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	100	75.8	76		26--153	100	72.8	73		4		0--100
2-Chloronaphthalene	4	8	ug/Kg	<MDL	100	59.2	59		26--111	100	62.9	63		7		0--100
Acenaphthylene	2	4	ug/Kg	<MDL	100	78.4	78		27--132	100	78.5	79		1		0--100
Dimethyl Phthalate	4	8	ug/Kg	<MDL	100	84	84		13--162	100	85.2	85		1		0--100
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	100	70.1	70		10--183	100	72.3	72		3		0--100
Acenaphthene	2	4	ug/Kg	<MDL	100	72.4	72		25--130	100	72.1	72		0		0--100
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	100	62.9	63		27--166	100	65	65		3		0--100
Fluorene	2	4	ug/Kg	<MDL	100	83.4	83		22--147	100	81.6	82		1		0--100
Diethyl Phthalate	4	8	ug/Kg	<MDL	100	83.4	83		31--150	100	81.4	81		2		0--100
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	79.3	79		25--139	100	76.7	77		3		0--100
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	100	80.3	80		10--169	100	71.2	71		12		0--100
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	100	75	75		16--162	100	75.8	76		1		0--100
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	100	96.4	96		30--146	100	93.6	94		2		0--100
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	100	71.6	72		18--151	100	71.4	71		1		0--100
Pentachlorophenol	10	20	ug/Kg	<MDL	100	27.4	27		17--170	100	28.2	28		4		0--100
Phenanthrene	2	4	ug/Kg	2.2	100	81.4	79		10--200	100	78.1	76		4		0--100
Anthracene	2	4	ug/Kg	<MDL	100	85	85		10--181	100	80.7	81		5		0--100
Di-N-Butyl Phthalate	4	8	ug/Kg	11.5	100	86.8	75		10--194	100	81.4	70		7		0--100
Fluoranthene	2	4	ug/Kg	4.82	100	100	96		12--188	100	91.5	87		10		0--100
Pyrene	2	4	ug/Kg	3.9	100	89.6	86		20--174	100	84.8	81		6		0--100
Benzyl Butyl Phthalate	4	8	ug/Kg	<MDL	100	82.6	83		41--145	100	76.9	77		8		0--100
Benzo(a)anthracene	2	4	ug/Kg	<MDL	100	82.1	82		32--168	100	78.6	79		4		0--100
Chrysene	2	4	ug/Kg	2.2	100	78.7	77		14--184	100	75.7	74		4		0--100

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Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	11.1	100	93.3	82	10--189	100	86.1	75	9	0--100
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	100	83	83	52--151	100	79.2	79	5	0--100
Benzo(b)fluoranthene	2	4	ug/Kg	<MDL	100	56	56	10--199	100	67.5	67	18	0--100
Benzo(k)fluoranthene	2	4	ug/Kg	<MDL	100	91.3	91	10--192	100	71.3	71	25	0--100
Benzo(a)pyrene	2	4	ug/Kg	<MDL	100	70.9	71	10--200	100	65.8	66	7	0--100
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	<MDL	100	84.5	85	10--177	100	76.7	77	10	0--100
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL	100	81.2	81	10--166	100	73.2	73	10	0--100
Benzo(g,h,i)perylene	2	4	ug/Kg	<MDL	100	81.7	82	10--173	100	73.6	74	10	0--100
Aniline	40	80	ug/Kg	<MDL	100	<MDL	0 *	10--67	100	51	51	200	* 0--100
Benzyl Alcohol	2	4	ug/Kg	<MDL	100	46.4	46	10--138	100	51.9	52	12	0--100
2-Methylphenol	2	4	ug/Kg	<MDL	100	43.1	43	10--142	100	45.3	45	5	0--100
4-Methylphenol	4	8	ug/Kg	<MDL	100	47.9	48	10--163	100	50.8	51	6	0--100
Benzoic Acid	10	20	ug/Kg	53.3	100	55.8	2 *	10--158	100	65.5	12	143	* 0--100
2-Methylnaphthalene	2	4	ug/Kg	<MDL	100	54	54	22--112	100	61.2	61	12	0--100
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	100	74.9	75	23--166	100	71.6	72	4	0--100
Dibenzofuran	2	4	ug/Kg	<MDL	100	73.4	73	21--134	100	72.2	72	1	0--100
Carbazole	2	4	ug/Kg	<MDL	100	91.1	91	16--200	100	84.1	84	8	0--100
Coprostanol	40	80	ug/Kg	<MDL	1000	354	35	10--183	1000	304	30	15	0--100
Caffeine	4	8	ug/Kg	<MDL	100	86.8	87	17--195	100	79.5	79	10	0--100

SRM:WG110469-5 Matrix: FRSHWTRSED Listtype:ORBNALLFULL Method:SW846 3550B\*SW846 8270D Project: Pkey:SED  
(Std Reference Material)

Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Lab Qual Limit
Naphthalene	130	533	ug/Kg	1630	260	16	10--29
Phenanthrene	270	533	ug/Kg	5200	3770	72	51--106
Anthracene	270	533	ug/Kg	1750	679	39	28--98
Fluoranthene	270	533	ug/Kg	8800	7910	90	45--126
Pyrene	270	533	ug/Kg	9570	7440	78	36--135
Benzo(a)anthracene	270	533	ug/Kg	4660	3110	67	66--124
Chrysene	270	533	ug/Kg	4800	4320	90	77--136
Benzo(b)fluoranthene	270	533	ug/Kg	3820	2480	65	52--190
Benzo(k)fluoranthene	270	533	ug/Kg	2270	3020	133	60--146
Benzo(a)pyrene	270	533	ug/Kg	4240	2480	59	* 60--116
Indeno(1,2,3-Cd)Pyrene	270	533	ug/Kg	2740	961	35	33--121
Dibenzo(a,h)anthracene	270	533	ug/Kg	419	651	156	10--200
Benzo(g,h,i)perylene	270	533	ug/Kg	2800	2050	73	15--120

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LD:WG110469-6 L51298-10 Matrix: FRSHWTRSED Listtype:ORBNALLFULL Method:SW846 3550B\*SW846 8270D Project:421240C-300 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Lab Qual Limit
N-Nitrosodimethylamine	4	8	ug/Kg	<MDL	<MDL		0--35
Phenol	4	8	ug/Kg	<MDL	12.9	200	* 0--35
Bis(2-Chloroethyl)Ether	4	8	ug/Kg	<MDL	<MDL		0--35
2-Chlorophenol	4	8	ug/Kg	<MDL	<MDL		0--35
1,3-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	<MDL		0--35
1,4-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	<MDL		0--35
1,2-Dichlorobenzene	0.2	0.4	ug/Kg	<MDL	<MDL		0--35
Bis(2-Chloroisopropyl)Ether	4	8	ug/Kg	<MDL	<MDL		0--35
N-Nitrosodi-N-Propylamine	4	8	ug/Kg	<MDL	<MDL		0--35
Hexachloroethane	1	2	ug/Kg	<MDL	<MDL		0--35
Nitrobenzene	4	8	ug/Kg	<MDL	<MDL		0--35
Isophorone	10	20	ug/Kg	<MDL	<MDL		0--35
2-Nitrophenol	10	20	ug/Kg	<MDL	<MDL		0--35
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	<MDL		0--35
Bis(2-Chloroethoxy)Methane	4	8	ug/Kg	<MDL	<MDL		0--35
2,4-Dichlorophenol	4	8	ug/Kg	<MDL	<MDL		0--35
1,2,4-Trichlorobenzene	0.1	0.2	ug/Kg	<MDL	<MDL		0--35
Naphthalene	2	4	ug/Kg	<MDL	<MDL		0--35
Hexachlorobutadiene	0.5	1	ug/Kg	<MDL	<MDL		0--35
2,4,6-Trichlorophenol	10	20	ug/Kg	<MDL	<MDL		0--35
2-Chloronaphthalene	4	8	ug/Kg	<MDL	<MDL		0--35
Acenaphthylene	2	4	ug/Kg	<MDL	<MDL		0--35
Dimethyl Phthalate	4	8	ug/Kg	<MDL	<MDL		0--35
2,6-Dinitrotoluene	10	20	ug/Kg	<MDL	<MDL		0--35
Acenaphthene	2	4	ug/Kg	<MDL	<MDL		0--35
2,4-Dinitrotoluene	4	8	ug/Kg	<MDL	<MDL		0--35
Fluorene	2	4	ug/Kg	<MDL	<MDL		0--35
Diethyl Phthalate	4	8	ug/Kg	<MDL	<MDL		0--35
4-Chlorophenyl Phenyl Ether	4	8	ug/Kg	<MDL	<MDL		0--35
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	<MDL		0--35
1,2-Diphenylhydrazine	4	8	ug/Kg	<MDL	<MDL		0--35
4-Bromophenyl Phenyl Ether	4	8	ug/Kg	<MDL	<MDL		0--35
Hexachlorobenzene	0.1	0.2	ug/Kg	<MDL	<MDL		0--35
Pentachlorophenol	10	20	ug/Kg	<MDL	<MDL		0--35
Phenanthrene	2	4	ug/Kg	<MDL	<MDL		0--35
Anthracene	2	4	ug/Kg	<MDL	<MDL		0--35
Di-N-Butyl Phthalate	4	8	ug/Kg	12.2	12.4	1	0--35
Fluoranthene	2	4	ug/Kg	<MDL	<MDL		0--35
Pyrene	2	4	ug/Kg	<MDL	<MDL		0--35
Benzyl Butyl Phthalate	4	8	ug/Kg	<MDL	<MDL		0--35
Benzo(a)anthracene	2	4	ug/Kg	<MDL	<MDL		0--35
Chrysene	2	4	ug/Kg	<MDL	<MDL		0--35

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Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	8.27	11	28	0--35
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	<MDL		0--35
Benzo(b)fluoranthene	2	4	ug/Kg	<MDL	<MDL		0--35
Benzo(k)fluoranthene	2	4	ug/Kg	<MDL	<MDL		0--35
Benzo(a)pyrene	2	4	ug/Kg	<MDL	<MDL		0--35
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	<MDL	<MDL		0--35
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL	<MDL		0--35
Benzo(g,h,i)perylene	2	4	ug/Kg	<MDL	<MDL		0--35
Aniline	40	80	ug/Kg	<MDL	<MDL		0--35
Benzyl Alcohol	2	4	ug/Kg	<MDL	<MDL		0--35
2-Methylphenol	2	4	ug/Kg	<MDL	<MDL		0--35
4-Methylphenol	4	8	ug/Kg	<MDL	<MDL		0--35
Benzoic Acid	10	20	ug/Kg	43.4	133	102	* 0--35
2-Methylnaphthalene	2	4	ug/Kg	<MDL	<MDL		0--35
2,4,5-Trichlorophenol	10	20	ug/Kg	<MDL	<MDL		0--35
Dibenzofuran	2	4	ug/Kg	<MDL	<MDL		0--35
Carbazole	2	4	ug/Kg	<MDL	<MDL		0--35
Coprostanol	40	80	ug/Kg	<MDL	<MDL		0--35
Caffeine	4	8	ug/Kg	<MDL	<MDL		0--35

# King County Environmental Laboratory Analytical QC Report

Surrogate: (Lab Limits)	2,4,6-Tri bromo phenol 29--112	2-Fluoro biphenyl 31--101	2-Fluoro phenol 10--112	d14-Ter phenyl 51--130	d4-1,2- Dichloro benzene 24--91	d4-2- Chloro phenol 11--105	d5-Nitro benzene 28--94	d5-Phenol 10--106
L51247-1								
L51247-2	60	60	30	62	47	46	62	49
L51247-3	88	65	33	84	50	49	56	35
L51247-4	82	64	32	87	42	54	68	42
L51247-5	77	55	26	80	39	37	42	25
L51247-6	78	67	78	91	50	47	54	35
L51247-7	81	60	27	83	44	38	39	26
L51247-8	81	70	31	105	53	38	47	32
L51247-9	71	48	25	88	38	35	36	24
L51247-10	79	62	32	96	48	40	41	28
L51298-1	75	66	29	80	50	45	63	50
L51298-2	74	53	28	80	44	38	57	31
L51298-3	76	63	31	76	48	45	63	42
L51298-4	80	61	32	79	48	43	48	36
L51298-5	75	62	29	77	44	40	46	33
L51298-6	65	56	27	73	45	32	28	28
L51298-7	67	61	27	75	45	31	27 *	28
L51298-8	71	55	25	77	36	25	19 *	19
L51298-9	73	58	27	76	46	43	53	40
L51298-10	72	57	29	79	45	45	51	43
WG110469-1	28 *	60	38	87	63	50	64	51
WG110469-2	52	62	39	81	85	64	61	57
WG110469-3	68	56	29	79	54	47	48	44
WG110469-4	67	58	62	75	64	50	53	47
WG110469-5	112	88	53	127	83	94	92	95
WG110469-6	75	63	27	84	50	50	58	47

King County Environmental Laboratory Analytical QC Report

Workgroup: WG110470 EDC Compounds

MB:WG110470-1 Matrix: OTHR SOLID Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total 4-Nonylphenol	20	40	ug/Kg	<MDL	
Bisphenol A	10	20	ug/Kg	<MDL	
Bis(2-ethylhexyl)adipate	10	20	ug/Kg	<MDL	

SB:WG110470-2 MB:WG110470-1 Matrix: OTHR SOLID Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Total 4-Nonylphenol	20	40	ug/Kg	<MDL	100	89.1	89		25--150
Bisphenol A	10	20	ug/Kg	<MDL	100	45.7	46		25--150
Bis(2-ethylhexyl)adipate	10	20	ug/Kg	<MDL	200	184	92		25--150

MSD:WG110470-4 MS:WG110470-3 L51298-9 Matrix: FRSHWTRSED Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project:421240C-300 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Total 4-Nonylphenol	20	40	ug/Kg	<MDL	100	121	121		25--150	100	110	110		10		0--40
Bisphenol A	10	20	ug/Kg	<MDL	100	69.3	69		25--150	100	66.5	66		4		0--40
Bis(2-ethylhexyl)adipate	10	20	ug/Kg	<MDL	200	183	92		25--150	200	170	85		8		0--40

LD:WG110470-6 L51298-10 Matrix: FRSHWTRSED Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project:421240C-300 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Lab Qual	Lab Limit
Total 4-Nonylphenol	20	40	ug/Kg	<MDL	<MDL			0--35
Bisphenol A	10	20	ug/Kg	<MDL	<MDL			0--35
Bis(2-ethylhexyl)adipate	10	20	ug/Kg	<MDL	<MDL			0--35

## King County Environmental Laboratory Analytical QC Report

<b>Surrogate: (Lab Limits)</b>	<b>D4-4- NONYL PHENOL 25--150</b>
L51247-1	127
L51247-2	205 *
L51247-3	131
L51247-4	134
L51247-5	117
L51247-6	121
L51247-7	97
L51247-8	131
L51247-9	104
L51247-10	105
L51298-1	126
L51298-2	107
L51298-3	136
L51298-4	130
L51298-5	128
L51298-6	122
L51298-7	116
L51298-8	119
L51298-9	114
L51298-10	117
WG110470-1	18 *
WG110470-2	88
WG110470-3	117
WG110470-4	117
WG110470-6	119

King County Environmental Laboratory Analytical QC Report

Workgroup: WG111561 EDC Compounds

MB:WG111561-1 Matrix: OTHR SOLID Listtype:OREDC-LVI Method:TERNS (2002) Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Estrone	0.03	0.302	ug/Kg	0.077	B
Estradiol	0.05	0.504	ug/Kg	<MDL	
Ethynyl estradiol	0.05	0.504	ug/Kg	<MDL	

SB:WG111561-2 MB:WG111561-1 Matrix: OTHR SOLID Listtype:OREDC-LVI Method:TERNS (2002) Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Estrone	0.03	0.302	ug/Kg	0.077	2.02	2.38	114		50--150
Estradiol	0.05	0.504	ug/Kg	<MDL	2.02	1.9	94		50--150
Ethynyl estradiol	0.05	0.504	ug/Kg	<MDL	2.02	1.77	88		50--150

MSD:WG111561-4 MS:WG111561-3 L51298-2 Matrix: FRSHWTRSED Listtype:OREDC-LVI Method:TERNS (2002) Project:421240C-300 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Estrone	0.03	0.302	ug/Kg	0.12	2.02	2.31	108		50--150	2.02	2.51	119		10		0--200
Estradiol	0.05	0.504	ug/Kg	<MDL	2.02	1.86	92		50--150	2.02	2.08	103		11		0--200
Ethynyl estradiol	0.05	0.504	ug/Kg	<MDL	2.02	1.72	85		50--150	2.02	1.91	95		11		0--200

LD:WG111561-5 L51298-9 Matrix: FRSHWTRSED Listtype:OREDC-LVI Method:TERNS (2002) Project:421240C-300 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Lab Qual	Limit
Estrone	0.03	0.302	ug/Kg	0.063	0.051			0--35
Estradiol	0.05	0.504	ug/Kg	<MDL	<MDL			0--35
Ethynyl estradiol	0.05	0.504	ug/Kg	<MDL	<MDL			0--35

# King County Environmental Laboratory Analytical QC Report

Surrogate: (Lab Limits)	Estradiol- d4 30--200	Estrone- d4 30--200	Ethynyl Estradiol-d4 30--200
L51247-1	105	97	106
L51247-2	163	139	136
L51247-3	94	87	103
L51247-4	137	116	140
L51247-5	107	95	116
L51247-6	74	69	81
L51247-7	98	88	109
L51247-8	98	97	108
L51247-9	74	69	82
L51247-10	102	96	109
L51298-1	84	78	88
L51298-2	68	66	73
L51298-3	91	88	96
L51298-4	109	101	116
L51298-5	98	94	100
L51298-6	98	98	103
L51298-7	96	93	102
L51298-8	105	103	112
L51298-9	110	99	114
L51298-10	108	99	112
WG111561-1	57	54	60
WG111561-2	66	60	70
WG111561-3	99	87	109
WG111561-4	97	83	108
WG111561-5	93	81	97

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG110374 PBDE

MB:WG110374-1 Matrix: OTHR SOLID Listtype:ORPBDE Method:SW846 3550B\*EPA 1614 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
TriBDE-17	0.0067	0.0133	ug/Kg	<MDL	
TriBDE-28	0.0067	0.0133	ug/Kg	<MDL	
TetraBDE-71	0.0067	0.0133	ug/Kg	<MDL	
TetraBDE-47	0.0067	0.0133	ug/Kg	0.0198	B
TetraBDE-66	0.0067	0.0133	ug/Kg	<MDL	
PentaBDE-100	0.0067	0.0133	ug/Kg	<MDL	
PentaBDE-99	0.0067	0.0133	ug/Kg	0.013	B
PentaBDE-85	0.0067	0.0133	ug/Kg	<MDL	
HexaBDE-154	0.0067	0.0133	ug/Kg	<MDL	
HexaBDE-153	0.0067	0.0133	ug/Kg	<MDL	
HexaBDE-138	0.0067	0.0133	ug/Kg	<MDL	
HeptaBDE-183	0.0067	0.0133	ug/Kg	<MDL	
HeptaBDE-190	0.0067	0.0133	ug/Kg	<MDL	
DecaBDE-209	0.033	0.0667	ug/Kg	<MDL	

SB:WG110374-2 MB:WG110374-1 Matrix: OTHR SOLID Listtype:ORPBDE Method:SW846 3550B\*EPA 1614 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
TriBDE-17	0.0067	0.0133	ug/Kg	<MDL	0.417	0.391	94		50--150
TriBDE-28	0.0067	0.0133	ug/Kg	<MDL	0.417	0.447	107		50--150
TetraBDE-71	0.0067	0.0133	ug/Kg	<MDL	0.417	0.47	113		50--150
TetraBDE-47	0.0067	0.0133	ug/Kg	0.0198	0.417	3.32	793 *		50--150
TetraBDE-66	0.0067	0.0133	ug/Kg	<MDL	0.417	0.624	150		50--150
PentaBDE-100	0.0067	0.0133	ug/Kg	<MDL	0.417	1.2	288 *		50--150
PentaBDE-99	0.0067	0.0133	ug/Kg	0.013	0.417	5.28	1265 *		50--150
PentaBDE-85	0.0067	0.0133	ug/Kg	<MDL	0.417	0.729	175 *		50--150
HexaBDE-154	0.0067	0.0133	ug/Kg	<MDL	0.417	0.758	182 *		50--150
HexaBDE-153	0.0067	0.0133	ug/Kg	<MDL	0.417	1.03	246 *		50--150
HexaBDE-138	0.0067	0.0133	ug/Kg	<MDL	0.417	0.495	119		50--150
HeptaBDE-183	0.0067	0.0133	ug/Kg	<MDL	0.417	0.388	93		50--150
HeptaBDE-190	0.0067	0.0133	ug/Kg	<MDL	0.417	0.367	88		50--150
DecaBDE-209	0.033	0.0667	ug/Kg	<MDL	2.08	1.08	52		50--150

# King County Environmental Laboratory Analytical QC Report

MSD:WG110374-4 MS:WG110374-3 L51298-2 Matrix: FRSHWTRSED Listtype:ORPBDE Method:SW846 3550B\*EPA 1614 Project:421240C-300 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
TriBDE-17	0.013	0.0267	ug/Kg	<MDL	0.417	0.386	93		50--150	0.417	0.375	90		3		0--100
TriBDE-28	0.013	0.0267	ug/Kg	<MDL	0.417	0.432	104		50--150	0.417	0.437	105		1		0--100
TetraBDE-71	0.013	0.0267	ug/Kg	<MDL	0.417	0.395	95		50--150	0.417	0.387	93		2		0--100
TetraBDE-47	0.013	0.0267	ug/Kg	0.0425	0.417	0.473	103		50--150	0.417	0.547	121		16		0--100
TetraBDE-66	0.013	0.0267	ug/Kg	<MDL	0.417	0.439	105		50--150	0.417	0.481	115		9		0--100
PentaBDE-100	0.013	0.0267	ug/Kg	0.011	0.417	0.398	93		50--150	0.417	0.416	97		4		0--100
PentaBDE-99	0.013	0.0267	ug/Kg	0.0299	0.417	0.469	105		50--150	0.417	0.527	119		13		0--100
PentaBDE-85	0.013	0.0267	ug/Kg	<MDL	0.417	0.452	108		50--150	0.417	0.451	108		0		0--100
HexaBDE-154	0.013	0.0267	ug/Kg	<MDL	0.417	0.42	101		50--150	0.417	0.468	112		10		0--100
HexaBDE-153	0.013	0.0267	ug/Kg	0.159	0.417	0.53	89		50--150	0.417	0.606	107		18		0--100
HexaBDE-138	0.013	0.0267	ug/Kg	0.0207	0.417	0.478	110		50--150	0.417	0.452	103		7		0--100
HeptaBDE-183	0.013	0.0267	ug/Kg	<MDL	0.417	0.387	93		50--150	0.417	0.37	89		4		0--100
HeptaBDE-190	0.013	0.0267	ug/Kg	<MDL	0.417	0.409	98		50--150	0.417	0.405	97		1		0--100
DecaBDE-209	0.067	0.133	ug/Kg	0.0905	2.08	1.28	57		50--150	2.08	1.16	51		11		0--100

LCS:WG110374-5 Matrix: OTHR SOLID Listtype:ORPBDE Method:SW846 3550B\*EPA 1614 Project: Pkey:STD  
(Lab Control Sample)

Parameter	MDL	RDL	Units	True Value	LCS Value	% Rec.	Qual	Lab Limit	nance based Limits
TriBDE-17	0.64	1.28	ug/Kg	11.3	17.3	153	*	80--120	60--200
TriBDE-28	0.64	1.28	ug/Kg	45.9	56.4	123	*	80--120	48--153
TetraBDE-47	0.64	1.28	ug/Kg	487	675	139	*	80--120	57--186
PentaBDE-100	0.64	1.28	ug/Kg	142	159	112		80--120	53--148
PentaBDE-99	0.64	1.28	ug/Kg	873	1130	129	*	80--120	43--179
PentaBDE-85	0.64	1.28	ug/Kg	42.9	51.1	119		80--120	40--176
HexaBDE-154	0.64	1.28	ug/Kg	81.7	95.5	117		80--120	54--160
HexaBDE-153	0.64	1.28	ug/Kg	117	133	114		80--120	37--168
HexaBDE-138	0.64	1.28	ug/Kg	14.9	18.4	124	*	80--120	44--170
HeptaBDE-183	0.64	1.28	ug/Kg	42.1	42.1	100		80--120	45--171
DecaBDE-209	3.2	6.4	ug/Kg	2460	7430	302	*	80--120	90--200

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LD:WG110374-6 L51298-10 Matrix: FRSHWTRSED Listtype:ORPBDE Method:SW846 3550B\*EPA 1614 Project:421240C-300 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP		RPD	Lab	
				Value	LD Value		Qual	Limit
TriBDE-17	0.0067	0.0133	ug/Kg	<MDL	<MDL			0--35
TriBDE-28	0.0067	0.0133	ug/Kg	<MDL	<MDL			0--35
TetraBDE-71	0.0067	0.0133	ug/Kg	<MDL	<MDL			0--35
TetraBDE-47	0.0067	0.0133	ug/Kg	0.0687	0.0625	9		0--35
TetraBDE-66	0.0067	0.0133	ug/Kg	<MDL	<MDL			0--35
PentaBDE-100	0.0067	0.0133	ug/Kg	0.0176	0.022	22		0--35
PentaBDE-99	0.0067	0.0133	ug/Kg	0.0372	0.0357	4		0--35
PentaBDE-85	0.0067	0.0133	ug/Kg	<MDL	<MDL			0--35
HexaBDE-154	0.0067	0.0133	ug/Kg	0.0195	0.019	2		0--35
HexaBDE-153	0.0067	0.0133	ug/Kg	0.12	0.167	32		0--35
HexaBDE-138	0.0067	0.0133	ug/Kg	0.0335	0.0507	41	*	0--35
HeptaBDE-183	0.0067	0.0133	ug/Kg	<MDL	<MDL			0--35
HeptaBDE-190	0.0067	0.0133	ug/Kg	<MDL	<MDL			0--35
DecaBDE-209	0.033	0.0667	ug/Kg	0.107	0.148	32		0--35

King County Environmental Laboratory Analytical QC Report

Surrogate: (Lab Limits)	Deca chloro biphenyl 50--150
L51247-1	79
L51247-2	81
L51247-3	84
L51247-4	82
L51247-5	75
L51247-6	78
L51247-7	82
L51247-8	93
L51247-9	90
L51247-10	83
L51298-1	85
L51298-2	84
L51298-3	83
L51298-4	80
L51298-5	85
L51298-6	88
L51298-7	85
L51298-8	81
L51298-9	80
L51298-10	82
WG110374-1	79
WG110374-2	82
WG110374-3	77
WG110374-4	81
WG110374-5	87
WG110374-6	79

King County Environmental Laboratory Analytical QC Report

Workgroup: WG110373 PCB

MB:WG110373-1 Matrix: OTHR SOLID Listtype:ORPCBLL Method:SW846 3550B\*SW846 8082A Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Aroclor 1016	0.83	1.67	ug/Kg	<MDL	
Aroclor 1221	1.7	3.33	ug/Kg	<MDL	
Aroclor 1232	1.7	3.33	ug/Kg	<MDL	
Aroclor 1242	0.83	1.67	ug/Kg	<MDL	
Aroclor 1248	0.83	1.67	ug/Kg	<MDL	
Aroclor 1254	0.83	1.67	ug/Kg	<MDL	
Aroclor 1260	0.83	1.67	ug/Kg	<MDL	
Total Aroclors	0.83	1.67	ug/Kg	<MDL	

SB:WG110373-2 MB:WG110373-1 Matrix: OTHR SOLID Listtype:ORPCBLL Method:SW846 3550B\*SW846 8082A Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Aroclor 1016	0.83	1.67	ug/Kg	<MDL	25	13	52		39--121
Aroclor 1260	0.83	1.67	ug/Kg	<MDL	25	19.4	78		53--140

MSD:WG110373-4 MS:WG110373-3 L51298-1 Matrix: FRSHWTRSED Listtype:ORPCBLL Method:SW846 3550B\*SW846 8082A Project:421240C-300 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Aroclor 1016	0.83	1.67	ug/Kg	<MDL	25	16.3	65		32--164	25	15.5	62		5		0--35
Aroclor 1260	0.83	1.67	ug/Kg	<MDL	25	20.2	81		28--144	25	19.2	77		5		0--35

SRM:WG110373-5 Matrix: OTHR SOLID Listtype:ORPCBLL Method:SW846 3550B\*SW846 8082A Project: Pkey:STD  
(Std Reference Material)

Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Qual	Lab Limit
Aroclor 1254	2.8	5.56	ug/Kg	116	90.3	78		57--139

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LD:WG110373-6 L51298-9 Matrix: FRSHWTRSED Listtype:ORPCBLL Method:SW846 3550B\*SW846 8082A Project:421240C-300 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP		RPD	Lab	
				Value	LD Value		Qual	Limit
Aroclor 1016	0.83	1.67	ug/Kg	<MDL	<MDL			0--35
Aroclor 1221	1.7	3.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1232	1.7	3.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1242	0.83	1.67	ug/Kg	<MDL	<MDL			0--35
Aroclor 1248	0.83	1.67	ug/Kg	<MDL	<MDL			0--35
Aroclor 1254	0.83	1.67	ug/Kg	<MDL	<MDL			0--35
Aroclor 1260	0.83	1.67	ug/Kg	<MDL	<MDL			0--35
Total Aroclors	0.83	1.67	ug/Kg	<MDL	<MDL			0--35

Surrogate: (Lab Limits)	2,4,5,6- Tetra chloro m- xylene	Deca chloro biphenyl
	10--118	12--158
L51247-1	64	77
L51247-2	73	77
L51247-3	53	81
L51247-4	71	80
L51247-5	48	72
L51247-6	51	81
L51247-7	48	91
L51247-8	71	64
L51247-9	45	91
L51247-10	64	81
L51298-1	49	87
L51298-2	39	91
L51298-3	61	88
L51298-4	65	84
L51298-5	72	88
L51298-6	54	72
L51298-7	54	85
L51298-8	52	87
L51298-9	35	72
L51298-10	50	71
WG110373-1	45	96
WG110373-2	39	83
WG110373-3	49	90
WG110373-4	38	87
WG110373-5	74	96
WG110373-6	39	89

# King County Environmental Laboratory Analytical QC Report

Workgroup: WG110372 Pesticides

MB:WG110372-1 Matrix: OTHR SOLID Listtype:ORPESTLL Method:SW846 3550B\*SW846 8081B Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	
Beta-BHC	0.33	0.667	ug/Kg	<MDL	
Delta-BHC	0.33	0.667	ug/Kg	<MDL	
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL	
Heptachlor	0.33	0.667	ug/Kg	<MDL	
Aldrin	0.67	1.33	ug/Kg	<MDL	
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL	
Endosulfan I	0.67	1.33	ug/Kg	<MDL	
Dieldrin	0.67	1.33	ug/Kg	<MDL	
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	
Endrin	0.67	1.33	ug/Kg	<MDL	
Endosulfan II	0.67	1.33	ug/Kg	<MDL	
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL	
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL	
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	
Methoxychlor	3.3	6.67	ug/Kg	<MDL	
trans-Chlordane	0.33	0.667	ug/Kg	<MDL	
Alpha-Chlordane	0.33	0.667	ug/Kg	<MDL	
Toxaphene	6.7	13.3	ug/Kg	<MDL	

# King County Environmental Laboratory Analytical QC Report

SB:WG110372-2 MB:WG110372-1 Matrix: OTHR SOLID Listtype:ORPESTLL Method:SW846 3550B\*SW846 8081B Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	6.67	3.68	55		20--99
Beta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	4.99	75		66--102
Delta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	5.11	77		63--108
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL	6.67	4.04	61		27--130
Heptachlor	0.33	0.667	ug/Kg	<MDL	6.67	4.48	67		20--137
Aldrin	0.67	1.33	ug/Kg	<MDL	6.67	3.98	60		28--113
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL	6.67	4.97	75		59--107
Endosulfan I	0.67	1.33	ug/Kg	<MDL	6.67	5.17	77		62--104
Dieldrin	0.67	1.33	ug/Kg	<MDL	6.67	5.74	86		58--139
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	6.67	5.69	85		75--111
Endrin	0.67	1.33	ug/Kg	<MDL	6.67	6.1	91		60--160
Endosulfan II	0.67	1.33	ug/Kg	<MDL	6.67	5.38	81		72--109
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	6.67	6.05	91		78--121
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL	6.67	0.72	11		10--77
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL	6.67	4.82	72		61--104
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	6.67	5.92	89		57--145
Methoxychlor	3.3	6.67	ug/Kg	<MDL	6.67	6.82	102		72--131

MSD:WG110372-4 MS:WG110372-3 L51247-7 Matrix: FRSHWTRSED Listtype:ORPESTLL Method:SW846 3550B\*SW846 8081B Project:421240C-300 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	True Value	MS Value	% Rec.	Qual	Lab Limit	True Value	MSD Value	% Rec.	Qual	RPD	Qual	Lab Limit
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	6.67	3.96	59		59--111	6.67	4.49	67		13		0--35
Beta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	5.08	76		60--119	6.67	5.57	84		10		0--35
Delta-BHC	0.33	0.667	ug/Kg	<MDL	6.67	5.08	76		54--126	6.67	5.87	88		15		0--35
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL	6.67	4.61	69		61--135	6.67	5.1	77		11		0--35
Heptachlor	0.33	0.667	ug/Kg	<MDL	6.67	4.41	66		52--157	6.67	5.36	80		19		0--35
Aldrin	0.67	1.33	ug/Kg	<MDL	6.67	4.47	67		61--119	6.67	5.16	77		14		0--35
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL	6.67	5.21	78		61--118	6.67	5.99	90		14		0--35
Endosulfan I	0.67	1.33	ug/Kg	<MDL	6.67	5.21	78		64--113	6.67	6.02	90		14		0--35
Dieldrin	0.67	1.33	ug/Kg	<MDL	6.67	5.63	84		60--139	6.67	6.29	94		11		0--35
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	6.67	5.18	78		59--125	6.67	6.02	90		14		0--35
Endrin	0.67	1.33	ug/Kg	<MDL	6.67	5.83	87		62--166	6.67	6.79	102		16		0--35
Endosulfan II	0.67	1.33	ug/Kg	<MDL	6.67	5.12	77		36--146	6.67	5.86	88		13		0--35
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	6.67	5.63	84		41--157	6.67	5.9	89		6		0--35
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL	6.67	0.67	10		10--66	6.67	0.7	11		10		0--35
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL	6.67	4.55	68		46--113	6.67	5.1	77		12		0--35
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	6.67	5.74	86		50--144	6.67	6.54	98		13		0--35
Methoxychlor	3.3	6.67	ug/Kg	<MDL	6.67	6.4	95		53--129	6.67	7	105		10		0--35

# King County Environmental Laboratory Analytical QC Report

SRM:WG110372-5 Matrix: OTHR SOLID Listtype:ORPESTLL Method:SW846 3550B\*SW846 8081B Project: Pkey:STD  
(Std Reference Material)

Parameter	MDL	RDL	Units	True Value	SRM Value	% Rec.	Lab Qual Limit
4,4'-DDT	5.3	10.7	ug/Kg	119	181	152	10--200
Alpha-Chlordane	2.7	5.33	ug/Kg	16.5	20.9	127	48--144

LD:WG110372-6 L51298-9 Matrix: FRSHWTRSED Listtype:ORPESTLL Method:SW846 3550B\*SW846 8081B Project:421240C-300 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Lab Qual Limit
Alpha-BHC	0.33	0.667	ug/Kg	<MDL	<MDL		0--35
Beta-BHC	0.33	0.667	ug/Kg	<MDL	<MDL		0--35
Delta-BHC	0.33	0.667	ug/Kg	<MDL	<MDL		0--35
Gamma-BHC (Lindane)	0.33	0.667	ug/Kg	<MDL	<MDL		0--35
Heptachlor	0.33	0.667	ug/Kg	<MDL	<MDL		0--35
Aldrin	0.67	1.33	ug/Kg	<MDL	<MDL		0--35
Heptachlor Epoxide	0.33	0.667	ug/Kg	<MDL	<MDL		0--35
Endosulfan I	0.67	1.33	ug/Kg	<MDL	<MDL		0--35
Dieldrin	0.67	1.33	ug/Kg	<MDL	<MDL		0--35
4,4'-DDE	0.67	1.33	ug/Kg	<MDL	<MDL		0--35
Endrin	0.67	1.33	ug/Kg	<MDL	<MDL		0--35
Endosulfan II	0.67	1.33	ug/Kg	<MDL	<MDL		0--35
4,4'-DDD	0.67	1.33	ug/Kg	<MDL	<MDL		0--35
Endrin Aldehyde	0.67	1.33	ug/Kg	<MDL	<MDL		0--35
Endosulfan Sulfate	0.67	1.33	ug/Kg	<MDL	<MDL		0--35
4,4'-DDT	0.67	1.33	ug/Kg	<MDL	<MDL		0--35
Methoxychlor	3.3	6.67	ug/Kg	<MDL	<MDL		0--35
trans-Chlordane	0.33	0.667	ug/Kg	<MDL	<MDL		0--35
Alpha-Chlordane	0.33	0.667	ug/Kg	<MDL	<MDL		0--35
Toxaphene	6.7	13.3	ug/Kg	<MDL	<MDL		0--35

# King County Environmental Laboratory Analytical QC Report

Surrogate: (Lab Limits)	2,4,5,6- Tetra chloro m- xylene 10--118	Deca chloro biphenyl 12--158
L51247-1	69	79
L51247-2	91	121
L51247-3	61	93
L51247-4	78	87
L51247-5	54	71
L51247-6	54	84
L51247-7	51	88
L51247-8	88	104
L51247-9	46	77
L51247-10	65	79
L51298-1	46	70
L51298-2	41	87
L51298-3	65	84
L51298-4	68	77
L51298-5	74	77
L51298-6	61	84
L51298-7	54	77
L51298-8	57	85
L51298-9	40	83
L51298-10	61	92
WG110372-1	46	106
WG110372-2	48	98
WG110372-3	37	84
WG110372-4	50	104
WG110372-5	78	74
WG110372-6	38	90

King County Environmental Laboratory Analytical QC Report

Workgroup: WG110421 WTPH-Dx

MB:WG110421-1 Matrix: OTHR SOLID Listtype:ORWTPH-DX Method:WDOE NWTPH-DX Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Diesel Range (>C12-C24)	25	25	mg/Kg	<MDL	
Lube Oil Range (>C24)	25	25	mg/Kg	<MDL	

SB:WG110421-2 MB:WG110421-1 Matrix: OTHR SOLID Listtype:ORWTPH-DX Method:WDOE NWTPH-DX Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Lube Oil Range (>C24)	25	25	mg/Kg	<MDL	150	174	116		50--150

SB:WG110421-3 MB:WG110421-1 Matrix: OTHR SOLID Listtype:ORWTPH-DX Method:WDOE NWTPH-DX Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	True Value	SB Value	% Rec.	Qual	Lab Limit
Diesel Range (>C12-C24)	25	25	mg/Kg	<MDL	150	149	99		50--150

LD:WG110421-4 L51247-7 Matrix: FRSHWTRSED Listtype:ORWTPH-DX Method:WDOE NWTPH-DX Project:421240C-300 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Diesel Range (>C12-C24)	25	25	mg/Kg	<MDL	<MDL			0--35
Lube Oil Range (>C24)	25	25	mg/Kg	<MDL	<MDL			0--35

LD:WG110421-5 L51298-1 Matrix: FRSHWTRSED Listtype:ORWTPH-DX Method:WDOE NWTPH-DX Project:421240C-300 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	Lab Limit
Diesel Range (>C12-C24)	25	25	mg/Kg	<MDL	<MDL			0--35
Lube Oil Range (>C24)	25	25	mg/Kg	27.7	<MDL	200	*	0--35

King County Environmental Laboratory Analytical QC Report

Surrogate: (Lab Limits)	2-Fluoro biphenyl 50--150	Penta cosane 50--150
L51247-1	93	125
L51247-2	94	173 *
L51247-3	92	117
L51247-4	94	134
L51247-5	92	112
L51247-6	89	104
L51247-7	91	106
L51247-8	93	130
L51247-9	93	112
L51247-10	95	143
L51298-1	92	117
L51298-2	91	105
L51298-3	91	124
L51298-4	107	147
L51298-5	94	117
L51298-6	92	130
L51298-7	92	137
L51298-8	94	111
L51298-9	92	111
L51298-10	92	108
WG110421-1	90	101
WG110421-2	90	102
WG110421-3	106	103
WG110421-4	89	103
WG110421-5	92	114

=====  
4xRule indicates no MS/MSD recovery was calculated due to the 4x rule.



## King County

### Water and Land Resources Division

Environmental Laboratory

Department of Natural Resources and Parks

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## Memorandum

DATE: March 22, 2013

TO: Dean Wilson,  
DNRP/WLRD/STS/WQQ - Freshwater Assessment Group

FROM: Fritz Grothkopp  
DNRP/WLRD/LAB - Laboratory Project Management

RE: Lower Duwamish Project, Green River Inputs, Bulk  
Sediment Collection, August 2012, Supplemental QA1  
information

CC: Jeff Stern  
DNRP/WTB - Environmental and Community Services  
Section

This memo summarizes additional information regarding the sampling and analysis of 35 freshwater sediment samples collected August 13, 14, 15, 27, 28, 29 and 30, 2012. This document will be combined with a full validation report on the QC data to provide full QA1 information for the sample results.

### Sample Collection:

This section describes sampling activities associated with the 35 freshwater sediment samples collected August 13, 14, 15, 27, 28, 29 and 30, 2012. Sampling activities were conducted following general guidance suggested in the Puget Sound Protocols (PSEP, 1996 and 1998), and in the SAP.

### Sampling Locations and Station Positioning

Sampling locations (stations) were selected and the prescribed coordinates determined prior to field activities. The prescribed coordinates for these stations are presented in the following table. All station coordinates are recorded in state plane coordinate system North American Datum 1983 (NAD83). These coordinates come from the laboratory LIMS system.

### Sample Location Table

Lab Number	Station ID	Description	Prescribed Northing	Prescribed Easting
L56024-1	A315	HILL CREEK (MILL)/BRIDGE AT 68TH AND S 261ST, AKA MILL CR	137218	1289725
L56024-2	SD315	MILL CRK AT W.VALLEY HWY NEAR DAIRY	133275	1289415
L56024-3	FR315	MILL CRK ON FRONTAGE RD	129960	1290680
L56024-4	TS315	MILL CRK NEAR 1ST NW AND 37TH NW	127160	1290765
L56024-5	ED315	MILL CRK ON M ST NEAR EMERALD DOWNS	122530	1290545
L56024-7	PR315	MILL CRK AT PEASLEY PARK AND RIDE	113555	1287170
L56024-8	PC315	MILL CRK ON PEASLEY CANYON RD	117340	1281940

L56024-9	UH315	MILL CRK AT 321ST ST.	118130	1281775
L56024-11	IT318	EMILL CRK NEAR 7235 S. 182ND	163195	1292010
L56024-12	DT318	EMILL CRK 196TH AND 72ND	158960	1291450
L56024-13	FS318	EMILL CRK NEAR 72ND ST. FS	155285	1291205
L56024-14	CS318	EMILL CRK NEAR 22227 76TH ST	150045	1292480
L56024-15	AA318	EMILL CRK NOVAK LN/CENTRAL	146780	1294800
L56024-16	EP318	EMILL CRK AT EARTHWORKS PARK	142700	1295940
L56024-17	EG318	EMILL CRK AT 104TH/SE 267TH	135305	1301075
L56024-19	SH318	EMILL CRK NEAR SCENIC HILL SCHOOL	137710	1299685
L56024-20	AB320	COVINGTON CRK AT 168TH WAY	119105	1321350
L56024-21	CC320	COVINGTON CREEK AT SE 323ND ST	124875	1324254
L56024-22	C320	COVINGTON CREEK//BRIDGE ON KENT BLACK DIAMOND RD NEAR INTERSECTION WITH THOMAS RD	116442	1327037
L56024-23	CD320	COVINGTON CRK AT 192ND SE	113590	1329470
L56024-24	PT320	COVINGTON CRK NEAR SE 304TH AND 220TH	122575	1338290
L56024-25	Z320	COVINGTON CREEK BELOW LAKE SAWYER AT 224TH AVE SE	124875	1339866
L56024-26	S320	COVINGTON CR. ON HWY 169 NEAR SE 288	126368	1346760
L56024-27	D320	JENKINS CREEK//BRIDGE ON KENT BLACK DIAMOND RD NEAR 157TH AVE SE INTERSECTION	126881	1319039
L56024-28	WX320	JENKINS CRK AT WAX RD AND 164TH	129990	1322235
L56024-29	JK320	JENKINS CREEK DOWNSTREAM OF KENT KANGLEY RD	133151	1325834
L56024-30	FR320	JENKINS CRK AT FRONTAGE RD AND HWY 18	137155	1326790
L56024-33	LW320	JENKINS LK. WILDERNESS 224TH AVE	140055	1339395
L56024-34	FL319	GREEN RIVER, DOWNSTREAM OF CONFLUENCE WITH BLACK RIVER, FOSTER LINKS GC	177997	1288012
L56024-35	0318	GREEN RIVER/EAST VALLEY HWY BRDG/EAST VALLEY HIGHWAY BRIDGE	134927	1294280
L56024-36	A319	GREEN RIVER/ABOVE SOOS CR/BRIDGE ON AUBURN-BLACK DIAMOND RD AT SE GREEN VALLEY RD	113108	1307302
L56024-37	FG319	GREEN RIVER, FLAMING GEYSER SP, UPSTREAM OF NEWAUKUM CREEK	104038	1341097
L56024-38	0320	BIG SOOS CREEK//FOOTBRIDGE AT HATCHERY NEAR MOUTH OF STREAM	115400	1309035
L56024-39	X322	NEWAUKUM CREEK NEAR THE MOUTH OFF OF 358TH SE	105523	1334258
L56024-40	0317	SPRINGBROOK CREEK//BRIDGE AT N END OF LONGACRES	173079	1294315

The coordinates found in LIMS for samples L56024-21, 22 and 24 were different from those listed in the SAP. It was determined that these three locations were sampled at the coordinates found in the SAP therefore project goals were met. The correct coordinates have been updated in the laboratory LIMS system.

Sediment grab samples were collected by wading into the stream. Samples were collected within the width and reach of each station such that representative depositional material was obtained. This is consistent with the specifications in the SAP.

Sample Description Table

Lab Sample #	Locator	Sample Collection	Sediment Depth (from surface, cm)	Sample Usage
L56024-1	A315	Surface Grabs	5-10	Chemistry
L56024-2	SD315	Surface Grabs	5-10	Chemistry
L56024-3	FR315	Surface Grabs	3-8	Chemistry
L56024-4	TS315	Surface Grabs	5-10	Chemistry
L56024-5	ED315	Surface Grabs	5-10	Chemistry
L56024-7	PR315	Surface Grabs	5-7	Chemistry
L56024-8	PC315	Surface Grabs	3-5	Chemistry
L56024-9	UH315	Surface Grabs	5-10	Chemistry
L56024-11	IT318	Surface Grabs	3-8	Chemistry
L56024-12	DT318	Surface Grabs	3-8	Chemistry
L56024-13	FS318	Surface Grabs	3-8	Chemistry
L56024-14	CS318	Surface Grabs	5-10	Chemistry
L56024-15	AA318	Surface Grabs	3-8	Chemistry
L56024-16	EP318	Surface Grabs	3-8	Chemistry
L56024-17	EG318	Surface Grabs	3-8	Chemistry
L56024-19	SH318	Surface Grabs	3-8	Chemistry
L56024-20	AB320	Surface Grabs	5-10	Chemistry

L56024-21	CC320	Surface Grabs	3-5	Chemistry
L56024-22	C320	Surface Grabs	5-10	Chemistry
L56024-23	CD320	Surface Grabs	3-5	Chemistry
L56024-24	PT320	Surface Grabs	3-5	Chemistry
L56024-25	Z320	Surface Grabs	3-5	Chemistry
L56024-26	S320	Surface Grabs	5-10	Chemistry
L56024-27	D320	Surface Grabs	5-10	Chemistry
L56024-28	WX320	Surface Grabs	3-8	Chemistry
L56024-29	JK320	Surface Grabs	3-8	Chemistry
L56024-30	FR320	Surface Grabs	3-5	Chemistry
L56024-33	LW320	Surface Grabs	3-8	Chemistry
L56024-34	FL319	Surface Grabs	3-8	Chemistry
L56024-35	0318	Surface Grabs	3-8	Chemistry
L56024-36	A319	Surface Grabs	3-5	Chemistry
L56024-37	FG319	Surface Grabs	3-5	Chemistry
L56024-38	0320	Surface Grabs	5-10	Chemistry
L56024-39	X322	Surface Grabs	3-7	Chemistry
L56024-40	0317	Surface Grabs	5-10	Chemistry

### Sample Collection

Sediment was collected at 33 stations using stainless steel spoons. One station (FL315) was sampled using a petit Ponar sampler and one station (0317) was sampled using PVC core tubes. Cored samples were collected from shallow water (<2 ft.) by pushing the core tubes into the sediment to a depth of at least 5 cm. A stainless steel spatula or gloved hand was inserted under the tube mouth to trap the sediment inside as the tube was removed from the stream. Tubes may have been slightly angled to allow drainage of excess water, but fines were not allowed to escape. Sediment in the tube was then transferred to a clean, stainless steel compositing container. Several separate cores may have been collected in order to acquire sufficient sample volume to perform all chemistry analyses. A spoon was used at most locations since the core tubes typically would not easily penetrate to 5 cm. Sediment was scooped up as efficiently as possible with the spoons and transferred to a stainless steel bucket for compositing. The Ponar sampler was used at the location where access via a bridge was possible.

Five locations had stagnant water and were flooded but were sampled. The locations are: FR315, FS318, CS318, EG318 and LW320. Three locations were dry and were not sampled. The locations are: MS315, LD315 and DT320. A field observation form is attached to this memo describing in detail the sampling effort at each location.

### Sample Handling

For the sample collected with tubes, the entire contents of all core tubes collected were emptied directly into a stainless steel bucket. If excess water was present, it was decanted once the fines had been allowed to settle. A stainless steel spoon or spatula was then used to homogenize the sample by stirring. Rocks or other debris one half-inch or larger in diameter were removed and discarded. For spooned samples, the contents of as many spoons of material as needed were emptied directly into a stainless steel bowl. Excess water if present was decanted once the fines had been allowed to settle. The spoon was then used to homogenize the sample by stirring. Any rocks or other debris one half-inch or larger in diameter were removed and discarded. For AVS, an undisturbed portion of sediment was placed in a sample jar.

Aliquots of the homogenized sediment were subsampled into individual, pre-labeled containers for chemistry testing except as noted above. Chemical preservative, if needed, was added. Sample containers were supplied by the King County Environmental Laboratory and were pre-cleaned according to analytical specifications.

### Decontamination

Dedicated sets of core tubes, spoons, Ponar sampler and other homogenizing/subsampling equipment were assigned to each station, precluding the need for decontamination in the field.

## Sample Storage and Preservation

Samples were stored in ice-filled coolers from the time of collection until delivery to the King County Environmental Laboratory. Samples were delivered under chain-of-custody and maintained as such throughout the analytical process. Samples were stored frozen (-18°C) by the laboratory until analysis with the exception of samples for particle size distribution (PSD) analysis and acid volatile sulfide. Sample aliquots for these analyses were stored refrigerated at approximately 4°C.

## SAP Discussion

Locations for samples L56024-38, 39 and 40 were narratively discussed in Section 1.1 of the SAP, but were not listed in Table 1. These locations were selected for sampling to provide data for Dioxin/Furan parameters at the mouths of the three tributaries to the Green River. The samples were logged in for conventionals and Dioxin Furan analyses only.

### *MDL Targets*

The wet weight MDL values from the SAP were compared with those reported with the data. A summary spreadsheet is attached that highlights those MDL values that are above the SAP values.

### Conventionals

The method detection limits (MDLs) reported for conventionals parameters are within the requirements defined in the SAP with the following exceptions.

For TOC, reported MDLs and RDLs were higher than SAP requirements for most samples. All samples that had higher detection limits had reportable levels of these parameters thus the project goals were not compromised.

For PSD analysis, all samples have MDLs above the SAP values for Silt and Clay; All but four samples have MDLs above the SAP for Gravel and Sand. Six samples had no reportable Gravel fraction with elevated MDLs. One sample had no reportable Silt fraction with elevated MDLs. This is not expected to have compromised the project goals.

For AVS, reported MDLs and RDLs were higher than SAP requirements for most samples. All samples that had higher detection limits had reportable levels of these parameters thus the project goals were not compromised.

### Metals

The method detection limits (MDLs) reported for Metals parameters are within the requirements defined in the draft SAP or detectable levels were reported for all samples.

### Organics

#### Chlorinated Pesticides

Samples L56024-13, 14, 15 and 17 had MDL values that were greater than the SAP values. The samples were diluted to eliminate matrix interference.

#### PCB

The MDLs for Aroclor 1254 and 1260 were elevated in sample L56024-14. The sample had reportable values for these analytes thus project goals were not compromised.

#### Semivolatile Organics and EDC compounds

The table of compounds listed below exceeds the SAP MDLs for various samples. Some samples required dilution in order to reduce matrix interference and other co-extractives present in the extracts. Some samples required dilution in order to bring the compound within the calibration range of the instrument. Not all compounds with elevated MDLs had detected amounts reported. Of these, only Di-N-Octyl Phthalate had elevated MDLs that exceeded the sediment quality guidelines in Tables 2 or 3.

1,2,4-Trichlorobenzene	Benzo(g,h,i)perylene	Coprostanol
2,4-Dimethylphenol	Benzoic Acid	Dibenzo(a,h)anthracene
2-Methylnaphthalene	Benzyl Butyl Phthalate	Di-N-Octyl Phthalate
3-,4-Methylphenol	Bis(2-ethylhexyl)adipate	Hexachlorobutadiene
Benzo(a)anthracene	Bis(2-Ethylhexyl)Phthalate	Indeno(1,2,3-Cd)Pyrene
Benzo(a)pyrene	Bisphenol A	Naphthalene
Benzo(b,j,k)fluoranthene	Chrysene	Pyrene

#### QC Limits

The QC limits used in the QC reports were reviewed against those listed in the SAP. All of the control limits were correct with the following exceptions. The exceptions were control limits that were updated prior to analysis of the samples. Control limits may be updated annually.

Analyte	QC Type	SAP Control Limit (%)	New Control Limit (%)
Nickel, Total, ICPMS	Sed LCS	80 to 120	70 to 105
Arsenic, Total, ICPMS	Sed LCS	80 to 120	66 to 144
Zinc, Total, ICPMS	Soil LCS	80 to 120	80 to 121

If you have any questions or need additional information, please call me at 684-2327.

Project: 42589-330-4

## CHAIN OF CUSTODY

Relinquished by <u>J. Power</u>	Date <u>8/13/2012</u>	Time <u>1603</u>
Received by <u>JP</u>	Date <u>8/13/12</u>	Time <u>1603</u>
Sample Numbers <u>L56024 1, 2, 4, 5 + 40</u>		

Sample Number	P56024-1	P56024-2	P56024-3 *
QC Link			
Locator	A315	SD315	FR315
Short Loc Desc	MILL CR	Mill Cr 2	Mill Cr 3
Locator Desc	HILL CREEK (MILL)/BRIDGE AT 68TH AND S 261ST	MILL CRK AT W. VALLEY HWY NEAR DAIRY	MILL CRK ON FRONTAGE RD
Site	STREAMS	STREAMS	STREAMS
Comments	JP	JP	JP
Start Date/Time	13-AUG-12/1135	13-AUG-12/1220	29-AUG-12/1130
End Date/Time			
Time Span			
Sample Depth			
SAMP INFO	20 SPOONS COLLECTED UNDER BRIDGE	20 SPOONS. LOTS OF PLANT DEBRIS, HAY	30 SPOONS. MUCH PLANT DEBRIS, CANARY GRASS
SED DEPTH	5-10 cm	5-10 cm	3-8 cm
SED TYPE	23 P 26	32 P 26	23 P 27
Dept, Matrix, Prod	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB MUCH CANARY GRASS, LEAVES, ETC.

~20 SPOONS

SILT  
SAND  
BROWN  
H2S SL  
STICKS

~20 SPOONS

SAND  
SILT  
SA BROWN  
H2S SLIGHT  
WOOD, ROCKS  
HAY

NOT POSSIBLE TO  
SAMPLE 8/13/12.

DAMAGED UP +  
FLOODED. WAY  
TOO DEEP + TOO  
MUCH CANARY  
GRASS

SILT  
SAND  
BROWN  
H2S MUD  
W/P  
~30 SPOONS

PSD OC  
8/29/12 C.O.C. ON  
BACK →

8/29/12  
C.O.C.

CHAIN OF CUSTODY		
RELINQUISHED BY	Date	Time
JEAN POWER	8/29/12	1632
RECEIVED BY	Date	Time
ML	8/29	1637
Sample Number(s)		
L56024 3, 34, 35 (All)		

(NOT COLLECTED)

Sample Number	P56024-4	P56024-5	P56024-6 *
QC Link			
Locator	TS315	ED315	MS315
Short Loc Desc	Mill Cr 4	Mill Cr 5	Mill Cr 6
Locator Desc	MILL CRK NEAR 1ST NW AND 37TH NW	MILL CRK ON M ST NEAR EMERALD DOWNS	MILL CRK ON MAIN ST WEST OF 167
Site	STREAMS	STREAMS	STREAMS
Comments			
Start Date/Time	13-AUG-12/1325	13-AUG-12/1420	
End Date/Time			
Time Span			
Sample Depth			
SAMP INFO	15 SPOONS	15 SPOONS. MUCH PLANT DEBRIS. CANARY GRASS	
SED DEPTH	5-10 cm	5-10 cm	
SED TYPE	23P27	23P26	
Dept, Matrix, Prod	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB           ?

~15 SPOONS  
 SILT  
 SAND  
 BROWN  
 H2S MOD  
 W/P DEBRIS

~15 SPOONS  
 SILT  
 SAND  
 BROWN  
 H2S SL  
 W/P DEBRIS  
 CANARY GRASS  
 CITY

\* POSSIBLY NOT  
 SAMPLE-ABLE  
 VISITED 8/13/12.  
 SMALL DITCH  
 W/ STAGNANT  
 WATER



Project: 423589-330-4

RELINQUISH	8/14/12	1645
RECEIVED BY	JP	1645
Sample Number	56024 7-9 20-22 (All)	

Sample Number	P56024-7	P56024-8	P56024-9
QC Link			
Locator	PR315	PC315	UH315
Short Loc Desc	Mill Cr 7	Mill Cr 8	Mill Cr 9
Locator Desc	MILL CRK AT PEASLEY PARK AND RIDE	MILL CRK ON PEASLEY CANYON RD	MILL CRK AT 321ST ST.
Site	STREAMS	STREAMS	STREAMS
Comments			
Start Date/Time	14-AUG-12/1050	14-AUG-12/1140	14-AUG-12/1225
End Date/Time			
Time Span			
Sample Depth			
SAMP INFO	20 SPOONS	25 SPOONS. SUBSTRATE MOSTLY COBBLES.	15 SPOONS. DEPOSITION AREA U.S. SIDE OF ROAD
SED DEPTH	5-10 cm	3-5 cm	5-10 cm
SED TYPE	32 P2 Ø	34 P2 Ø	23 P27
Dept, Matrix, Prod	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPCS 6 SE P-ICPCS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPCS 6 SE P-ICPCS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPCS 6 SE P-ICPCS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB

VERY DIFFICULT  
ACCESS - OVERTOWN

~20 SPOONS  
SAND  
SILT  
BROWN  
NO ODOR  
W/P

~25 SPOONS  
MOSTLY COBBLE  
~1/3 MATERIAL  
TAKEN FROM  
AREA UNDER  
CULVERT GRATE  
SAND  
GRAVEL  
BROWN/GREY  
NO ODOR  
W/P

~15 SPOONS  
SILT  
SAND  
BROWN  
H2S MOD  
W/P



Project: 423589-330.4

NOT COLLECTED8/30/12 C.O.C.  
ON BACK OF  
THIS SHEET.

Sample Number	P56024-10	P56024-11	P56024-12
QC Link			
Locator	LD315	IT318	DT318
Short Loc Desc	Mill Cr 10	Emill Cr 1	EmillCr 2
Locator Desc	MILL CRK NEAR 303RD CT	EMILL CRK NEAR 7235 S. 182ND	EMILL CRK 196TH AND 72ND
Site	STREAMS	STREAMS	STREAMS
Comments	15-AUG-12/ <del>14</del> AUG 12	30-AUG-12/1215	27-AUG-12/1420
Start Date/Time			
End Date/Time		JP	SH/JP
Time Span			
Sample Depth			
SAMP INFO		15 SPOONS D.S. OF RR TRESTLE. STRANGE ODOR	20 SPOONS. STRANGE CREOSOTE-LIKE ODOR
SED DEPTH		3-8 cm	3-8 cm
SED TYPE		23P21	23P21
Dept, Matrix, Prod	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICNMS 6 SE P-ICNMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICNMS 6 SE P-ICNMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB SILT SAND BROWN WEIRD SMELL W/P ~15 SPOONS JUST D.S. OF RR TRESTLE	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICNMS 6 SE P-ICNMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB SILT SAND BROWN-GREEN STRANGE ODOR CREOSOTE? W/P DEBRIS

40TH PL SOUTH/  
S 296TH TO EAST  
ACROSS FROM  
29501 36TH PL S  
NORTH OF S. 298TH INTERSECTION  
\* DRY ON 8/15/12

C.O.C.  
8/27/12

8/27/12 1547  
8/27/12 1547  
12, 28, 29, 30,  
33, 36  
~20 SPOONS

8/30/12 C.O.C.

RELINQ	JEAN Power	8/30/12	1355
RELINQ	DRP	8-30-12	1355
Sample No.	L56024-11		
			(All)

CHAIN OF CUSTODY

JEAN Power 8/28/12 1640

ARK 8/28/12 1640

56024 13-17+19 (AM)

Sample Number	P56024-13	P56024-14	P56024-15
QC Link			
Locator	FS318	CS318	AA318
Short Loc Desc	Emill Cr 3	Emill Cr 4	Emill Cr 5
Locator Desc	EMILL CRK NEAR 72ND ST. FS	EMILL CRK NEAR 22227 76TH ST	EMILL CRK NOVAK LN/CENTRAL
Site	STREAMS	STREAMS	STREAMS
Comments			
Start Date/Time	28-AUG-12/1500	28-AUG-12/1440	28-AUG-12/1200
End Date/Time	SH/JP	SH/JP	JP
Time Span			
Sample Depth			
SAMP INFO	15 SPOONS. NEARLY STAGNANT. SLIGHT SHEEN. H2S mod	15 SPOONS. NEARLY STAGNANT. H2S mod	22 SPOONS. H2S SLIGHT.
SED DEPTH	3-8 cm	5-10 cm	3-8 cm
SED TYPE	23 P 27	23 P 27	23 P 26
Dept, Matrix, Prod	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB

SILT  
SAND  
BROWN  
w/p  
H2S mod  
NEARLY  
STAGNANT  
SLIGHT SHEEN  
15 SPOONS

SILT  
SAND  
BROWN-GREEN  
w/p  
H2S mod.  
15 SPOONS  
D.S. D.S. OF  
CABINET SHOP  
NEARLY  
STAGNANT

SILT  
SAND  
BROWN  
w/p  
H2S SLIGHT  
22 SPOONS  
D.S. OF CONCRETE  
CULVERT  
SOME FLOW



Project: 423589-330-4

Sample Number	P56024-16	P56024-17	P56024-19
QC Link			
Locator	EP318	EG318	SH318
Short Loc Desc	Emill Cr 6	Emill Cr 7	Emill Cr 8
Locator Desc	EMILL CRK AT EARTHWORKS PARK	EMILL CRK AT 104TH/SE 267TH	EMILL CRK NEAR SCENIC HILL SCHOOL
Site	STREAMS	STREAMS	STREAMS
Comments			
Start Date/Time	28-AUG-12/1000	28-AUG-12/1100	28-AUG-12/1320
End Date/Time	SH/JP	JP	SH/JP
Time Span			
Sample Depth			
SAMP INFO	20 SPOONS. UNDER PED. BRIDGE	25 SPOONS, NEARLY STAGNANT. H2S mod.	20 SPOONS.
SED DEPTH	3-8 cm	3-8 cm	3-8 cm
SED TYPE	3 2 P 2 1	2 3 P 2 7	3 2 P 2 1
Dept, Matrix, Prod	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNASMS 7 SE CLPEST 7 SE EDC 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNASMS 7 SE CLPEST 7 SE EDC 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNASMS 7 SE CLPEST 7 SE EDC 7 SE PCB

SAND  
 SILT  
 BROWN  
 W/P DEBRIS  
 NAT. ODR  
 ~20 SPOONS  
 UNDER PED.  
 BRIDGE

SILT  
 SAND  
 BROWN  
 W/P  
 H2S mod  
 ~25 SPOONS  
 ESSENTIALLY  
 STAGNANT

SAND  
 SILT  
 BROWN  
 NAT. ODR  
 W/P DEBRIS  
 20 SPOONS  
 JUST D.S.  
 OF TRAIL



Project: 423589-330-4

Sample Number	P56024-20	P56024-21	P56024-22
QC Link			
Locator	AB320	CC320	C320
Short Loc Desc	Cov Cr 1	COV323	CVNGT CR
Locator Desc	COVINGTON CRK AT 168TH WAY	COVINGTON CREEK AT SE 323ND ST	COVINGTON CREEK//BRIDGE ON KENT BLACK DIAMOND
Site	STREAMS	STREAMS	STREAMS
Comments			
Start Date/Time	14-AUG-12/1415	14-AUG-12/1450	14-AUG-12/1525
End Date/Time			
Time Span			
Sample Depth			
SAMP INFO	15 SPOONS.	20 SPOONS. MUCH COBBLE; LIMITED FINES.	15 SPOONS U.S. OF BRIDGE
SED DEPTH	5-10 cm	3-5 cm	5-10 cm
SED TYPE	32W2Ø	34P21	32P21
Dept, Matrix, Prod	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB

~15 SPOONS

SAND  
SILT  
BROWN  
NO ODOR  
WOOD

UNDER BRIDGE  
SLIGHTLY D/S

~20 SPOONS

SAND  
GRAVEL  
BROWN/GR  
NAT. ODOR

W/P  
MUCH COBBLE  
NOT MANY  
FINES

15 SPOONS

SAND  
SILT  
BROWN  
NAT. ODOR  
W/P

U.S. OF  
BRIDGE

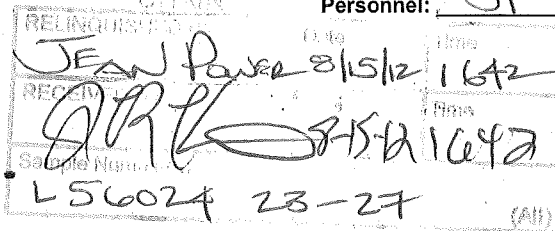


Login: P56024

Green River and Trib Sediments 2012

Personnel: JP

Project: 423589-330-4



Sample Number	P56024-23	P56024-24	P56024-25
QC Link			
Locator	CD320 <i>CD320</i>	PT320	Z320
Short Loc Desc	Cov Cr 4 <i>COVER4</i>	Cov Cr 5	COVSWYR
Locator Desc	COVINGTON CRK AT 192ND SE	COVINGTON CRK NEAR SE 304TH AND 220TH	COVINGTON CREEK BELOW LAKE SAWYER AT 224TH AV
Site	STREAMS	STREAMS	STREAMS
Comments			
Start Date/Time	15-AUG-12/1145	15-AUG-12/1215	15-AUG-12/1245
End Date/Time			
Time Span			
Sample Depth			
SAMP INFO	15 SPOONS. DS OF BRIDGE H2S SLIGHT	15 SPOONS. H2S SLIGHT	20 SPOONS H2S SLIGHT
SED DEPTH	3-5 cm	3-5 cm	3-5 cm
SED TYPE	32P26	3223P26	23P26
Dept, Matrix, Prod	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB

~15 SPOONS

SAND

SILT  
BROWN

H2S SL

W/P

JUST D.S.  
OF BRIDGE

~15 SPOONS

SILT/SAND

~50/50

BROWN

H2S SL

W/P

30 FT US  
OF TRAIL

~20 SPOONS

SILT

SAND

BROWN

H2S SL

W/P

- 26 - COVINGTON

15-AUG-12 / 1400,

~ 20 SPOONS

SILT

SAND

BROWN

NAT. ODOR

W/P

JUST D.S.

OF TRAIL

CULVERTS

Project: 423589-330-4

Sample Number	P56024-26	P56024-27	P56024-28
QC Link			
Locator	S320 <b>S320</b>	D320	WX320
Short Loc Desc	Creek/Don	JNKIN CR	Jenkins 2
Locator Desc	C WILKINSON CR. ON HWY 169 NEAR SP 28	JENKINS CREEK/BRIDGE ON KENT BLACK DIAMOND R	JENKINS CRK AT WAX RD AND 164TH
Site	STREAMS	STREAMS	STREAMS
Comments			
Start Date/Time	15-AUG-12/1400	15-AUG-12/1450	27-AUG-12/1000
End Date/Time			
Time Span			
Sample Depth			
SAMP INFO	20 SPOONS H2S SLIGHT	15 SPOONS. APPROX 50/50 SAND/SILT	20 SPOONS. VERY FINE FLOC-7 MATERIAL H2S MOD
SED DEPTH	5-10 cm	5-10 cm	3-8 cm
SED TYPE	23 P 26	23 P 21	23 <del>P</del> 27 <b>NGH</b>
Dept, Matrix, Prod	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNALLFULL 7 SE CLPEST 7 SE EDC 7 SE PBDE 7 SE PCB

~ 20 SPOONS  
 SILT  
 SAND  
 BROWN  
 H2S SLIGHT  
 W/P  
 JUST D.S.  
 OF CULVERT

~ 15 SPOONS  
 SILT > 50/50  
 SAND  
 BROWN  
 NAT. ODOR  
 W/P  
 JUST US OF  
 ROAD

SILT  
 SAND  
 BROWN  
 No DEBRIS  
 H2S MOD  
 UNDER ROAD  
 BRIDGE  
 ~ 20 SPOONS  
 FLOC-7 FINE  
 MATERIAL



Project: 423589-330-4

~~NOT COLLECTED~~

Sample Number	P56024-29	P56024-30	P56024-31
QC Link			
Locator	JK320	FR320	DT320
Short Loc Desc	JENK516	Jenkins 4	Jenkins 5
Locator Desc	JENKLINS CREEK DOWNSTREAM OF KENT KANGLEY RD	JENKINS CRK AT FRONTAGE RD AND HWY 18	JENKINS CRK DOT PROP NEAR 200TH AND HWY18
Site	STREAMS	STREAMS	STREAMS
Comments			
Start Date/Time	27-AUG-12/1025	27-AUG-12/1230	
End Date/Time	SH/JP	SH/JP	
Time Span			
Sample Depth			
SAMP INFO	20 SPOONS D.S. OF ROAD BRIDGE	20 SPOONS	
SED DEPTH	3-8 cm	3-5 cm	
SED TYPE	23 <del>21</del> <del>21</del>	23 P 21	
Dept, Matrix, Prod	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNASMS 7 SE CLPEST 7 SE EDC 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNASMS 7 SE CLPEST 7 SE EDC 7 SE PCB + EXTRA PSD CONTAINER	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNASMS 7 SE CLPEST 7 SE EDC 7 SE PCB

SILT  
SAND  
BROWN  
No DEBRIS  
NAT. ODOR  
~20 SPOONS  
D.S. OF ROAD  
BRIDGE

SILT  
SAND  
BROWN  
NAT. ODOR  
w/P DEBRIS  
20 SPOONS

ATTEMPTED 8/27  
NOT ACCESSIBLE  
TOTALLY  
OVERGROWN  
RE-ATTEMPT 8/29  
ESSENTIALLY  
DRY



Sample Number	P56024-33	P56024-34	P56024-35
QC Link			
Locator	LW320	FL319	0318
Short Loc Desc	Jenkins7	FL319	
Locator Desc	JENKINS LK. WILDERNESS 224TH AVE	GREEN RIVER, DOWNSTREAM OF CONFLUENCE WITH BL	GREEN RIVER/EAST VALLEY HWY BRDG/EAST VALLEY
Site	STREAMS	STREAMS	STREAMS
Comments			
Start Date/Time	27-AUG-12/1145	29-AUG-12/1010	29-AUG-12/1240
End Date/Time	SH/JP	JP	JP
Time Span			
Sample Depth			
SAMP INFO	20 SPOONS. D.S. OF ROAD. STRANGE ODOR	3 PONAR CASTS ALL SAND	20 SPOONS. U.S. OF BRIDGE. DEEP + ROCKY
SED DEPTH	3-8 cm	3-8 cm	3-8 cm
SED TYPE	2 Ø P 2 1	3 Ø P 2 Ø	3 2 P 2 Ø
Dept, Matrix, Prod	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNASMS 7 SE CLPEST 7 SE EDC 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNASMS 7 SE CLPEST 7 SE EDC 7 SE PCB 10 SE EPA1613BDIOXIN	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNASMS 7 SE CLPEST 7 SE EDC 7 SE PCB

SILT  
 NO 2ND  
 BROWN  
 ODD SMELL  
 W/P DEBRIS  
 ~20 SPOONS  
 D.S. OF ROAD  
 STAGNANT

SAND  
 NO 2ND  
 BROWN  
 W/P  
 NO ODOR  
 3 PONAR  
 CASTS  
 3-8 cm

SAND  
 SILT  
 BROWN  
 W/P  
 NO ODOR  
 ~20 SPOONS

JUST U.S.  
 OF ROAD  
 BRIDGE  
 DEEP, FAIRLY  
 FAST CURRENT-  
 ROCKY

P56024-3

FR 315

MILL & FRONTAGE RD.

29-AUG-12 / 1130

AT SOUTH END OF  
D.O.T. BARBED WIRE  
FENCE - SMALL AREA  
OF DRY GROUND TO  
ACCESS EDGE OF  
POOLED - UP "CREEK."

~ 30 SPOONS  
MUCH CANARY GRASS,  
STICKS, STICKS,  
LEAVES, ETC.

SILT

SAND

BROWN

W2S MOD

W/P DEBRIS

3-8 cm

Project: 423589-330-4

CHAIN OF CUSTODY

RELINQUISH TO: JD 8/24/12 1645

RECEIVED BY: MC 8/24/12 1645

Sample Number: 56024 37, 38, 39

Sample Number	P56024-36	P56024-37	P56024-38
QC Link			
Locator	A319	FG319	0320
Short Loc Desc	GREEN RIV	FG319	SOOS CR
Locator Desc	GREEN RIVER/ABOVE SOOS CR/BRIDGE ON AUBURN-BL	GREEN RIVER, FLAMING GEYSER SP, UPSTREAM OF N	BIG SOOS CREEK//FOOTBRIDGE AT HATCHERY NEAR M
Site	STREAMS	STREAMS	STREAMS
Comments	27 AUG 12 / 1325		
Start Date/Time	8/14/12 1254 JP	8/14/12 1200	8/14/12 1050
End Date/Time		1240	8/14/12 1100
Time Span			
Sample Depth			
SAMP INFO	25 SPOONS	25 SPOONS U.S. OF BRIDGE	15-14 SPOONS NOT MANY FINES
SED DEPTH	3-5 cm	3-5 cm	5-10 cm
SED TYPE	32 P 2 Ø	32 P 2 Ø	23 P 2 Ø
Dept, Matrix, Prod	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNASMS 7 SE CLPEST 7 SE EDC 7 SE PCB	3 SE AVS 3 SE PH 3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 7 SE BNASMS 7 SE CLPEST 7 SE EDC 7 SE PCB 10 SE EPA1613BDIOXIN	3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 10 SE EPA1613BDIOXIN Sampled right bank downstream of bridge downstream of hatchery 14 spoonfuls trying to get fines & as little

SAND  
 SILT  
 BROWN  
 NO ODOR  
 W/P DEBRIS  
 ~25 SPOONS

SAND  
 SILT  
 BROWN  
 NO ODOR  
 Twigs/leaves  
 Used spoon - lots  
 of spoonfuls  
 Sampled under  
 upstream side of  
 bridge, right bank flow ~ 0.4'/sec

silt  
 sand  
 twigs  
 no odor  
 brown  
 water depth  
 ~ 0.5'  
 flow ~ 0.4'/sec



Project: 423589-330-4

Sample Number	P56024-39	P56024-40	
QC Link			
Locator	X322	0317	
Short Loc Desc	NEWK MOUTH	SPRBR CR	
Locator Desc	NEWAUKUM CREEK NEAR THE MOUTH OFF OF 358TH SE	SPRINGBROOK CREEK//BRIDGE AT N END OF LONGACR	
Site	STREAMS	STREAMS	
Comments			
Start Date/Time	8/14/12 1135	13-AUG-12/1040	
End Date/Time	8/14/12 1145		
Time Span	JD	JP	
Sample Depth			
SAMP INFO	16 SPOONS	7 CORE TUBE GRABS UNDER BRIDGE H23 SLIGHT	
SED DEPTH	3-7 cm	5-10 cm	
SED TYPE	24 P 2 Ø	23 P 2.6	
Dept, Matrix, Prod	3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 10 SE EPA1613BDIOXIN x site found lots of fines in rocks on left bank silt	3 SE PSD 3 SE TOC 3 SE TOTS 6 SE HG-CVAA-M 6 SE HG-SEM, EXT 6 SE NPDES ICPMS 6 SE P-ICPMS 6 SE SEM ICP 10 SE EPA1613BDIOXIN	

gravel  
brown  
no odor  
small sticks  
could not use tube  
due to rocks  
used ~16 spoonfuls

SILT  
SAND  
BROWN  
H23 SLIGHT  
WOOD / STICKS  
7 CORE TUBE  
GRABS



8/27/2012 SA/JP

JENKINS CREEK - 28?

WX320 1000

SILT  
SAND  
BROWN  
NO DEBRIS  
H2S MOD

UNDER ROAD BRIDGE  
~20 SPOONS  
VERY FINE MATERIAL

JK320 1025 - -29

SILT  
SAND  
BROWN  
NO DEBRIS  
H2S NAT ODR

D.S. OF ROAD BRIDGE  
~20 SPOONS  
3-8 cm

JT320

COULD NOT ACCESS  
COMPLETELY OVERGROWN

LW320 1145

SILT  
NO SECOND  
BROWN  
ODD SMELL  
W/P DEBRIS

~20 SPOONS  
D.S. SIDE OF ROAD  
NEARLY STAGNANT

8/27/12 - CONT.

PA/JP

JENKINS

12, 28, 29, 30,  
33, 36

FR 320 E 1230

SILT

SAND

BROWN

NAT ODOR

W/P DEBRIS

EXTRA CONTAINER FOR PSD

~25 SPOONS

3-5 cm

---

GREEN RIVER

A319 1325

SAND

SILT

BROWN

NO ODOR

W/P DEBRIS

~25 SPOONS

3-5 cm

---

EMILL DT318 1420

SILT (mostly)

SAND

BROWN / GREEN

STRANGE ODOR

W/P DEBRIS

~20 SPOONS

3-8 cm

# Appendix B:

## SEM/AVS Calculations

## Appendix B - Table List

Table B-1.	Springbrook Creek Basin Sediment SEM/AVS Calculations
Table B-2.	Newaukum Creek Basin Sediment SEM/AVS Calculations
Table B-3.	Soos Creek Basin Sediment SEM/AVS Calculations
Table B-4.	Green River Basin Sediment SEM/AVS Calculations 2012

## List of Lab and Data Qualifying Acronyms

<b>&lt;RDL</b>	Less than reporting detection limit
<b>&lt;MDL</b>	Less than method detection limit
<b>J</b>	Estimated value
<b>JG</b>	Estimated value, probable low bias
<b>U</b>	Not detected

## Appendix B: Example SEM/AVS Calculations

### Simultaneously Extracted Metals (SEM) and Acid Volatile Sulfides (AVS) Ratio Calculations

$$\text{SEM/AVS} = (\text{Cd} + \text{Cu} + \text{Pb} + \text{Ni} + 2\text{Ag}^a + \text{Zn Molar Concentration}) / (\text{AVS Molar Concentration})$$

<sup>a</sup>Moles of silver are multiplied by two because silver binds twice to AVS.

Metal Concentration ÷ Molecular Weight = Molar Concentration

If **SEM/AVS > 1**, there is not enough AVS to sequester all metals. **Metals are bioavailable.**

If **SEM/AVS < 1**, there is enough AVS to sequester all metals. **Metals are NOT bioavailable.**

#### NOTE:

If AVS is below detection limits (MDL), then metals are assumed bioavailable as they are not sequestered by AVS.

#### SAMPLE CALCULATIONS:

<b>Locator:</b>	Sample				
<b>Descrip:</b>	Sample				
<b>Sample:</b>	Sample				
<b>Matrix:</b>	Sample				
<b>ColDate:</b>	Sample				
<b>TotalSolid:</b>	Sample				
	<b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units
Cadmium, Extractable, SEM	—	<MDL	0.11	0.575	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	ND	—	0.00098	0.00512	mmol/Kg
Copper, Extractable, SEM	17.2	—	0.23	1.15	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.271	—	0.0036	0.0181	mmol/Kg
Lead, Extractable, SEM	6.3	—	1.1	5.75	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.030	—	0.0053	0.0278	mmol/Kg
Nickel, Extractable, SEM	5.38	—	0.28	1.44	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0917	—	0.0048	0.0245	mmol/Kg
Silver, Extractable, SEM	—	<MDL	0.23	1.15	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	0.0021	0.0107	mmol/Kg
Zinc, Extractable, SEM	25.6	—	0.28	1.44	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.392	—	0.0043	0.0220	mmol/Kg
Total SEM	0.78	—	—	—	mmol/Kg
Acid Volatile Sulfide (AVS)	39.9	JG	3.7	14.2	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol
Acid Volatile Sulfide (AVS)	1.24	—	0.12	0.443	mmol/Kg
<b>SEM/AVS</b>	<b>0.63</b>	—	—	—	—

White rows are measured values, blue rows are conversion factors and green rows are calculated values.

**Table B-1: Springbrook Creek Basin Sediment SEM/AVS Calculations**

<b>Project:</b> <b>Locator:</b> <b>Descrip:</b> <b>Sample:</b> <b>Matrix:</b> <b>ColDate:</b> <b>TotalSolid:</b>	421240C '0317 SPRINGBROOK CREEK/ L46069-8 SE FRSHWTRSED 7/28/08 8:50 48.5 <b>DRY Weight Basis</b>					421240C K317 SPRINGBROOK CREEK L46094-12 SE FRSHWTRSED 8/5/08 10:15 33.1 <b>DRY Weight Basis</b>					
	<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
	Cadmium, Extractable, SEM	1.11	—	0.082	0.412	mg/Kg	1.82	—	0.12	0.598	mg/Kg
	Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol	112.41	—	—	—	mg/mmol
	Cadmium, Extractable, SEM	0.00987	—	0.00073	0.00367	mmol/Kg	0.0162	—	0.0011	0.00532	mmol/Kg
	Copper, Extractable, SEM	17.9	—	0.16	0.825	mg/Kg	25	—	0.24	1.2	mg/Kg
	Copper, Molecular Weight	63.55	—	—	—	mg/mmol	63.55	—	—	—	mg/mmol
	Copper, Extractable, SEM	0.282	—	0.0025	0.0130	mmol/Kg	0.39	—	0.0038	0.0189	mmol/Kg
Lead, Extractable, SEM	19.4	—	0.82	4.12	mg/Kg	22.2	—	2.4	12	mg/Kg	
Lead, Molecular Weight	207.2	—	—	—	mg/mmol	207.2	—	—	—	mg/mmol	
Lead, Extractable, SEM	0.0936	—	0.0040	0.0199	mmol/Kg	0.107	—	0.012	0.058	mmol/Kg	
Nickel, Extractable, SEM	5.11	—	0.21	1.03	mg/Kg	4.11	—	0.6	2.99	mg/Kg	
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol	58.69	—	—	—	mg/mmol	
Nickel, Extractable, SEM	0.0871	—	0.0036	0.0175	mmol/Kg	0.0700	—	0.01	0.0509	mmol/Kg	
Silver, Extractable, SEM	0.27	<RDL	0.16	0.825	mg/Kg	0.33	<RDL	0.24	1.2	mg/Kg	
Silver, Molecular Weight	107.87	—	—	—	mg/mmol	107.87	—	—	—	mg/mmol	
Silver, Extractable, SEM	0.0025	—	0.0015	0.00765	mmol/Kg	0.0031	—	0.0022	0.011	mmol/Kg	
Zinc, Extractable, SEM	109	—	0.21	1.03	mg/Kg	267	—	0.3	1.5	mg/Kg	
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol	65.38	—	—	—	mg/mmol	
Zinc, Extractable, SEM	1.67	—	0.0032	0.0158	mmol/Kg	4.08	—	0.005	0.023	mmol/Kg	
Total SEM	2.1	—	—	—	mmol/Kg	4.68	—	—	—	mmol/Kg	
Acid Volatile Sulfide (AVS)	326	JG	13	51.5	mg/Kg	30.5	JG	0.76	3.02	mg/Kg	
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol	32.06	—	—	—	mg/mmol	
Acid Volatile Sulfide (AVS)	10.2	—	0.41	1.61	mmol/Kg	0.951	—	0.024	0.0942	mmol/Kg	
SEM/AVS	0.21	—	—	—	—	4.92	—	—	—	—	

Table B-1: Springbrook Creek Basin Sediment SEM/AVS Calculations

	<b>Project:</b>	421240C					421240C				
	<b>Locator:</b>	L317					M317				
	<b>Descrip:</b>	SPRINGBROOK CREEK					SPRINGBROOK CREEK				
	<b>Sample:</b>	L46094-13					L46094-14				
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
	<b>ColDate:</b>	8/5/08 11:30					8/5/08 12:25				
	<b>TotalSolid:</b>	18.8					10.9				
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>				
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>		<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	3.78	—	0.21	1.06	mg/Kg		2.45	—	0.37	1.84	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol		112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0336	—	0.0019	0.00943	mmol/Kg		0.0218	—	0.0033	0.0164	mmol/Kg
Copper, Extractable, SEM	42.1	—	0.43	2.12	mg/Kg		106	—	0.73	3.69	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol		63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.662	—	0.0068	0.0334	mmol/Kg		1.67	—	0.011	0.0581	mmol/Kg
Lead, Extractable, SEM	46.2	—	2.1	10.6	mg/Kg		70.7	—	3.7	18.4	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol		207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.223	—	0.010	0.0512	mmol/Kg		0.341	—	0.018	0.0888	mmol/Kg
Nickel, Extractable, SEM	7.82	—	0.53	2.65	mg/Kg		16.2	—	0.92	4.61	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol		58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.133	—	0.0090	0.0452	mmol/Kg		0.276	—	0.016	0.0785	mmol/Kg
Silver, Extractable, SEM	0.48	<RDL	0.43	2.12	mg/Kg		2.4	<RDL	0.73	3.69	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol		107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	0.0044	—	0.0040	0.0197	mmol/Kg		0.022	—	0.0068	0.0342	mmol/Kg
Zinc, Extractable, SEM	478	—	0.53	2.65	mg/Kg		806	—	0.92	4.61	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol		65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	7.31	—	0.0081	0.0405	mmol/Kg		12.3	—	0.014	0.0705	mmol/Kg
Total SEM	8.4	—	—	—	mmol/Kg		14.7	—	—	—	mmol/Kg
Acid Volatile Sulfide (AVS)	430	JG	34	133	mg/Kg		121	JG	12	45.9	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol		32.06	—	—	—	mg/mmol
Acid Volatile Sulfide (AVS)	13.4	—	1.1	4.15	mmol/Kg		3.77	—	0.37	1.43	mmol/Kg
<b>SEM/AVS</b>	<b>0.62</b>	—	—	—	—		<b>3.89</b>	—	—	—	—

Table B-1: Springbrook Creek Basin Sediment SEM/AVS Calculations

<b>Project:</b>	421240C				
<b>Locator:</b>	N317				
<b>Descrip:</b>	SPRINGBROOK CREEK				
<b>Sample:</b>	L46094-15				
<b>Matrix:</b>	SE FRSHWTRSED				
<b>ColDate:</b>	8/5/08 13:15				
<b>TotalSolid:</b>	21.1				
	<b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units
Cadmium, Extractable, SEM	1.05	—	0.19	0.943	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.00934	—	0.0017	0.00839	mmol/Kg
Copper, Extractable, SEM	35	—	0.38	1.89	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.55	—	0.0060	0.0297	mmol/Kg
Lead, Extractable, SEM	39.3	—	1.9	9.43	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.190	—	0.0092	0.0455	mmol/Kg
Nickel, Extractable, SEM	11.3	—	0.47	2.36	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.193	—	0.0080	0.0402	mmol/Kg
Silver, Extractable, SEM	—	<MDL	0.38	1.89	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	0.0035	0.0175	mmol/Kg
Zinc, Extractable, SEM	323	—	0.47	2.36	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	4.94	—	0.0072	0.0361	mmol/Kg
Total SEM	5.88	—	—	—	mmol/Kg
Acid Volatile Sulfide (AVS)	1140	JG	30	118	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol
Acid Volatile Sulfide (AVS)	35.6	—	0.94	3.68	mmol/Kg
<b>SEM/AVS</b>	<b>0.165</b>	—	—	—	—

ND - Nondetect

**Table B-2: Newaukum Creek Basin Sediment SEM/AVS Calculations**

<b>Project:</b>	421240C					421240C				
<b>Locator:</b>	X322					BB322				
<b>Descrip:</b>	NEWAUKUM CREEK NEA					SE 392ND ST				
<b>Sample:</b>	L48629-1					L48629-2				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	8/10/09 11:10					8/10/09 9:50				
<b>TotalSolid:</b>	59.8					35.4				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	—	<MDL	0.067	0.333	mg/Kg	0.16	<RDL	0.11	0.565	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	ND	—	0.00060	0.00296	mmol/Kg	0.0014	—	0.0010	0.00503	mmol/Kg
Copper, Extractable, SEM	4.63	—	0.13	0.666	mg/Kg	7.2	—	0.23	1.13	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0729	—	0.0020	0.0105	mmol/Kg	0.11	—	0.0036	0.0178	mmol/Kg
Lead, Extractable, SEM	1.7	<RDL	0.67	3.33	mg/Kg	5.1	<RDL	1.1	5.65	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0082	—	0.0032	0.0161	mmol/Kg	0.025	—	0.0053	0.0273	mmol/Kg
Nickel, Extractable, SEM	1.92	—	0.17	0.831	mg/Kg	1.92	—	0.28	1.42	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0327	—	0.0029	0.0142	mmol/Kg	0.0327	—	0.0048	0.0242	mmol/Kg
Silver, Extractable, SEM	—	<MDL	0.13	0.666	mg/Kg	—	<MDL	0.23	1.13	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	0.0012	0.00617	mmol/Kg	ND	—	0.0021	0.0105	mmol/Kg
Zinc, Extractable, SEM	12.2	—	0.17	0.831	mg/Kg	34.7	—	0.28	1.42	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.187	—	0.0026	0.0127	mmol/Kg	0.531	—	0.0043	0.0217	mmol/Kg
<b>Total SEM</b>	<b>0.300</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>nmol/Kg</b>	<b>0.70</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>nmol/Kg</b>
Sulfide, Acid Volatile	—	<MDL,JG	0.42	1.66	mg/Kg	—	<MDL,JG	0.71	2.82	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol	32.06	—	—	—	mg/mmol
Sulfide, Acid Volatile	ND	—	0.013	0.0518	mmol/Kg	ND	—	0.022	0.0880	mmol/Kg
<b>SEM/AVS</b>	<b>*</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>*</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect; \* No detected AVS - metals bioavailable

**Table B-2: Newaukum Creek Basin Sediment SEM/AVS Calculations**

<b>Project:</b> 421240C <b>Locator:</b> E322 <b>Descrip:</b> NEWAUKUM CREEK AT <b>Sample:</b> L48629-3 <b>Matrix:</b> SE FRSHWTRSED <b>ColDate:</b> 8/10/09 12:10 <b>TotalSolid:</b> 61.7 <b>DRY Weight Basis</b>						421240C F322 NEWAUKUM SAMPLE OF L48629-4 SE FRSHWTRSED 8/10/09 12:40 30.2 <b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
Cadmium, Extractable, SEM	—	<MDL	0.065	0.324	mg/Kg	0.16	<RDL	0.13	0.662	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	ND	—	0.00058	0.00288	nmol/Kg	0.0014	—	0.0012	0.00589	mmol/Kg
Copper, Extractable, SEM	3.68	—	0.13	0.647	mg/Kg	5.1	—	0.26	1.32	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0579	—	0.0020	0.0102	nmol/Kg	0.080	—	0.0041	0.0208	mmol/Kg
Lead, Extractable, SEM	2.3	<RDL	0.65	3.24	mg/Kg	5	<RDL	1.3	6.62	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.011	—	0.0031	0.0156	nmol/Kg	0.02	—	0.0063	0.0319	mmol/Kg
Nickel, Extractable, SEM	0.841	—	0.16	0.809	mg/Kg	1.5	<RDL	0.33	1.65	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0143	—	0.0027	0.0138	nmol/Kg	0.026	—	0.0056	0.0281	mmol/Kg
Silver, Extractable, SEM	—	<MDL	0.13	0.647	mg/Kg	—	<MDL	0.26	1.32	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	0.0012	0.00600	nmol/Kg	ND	—	0.0024	0.0122	mmol/Kg
Zinc, Extractable, SEM	17.3	—	0.16	0.809	mg/Kg	41.4	—	0.33	1.65	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.265	—	0.0024	0.0124	nmol/Kg	0.633	—	0.0050	0.0252	mmol/Kg
Total SEM	0.348	—	—	—	mmol/Kg	0.76	—	—	—	mmol/Kg
Sulfide, Acid Volatile	—	<MDL,JG	0.41	1.62	mg/Kg	0.86	<RDL,JG	0.83	3.3	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol	32.06	—	—	—	mg/mmol
Sulfide, Acid Volatile	ND	—	0.013	0.0505	nmol/Kg	0.027	—	0.026	0.10	mmol/Kg
<b>SEM/AVS</b>	<b>*</b>	—	—	—	—	<b>29</b>	—	—	—	—

ND - Nondetect; \* No detected AVS - metals bioavailable

**Table B-2: Newaukum Creek Basin Sediment SEM/AVS Calculations**

<b>Project:</b> 421240C <b>Locator:</b> FF322 <b>Descrip:</b> NEWAUKUM-424TH SE <b>Sample:</b> L48629-5 <b>Matrix:</b> SE FRSHWTRSED <b>ColDate:</b> 8/10/09 13:00 <b>TotalSolid:</b> 59.9 <b>DRY Weight Basis</b>						421240C AD322 US NEWAUKUM CR. @ L48629-6 SE FRSHWTRSED 8/10/09 13:22 27.5 <b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
Cadmium, Extractable, SEM	0.12	<RDL	0.067	0.331	mg/Kg	0.24	<RDL	0.15	0.727	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0011	—	0.00060	0.00294	mmol/Kg	0.0021	—	0.0013	0.00647	mmol/Kg
Copper, Extractable, SEM	4.27	—	0.13	0.663	mg/Kg	12.4	—	0.29	1.46	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0672	—	0.0020	0.0104	mmol/Kg	0.195	—	0.0046	0.0230	mmol/Kg
Lead, Extractable, SEM	3.47	—	0.67	3.31	mg/Kg	9.6	—	1.5	7.27	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0167	—	0.0032	0.0160	mmol/Kg	0.046	—	0.0072	0.0351	mmol/Kg
Nickel, Extractable, SEM	0.985	—	0.17	0.828	mg/Kg	2.45	—	0.36	1.82	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0168	—	0.0029	0.0141	mmol/Kg	0.0417	—	0.0061	0.0310	mmol/Kg
Silver, Extractable, SEM	—	<MDL	0.13	0.663	mg/Kg	—	<MDL	0.29	1.46	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	0.0012	0.00615	mmol/Kg	ND	—	0.0027	0.0135	mmol/Kg
Zinc, Extractable, SEM	21	—	0.17	0.828	mg/Kg	48.4	—	0.36	1.82	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.32	—	0.0026	0.0127	mmol/Kg	0.740	—	0.0055	0.0278	mmol/Kg
Total SEM	0.42	—	—	—	mmol/Kg	1.026	—	—	—	mmol/Kg
Sulfide, Acid Volatile	16.6	JG	0.42	1.66	mg/Kg	—	<MDL,JG	0.91	3.64	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol	32.06	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.518	—	0.013	0.0518	mmol/Kg	ND	—	0.028	0.114	mmol/Kg
<b>SEM/AVS</b>	<b>0.82</b>	—	—	—	—	<b>*</b>	—	—	—	—

ND - Nondetect; \* No detected AVS - metals bioavailable

Table B-2: Newaukum Creek Basin Sediment SEM/AVS Calculations

<b>Project:</b> 421240C <b>Locator:</b> AE322 <b>Descrip:</b> DS NEWAUKUM CR. @ <b>Sample:</b> L48629-7 <b>Matrix:</b> SE FRSHWTRSED <b>ColDate:</b> 8/10/09 13:55 <b>TotalSolid:</b> 64.8 <b>DRY Weight Basis</b>						421240C G322 NEWAUKUM CREEK AT L48629-8 SE FRSHWTRSED 8/10/09 14:25 41.1 <b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
Cadmium, Extractable, SEM	—	<MDL	0.062	0.309	mg/Kg	0.13	<RDL	0.097	0.487	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	ND	—	0.00055	0.00275	nmol/Kg	0.0012	—	0.00086	0.00433	mmol/Kg
Copper, Extractable, SEM	2.15	—	0.12	0.619	mg/Kg	5.6	—	0.19	0.971	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0338	—	0.0019	0.00974	nmol/Kg	0.088	—	0.0030	0.0153	mmol/Kg
Lead, Extractable, SEM	2.2	<RDL	0.62	3.09	mg/Kg	4.4	<RDL	0.97	4.87	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.011	—	0.0030	0.0149	nmol/Kg	0.021	—	0.0047	0.0235	mmol/Kg
Nickel, Extractable, SEM	0.65	<RDL	0.15	0.773	mg/Kg	1.1	<RDL	0.24	1.21	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.011	—	0.0026	0.0132	nmol/Kg	0.019	—	0.0041	0.0206	mmol/Kg
Silver, Extractable, SEM	—	<MDL	0.12	0.619	mg/Kg	—	<MDL	0.97	4.87	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	0.0011	0.00574	nmol/Kg	ND	—	0.0090	0.0451	mmol/Kg
Zinc, Extractable, SEM	17.3	—	0.15	0.773	mg/Kg	29	—	0.24	1.21	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.265	—	0.0023	0.0118	nmol/Kg	0.44	—	0.0037	0.0185	mmol/Kg
Total SEM	0.320	—	—	—	mmol/Kg	0.57	—	—	—	mmol/Kg
Sulfide, Acid Volatile	—	<MDL,JG	0.39	1.54	mg/Kg	—	<MDL,JG	0.61	2.43	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol	32.06	—	—	—	mg/mmol
Sulfide, Acid Volatile	ND	—	0.012	0.0480	nmol/Kg	ND	—	0.019	0.0758	mmol/Kg
SEM/AVS	*	—	—	—	—	*	—	—	—	—

ND - Nondetect; \* No detected AVS - metals bioavailable

Table B-2: Newaukum Creek Basin Sediment SEM/AVS Calculations

<b>Project:</b> 421240C <b>Locator:</b> QQ322 <b>Descrip:</b> SE 416TH -QUARRY <b>Sample:</b> L48629-9 <b>Matrix:</b> SE FRSHWTRSED <b>ColDate:</b> 8/10/09 15:15 <b>TotalSolid:</b> 20.6 <b>DRY Weight Basis</b>						421240C '0322 NEWAUKUM CREEK DOW L48633-6 SE FRSHWTRSED 8/10/09 11:40 39.9 <b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
Cadmium, Extractable, SEM	0.28	<RDL	0.19	0.971	mg/Kg	0.12	<RDL	0.1	0.499	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0025	—	0.0017	0.00864	mmol/Kg	0.0011	—	0.0009	0.00444	mmol/Kg
Copper, Extractable, SEM	15.8	—	0.39	1.95	mg/Kg	8.82	—	0.2	0.997	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.249	—	0.0061	0.0307	mmol/Kg	0.139	—	0.003	0.0157	mmol/Kg
Lead, Extractable, SEM	6.8	<RDL	1.9	9.71	mg/Kg	3.8	<RDL	1	4.99	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.033	—	0.0092	0.0469	mmol/Kg	0.018	—	0.005	0.0241	mmol/Kg
Nickel, Extractable, SEM	2.87	—	0.49	2.43	mg/Kg	3.16	—	0.25	1.25	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0489	—	0.0083	0.0414	mmol/Kg	0.0538	—	0.0043	0.0213	mmol/Kg
Silver, Extractable, SEM	—	<MDL	0.39	1.95	mg/Kg	—	<MDL	0.2	0.997	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	0.0036	0.0181	mmol/Kg	ND	—	0.002	0.00924	mmol/Kg
Zinc, Extractable, SEM	54.4	—	0.49	2.43	mg/Kg	26.6	—	0.25	1.25	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.832	—	0.0075	0.0372	mmol/Kg	0.407	—	0.0038	0.0191	mmol/Kg
Total SEM	1.165	—	—	—	mmol/Kg	0.619	—	—	—	mmol/Kg
Sulfide, Acid Volatile	17.6	JG	1.2	4.85	mg/Kg	—	<MDL,JG	0.63	2.49	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol	32.06	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.549	—	0.037	0.151	mmol/Kg	ND	—	0.020	0.0777	mmol/Kg
SEM/AVS	2.12	—	—	—	—	*	—	—	—	—

ND - Nondetect; \* No detected AVS - metals bioavailable

**Table B-3: Soos Creek Basin Sediment SEM/AVS Calculations**

<b>Project:</b>	421240C-300					421240C-300				
<b>Locator:</b>	A320					'0320				
<b>Descrip:</b>	BIG SOOS CREEK//US					BIG SOOS CREEK//FO				
<b>Sample:</b>	L51247-7					L51298-1				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	7/26/10 10:35					7/26/10 10:20				
<b>TotalSolid:</b>	76.6					64.9				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
Cadmium, Extractable, SEM	—	<MDL	0.051	0.257	mg/Kg	—	<MDL	0.06	0.304	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	ND	—	0.0005	0.0023	mmol/Kg	ND	—	0.0005	0.00270	mmol/Kg
Copper, Extractable, SEM	1.92	—	0.1	0.514	mg/Kg	3.62	—	0.12	0.607	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0302	—	0.002	0.00809	mmol/Kg	0.0570	—	0.0019	0.00955	mmol/Kg
Lead, Extractable, SEM	1.3	<RDL	0.51	2.57	mg/Kg	2.5	<RDL	0.6	3.04	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0063	—	0.0025	0.0124	mmol/Kg	0.012	—	0.003	0.0147	mmol/Kg
Nickel, Extractable, SEM	1.27		0.13	0.644	mg/Kg	2.77	—	0.15	0.758	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0216	—	0.0022	0.0110	mmol/Kg	0.0472	—	0.0026	0.0129	mmol/Kg
Silver, Extractable, SEM	—	<MDL	0.1	0.514	mg/Kg	—	<MDL	0.12	0.607	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	0.0009	0.00476	mmol/Kg	ND	—	0.0011	0.00563	mmol/Kg
Zinc, Extractable, SEM	4.77	—	0.13	0.644	mg/Kg	9.2	—	0.15	0.758	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.0730	—	0.0020	0.00985	mmol/Kg	0.14	—	0.0023	0.0116	mmol/Kg
<b>Total SEM</b>	<b>0.13</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>0.26</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	—	<MDL,JG	0.33	1.29	mg/Kg	—	<MDL,JG	0.39	1.52	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol	32.06	—	—	—	mg/mmol
Sulfide, Acid Volatile	ND	—	0.010	0.0402	mmol/Kg	ND	—	0.012	0.0474	mmol/Kg
<b>SEM/AVS</b>	<b>*</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>*</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect; \* No detected AVS - metals bioavailable

**Table B-3: Soos Creek Basin Sediment SEM/AVS Calculations**

<b>Project:</b> <b>Locator:</b> <b>Descrip:</b> <b>Sample:</b> <b>Matrix:</b> <b>ColDate:</b> <b>TotalSolid:</b>	421240C-300 AA320 BIG SOOS CREEK, DO L51298-2 SE FRSHWTRSED 7/26/10 11:15 76.4 <b>DRY Weight Basis</b>					421240C-300 GG320 BIG SOOS CREEK DOW L51298-3 SE FRSHWTRSED 7/26/10 11:45 37.1 <b>DRY Weight Basis</b>				
	<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>
Cadmium, Extractable, SEM	—	<MDL	0.052	0.26	mg/Kg	0.2	<RDL	0.11	0.526	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	ND	—	0.00046	0.0023	mmol/Kg	0.002	—	0.0010	0.00468	mmol/Kg
Copper, Extractable, SEM	2.6	—	0.1	0.521	mg/Kg	5.63	—	0.21	1.05	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.041	—	0.002	0.00820	mmol/Kg	0.0886	—	0.0033	0.0165	mmol/Kg
Lead, Extractable, SEM	1.7	<RDL	0.52	2.6	mg/Kg	11.1	—	1.1	5.26	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0082	—	0.0025	0.013	mmol/Kg	0.0536	—	0.0053	0.0254	mmol/Kg
Nickel, Extractable, SEM	4.25	—	0.13	0.652	mg/Kg	2.27	—	0.26	1.32	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0724	—	0.0022	0.0111	mmol/Kg	0.0387	—	0.0044	0.0225	mmol/Kg
Silver, Extractable, SEM	—	<MDL	0.1	0.521	mg/Kg	0.24	<RDL	0.21	1.05	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	0.0009	0.00483	mmol/Kg	0.0022	—	0.0019	0.00973	mmol/Kg
Zinc, Extractable, SEM	7.34	—	0.13	0.652	mg/Kg	36.4	—	0.26	1.32	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.112	—	0.0020	0.0100	mmol/Kg	0.557	—	0.0040	0.0202	mmol/Kg
Total SEM	0.234	—	—	—	mmol/Kg	0.744	—	—	—	mmol/Kg
Sulfide, Acid Volatile	—	<MDL,JG	0.33	1.3	mg/Kg	—	<MDL,JG	0.65	2.63	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol	32.06	—	—	—	mg/mmol
Sulfide, Acid Volatile	ND	—	0.010	0.041	mmol/Kg	ND	—	0.020	0.0820	mmol/Kg
SEM/AVS	*	—	—	—	—	*	—	—	—	—

ND - Nondetect; \* No detected AVS - metals bioavailable

**Table B-3: Soos Creek Basin Sediment SEM/AVS Calculations**

<b>Project:</b>	421240C-300					421240C-300				
<b>Locator:</b>	Q320					HH320				
<b>Descrip:</b>	BIG SOOS CR. AT SE					BIG SOOS CREEK AT				
<b>Sample:</b>	L51298-4					L51298-5				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	7/26/10 12:05					7/26/10 12:35				
<b>TotalSolid:</b>	8.87					36.1				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
Cadmium, Extractable, SEM	0.69	<RDL	0.44	2.21	mg/Kg	0.15	<RDL	0.11	0.529	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0061	—	0.0039	0.0197	mmol/Kg	0.0013	—	0.0010	0.00471	mmol/Kg
Copper, Extractable, SEM	16.3	—	0.88	4.41	mg/Kg	5.48	—	0.21	1.06	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.256	—	0.014	0.0694	mmol/Kg	0.0862	—	0.0033	0.0167	mmol/Kg
Lead, Extractable, SEM	35.5	—	4.4	22.1	mg/Kg	9.47	—	1.1	5.29	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.171	—	0.021	0.107	mmol/Kg	0.0457	—	0.0053	0.0255	mmol/Kg
Nickel, Extractable, SEM	6.81	—	1.1	5.51	mg/Kg	2.07	—	0.26	1.32	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.116	—	0.019	0.0939	mmol/Kg	0.0353	—	0.0044	0.0225	mmol/Kg
Silver, Extractable, SEM	0.91	<RDL	0.88	4.41	mg/Kg	—	<MDL	0.21	1.06	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	0.0084	—	0.0082	0.0409	mmol/Kg	ND	—	0.0019	0.00983	mmol/Kg
Zinc, Extractable, SEM	121	—	1.1	5.51	mg/Kg	40.2	—	0.26	1.32	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	1.85	—	0.017	0.0843	mmol/Kg	0.615	—	0.0040	0.0202	mmol/Kg
Total SEM	2.42	—	—	—	mmol/Kg	0.783	—	—	—	mmol/Kg
Sulfide, Acid Volatile	—	<MDL,JG	2.8	11	mg/Kg	5.96	JG	0.66	2.64	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol	32.06	—	—	—	mg/mmol
Sulfide, Acid Volatile	ND	—	0.087	0.34	mmol/Kg	0.186	—	0.021	0.0823	mmol/Kg
<b>SEM/AVS</b>	<b>*</b>	—	—	—	—	<b>4.21</b>	—	—	—	—

ND - Nondetect; \* No detected AVS - metals bioavailable

**Table B-3: Soos Creek Basin Sediment SEM/AVS Calculations**

<b>Project:</b>	421240C-300					421240C-300				
<b>Locator:</b>	P320					II320				
<b>Descrip:</b>	BIG SOOS 256TH					BIG SOOS CREEK AT				
<b>Sample:</b>	L51298-6					L51298-7				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	7/26/10 13:00					7/26/10 13:20				
<b>TotalSolid:</b>	64.9					33.4				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
Cadmium, Extractable, SEM	0.088	<RDL	0.059	0.293	mg/Kg	0.13	<RDL	0.12	0.59	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.00078	—	0.00052	0.00261	mmol/Kg	0.0012	—	0.0011	0.0052	mmol/Kg
Copper, Extractable, SEM	2.43	—	0.12	0.587	mg/Kg	11	—	0.24	1.18	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0382	—	0.0019	0.00924	mmol/Kg	0.17	—	0.0038	0.0186	mmol/Kg
Lead, Extractable, SEM	3.88	—	0.59	2.93	mg/Kg	13.7	—	1.2	5.9	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0187	—	0.0028	0.0141	mmol/Kg	0.0661	—	0.0058	0.028	mmol/Kg
Nickel, Extractable, SEM	1.13	—	0.15	0.733	mg/Kg	6.71	—	0.29	1.47	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0193	—	0.0026	0.0125	mmol/Kg	0.114	—	0.0049	0.0250	mmol/Kg
Silver, Extractable, SEM	—	<MDL	0.12	0.587	mg/Kg	—	<MDL	0.24	1.18	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	0.0011	0.00544	mmol/Kg	ND	—	0.0022	0.0109	mmol/Kg
Zinc, Extractable, SEM	13.8	—	0.15	0.733	mg/Kg	26	—	0.29	1.47	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.211	—	0.0023	0.0112	mmol/Kg	0.40	—	0.0044	0.0225	mmol/Kg
<b>Total SEM</b>	<b>0.288</b>	—	—	—	mmol/Kg	<b>0.75</b>	—	—	—	mmol/Kg
Sulfide, Acid Volatile	32.8	JG	1.8	7.33	mg/Kg	—	<MDL,JG	0.75	2.95	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol	32.06	—	—	—	mg/mmol
Sulfide, Acid Volatile	1.02	—	0.056	0.229	mmol/Kg	ND	—	0.023	0.0920	mmol/Kg
<b>SEM/AVS</b>	<b>0.282</b>	—	—	—	—	<b>*</b>	—	—	—	—

ND - Nondetect; \* No detected AVS - metals bioavailable

**Table B-3: Soos Creek Basin Sediment SEM/AVS Calculations**

<b>Project:</b>	421240C-300					421240C-300				
<b>Locator:</b>	RR320					SS320				
<b>Descrip:</b>	BIG SOOS CREEK NEA					BIG SOOS CREEK-GAR				
<b>Sample:</b>	L51298-8					L51298-9				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	7/26/10 13:50					7/26/10 14:15				
<b>TotalSolid:</b>	52.8					70.8				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
Cadmium, Extractable, SEM	0.087	<RDL	0.074	0.373	mg/Kg	—	<MDL	0.054	0.268	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.00077	—	0.00066	0.00332	mmol/Kg	0	—	0.00048	0.00238	mmol/Kg
Copper, Extractable, SEM	7.22	—	0.15	0.744	mg/Kg	0.905	—	0.11	0.537	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.114	—	0.0024	0.0117	mmol/Kg	0.0142	—	0.0017	0.00845	mmol/Kg
Lead, Extractable, SEM	19.3	—	0.74	3.73	mg/Kg	3.88	—	0.54	2.68	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0931	—	0.0036	0.0180	mmol/Kg	0.0187	—	0.0026	0.0129	mmol/Kg
Nickel, Extractable, SEM	1.91	—	0.19	0.93	mg/Kg	0.38	<RDL	0.13	0.671	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0325	—	0.0032	0.016	mmol/Kg	0.0065	—	0.0022	0.0114	mmol/Kg
Silver, Extractable, SEM	—	<MDL	0.15	0.744	mg/Kg	—	<MDL	0.11	0.537	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	0.0014	0.00690	mmol/Kg	ND	—	0.0010	0.00498	mmol/Kg
Zinc, Extractable, SEM	14.9	—	0.19	0.93	mg/Kg	12.1	—	0.13	0.671	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.228	—	0.0029	0.014	mmol/Kg	0.185	—	0.0020	0.0103	mmol/Kg
<b>Total SEM</b>	<b>0.468</b>	—	—	—	mmol/Kg	<b>0.225</b>	—	—	—	mmol/Kg
Sulfide, Acid Volatile	4.15	JG	0.47	1.86	mg/Kg	0.45	<RDL,JG	0.34	1.34	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol	32.06	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.129	—	0.015	0.0580	mmol/Kg	0.014	—	0.011	0.0418	mmol/Kg
<b>SEM/AVS</b>	<b>3.62</b>	—	—	—	—	<b>16</b>	—	—	—	—

ND - Nondetect

**Table B-3: Soos Creek Basin Sediment SEM/AVS Calculations**

<b>Project:</b>	421240C-300				
<b>Locator:</b>	L320				
<b>Descrip:</b>	BIG SOOS AT GRANT				
<b>Sample:</b>	L51298-10				
<b>Matrix:</b>	SE FRSHWTRSED				
<b>ColDate:</b>	7/26/10 14:45				
<b>TotalSolid:</b>	76.5				
	<b>DRY Weight Basis</b>				
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	—	<MDL	0.051	0.256	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0	—	0.000454	0.00228	mmol/Kg
Copper, Extractable, SEM	1.52	—	0.1	0.512	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0239	—	0.002	0.00806	mmol/Kg
Lead, Extractable, SEM	5.67	—	0.51	2.56	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0274	—	0.0025	0.0124	mmol/Kg
Nickel, Extractable, SEM	0.647	—	0.13	0.641	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0110	—	0.0022	0.0109	mmol/Kg
Silver, Extractable, SEM	—	<MDL	0.1	0.512	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	0.0009	0.00475	mmol/Kg
Zinc, Extractable, SEM	9.74	—	0.13	0.641	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.149	—	0.0020	0.0098	mmol/Kg
<b>Total SEM</b>	<b>0.211</b>	—	—	—	mmol/Kg
Sulfide, Acid Volatile	9.48	JG	0.33	1.28	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.296	—	0.010	0.0399	mmol/Kg
<b>SEM/AVS</b>	<b>0.715</b>	—	—	—	—

ND - Nondetect

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	A315						SD315					
<b>Descrip:</b>	HILL CREEK (MILL)/						MILL CRK AT W.VALL					
<b>Sample:</b>	L56024-1						L56024-2					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/13/12 11:35						8/13/12 12:20					
<b>TotalSolid:</b>	49.7						47.5					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	0.11	<RDL	J	0.078	0.388	mg/Kg	0.594	—	—	0.082	0.408	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0010	—	—	0.00069	0.00345	mmol/Kg	0.00528	—	—	0.00073	0.00363	mmol/Kg
Copper, Extractable, SEM	9.72	—	—	0.15	0.777	mg/Kg	17.8	—	—	0.16	0.819	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.153	—	—	0.0024	0.0122	mmol/Kg	0.280	—	—	0.0025	0.0129	mmol/Kg
Lead, Extractable, SEM	6.18	—	—	0.78	3.88	mg/Kg	37.1	—	—	0.82	4.08	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0298	—	—	0.0038	0.0187	mmol/Kg	0.179	—	—	0.0040	0.0197	mmol/Kg
Nickel, Extractable, SEM	1.87	—	—	0.19	0.97	mg/Kg	5.52	—	—	0.2	1.02	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0319	—	—	0.0032	0.017	mmol/Kg	0.0941	—	—	0.003	0.0174	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.15	0.777	mg/Kg	—	<MDL	U	0.16	0.819	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0014	0.00720	mmol/Kg	ND	—	—	0.0015	0.00759	mmol/Kg
Zinc, Extractable, SEM	21.7	—	—	0.19	0.97	mg/Kg	134	—	—	0.2	1.02	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.332	—	—	0.0029	0.015	mmol/Kg	2.05	—	—	0.003	0.0156	mmol/Kg
<b>Total SEM</b>	<b>0.55</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>2.61</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	10.2	JG	—	0.48	1.94	mg/Kg	84.4	JG	—	2.5	10.2	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.318	—	—	0.015	0.0605	mmol/Kg	2.63	—	—	0.078	0.318	mmol/Kg
<b>SEM/AVS</b>	<b>1.7</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>0.99</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	FR315						TS315					
<b>Descrip:</b>	MILL CRK ON FRONTA						MILL CRK NEAR 1ST					
<b>Sample:</b>	L56024-3						L56024-4					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/29/12 11:30						8/13/12 13:25					
<b>TotalSolid:</b>	21.9						20.4					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	0.45	<RDL	J	0.18	0.904	mg/Kg	0.45	<RDL	J	0.19	0.951	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0040	—	—	0.0016	0.00804	mmol/Kg	0.0040	—	—	0.0017	0.00846	mmol/Kg
Copper, Extractable, SEM	16.4	—	—	0.36	1.81	mg/Kg	17.2	—	—	0.38	1.91	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.258	—	—	0.0057	0.0285	mmol/Kg	0.271	—	—	0.0060	0.0301	mmol/Kg
Lead, Extractable, SEM	21.0	—	—	1.8	9.04	mg/Kg	15.5	—	—	1.9	9.51	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.101	—	—	0.0087	0.0436	mmol/Kg	0.0748	—	—	0.0092	0.0459	mmol/Kg
Nickel, Extractable, SEM	4.12	—	—	0.45	2.26	mg/Kg	7.06	—	—	0.48	2.38	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0702	—	—	0.0077	0.0385	mmol/Kg	0.120	—	—	0.0082	0.0406	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.36	1.81	mg/Kg	—	<MDL	U	0.38	1.91	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0033	0.0168	mmol/Kg	ND	—	—	0.0035	0.0177	mmol/Kg
Zinc, Extractable, SEM	148	—	—	0.45	2.26	mg/Kg	124	—	—	0.48	2.38	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	2.26	—	—	0.0069	0.0346	mmol/Kg	1.90	—	—	0.0073	0.0364	mmol/Kg
<b>Total SEM</b>	<b>2.70</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>2.37</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	77.6	JG	—	5.5	22.6	mg/Kg	120	JG	J	5.9	23.8	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	2.42	—	—	0.17	0.705	mmol/Kg	3.74	—	—	0.18	0.742	mmol/Kg
<b>SEM/AVS</b>	<b>1.1</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>0.63</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	ED315						PR315					
<b>Descrip:</b>	MILL CRK ON M ST N						MILL CRK AT PEASLE					
<b>Sample:</b>	L56024-5						L56024-7					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/13/12 14:20						8/14/12 10:50					
<b>TotalSolid:</b>	35.4						67.8					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	0.23	<RDL	J	0.1	0.528	mg/Kg	0.16	<RDL	J	0.059	0.292	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0020	—	—	0.0009	0.00470	mmol/Kg	0.0014	—	—	0.00052	0.00260	mmol/Kg
Copper, Extractable, SEM	6.64	—	—	0.21	1.06	mg/Kg	12.3	—	—	0.12	0.583	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.104	—	—	0.0033	0.0167	mmol/Kg	0.194	—	—	0.0019	0.00917	mmol/Kg
Lead, Extractable, SEM	7.82	—	—	1	5.28	mg/Kg	8.81	—	—	0.59	2.92	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0377	—	—	0.005	0.0255	mmol/Kg	0.0425	—	—	0.0028	0.0141	mmol/Kg
Nickel, Extractable, SEM	2.17	—	—	0.27	1.32	mg/Kg	2.48	—	—	0.15	0.729	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0370	—	—	0.0046	0.0225	mmol/Kg	0.0423	—	—	0.0026	0.0124	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.21	1.06	mg/Kg	—	<MDL	U	0.12	0.583	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0019	0.00983	mmol/Kg	ND	—	—	0.0011	0.00540	mmol/Kg
Zinc, Extractable, SEM	62.7	—	—	0.27	1.32	mg/Kg	71.5	—	—	0.15	0.729	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.959	—	—	0.0041	0.0202	mmol/Kg	1.09	—	—	0.0023	0.0112	mmol/Kg
<b>Total SEM</b>	<b>1.14</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>1.37</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	112	JG	—	3.4	13.2	mg/Kg	2.96	JG	—	0.37	1.46	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	3.49	—	—	0.11	0.412	mmol/Kg	0.0923	—	—	0.012	0.0455	mmol/Kg
<b>SEM/AVS</b>	<b>0.33</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>15</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	PC315						UH315					
<b>Descrip:</b>	MILL CRK ON PEASLE						MILL CRK AT 321ST					
<b>Sample:</b>	L56024-8						L56024-9					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/14/12 11:40						8/14/12 12:25					
<b>TotalSolid:</b>	75.1						15.2					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	0.088	<RDL	J	0.052	0.257	mg/Kg	0.79	<RDL	J	0.26	1.27	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.00078	—	—	0.00046	0.00229	mmol/Kg	0.0070	—	—	0.0023	0.0113	mmol/Kg
Copper, Extractable, SEM	1.13	—	—	0.1	0.514	mg/Kg	16.8	—	—	0.51	2.54	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0178	—	—	0.002	0.00809	mmol/Kg	0.264	—	—	0.0080	0.0400	mmol/Kg
Lead, Extractable, SEM	5.17	—	—	0.52	2.57	mg/Kg	45.9	—	—	2.6	12.7	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0250	—	—	0.0025	0.0124	mmol/Kg	0.222	—	—	0.013	0.0613	mmol/Kg
Nickel, Extractable, SEM	1.24	—	—	0.13	0.642	mg/Kg	6.16	—	—	0.64	3.18	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0211	—	—	0.0022	0.0109	mmol/Kg	0.105	—	—	0.011	0.0542	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.1	0.514	mg/Kg	—	<MDL	U	0.51	2.54	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0009	0.00476	mmol/Kg	ND	—	—	0.0047	0.0235	mmol/Kg
Zinc, Extractable, SEM	28.2	—	—	0.13	0.642	mg/Kg	130	—	—	0.64	3.18	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.431	—	—	0.0020	0.00982	mmol/Kg	1.99	—	—	0.0098	0.0486	mmol/Kg
<b>Total SEM</b>	<b>0.50</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>2.59</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	—	<MDL,JG	U	0.32	1.28	mg/Kg	200	JG	—	7.9	31.8	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	ND	—	—	0.010	0.0399	mmol/Kg	6.24	—	—	0.25	0.992	mmol/Kg
<b>SEM/AVS</b>	<b>*</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>0.41</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect; \* No detected AVS - metals bioavailable

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	IT318						DT318					
<b>Descrip:</b>	EMILL CRK NEAR 723						EMILL CRK 196TH AN					
<b>Sample:</b>	L56024-11						L56024-12					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/30/12 12:15						8/27/12 14:20					
<b>TotalSolid:</b>	34						35.6					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	3.41	—	—	0.11	0.562	mg/Kg	1.47	—	—	0.1	0.522	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0303	—	—	0.00098	0.00500	mmol/Kg	0.0131	—	—	0.0009	0.00464	mmol/Kg
Copper, Extractable, SEM	31.8	—	—	0.22	1.12	mg/Kg	31.2	—	—	0.21	1.04	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.500	—	—	0.0035	0.0176	mmol/Kg	0.491	—	—	0.0033	0.0164	mmol/Kg
Lead, Extractable, SEM	35.9	—	—	1.1	5.62	mg/Kg	29.5	—	—	1	5.22	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.173	—	—	0.0053	0.0271	mmol/Kg	0.142	—	—	0.005	0.0252	mmol/Kg
Nickel, Extractable, SEM	6.24	—	—	0.28	1.4	mg/Kg	4.63	—	—	0.26	1.3	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.106	—	—	0.0048	0.024	mmol/Kg	0.0789	—	—	0.0044	0.022	mmol/Kg
Silver, Extractable, SEM	0.25	<RDL	J	0.22	1.12	mg/Kg	—	<MDL	U	0.21	1.04	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	0.0023	—	—	0.0020	0.0104	mmol/Kg	ND	—	—	0.0019	0.00964	mmol/Kg
Zinc, Extractable, SEM	368	—	—	0.28	1.4	mg/Kg	284	—	—	0.26	1.3	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	5.63	—	—	0.0043	0.021	mmol/Kg	4.34	—	—	0.0040	0.020	mmol/Kg
<b>Total SEM</b>	<b>6.44</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>5.07</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	84.4	JG	—	7.1	28	mg/Kg	90.4	JG	—	3.4	13	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	2.63	—	—	0.22	0.87	mmol/Kg	2.82	—	—	0.11	0.41	mmol/Kg
<b>SEM/AVS</b>	<b>2.4</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>1.8</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	FS318						CS318					
<b>Descrip:</b>	EMILL CRK NEAR 72N						EMILL CRK NEAR 222					
<b>Sample:</b>	L56024-13						L56024-14					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/28/12 15:00						8/28/12 14:40					
<b>TotalSolid:</b>	49.5						32.7					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	0.705	—	—	0.081	0.4	mg/Kg	1.65	—	—	0.12	0.599	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.00627	—	—	0.00072	0.004	mmol/Kg	0.0147	—	—	0.0011	0.00533	mmol/Kg
Copper, Extractable, SEM	9.43	—	—	0.16	0.798	mg/Kg	43.1	—	—	0.24	1.2	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.148	—	—	0.0025	0.0126	mmol/Kg	0.678	—	—	0.0038	0.019	mmol/Kg
Lead, Extractable, SEM	13.2	—	—	0.81	4	mg/Kg	57.8	—	—	1.2	5.99	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0637	—	—	0.0039	0.02	mmol/Kg	0.279	—	—	0.0058	0.0289	mmol/Kg
Nickel, Extractable, SEM	2.28	—	—	0.2	0.998	mg/Kg	6.15	—	—	0.3	1.5	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0388	—	—	0.003	0.0170	mmol/Kg	0.105	—	—	0.005	0.026	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.16	0.798	mg/Kg	—	<MDL	U	0.24	1.2	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0015	0.00740	mmol/Kg	ND	—	—	0.0022	0.011	mmol/Kg
Zinc, Extractable, SEM	105	—	—	0.2	0.998	mg/Kg	413	—	—	0.3	1.5	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	1.61	—	—	0.003	0.0153	mmol/Kg	6.32	—	—	0.005	0.023	mmol/Kg
<b>Total SEM</b>	<b>1.86</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>7.39</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	151	JG	—	5.1	20	mg/Kg	225	JG	—	7.3	29.9	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	4.71	—	—	0.16	0.62	mmol/Kg	7.018	—	—	0.23	0.933	mmol/Kg
<b>SEM/AVS</b>	<b>0.40</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>1.1</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	AA318						EP318					
<b>Descrip:</b>	EMILL CRK NOVAK LN						EMILL CRK AT EARTH					
<b>Sample:</b>	L56024-15						L56024-16					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/28/12 12:00						8/28/12 10:00					
<b>TotalSolid:</b>	36.7						31.6					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	0.616	—	—	0.1	0.507	mg/Kg	0.28	<RDL	J	0.12	0.592	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0055	—	—	0.0009	0.00451	mmol/Kg	0.0025	—	—	0.0011	0.00527	mmol/Kg
Copper, Extractable, SEM	38.1	—	—	0.2	1.01	mg/Kg	19.6	—	—	0.24	1.18	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.600	—	—	0.003	0.0159	mmol/Kg	0.308	—	—	0.0038	0.0186	mmol/Kg
Lead, Extractable, SEM	54.0	—	—	1	5.07	mg/Kg	32.3	—	—	1.2	5.92	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.261	—	—	0.005	0.0245	mmol/Kg	0.156	—	—	0.0058	0.0286	mmol/Kg
Nickel, Extractable, SEM	4.85	—	—	0.25	1.27	mg/Kg	4.46	—	—	0.3	1.48	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0826	—	—	0.0043	0.0216	mmol/Kg	0.0760	—	—	0.005	0.0252	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.2	1.01	mg/Kg	—	<MDL	U	0.24	1.18	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.002	0.00936	mmol/Kg	ND	—	—	0.0022	0.0109	mmol/Kg
Zinc, Extractable, SEM	275	—	—	0.25	1.27	mg/Kg	162	—	—	0.3	1.48	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	4.21	—	—	0.0038	0.0194	mmol/Kg	2.48	—	—	0.005	0.0226	mmol/Kg
<b>Total SEM</b>	<b>5.15</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>3.02</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	27.2	JG	—	3.3	12.7	mg/Kg	1.1	<RDL,JG	J	0.73	2.96	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.848	—	—	0.10	0.396	mmol/Kg	0.034	—	—	0.023	0.0923	mmol/Kg
<b>SEM/AVS</b>	<b>6.1</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>88</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect

Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012

<b>Locator:</b>	EG318						SH318					
<b>Descrip:</b>	EMILL CRK AT 104TH						EMILL CRK NEAR SCE					
<b>Sample:</b>	L56024-17						L56024-19					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/28/12 11:00						8/28/12 13:20					
<b>TotalSolid:</b>	31.4						35					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	0.31	<RDL	J	0.12	0.605	mg/Kg	0.19	<RDL	J	0.11	0.523	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0028	—	—	0.0011	0.00538	mmol/Kg	0.0017	—	—	0.00098	0.00465	mmol/Kg
Copper, Extractable, SEM	13.2	—	—	0.24	1.21	mg/Kg	8.63	—	—	0.21	1.04	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.208	—	—	0.0038	0.0190	mmol/Kg	0.136	—	—	0.0033	0.0164	mmol/Kg
Lead, Extractable, SEM	28.2	—	—	1.2	6.05	mg/Kg	18.9	—	—	1.1	5.23	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.136	—	—	0.0058	0.0292	mmol/Kg	0.0912	—	—	0.0053	0.0252	mmol/Kg
Nickel, Extractable, SEM	1.74	—	—	0.3	1.51	mg/Kg	2.27	—	—	0.26	1.31	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0296	—	—	0.005	0.0257	mmol/Kg	0.0387	—	—	0.0044	0.0223	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.24	1.21	mg/Kg	—	<MDL	U	0.21	1.04	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0022	0.0112	mmol/Kg	ND	—	—	0.0019	0.00964	mmol/Kg
Zinc, Extractable, SEM	132	—	—	0.3	1.51	mg/Kg	136	—	—	0.26	1.31	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	2.02	—	—	0.005	0.0231	mmol/Kg	2.08	—	—	0.0040	0.0200	mmol/Kg
<b>Total SEM</b>	<b>2.40</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>2.35</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	7.74	JG	—	0.76	3.02	mg/Kg	3.54	JG	J	0.66	2.61	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.241	—	—	0.024	0.0942	mmol/Kg	0.110	—	—	0.021	0.0814	mmol/Kg
<b>SEM/AVS</b>	<b>9.9</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>21</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	AB320						CC320					
<b>Descrip:</b>	COVINGTON CRK AT 1						COVINGTON CREEK AT					
<b>Sample:</b>	L56024-20						L56024-21					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/14/12 14:15						8/14/12 14:50					
<b>TotalSolid:</b>	59.9						76.6					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	—	<MDL	U	0.063	0.321	mg/Kg	—	<MDL	U	0.048	0.242	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	ND	—	—	0.00056	0.00286	mmol/Kg	ND	—	—	0.00043	0.00215	mmol/Kg
Copper, Extractable, SEM	2.25	—	—	0.13	0.639	mg/Kg	1.20	—	—	0.097	0.483	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0354	—	—	0.0020	0.0101	mmol/Kg	0.0189	—	—	0.0015	0.00760	mmol/Kg
Lead, Extractable, SEM	1.7	<RDL	J	0.63	3.21	mg/Kg	1.8	<RDL	J	0.48	2.42	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0082	—	—	0.0030	0.0155	mmol/Kg	0.0087	—	—	0.0023	0.0117	mmol/Kg
Nickel, Extractable, SEM	0.856	—	—	0.16	0.8	mg/Kg	0.37	<RDL	J	0.12	0.604	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0146	—	—	0.0027	0.01	mmol/Kg	0.0063	—	—	0.0020	0.0103	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.13	0.639	mg/Kg	—	<MDL	U	0.097	0.483	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0012	0.00592	mmol/Kg	ND	—	—	0.00090	0.00448	mmol/Kg
Zinc, Extractable, SEM	6.54	—	—	0.16	0.8	mg/Kg	3.84	—	—	0.12	0.604	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.100	—	—	0.0024	0.01	mmol/Kg	0.0587	—	—	0.0018	0.00924	mmol/Kg
<b>Total SEM</b>	<b>0.16</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>0.09</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	3.71	JG	—	0.4	1.6	mg/Kg	—	<MDL,JG	U	0.3	1.21	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.116	—	—	0.01	0.050	mmol/Kg	ND	—	—	0.009	0.0377	mmol/Kg
<b>SEM/AVS</b>	<b>1.4</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>*</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect; \* No detected AVS - metals bioavailable

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	C320						CD320					
<b>Descrip:</b>	COVINGTON CREEK//B						COVINGTON CRK AT 1					
<b>Sample:</b>	L56024-22						L56024-23					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/14/12 15:25						8/15/12 11:45					
<b>TotalSolid:</b>	42.9						48					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	—	<MDL	U	0.089	0.448	mg/Kg	—	<MDL	U	0.079	0.398	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	ND	—	—	0.00079	0.00399	mmol/Kg	ND	—	—	0.00070	0.00354	mmol/Kg
Copper, Extractable, SEM	4.57	—	—	0.18	0.895	mg/Kg	2.71	—	—	0.16	0.794	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0719	—	—	0.0028	0.0141	mmol/Kg	0.0426	—	—	0.0025	0.0125	mmol/Kg
Lead, Extractable, SEM	5.36	—	—	0.89	4.48	mg/Kg	3.3	<RDL	J	0.79	3.98	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0259	—	—	0.0043	0.0216	mmol/Kg	0.016	—	—	0.0038	0.0192	mmol/Kg
Nickel, Extractable, SEM	0.65	<RDL	J	0.22	1.12	mg/Kg	0.65	<RDL	J	0.2	0.992	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.011	—	—	0.0037	0.0191	mmol/Kg	0.011	—	—	0.003	0.0169	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.18	0.895	mg/Kg	—	<MDL	U	0.16	0.794	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0017	0.00830	mmol/Kg	ND	—	—	0.0015	0.00736	mmol/Kg
Zinc, Extractable, SEM	11.7	—	—	0.22	1.12	mg/Kg	9.33	—	—	0.2	0.992	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.179	—	—	0.0034	0.0171	mmol/Kg	0.143	—	—	0.003	0.015	mmol/Kg
<b>Total SEM</b>	<b>0.29</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>0.21</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	39.4	JG	—	2.8	11.2	mg/Kg	38.8	JG	—	2.5	9.92	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	1.23	—	—	0.087	0.349	mmol/Kg	1.21	—	—	0.078	0.309	mmol/Kg
<b>SEM/AVS</b>	<b>0.23</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>0.18</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b> <b>Descrip:</b> <b>Sample:</b> <b>Matrix:</b> <b>ColDate:</b> <b>TotalSolid:</b>	PT320 COVINGTON CRK NEAR L56024-24 SE FRSHWTRSED 8/15/12 12:15 44.2						Z320 COVINGTON CREEK BE L56024-25 SE FRSHWTRSED 8/15/12 12:45 43.1					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	—	<MDL	U	0.088	0.437	mg/Kg	—	<MDL	U	0.088	0.443	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	ND	—	—	0.00078	0.00389	mmol/Kg	ND	—	—	0.00078	0.00394	mmol/Kg
Copper, Extractable, SEM	3.05	—	—	0.17	0.876	mg/Kg	2.15	—	—	0.18	0.884	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0480	—	—	0.0027	0.0138	mmol/Kg	0.0338	—	—	0.0028	0.0139	mmol/Kg
Lead, Extractable, SEM	6.45	—	—	0.88	4.37	mg/Kg	3.9	<RDL	J	0.88	4.43	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0311	—	—	0.0042	0.0211	mmol/Kg	0.019	—	—	0.0042	0.0214	mmol/Kg
Nickel, Extractable, SEM	0.75	<RDL	J	0.22	1.1	mg/Kg	0.30	<RDL	J	0.22	1.11	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.013	—	—	0.0037	0.019	mmol/Kg	0.0051	—	—	0.0037	0.0189	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.17	0.876	mg/Kg	—	<MDL	U	0.18	0.884	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0016	0.00812	mmol/Kg	ND	—	—	0.0017	0.00820	mmol/Kg
Zinc, Extractable, SEM	18.8	—	—	0.22	1.1	mg/Kg	18.8	—	—	0.22	1.11	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.288	—	—	0.0034	0.017	mmol/Kg	0.288	—	—	0.0034	0.0170	mmol/Kg
<b>Total SEM</b>	<b>0.38</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>0.35</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	24.9	JG	—	2.7	11	mg/Kg	271	JG	—	14	55.2	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.777	—	—	0.084	0.34	mmol/Kg	8.45	—	—	0.44	1.72	mmol/Kg
<b>SEM/AVS</b>	<b>0.49</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>0.04</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	S320						D320					
<b>Descrip:</b>	COVINGTON CR. ON H						JENKINS CREEK//BRI					
<b>Sample:</b>	L56024-26						L56024-27					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/15/12 14:00						8/15/12 14:50					
<b>TotalSolid:</b>	30.5						30.4					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	0.18	<RDL	J	0.12	0.607	mg/Kg	0.17	<RDL	J	0.13	0.622	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0016	—	—	0.0011	0.00540	mmol/Kg	0.0015	—	—	0.0012	0.00553	mmol/Kg
Copper, Extractable, SEM	4.92	—	—	0.24	1.21	mg/Kg	4.61	—	—	0.25	1.25	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0774	—	—	0.0038	0.0190	mmol/Kg	0.0725	—	—	0.0039	0.0197	mmol/Kg
Lead, Extractable, SEM	10.4	—	—	1.2	6.07	mg/Kg	9.61	—	—	1.3	6.22	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0502	—	—	0.0058	0.0293	mmol/Kg	0.0464	—	—	0.0063	0.0300	mmol/Kg
Nickel, Extractable, SEM	0.66	<RDL	J	0.3	1.51	mg/Kg	1.1	<RDL	J	0.31	1.56	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.011	—	—	0.005	0.0257	mmol/Kg	0.019	—	—	0.0053	0.0266	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.24	1.21	mg/Kg	—	<MDL	U	0.25	1.25	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0022	0.0112	mmol/Kg	ND	—	—	0.0023	0.0116	mmol/Kg
Zinc, Extractable, SEM	10.9	—	—	0.3	1.51	mg/Kg	27.5	—	—	0.31	1.56	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.167	—	—	0.005	0.0231	mmol/Kg	0.421	—	—	0.0047	0.0239	mmol/Kg
<b>Total SEM</b>	<b>0.31</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>0.56</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	11.1	JG	—	0.75	3.03	mg/Kg	9.77	JG	—	0.79	3.12	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.346	—	—	0.023	0.0945	mmol/Kg	0.305	—	—	0.025	0.0973	mmol/Kg
<b>SEM/AVS</b>	<b>0.89</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>1.8</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	WX320						JK320					
<b>Descrip:</b>	JENKINS CRK AT WAX						JENKLINS CREEK DOW					
<b>Sample:</b>	L56024-28						L56024-29					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/27/12 10:00						8/27/12 10:25					
<b>TotalSolid:</b>	13.2						15.6					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	0.53	<RDL	J	0.3	1.51	mg/Kg	0.47	<RDL	J	0.24	1.21	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0047	—	—	0.003	0.0134	mmol/Kg	0.0042	—	—	0.0021	0.0108	mmol/Kg
Copper, Extractable, SEM	14.2	—	—	0.61	3.02	mg/Kg	13.6	—	—	0.49	2.42	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.223	—	—	0.0096	0.0475	mmol/Kg	0.214	—	—	0.0077	0.0381	mmol/Kg
Lead, Extractable, SEM	63.0	—	—	3	15.1	mg/Kg	16.4	—	—	2.4	12.1	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.304	—	—	0.01	0.0729	mmol/Kg	0.0792	—	—	0.012	0.0584	mmol/Kg
Nickel, Extractable, SEM	3.5	<RDL	J	0.75	3.77	mg/Kg	3.51	—	—	0.61	3.03	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.060	—	—	0.013	0.0642	mmol/Kg	0.0598	—	—	0.010	0.0516	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.61	3.02	mg/Kg	—	<MDL	U	0.49	2.42	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0057	0.0280	mmol/Kg	ND	—	—	0.0045	0.0224	mmol/Kg
Zinc, Extractable, SEM	105	—	—	0.75	3.77	mg/Kg	61.3	—	—	0.61	3.03	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	1.61	—	—	0.01	0.0577	mmol/Kg	0.938	—	—	0.0093	0.0463	mmol/Kg
<b>Total SEM</b>	<b>2.20</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>1.29</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	22.6	JG	—	1.9	7.53	mg/Kg	39.0	JG	—	1.5	6.06	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.705	—	—	0.059	0.235	mmol/Kg	1.22	—	—	0.047	0.189	mmol/Kg
<b>SEM/AVS</b>	<b>3.1</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>1.1</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	FR320						LW320					
<b>Descrip:</b>	JENKINS CRK AT FRO						JENKINS LK. WILDER					
<b>Sample:</b>	L56024-30						L56024-33					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/27/12 12:30						8/27/12 11:45					
<b>TotalSolid:</b>	14.9						13.5					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	0.46	<RDL	J	0.26	1.32	mg/Kg	0.43	<RDL	J	0.28	1.42	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	0.0041	—	—	0.0023	0.0117	mmol/Kg	0.0038	—	—	0.0025	0.0126	mmol/Kg
Copper, Extractable, SEM	18.6	—	—	0.53	2.65	mg/Kg	20.8	—	—	0.57	2.85	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.293	—	—	0.0083	0.0417	mmol/Kg	0.327	—	—	0.0090	0.0448	mmol/Kg
Lead, Extractable, SEM	14.0	—	—	2.6	13.2	mg/Kg	29.0	—	—	2.8	14.2	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0676	—	—	0.013	0.0637	mmol/Kg	0.140	—	—	0.014	0.0685	mmol/Kg
Nickel, Extractable, SEM	4.34	—	—	0.66	3.31	mg/Kg	3.3	<RDL	J	0.71	3.56	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0739	—	—	0.011	0.0564	mmol/Kg	0.056	—	—	0.012	0.0607	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.53	2.65	mg/Kg	—	<MDL	U	0.57	2.85	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0049	0.0246	mmol/Kg	ND	—	—	0.0053	0.02642	mmol/Kg
Zinc, Extractable, SEM	52.3	—	—	0.66	3.31	mg/Kg	94.8	—	—	0.71	3.56	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.800	—	—	0.010	0.0506	mmol/Kg	1.45	—	—	0.011	0.0545	mmol/Kg
<b>Total SEM</b>	<b>1.24</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>1.98</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	23.0	JG	—	1.7	6.62	mg/Kg	1210	JG	—	44	179	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.717	—	—	0.053	0.206	mmol/Kg	37.7	—	—	1.4	5.58	mmol/Kg
<b>SEM/AVS</b>	<b>1.7</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>0.05</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect

Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012

<b>Locator:</b>	FL319						'0318					
<b>Descrip:</b>	GREEN RIVER, DOWNS						GREEN RIVER/EAST V					
<b>Sample:</b>	L56024-34						L56024-35					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/29/12 10:10						8/29/12 12:40					
<b>TotalSolid:</b>	74						61.4					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	—	<MDL	U	0.054	0.27	mg/Kg	—	<MDL	U	0.06	0.303	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	ND	—	—	0.00048	0.0024	mmol/Kg	ND	—	—	0.0005	0.00270	mmol/Kg
Copper, Extractable, SEM	2.27	—	—	0.11	0.539	mg/Kg	5.91	—	—	0.12	0.606	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.0357	—	—	0.0017	0.00848	mmol/Kg	0.0930	—	—	0.0019	0.00954	mmol/Kg
Lead, Extractable, SEM	1.5	<RDL	J	0.54	2.7	mg/Kg	2.1	<RDL	J	0.6	3.03	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0072	—	—	0.0026	0.013	mmol/Kg	0.010	—	—	0.003	0.0146	mmol/Kg
Nickel, Extractable, SEM	0.728	—	—	0.14	0.674	mg/Kg	1.73	—	—	0.15	0.757	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0124	—	—	0.0024	0.0115	mmol/Kg	0.0295	—	—	0.0026	0.0129	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.11	0.539	mg/Kg	—	<MDL	U	0.12	0.606	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0010	0.00500	mmol/Kg	ND	—	—	0.0011	0.00562	mmol/Kg
Zinc, Extractable, SEM	8.09	—	—	0.14	0.674	mg/Kg	10.3	—	—	0.15	0.757	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.124	—	—	0.0021	0.0103	mmol/Kg	0.158	—	—	0.0023	0.0116	mmol/Kg
<b>Total SEM</b>	<b>0.18</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>0.29</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	—	<MDL,JG	U	0.34	1.35	mg/Kg	0.68	<RDL,JG	J	0.37	1.51	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	ND	—	—	0.011	0.0421	mmol/Kg	0.021	—	—	0.012	0.0471	mmol/Kg
<b>SEM/AVS</b>	<b>*</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>14</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect; \* No detected AVS - metals bioavailable

**Table B-4: Green River Basin Sediment SEM/AVS Calculations 2012**

<b>Locator:</b>	A319						FG319					
<b>Descrip:</b>	GREEN RIVER/ABOVE						GREEN RIVER, FLAMI					
<b>Sample:</b>	L56024-36						L56024-37					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/27/12 13:25						8/14/12 12:00					
<b>TotalSolid:</b>	48.9						63.4					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Val Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Cadmium, Extractable, SEM	—	<MDL	U	0.08	0.403	mg/Kg	—	<MDL	U	0.06	0.303	mg/Kg
Cadmium, Molecular Weight	112.41	—	—	—	—	mg/mmol	112.41	—	—	—	—	mg/mmol
Cadmium, Extractable, SEM	ND	—	—	0.0007	0.00359	mmol/Kg	ND	—	—	0.0005	0.00270	mmol/Kg
Copper, Extractable, SEM	7.24	—	—	0.16	0.806	mg/Kg	5.17	—	—	0.12	0.606	mg/Kg
Copper, Molecular Weight	63.55	—	—	—	—	mg/mmol	63.55	—	—	—	—	mg/mmol
Copper, Extractable, SEM	0.114	—	—	0.0025	0.0127	mmol/Kg	0.0814	—	—	0.0019	0.00954	mmol/Kg
Lead, Extractable, SEM	4.09	<RDL	J	0.8	4.03	mg/Kg	2.4	<RDL	J	0.6	3.03	mg/Kg
Lead, Molecular Weight	207.2	—	—	—	—	mg/mmol	207.2	—	—	—	—	mg/mmol
Lead, Extractable, SEM	0.0197	—	—	0.004	0.0194	mmol/Kg	0.012	—	—	0.003	0.0146	mmol/Kg
Nickel, Extractable, SEM	2.21	—	—	0.2	1.01	mg/Kg	1.28	—	—	0.15	0.757	mg/Kg
Nickel, Molecular Weight	58.69	—	—	—	—	mg/mmol	58.69	—	—	—	—	mg/mmol
Nickel, Extractable, SEM	0.0377	—	—	0.003	0.0172	mmol/Kg	0.0218	—	—	0.0026	0.0129	mmol/Kg
Silver, Extractable, SEM	—	<MDL	U	0.16	0.806	mg/Kg	—	<MDL	U	0.12	0.606	mg/Kg
Silver, Molecular Weight	107.87	—	—	—	—	mg/mmol	107.87	—	—	—	—	mg/mmol
Silver, Extractable, SEM	ND	—	—	0.0015	0.00747	mmol/Kg	ND	—	—	0.0011	0.00562	mmol/Kg
Zinc, Extractable, SEM	13.3	—	—	0.2	1.01	mg/Kg	9.37	—	—	0.15	0.757	mg/Kg
Zinc, Molecular Weight	65.38	—	—	—	—	mg/mmol	65.38	—	—	—	—	mg/mmol
Zinc, Extractable, SEM	0.203	—	—	0.003	0.0154	mmol/Kg	0.143	—	—	0.0023	0.0116	mmol/Kg
<b>Total SEM</b>	<b>0.37</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>	<b>0.26</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>mmol/Kg</b>
Sulfide, Acid Volatile	1.3	<RDL,JG	J	0.51	2.01	mg/Kg	—	<MDL,JG	U	0.38	1.51	mg/Kg
Sulfide, Molecular Weight	32.06	—	—	—	—	mg/mmol	32.06	—	—	—	—	mg/mmol
Sulfide, Acid Volatile	0.041	—	—	0.016	0.0627	mmol/Kg	ND	—	—	0.012	0.0471	mmol/Kg
<b>SEM/AVS</b>	<b>9.2</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>*</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>

ND - Nondetect; \* No detected AVS - metals bioavailable

# **Appendix C: Laboratory Sample Results with Laboratory and Validation Qualifiers**

## Appendix C

Table C-1:	KCEL Stream Sediment Analytical Data 2008
Table C-2.	KCEL Stream Sediment Analytical Data 2009
Table C-3.	KCEL Stream Sediment Analytical Data 2010
Table C-4.	KCEL Stream Sediment Analytical Data 2012
Table C-5:	Dioxin/Furan Congener Results for Stream Sediment 2012

## List of Lab and Data Qualifying Acronyms

<b>&lt;RDL</b>	Less than reporting detection limit	<b>JG</b>	Estimated value, probable low bias
<b>&lt;MDL</b>	Less than method detection limit	<b>TA</b>	Additional narrative information available
<b>B</b>	The associated blank concentration is $\geq$ MDL and the sample result is within 5 times the blank concentration.	<b>U</b>	Not detected
<b>B2/B3</b>	The associated blank concentration is $\geq$ MDL and the sample result is $> 5$ and $\leq 10$ times the blank concentration.	<b>UJ</b>	Not detected, estimated value
<b>H</b>	Does not meet holding time criteria		
<b>J</b>	Estimated value		

**Table C-1: KCEL Stream Sediment Analytical Data 2008**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C						421240C						421240C					
<b>Locator:</b>	'0317						K317						L317					
<b>Descrip:</b>	SPRINGBROOK CREEK/						SPRINGBROOK CREEK						SPRINGBROOK CREEK					
<b>Sample:</b>	L46069-8						L46094-12						L46094-13					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/28/08 8:50						8/5/08 10:15						8/5/08 11:30					
<b>TotalSolid:</b>	48.5						33.1						18.8					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>		<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>		<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	
<b>CV ASTM D422(318V1)</b>																		
Clay*	8.4		1.1	2.11	%		14.9		1.7	3.31	%		21.7		2.7	5.44	%	
Fines*	33.8		1.1	2.11	%		18.2		1.7	3.31	%		27.2		2.7	5.44	%	
Gravel*	9.8		0.21	2.11	%		4.5	J	0.33	3.31	%		8.5		0.54	5.44	%	
Sand*	50.9		0.21	2.11	%		72.7		0.33	3.31	%		54.7		0.54	5.44	%	
Silt*	25.3		1.1	2.11	%		3.3	J	1.7	3.31	%		5.4		2.7	5.44	%	
p+0.00*	1.5		0.21	2.11	%		2		0.33	3.31	%		0.6	<RDL	0.54	5.44	%	
p+1.00*	1.2		0.21	2.11	%		3.2		0.33	3.31	%		7.9		0.54	5.44	%	
p+10.0(equal/more than)*	6.3		1.1	2.11	%		11.6		1.7	3.31	%		16.3		2.7	5.44	%	
p+2.00*	5.2		0.21	2.11	%		36		0.33	3.31	%		14.8		0.54	5.44	%	
p+3.00*	29.3		0.21	2.11	%		16		0.33	3.31	%		8.5		0.54	5.44	%	
p+4.00*	13.7		0.21	2.11	%		15.5		0.33	3.31	%		22.9		0.54	5.44	%	
p+5.00*	7.4		1.1	2.11	%			<MDL	1.7	3.31	%			<MDL	2.7	5.44	%	
p+6.00*	5.3		1.1	2.11	%			<MDL	1.7	3.31	%		5.4		2.7	5.44	%	
p+7.00*	6.3		1.1	2.11	%		3.3		1.7	3.31	%			<MDL	2.7	5.44	%	
p+8.00*	6.3		1.1	2.11	%			<MDL	1.7	3.31	%			<MDL	2.7	5.44	%	
p+9.00*	2.1		1.1	2.11	%		3.3		1.7	3.31	%		5.4		2.7	5.44	%	
p-1.00*	1.8		0.21	2.11	%		1.4		0.33	3.31	%		0.8	<RDL	0.54	5.44	%	
p-2.00*	0.3	<RDL	0.21	2.11	%			<MDL	0.33	3.31	%			<MDL	0.54	5.44	%	
p-2.00(less than)*	7.7		0.21	2.11	%		3.2		0.33	3.31	%		7.7		0.54	5.44	%	
<b>CV EPA 9060-PSEP96(337V3)</b>																		
Total Organic Carbon	29500		3500	6930	mg/Kg		42600		2500	5050	mg/Kg		53200		2600	5090	mg/Kg	
<b>CV SM2540-G (307V3)</b>																		
Total Solids*	48.5		0.005	0.01	%		33.1		0.005	0.01	%		18.8		0.005	0.01	%	
<b>CV SM4500-NH3-G(332V1)KCL</b>																		
Ammonia Nitrogen	23.9		2	3.98	mg/Kg		29.3		3	5.95	mg/Kg		34.4		5.3	10.5	mg/Kg	
<b>CV SM4500-P-F(332V1)OL</b>																		
Orthophosphate Phosphorus	73		4.1	10.3	mg/Kg		152		15	37.5	mg/Kg		298		26	64.9	mg/Kg	
<b>CV SW846 9045C (303V5)</b>																		
pH*	7.12				pH		6.99				pH		6.99				pH	
<b>MC SM 9221E 20TH (SOP 508V0)</b>																		
Fecal Coliform	1650				MPN/100g													

**Table C-1: KCEL Stream Sediment Analytical Data 2008**  
King County Environmental Lab Analytical Report

Project: Locator: Descrip: Sample: Matrix: ColDate: TotalSolid:	421240C '0317 SPRINGBROOK CREEK/ L46069-8 SE FRSHWTRSED 7/28/08 8:50 48.5						421240C K317 SPRINGBROOK CREEK L46094-12 SE FRSHWTRSED 8/5/08 10:15 33.1						421240C L317 SPRINGBROOK CREEK L46094-13 SE FRSHWTRSED 8/5/08 11:30 18.8					
	DRY Weight Basis						DRY Weight Basis						DRY Weight Basis					
Parameters	Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units	
MT CVAA EPA 7471B (604V4)																		
Mercury, Total, CVAA	0.0932		0.0052	0.0511	mg/Kg		0.069	<RDL	0.015	0.151	mg/Kg		0.096	<RDL	0.026	0.255	mg/Kg	
MT SW846 3050B*SW846 6020A																		
Arsenic, Total, ICP-MS	11.5		0.017	0.0849	mg/Kg		22.1		0.025	0.127	mg/Kg		23.7		0.045	0.224	mg/Kg	
Cadmium, Total, ICP-MS	1.5		0.0085	0.0425	mg/Kg		2.28		0.013	0.0637	mg/Kg		3.42		0.022	0.112	mg/Kg	
Chromium, Total, ICP-MS	22.9		0.033	0.17	mg/Kg		29.3		0.051	0.255	mg/Kg		39.4		0.09	0.448	mg/Kg	
Copper, Total, ICP-MS	31.1		0.068	0.34	mg/Kg		34.1		0.1	0.511	mg/Kg		52.2		0.18	0.899	mg/Kg	
Lead, Total, ICP-MS	25.6		0.013	0.017	mg/Kg		27.5		0.019	0.0255	mg/Kg		44		0.034	0.0448	mg/Kg	
Nickel, Total, ICP-MS	16.2		0.017	0.0849	mg/Kg		21.7		0.025	0.127	mg/Kg		19		0.045	0.224	mg/Kg	
Phosphorus, Total, ICP-MS	1810		17	84.9	mg/Kg		2550		25	127	mg/Kg		4010		45	224	mg/Kg	
Silver, Total, ICP-MS	0.131		0.0085	0.0425	mg/Kg		0.162		0.013	0.0637	mg/Kg		0.365		0.022	0.112	mg/Kg	
Zinc, Total, ICP-MS	173		0.085	0.425	mg/Kg		320		0.13	0.637	mg/Kg		464		0.22	1.12	mg/Kg	
OR EPA 3520C/8270C (7-3-01-004)																		
Bis(2-ethylhexyl)adipate		<MDL	21	41.2	ug/Kg			<MDL	30	60.4	ug/Kg			<MDL	53	106	ug/Kg	
Bisphenol A		<MDL	21	41.2	ug/Kg			<MDL	30	60.4	ug/Kg			<MDL	53	106	ug/Kg	
Total 4-Nonylphenol		<MDL	41	82.5	ug/Kg		743		60	121	ug/Kg		941		110	213	ug/Kg	
OR EPA 3550B/8270C (7-3-01-004)																		
1,2,4-Trichlorobenzene		<MDL	0.21	0.412	ug/Kg			<MDL	0.3	0.604	ug/Kg			<MDL	0.53	1.06	ug/Kg	
1,2-Dichlorobenzene		<MDL	0.41	0.825	ug/Kg			<MDL	0.6	1.21	ug/Kg			<MDL	1.1	2.13	ug/Kg	
1,2-Diphenylhydrazine		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
1,3-Dichlorobenzene		<MDL	0.41	0.825	ug/Kg			<MDL	0.6	1.21	ug/Kg			<MDL	1.1	2.13	ug/Kg	
1,4-Dichlorobenzene		<MDL	0.41	0.825	ug/Kg			<MDL	0.6	1.21	ug/Kg			<MDL	1.1	2.13	ug/Kg	
2,4,5-Trichlorophenol		<MDL	21	41.2	ug/Kg			<MDL	30	60.4	ug/Kg			<MDL	53	106	ug/Kg	
2,4,6-Trichlorophenol		<MDL	21	41.2	ug/Kg			<MDL	30	60.4	ug/Kg			<MDL	53	106	ug/Kg	
2,4-Dichlorophenol		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
2,4-Dimethylphenol		<MDL	2.1	4.12	ug/Kg			<MDL	3	6.04	ug/Kg			<MDL	5.3	10.6	ug/Kg	
2,4-Dinitrotoluene		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
2,6-Dinitrotoluene		<MDL	21	41.2	ug/Kg			<MDL	30	60.4	ug/Kg			<MDL	53	106	ug/Kg	
2-Chloronaphthalene		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
2-Chlorophenol		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
2-Methylnaphthalene		<MDL	4.1	8.25	ug/Kg			<MDL	6	12.1	ug/Kg			<MDL	11	21.3	ug/Kg	
2-Methylphenol		<MDL	4.1	8.25	ug/Kg			<MDL	6	12.1	ug/Kg			<MDL	11	21.3	ug/Kg	

**Table C-1: KCEL Stream Sediment Analytical Data 2008**  
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<b>Project:</b>	421240C						421240C						421240C					
<b>Locator:</b>	'0317						K317						L317					
<b>Descrip:</b>	SPRINGBROOK CREEK/						SPRINGBROOK CREEK						SPRINGBROOK CREEK					
<b>Sample:</b>	L46069-8						L46094-12						L46094-13					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/28/08 8:50						8/5/08 10:15						8/5/08 11:30					
<b>TotalSolid:</b>	48.5						33.1						18.8					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units	
2-Nitrophenol		<MDL	21	41.2	ug/Kg			<MDL	30	60.4	ug/Kg			<MDL	53	106	ug/Kg	
4-Bromophenyl Phenyl Ether		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
4-Chlorophenyl Phenyl Ether		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
4-Methylphenol		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
Acenaphthene		<MDL	4.1	8.25	ug/Kg		6	<RDL	6	12.1	ug/Kg			<MDL	11	21.3	ug/Kg	
Acenaphthylene		<MDL	4.1	8.25	ug/Kg			<MDL	6	12.1	ug/Kg			<MDL	11	21.3	ug/Kg	
Aniline		<MDL	82	165	ug/Kg			<MDL	120	242	ug/Kg			<MDL	210	426	ug/Kg	
Anthracene		<MDL	4.1	8.25	ug/Kg		24.1		6	12.1	ug/Kg		42.3		11	21.3	ug/Kg	
Benzo(a)anthracene		<MDL	4.1	8.25	ug/Kg		185		6	12.1	ug/Kg		322		11	21.3	ug/Kg	
Benzo(a)pyrene		<MDL	4.1	8.25	ug/Kg		248		6	12.1	ug/Kg		487		11	21.3	ug/Kg	
Benzo(b)fluoranthene		<MDL	4.1	8.25	ug/Kg		435		6	12.1	ug/Kg		824		11	21.3	ug/Kg	
Benzo(g,h,i)perylene		<MDL	4.1	8.25	ug/Kg		267		6	12.1	ug/Kg		537		11	21.3	ug/Kg	
Benzo(k)fluoranthene		<MDL	4.1	8.25	ug/Kg		390		6	12.1	ug/Kg		771		11	21.3	ug/Kg	
Benzoic Acid	221		21	41.2	ug/Kg		462		30	60.4	ug/Kg		1010		53	106	ug/Kg	
Benzyl Alcohol		<MDL	4.1	8.25	ug/Kg			<MDL	6	12.1	ug/Kg		45.4		11	21.3	ug/Kg	
Benzyl Butyl Phthalate		<MDL	8.2	16.5	ug/Kg		70.7		12	24.2	ug/Kg		178		21	42.6	ug/Kg	
Bis(2-Chloroethoxy)Methane		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
Bis(2-Chloroethyl)Ether		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
Bis(2-Chloroisopropyl)Ether		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
Bis(2-Ethylhexyl)Phthalate	32.6	B	8.2	16.5	ug/Kg		2180		12	24.2	ug/Kg		3520		21	42.6	ug/Kg	
Caffeine		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
Carbazole		<MDL	4.1	8.25	ug/Kg		26.6		6	12.1	ug/Kg		41.5		11	21.3	ug/Kg	
Chrysene		<MDL	4.1	8.25	ug/Kg		335		6	12.1	ug/Kg		628		11	21.3	ug/Kg	
Coprostanol		<MDL	82	165	ug/Kg			<MDL	120	242	ug/Kg			<MDL	210	426	ug/Kg	
Di-N-Butyl Phthalate		<MDL	8.2	16.5	ug/Kg		33.5		12	24.2	ug/Kg		96.8		21	42.6	ug/Kg	
Di-N-Octyl Phthalate		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
Dibenzo(a,h)anthracene		<MDL	4.1	8.25	ug/Kg		75.8		6	12.1	ug/Kg		174		11	21.3	ug/Kg	
Dibenzofuran		<MDL	4.1	8.25	ug/Kg			<MDL	6	12.1	ug/Kg		13	<RDL	11	21.3	ug/Kg	
Diethyl Phthalate		<MDL	8.2	16.5	ug/Kg		86.1		12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
Dimethyl Phthalate		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg		55.9		21	42.6	ug/Kg	
Fluoranthene		<MDL	4.1	8.25	ug/Kg		372		6	12.1	ug/Kg		697		11	21.3	ug/Kg	
Fluorene		<MDL	4.1	8.25	ug/Kg		20.5		6	12.1	ug/Kg		37.2		11	21.3	ug/Kg	

**Table C-1: KCEL Stream Sediment Analytical Data 2008**  
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<b>Project:</b>	421240C						421240C						421240C					
<b>Locator:</b>	'0317						K317						L317					
<b>Descrip:</b>	SPRINGBROOK CREEK/						SPRINGBROOK CREEK						SPRINGBROOK CREEK					
<b>Sample:</b>	L46069-8						L46094-12						L46094-13					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/28/08 8:50						8/5/08 10:15						8/5/08 11:30					
<b>TotalSolid:</b>	48.5						33.1						18.8					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units	
Hexachlorobenzene		<MDL	0.21	0.412	ug/Kg			<MDL	0.3	0.604	ug/Kg			<MDL	0.53	1.06	ug/Kg	
Hexachlorobutadiene		<MDL	1	2.06	ug/Kg			<MDL	1.5	3.02	ug/Kg			<MDL	2.7	5.32	ug/Kg	
Hexachloroethane		<MDL	2.1	4.12	ug/Kg			<MDL	3	6.04	ug/Kg			<MDL	5.3	10.6	ug/Kg	
Indeno(1,2,3-Cd)Pyrene		<MDL	4.1	8.25	ug/Kg		243		6	12.1	ug/Kg		518		11	21.3	ug/Kg	
Isophorone		<MDL	21	41.2	ug/Kg			<MDL	30	60.4	ug/Kg			<MDL	53	106	ug/Kg	
N-Nitrosodi-N-Propylamine		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
N-Nitrosodimethylamine		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
N-Nitrosodiphenylamine		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
Naphthalene		<MDL	4.1	8.25	ug/Kg			<MDL	6	12.1	ug/Kg			<MDL	11	21.3	ug/Kg	
Nitrobenzene		<MDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
Pentachlorophenol		<MDL	21	41.2	ug/Kg			<MDL	30	60.4	ug/Kg			<MDL	53	106	ug/Kg	
Phenanthrene		<MDL	4.1	8.25	ug/Kg		160		6	12.1	ug/Kg		288		11	21.3	ug/Kg	
Phenol	13	<RDL	8.2	16.5	ug/Kg			<MDL	12	24.2	ug/Kg			<MDL	21	42.6	ug/Kg	
Pyrene		<MDL	4.1	8.25	ug/Kg		432		6	12.1	ug/Kg		856		11	21.3	ug/Kg	
<b>OR EPA 8081A/8082 (7-3-03-002)</b>																		
4,4'-DDD		<MDL	1.4	2.74	ug/Kg			<MDL	2	4.02	ug/Kg			<MDL	3.6	7.07	ug/Kg	
4,4'-DDE		<MDL	1.4	2.74	ug/Kg			<MDL	2	4.02	ug/Kg			<MDL	3.6	7.07	ug/Kg	
4,4'-DDT		<MDL	1.4	2.74	ug/Kg			<MDL	2	4.02	ug/Kg			<MDL	3.6	7.07	ug/Kg	
Aldrin		<MDL	1.4	2.74	ug/Kg			<MDL	2	4.02	ug/Kg			<MDL	3.6	7.07	ug/Kg	
Alpha-BHC		<MDL	0.68	1.38	ug/Kg			<MDL	1	2.02	ug/Kg			<MDL	1.8	3.55	ug/Kg	
Alpha-Chlordane		<MDL	0.68	1.38	ug/Kg			<MDL	1	2.02	ug/Kg			<MDL	1.8	3.55	ug/Kg	
Beta-BHC		<MDL	0.68	1.38	ug/Kg			<MDL	1	2.02	ug/Kg			<MDL	1.8	3.55	ug/Kg	
Delta-BHC		<MDL	0.68	1.38	ug/Kg			<MDL	1	2.02	ug/Kg			<MDL	1.8	3.55	ug/Kg	
Dieldrin		<MDL	1.4	2.74	ug/Kg			<MDL	2	4.02	ug/Kg			<MDL	3.6	7.07	ug/Kg	
Endosulfan I		<MDL	1.4	2.74	ug/Kg			<MDL	2	4.02	ug/Kg			<MDL	3.6	7.07	ug/Kg	
Endosulfan II		<MDL	1.4	2.74	ug/Kg			<MDL	2	4.02	ug/Kg			<MDL	3.6	7.07	ug/Kg	
Endosulfan Sulfate		<MDL	1.4	2.74	ug/Kg			<MDL	2	4.02	ug/Kg			<MDL	3.6	7.07	ug/Kg	
Endrin		<MDL	1.4	2.74	ug/Kg			<MDL	2	4.02	ug/Kg			<MDL	3.6	7.07	ug/Kg	
Endrin Aldehyde		<MDL	1.4	2.74	ug/Kg			<MDL	2	4.02	ug/Kg			<MDL	3.6	7.07	ug/Kg	
Gamma-BHC (Lindane)		<MDL	0.68	1.38	ug/Kg			<MDL	1	2.02	ug/Kg			<MDL	1.8	3.55	ug/Kg	
Gamma-Chlordane		<MDL	0.68	1.38	ug/Kg			<MDL	1	2.02	ug/Kg			<MDL	1.8	3.55	ug/Kg	
Heptachlor		<MDL	0.68	1.38	ug/Kg			<MDL	1	2.02	ug/Kg			<MDL	1.8	3.55	ug/Kg	

**Table C-1: KCEL Stream Sediment Analytical Data 2008**  
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<b>Project:</b>	421240C						421240C						421240C					
<b>Locator:</b>	'0317						K317						L317					
<b>Descrip:</b>	SPRINGBROOK CREEK/						SPRINGBROOK CREEK						SPRINGBROOK CREEK					
<b>Sample:</b>	L46069-8						L46094-12						L46094-13					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/28/08 8:50						8/5/08 10:15						8/5/08 11:30					
<b>TotalSolid:</b>	48.5						33.1						18.8					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units	
Heptachlor Epoxide		<MDL	0.68	1.38	ug/Kg			<MDL	1	2.02	ug/Kg			<MDL	1.8	3.55	ug/Kg	
Methoxychlor		<MDL	6.8	13.8	ug/Kg			<MDL	10	20.2	ug/Kg			<MDL	18	35.5	ug/Kg	
Toxaphene		<MDL	14	27.4	ug/Kg			<MDL	20	40.2	ug/Kg			<MDL	36	70.7	ug/Kg	
<b>OR EPA 8081A/8082 (7-3-103-000)</b>																		
Aroclor 1016		<MDL	1.7	3.44	ug/Kg			<MDL	2.5	5.05	ug/Kg			<MDL	4.4	8.88	ug/Kg	
Aroclor 1221		<MDL	3.5	6.87	ug/Kg			<MDL	5.1	10.1	ug/Kg			<MDL	9	17.7	ug/Kg	
Aroclor 1232		<MDL	3.5	6.87	ug/Kg			<MDL	5.1	10.1	ug/Kg			<MDL	9	17.7	ug/Kg	
Aroclor 1242		<MDL	1.7	3.44	ug/Kg			<MDL	2.5	5.05	ug/Kg			<MDL	4.4	8.88	ug/Kg	
Aroclor 1248	2.1	<RDL	1.7	3.44	ug/Kg			<MDL	2.5	5.05	ug/Kg		8.5	<RDL	4.4	8.88	ug/Kg	
Aroclor 1254	5.15		1.7	3.44	ug/Kg		12		2.5	5.05	ug/Kg		48.7		4.4	8.88	ug/Kg	
Aroclor 1260	5.63		1.7	3.44	ug/Kg		9.31		2.5	5.05	ug/Kg		32.3		4.4	8.88	ug/Kg	
Total Aroclors	12.8		1.7	3.44	ug/Kg		21.3		2.5	5.05	ug/Kg		89.9		4.4	8.88	ug/Kg	
<b>OR WDOE NWTPH-DX (7-3-06-001)</b>																		
Lube Oil Range (>C24)	440		52	52	mg/Kg		890		76	76	mg/Kg		1600		130	130	mg/Kg	
Diesel Range (>C12-C24)																		
<b>CV EPA DEC 1991(334V0)</b>																		
Sulfide, Acid Volatile	326	JG	13	51.5	mg/Kg		30.5	JG	0.76	3.02	mg/Kg		430	JG	34	133	mg/Kg	
<b>MT CVAA EPA 245.1 (604V4)</b>																		
Mercury, Extractable, SEM		<MDL	0.0021	0.00619	mg/Kg			<MDL	0.003	0.00897	mg/Kg			<MDL	0.0053	0.016	mg/Kg	
<b>MT ICP EPA 200.7 (612V3)</b>																		
Arsenic, Extractable, SEM	3.9	<RDL	1	5.15	mg/Kg		14.1		1.5	7.49	mg/Kg		13.7		2.7	13.3	mg/Kg	
Cadmium, Extractable, SEM	1.11		0.082	0.412	mg/Kg		1.82		0.12	0.598	mg/Kg		3.78		0.21	1.06	mg/Kg	
Chromium, Extractable, SEM	5.61		0.12	0.619	mg/Kg		10.1		0.18	0.897	mg/Kg		22.7		0.32	1.6	mg/Kg	
Copper, Extractable, SEM	17.9		0.16	0.825	mg/Kg		25		0.24	1.2	mg/Kg		42.1		0.43	2.12	mg/Kg	
Lead, Extractable, SEM	19.4		0.82	4.12	mg/Kg		22.2		2.4	12	mg/Kg		46.2		2.1	10.6	mg/Kg	
Nickel, Extractable, SEM	5.11		0.21	1.03	mg/Kg		4.11		0.6	2.99	mg/Kg		7.82		0.53	2.65	mg/Kg	
Silver, Extractable, SEM	0.27	<RDL	0.16	0.825	mg/Kg		0.33	<RDL	0.24	1.2	mg/Kg		0.48	<RDL	0.43	2.12	mg/Kg	
Zinc, Extractable, SEM	109		0.21	1.03	mg/Kg		267		0.3	1.5	mg/Kg		478		0.53	2.65	mg/Kg	

\* Not converted to dry weight basis

**Table C-1: KCEL Stream Sediment Analytical Data 2008**  
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<b>Project:</b>	421240C					421240C				
<b>Locator:</b>	M317					N317				
<b>Descrip:</b>	SPRINGBROOK CREEK					SPRINGBROOK CREEK				
<b>Sample:</b>	L46094-14					L46094-15				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	8/5/08 12:25					8/5/08 13:15				
<b>TotalSolid:</b>	10.9					21.1				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
<b>CV ASTM D422(318V1)</b>										
Clay*	30.2		4.3	8.63	%	14.7		2.1	4.2	%
Fines*	64.7		4.3	8.63	%	48.3		2.1	4.2	%
Gravel*	4.6		0.86	8.63	%	5.9		0.42	4.2	%
Sand*	22.4		0.86	8.63	%	40		0.42	4.2	%
Silt*	34.5		4.3	8.63	%	33.6		2.1	4.2	%
p+0.00*	1.3		0.86	8.63	%	2.3		0.42	4.2	%
p+1.00*	1.4		0.86	8.63	%	5.2		0.42	4.2	%
p+10.0(equal/more than)*	21.6		4.3	8.63	%	10.5		2.1	4.2	%
p+2.00*	4.1		0.86	8.63	%	17.5		0.42	4.2	%
p+3.00*	6.3		0.86	8.63	%	7.3		0.42	4.2	%
p+4.00*	9.3		0.86	8.63	%	7.8		0.42	4.2	%
p+5.00*	25.9		4.3	8.63	%	18.9		2.1	4.2	%
p+6.00*		<MDL	4.3	8.63	%	6.3		2.1	4.2	%
p+7.00*	4.3		4.3	8.63	%	4.2		2.1	4.2	%
p+8.00*	4.3		4.3	8.63	%	4.2		2.1	4.2	%
p+9.00*	8.6		4.3	8.63	%	4.2		2.1	4.2	%
p-1.00*	1.2		0.86	8.63	%	2.2		0.42	4.2	%
p-2.00*		<MDL	0.86	8.63	%		<MDL	0.42	4.2	%
p-2.00(less than)*	3.4		0.86	8.63	%	3.7		0.42	4.2	%
<b>CV EPA 9060-PSEP96(337V3)</b>										
Total Organic Carbon	113000		4000	8040	mg/Kg	93800		3900	7770	mg/Kg
<b>CV SM2540-G (307V3)</b>										
Total Solids*	10.9		0.005	0.01	%	21.1		0.005	0.01	%
<b>CV SM4500-NH3-G(332V1)KCL</b>										
Ammonia Nitrogen	77.2		8.5	17	mg/Kg	38.7		4.4	8.77	mg/Kg
<b>CV SM4500-P-F(332V1)OL</b>										
Orthophosphate Phosphorus	474		45	112	mg/Kg	84.4		4.6	11.7	mg/Kg
<b>CV SW846 9045C (303V5)</b>										
pH*	7.68				pH	7.32				pH
<b>MC SM 9221E 20TH (SOP 508V0)</b>										
Fecal Coliform										

**Table C-1: KCEL Stream Sediment Analytical Data 2008**  
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<b>Project:</b>	421240C					421240C				
<b>Locator:</b>	M317					N317				
<b>Descrip:</b>	SPRINGBROOK CREEK					SPRINGBROOK CREEK				
<b>Sample:</b>	L46094-14					L46094-15				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	8/5/08 12:25					8/5/08 13:15				
<b>TotalSolid:</b>	10.9					21.1				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
<b>MT CVAA EPA 7471B (604V4)</b>										
Mercury, Total, CVAA	0.16	<RDL	0.023	0.228	mg/Kg	0.122		0.012	0.119	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>										
Arsenic, Total, ICP-MS	56.6		0.079	0.393	mg/Kg	13.4		0.04	0.202	mg/Kg
Cadmium, Total, ICP-MS	2.75		0.039	0.196	mg/Kg	1.16		0.02	0.101	mg/Kg
Chromium, Total, ICP-MS	46.2		0.16	0.785	mg/Kg	36.4		0.081	0.403	mg/Kg
Copper, Total, ICP-MS	112		0.31	1.57	mg/Kg	52.6		0.16	0.806	mg/Kg
Lead, Total, ICP-MS	60.5		0.059	0.0785	mg/Kg	43.1		0.03	0.0403	mg/Kg
Nickel, Total, ICP-MS	38.4		0.079	0.393	mg/Kg	32.8		0.04	0.202	mg/Kg
Phosphorus, Total, ICP-MS	4280		79	393	mg/Kg	1240		40	202	mg/Kg
Silver, Total, ICP-MS	0.25		0.039	0.196	mg/Kg	0.178		0.02	0.101	mg/Kg
Zinc, Total, ICP-MS	954		0.39	1.96	mg/Kg	397		0.2	1.01	mg/Kg
<b>OR EPA 3520C/8270C (7-3-01-004)</b>										
Bis(2-ethylhexyl)adipate		<MDL	92	183	ug/Kg		<MDL	47	94.8	ug/Kg
Bisphenol A		<MDL	92	183	ug/Kg	52	<RDL	47	94.8	ug/Kg
Total 4-Nonylphenol		<MDL	180	367	ug/Kg	697		95	190	ug/Kg
<b>OR EPA 3550B/8270C (7-3-01-004)</b>										
1,2,4-Trichlorobenzene		<MDL	0.92	1.83	ug/Kg		<MDL	0.47	0.948	ug/Kg
1,2-Dichlorobenzene		<MDL	1.8	3.67	ug/Kg		<MDL	0.95	1.9	ug/Kg
1,2-Diphenylhydrazine		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
1,3-Dichlorobenzene		<MDL	1.8	3.67	ug/Kg		<MDL	0.95	1.9	ug/Kg
1,4-Dichlorobenzene		<MDL	1.8	3.67	ug/Kg		<MDL	0.95	1.9	ug/Kg
2,4,5-Trichlorophenol		<MDL	92	183	ug/Kg		<MDL	47	94.8	ug/Kg
2,4,6-Trichlorophenol		<MDL	92	183	ug/Kg		<MDL	47	94.8	ug/Kg
2,4-Dichlorophenol		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
2,4-Dimethylphenol		<MDL	9.2	18.3	ug/Kg		<MDL	4.7	9.48	ug/Kg
2,4-Dinitrotoluene		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
2,6-Dinitrotoluene		<MDL	92	183	ug/Kg		<MDL	47	94.8	ug/Kg
2-Chloronaphthalene		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
2-Chlorophenol		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
2-Methylnaphthalene		<MDL	18	36.7	ug/Kg		<MDL	9.5	19	ug/Kg
2-Methylphenol		<MDL	18	36.7	ug/Kg		<MDL	9.5	19	ug/Kg

**Table C-1: KCEL Stream Sediment Analytical Data 2008**  
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<b>Project:</b>	421240C					421240C				
<b>Locator:</b>	M317					N317				
<b>Descrip:</b>	SPRINGBROOK CREEK					SPRINGBROOK CREEK				
<b>Sample:</b>	L46094-14					L46094-15				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	8/5/08 12:25					8/5/08 13:15				
<b>TotalSolid:</b>	10.9					21.1				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
2-Nitrophenol		<MDL	92	183	ug/Kg		<MDL	47	94.8	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
4-Methylphenol		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
Acenaphthene		<MDL	18	36.7	ug/Kg	11	<RDL	9.5	19	ug/Kg
Acenaphthylene		<MDL	18	36.7	ug/Kg		<MDL	9.5	19	ug/Kg
Aniline		<MDL	370	734	ug/Kg		<MDL	190	379	ug/Kg
Anthracene		<MDL	18	36.7	ug/Kg	38		9.5	19	ug/Kg
Benzo(a)anthracene		<MDL	18	36.7	ug/Kg	327		9.5	19	ug/Kg
Benzo(a)pyrene		<MDL	18	36.7	ug/Kg	265		9.5	19	ug/Kg
Benzo(b)fluoranthene		<MDL	18	36.7	ug/Kg	559		9.5	19	ug/Kg
Benzo(g,h,i)perylene		<MDL	18	36.7	ug/Kg	310		9.5	19	ug/Kg
Benzo(k)fluoranthene		<MDL	18	36.7	ug/Kg	388		9.5	19	ug/Kg
Benzoic Acid	1140		92	183	ug/Kg	555		47	94.8	ug/Kg
Benzyl Alcohol		<MDL	18	36.7	ug/Kg		<MDL	9.5	19	ug/Kg
Benzyl Butyl Phthalate	73.6		37	73.4	ug/Kg	147		19	37.9	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
Bis(2-Ethylhexyl)Phthalate	1080	B2	37	73.4	ug/Kg	3260		19	37.9	ug/Kg
Caffeine		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
Carbazole		<MDL	18	36.7	ug/Kg	41.4		9.5	19	ug/Kg
Chrysene		<MDL	18	36.7	ug/Kg	630		9.5	19	ug/Kg
Coprostanol		<MDL	370	734	ug/Kg		<MDL	190	379	ug/Kg
Di-N-Butyl Phthalate		<MDL	37	73.4	ug/Kg	325		19	37.9	ug/Kg
Di-N-Octyl Phthalate		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
Dibenzo(a,h)anthracene		<MDL	18	36.7	ug/Kg	79.6		9.5	19	ug/Kg
Dibenzofuran		<MDL	18	36.7	ug/Kg		<MDL	9.5	19	ug/Kg
Diethyl Phthalate		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
Dimethyl Phthalate		<MDL	37	73.4	ug/Kg	49.3		19	37.9	ug/Kg
Fluoranthene		<MDL	18	36.7	ug/Kg	592		9.5	19	ug/Kg
Fluorene		<MDL	18	36.7	ug/Kg	30.9		9.5	19	ug/Kg

**Table C-1: KCEL Stream Sediment Analytical Data 2008**  
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<b>Project:</b>	421240C					421240C				
<b>Locator:</b>	M317					N317				
<b>Descrip:</b>	SPRINGBROOK CREEK					SPRINGBROOK CREEK				
<b>Sample:</b>	L46094-14					L46094-15				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	8/5/08 12:25					8/5/08 13:15				
<b>TotalSolid:</b>	10.9					21.1				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
Hexachlorobenzene		<MDL	0.92	1.83	ug/Kg		<MDL	0.47	0.948	ug/Kg
Hexachlorobutadiene		<MDL	4.6	9.17	ug/Kg		<MDL	2.4	4.74	ug/Kg
Hexachloroethane		<MDL	9.2	18.3	ug/Kg		<MDL	4.7	9.48	ug/Kg
Indeno(1,2,3-Cd)Pyrene		<MDL	18	36.7	ug/Kg	258		9.5	19	ug/Kg
Isophorone		<MDL	92	183	ug/Kg		<MDL	47	94.8	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
N-Nitrosodimethylamine		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
N-Nitrosodiphenylamine		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
Naphthalene		<MDL	18	36.7	ug/Kg	10	<RDL	9.5	19	ug/Kg
Nitrobenzene		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
Pentachlorophenol		<MDL	92	183	ug/Kg		<MDL	47	94.8	ug/Kg
Phenanthrene	21	<RDL	18	36.7	ug/Kg	294		9.5	19	ug/Kg
Phenol		<MDL	37	73.4	ug/Kg		<MDL	19	37.9	ug/Kg
Pyrene		<MDL	18	36.7	ug/Kg	877		9.5	19	ug/Kg
<b>OR EPA 8081A/8082 (7-3-03-002)</b>										
4,4'-DDD	8.4	<RDL	6.1	12.2	ug/Kg		<MDL	3.2	6.3	ug/Kg
4,4'-DDE		<MDL	6.1	12.2	ug/Kg		<MDL	3.2	6.3	ug/Kg
4,4'-DDT	8.2	<RDL	6.1	12.2	ug/Kg		<MDL	3.2	6.3	ug/Kg
Aldrin		<MDL	6.1	12.2	ug/Kg		<MDL	3.2	6.3	ug/Kg
Alpha-BHC		<MDL	3	6.12	ug/Kg		<MDL	1.6	3.16	ug/Kg
Alpha-Chlordane		<MDL	3	6.12	ug/Kg	2	<RDL	1.6	3.16	ug/Kg
Beta-BHC		<MDL	3	6.12	ug/Kg		<MDL	1.6	3.16	ug/Kg
Delta-BHC		<MDL	3	6.12	ug/Kg		<MDL	1.6	3.16	ug/Kg
Dieldrin		<MDL	6.1	12.2	ug/Kg		<MDL	3.2	6.3	ug/Kg
Endosulfan I		<MDL	6.1	12.2	ug/Kg		<MDL	3.2	6.3	ug/Kg
Endosulfan II		<MDL	6.1	12.2	ug/Kg		<MDL	3.2	6.3	ug/Kg
Endosulfan Sulfate		<MDL	6.1	12.2	ug/Kg		<MDL	3.2	6.3	ug/Kg
Endrin		<MDL	6.1	12.2	ug/Kg		<MDL	3.2	6.3	ug/Kg
Endrin Aldehyde		<MDL	6.1	12.2	ug/Kg		<MDL	3.2	6.3	ug/Kg
Gamma-BHC (Lindane)		<MDL	3	6.12	ug/Kg		<MDL	1.6	3.16	ug/Kg
Gamma-Chlordane		<MDL	3	6.12	ug/Kg	1.8	<RDL	1.6	3.16	ug/Kg
Heptachlor		<MDL	3	6.12	ug/Kg		<MDL	1.6	3.16	ug/Kg

**Table C-1: KCEL Stream Sediment Analytical Data 2008**  
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<b>Project:</b>	421240C					421240C				
<b>Locator:</b>	M317					N317				
<b>Descrip:</b>	SPRINGBROOK CREEK					SPRINGBROOK CREEK				
<b>Sample:</b>	L46094-14					L46094-15				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	8/5/08 12:25					8/5/08 13:15				
<b>TotalSolid:</b>	10.9					21.1				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
Heptachlor Epoxide		<MDL	3	6.12	ug/Kg		<MDL	1.6	3.16	ug/Kg
Methoxychlor		<MDL	30	61.2	ug/Kg		<MDL	16	31.6	ug/Kg
Toxaphene		<MDL	61	122	ug/Kg		<MDL	32	63	ug/Kg
<b>OR EPA 8081A/8082 (7-3-103-000)</b>										
Aroclor 1016		<MDL,TA	13	26.3	ug/Kg		<MDL	3.9	7.91	ug/Kg
Aroclor 1221		<MDL	16	30.6	ug/Kg		<MDL	8.1	15.8	ug/Kg
Aroclor 1232		<MDL	16	30.6	ug/Kg		<MDL	8.1	15.8	ug/Kg
Aroclor 1242		<MDL	7.6	15.3	ug/Kg		<MDL	3.9	7.91	ug/Kg
Aroclor 1248	16.8		7.6	15.3	ug/Kg	10.7		3.9	7.91	ug/Kg
Aroclor 1254	60.6		7.6	15.3	ug/Kg	22		3.9	7.91	ug/Kg
Aroclor 1260	39.6		7.6	15.3	ug/Kg	21.3		3.9	7.91	ug/Kg
Total Aroclors	117		7.6	15.3	ug/Kg	54		3.9	7.91	ug/Kg
<b>OR WDOE NWTPH-DX (7-3-06-001)</b>										
Lube Oil Range (>C24)	4600		230	230	mg/Kg	1400		120	120	mg/Kg
Diesel Range (>C12-C24)										
<b>CV EPA DEC 1991(334V0)</b>										
Sulfide, Acid Volatile	121	JG	12	45.9	mg/Kg	1140	JG	30	118	mg/Kg
<b>MT CVAA EPA 245.1 (604V4)</b>										
Mercury, Extractable, SEM		<MDL	0.0092	0.0277	mg/Kg		<MDL	0.0047	0.0142	mg/Kg
<b>MT ICP EPA 200.7 (612V3)</b>										
Arsenic, Extractable, SEM	39.1		4.6	23.1	mg/Kg	5.7	<RDL	2.4	11.8	mg/Kg
Cadmium, Extractable, SEM	2.45		0.37	1.84	mg/Kg	1.05		0.19	0.943	mg/Kg
Chromium, Extractable, SEM	20.7		0.55	2.77	mg/Kg	10.4		0.28	1.42	mg/Kg
Copper, Extractable, SEM	106		0.73	3.69	mg/Kg	35		0.38	1.89	mg/Kg
Lead, Extractable, SEM	70.7		3.7	18.4	mg/Kg	39.3		1.9	9.43	mg/Kg
Nickel, Extractable, SEM	16.2		0.92	4.61	mg/Kg	11.3		0.47	2.36	mg/Kg
Silver, Extractable, SEM	2.4	<RDL	0.73	3.69	mg/Kg		<MDL	0.38	1.89	mg/Kg
Zinc, Extractable, SEM	806		0.92	4.61	mg/Kg	323		0.47	2.36	mg/Kg

\* Not converted to dry weight basis

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

Project:	421240C					421240C					421240C				
	Locator: X322					BB322					E322				
Descrip:	NEWAUKUM CREEK NEA					SE 392ND ST					NEWAUKUM CREEK AT				
Sample:	L48629-1					L48629-2					L48629-3				
Matrix:	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED				
ColDate:	8/10/09 11:10					8/10/09 9:50					8/10/09 12:10				
TotalSolid:	59.8					35.4					61.7				
	DRY Weight Basis					DRY Weight Basis					DRY Weight Basis				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
CV ASTM D422															
Clay*		<MDL	0.86	1.73	%		<MDL	1.3	2.7	%		<MDL	2.1	4.12	%
Fines*	8.6		0.86	1.73	%	21.6		1.3	2.7	%	37.1		2.1	4.12	%
Gravel*	8.3		0.17	1.73	%	11.1		0.27	2.7	%	8.9		0.41	4.12	%
p+0.00*	1.5		0.17	1.73	%	16.7		0.27	2.7	%	8.1		0.41	4.12	%
p+1.00*	4.7		0.17	1.73	%	19.2		0.27	2.7	%	11.4		0.41	4.12	%
p+10.0(equal/more than)*		<MDL	0.86	1.73	%		<MDL	1.3	2.7	%		<MDL	2.1	4.12	%
p+2.00*	26.5		0.17	1.73	%	12.7		0.27	2.7	%	10.2		0.41	4.12	%
p+3.00*	35.1		0.17	1.73	%	8.5		0.27	2.7	%	7.5		0.41	4.12	%
p+4.00*	12.6		0.17	1.73	%	6.2		0.27	2.7	%	6.5		0.41	4.12	%
p+5.00*	5.2		0.86	1.73	%	16.2		1.3	2.7	%	28.8		2.1	4.12	%
p+6.00*	1.7		0.86	1.73	%		<MDL	1.3	2.7	%	4.1		2.1	4.12	%
p+7.00*	1.7		0.86	1.73	%	2.7		1.3	2.7	%	2.1		2.1	4.12	%
p+8.00*		<MDL	0.86	1.73	%	2.7		1.3	2.7	%	2.1		2.1	4.12	%
p+9.00*		<MDL	0.86	1.73	%		<MDL	1.3	2.7	%		<MDL	2.1	4.12	%
p-1.00*	3.8		0.17	1.73	%	7.7		0.27	2.7	%	5		0.41	4.12	%
p-2.00(less than)*	3.3		0.17	1.73	%	2.1		0.27	2.7	%	2.7		0.41	4.12	%
p-2.00*	1.2		0.17	1.73	%	1.3		0.27	2.7	%	1.2		0.41	4.12	%
Sand*	80.5		0.17	1.73	%	63.3		0.27	2.7	%	43.6		0.41	4.12	%
Silt*	8.6		0.86	1.73	%	21.6		1.3	2.7	%	37.1		2.1	4.12	%
CV EPA DEC 1991															
Sulfide, Acid Volatile		<MDL,JG	0.42	1.66	mg/Kg		<MDL,JG	0.71	2.82	mg/Kg		<MDL,JG	0.41	1.62	mg/Kg
CV KEROUEL & AMINOT 1997(KCL)															
Ammonia Nitrogen	5.54		0.25	0.495	mg/Kg	50.8		0.68	1.37	mg/Kg	14.1		0.39	0.791	mg/Kg
CV SM2540-G															
Total Solids*	59.8		0.005	0.01	%	35.4		0.005	0.01	%	61.7		0.005	0.01	%

**Table C-2: KCEI Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C					421240C					421240C				
<b>Locator:</b>	X322					BB322					E322				
<b>Descrip:</b>	NEWAUKUM CREEK NEA					SE 392ND ST					NEWAUKUM CREEK AT				
<b>Sample:</b>	L48629-1					L48629-2					L48629-3				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	8/10/09 11:10					8/10/09 9:50					8/10/09 12:10				
<b>TotalSolid:</b>	59.8					35.4					61.7				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
<b>Parameters</b>	<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
<b>CV SM4500-P-F OL</b>															
Orthophosphate Phosphorus	14.7		1.6	4	mg/Kg	46.6		2.8	6.95	mg/Kg	24		1.6	3.94	mg/Kg
<b>CV SW846 9045C</b>															
pH*	7.3				pH	7.57				pH	7.21				pH
<b>CV SW846 9060-PSEP96</b>															
Total Organic Carbon	9180		1000	2020	mg/Kg	36700		3700	7230	mg/Kg	25900		3200	6420	mg/Kg
<b>MT EPA 200.7</b>															
Arsenic, Extractable, SEM	0.9	<RDL	0.84	4.16	mg/Kg	1.6	<RDL	1.4	7.06	mg/Kg	0.81	<RDL	0.81	4.05	mg/Kg
Cadmium, Extractable, SEM		<MDL	0.067	0.333	mg/Kg	0.16	<RDL	0.11	0.565	mg/Kg		<MDL	0.065	0.324	mg/Kg
Chromium, Extractable, SEM	0.91		0.1	0.498	mg/Kg	1.14		0.17	0.847	mg/Kg	0.887		0.097	0.485	mg/Kg
Copper, Extractable, SEM	4.63		0.13	0.666	mg/Kg	7.2		0.23	1.13	mg/Kg	3.68		0.13	0.647	mg/Kg
Lead, Extractable, SEM	1.7	<RDL	0.67	3.33	mg/Kg	5.1	<RDL	1.1	5.65	mg/Kg	2.3	<RDL	0.65	3.24	mg/Kg
Nickel, Extractable, SEM	1.92		0.17	0.831	mg/Kg	1.92		0.28	1.42	mg/Kg	0.841		0.16	0.809	mg/Kg
Silver, Extractable, SEM		<MDL	0.13	0.666	mg/Kg		<MDL	0.23	1.13	mg/Kg		<MDL	0.13	0.647	mg/Kg
Zinc, Extractable, SEM	12.2		0.17	0.831	mg/Kg	34.7		0.28	1.42	mg/Kg	17.3		0.16	0.809	mg/Kg
<b>MT EPA 245.1*SW846 7470A</b>															
Mercury, Extractable, SEM		<MDL	0.0017	0.00498	mg/Kg		<MDL	0.0028	0.00847	mg/Kg		<MDL	0.0016	0.00485	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>															
Arsenic, Total, ICP-MS	3.53		0.02	0.104	mg/Kg	4.63		0.034	0.175	mg/Kg	2.41		0.019	0.0992	mg/Kg
Cadmium, Total, ICP-MS	0.0758		0.01	0.0518	mg/Kg	0.18		0.018	0.0873	mg/Kg	0.0776		0.0099	0.0496	mg/Kg
Chromium, Total, ICP-MS	19.9		0.42	2.07	mg/Kg	16.2		0.71	3.5	mg/Kg	9.81		0.39	1.98	mg/Kg
Copper, Total, ICP-MS	15.4		0.84	4.15	mg/Kg	23.2		1.4	6.98	mg/Kg	11.6		0.79	3.97	mg/Kg
Lead, Total, ICP-MS	3.48		0.02	0.104	mg/Kg	8.64		0.034	0.175	mg/Kg	4.36		0.019	0.0992	mg/Kg
Nickel, Total, ICP-MS	19.7		0.2	1.04	mg/Kg	12.9		0.34	1.75	mg/Kg	7.7		0.19	0.992	mg/Kg
Phosphorus, Total, ICP-MS	370	<RDL	200	1040	mg/Kg	760	<RDL	340	1750	mg/Kg	370	<RDL	190	992	mg/Kg
Silver, Total, ICP-MS	0.045	<RDL	0.01	0.0518	mg/Kg	0.0879		0.018	0.0873	mg/Kg	0.041	<RDL	0.0099	0.0496	mg/Kg

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

Project:	421240C					421240C	421240C					421240C					
	Locator: X322						BB322						E322				
	Descrp: NEWAUKUM CREEK NEA						SE 392ND ST						NEWAUKUM CREEK AT				
Sample:	L48629-1					L48629-2	L48629-3					L48629-3					
Matrix:	SE FRSHWTRSED					SE FRSHWTRSED	SE FRSHWTRSED					SE FRSHWTRSED					
ColDate:	8/10/09 11:10					8/10/09 9:50	8/10/09 9:50					8/10/09 12:10					
TotalSolid:	59.8					35.4	61.7					61.7					
	DRY Weight Basis					DRY Weight Basis	DRY Weight Basis					DRY Weight Basis					
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units		
Zinc, Total, ICP-MS	42.3		1	5.18	mg/Kg	81.1		1.8	8.73	mg/Kg	45.7		0.99	4.96	mg/Kg		
MT SW846 7471B																	
Mercury, Total, CVAA	0.035	<RDL	0.008	0.0803	mg/Kg	0.031	<RDL	0.014	0.135	mg/Kg	0.018	<RDL	0.0079	0.0799	mg/Kg		
OR SW846 3550B*EPA 1614																	
DecaBDE-209	0.147	J	0.055	0.112	ug/Kg	1.08	J	0.093	0.188	ug/Kg	0.259	J	0.053	0.108	ug/Kg		
HeptaBDE-183		<MDL	0.011	0.0222	ug/Kg		<MDL	0.019	0.0376	ug/Kg		<MDL	0.011	0.0216	ug/Kg		
HeptaBDE-190		<MDL	0.011	0.0222	ug/Kg		<MDL	0.019	0.0376	ug/Kg		<MDL	0.011	0.0216	ug/Kg		
HexaBDE-138	0.014	<RDL,TA	0.011	0.0222	ug/Kg	0.027	<RDL,TA	0.019	0.0376	ug/Kg	0.014	<RDL,TA	0.011	0.0216	ug/Kg		
HexaBDE-153	0.0624		0.011	0.0222	ug/Kg	0.149		0.019	0.0376	ug/Kg	0.0546		0.011	0.0216	ug/Kg		
HexaBDE-154	0.0298		0.011	0.0222	ug/Kg	0.041		0.019	0.0376	ug/Kg	0.014	<RDL	0.011	0.0216	ug/Kg		
PentaBDE-100	0.014	<RDL	0.011	0.0222	ug/Kg	0.0387		0.019	0.0376	ug/Kg	0.019	<RDL	0.011	0.0216	ug/Kg		
PentaBDE-85		<MDL	0.011	0.0222	ug/Kg		<MDL	0.019	0.0376	ug/Kg		<MDL	0.011	0.0216	ug/Kg		
PentaBDE-99	0.043	B	0.011	0.0222	ug/Kg	0.146	B3	0.019	0.0376	ug/Kg	0.0783	B3	0.011	0.0216	ug/Kg		
TetraBDE-47	0.0681	B	0.011	0.0222	ug/Kg	0.201	B3	0.019	0.0376	ug/Kg	0.111	B3	0.011	0.0216	ug/Kg		
TetraBDE-66		<MDL	0.011	0.0222	ug/Kg		<MDL	0.019	0.0376	ug/Kg		<MDL	0.011	0.0216	ug/Kg		
TetraBDE-71		<MDL,TA	0.011	0.0222	ug/Kg		<MDL,TA	0.019	0.0376	ug/Kg		<MDL,TA	0.011	0.0216	ug/Kg		
TriBDE-17		<MDL	0.011	0.0222	ug/Kg		<MDL	0.019	0.0376	ug/Kg		<MDL	0.011	0.0216	ug/Kg		
TriBDE-28		<MDL,TA	0.011	0.0222	ug/Kg		<MDL,TA	0.019	0.0376	ug/Kg		<MDL,TA	0.011	0.0216	ug/Kg		
OR SW846 3550B*SW846 8081B																	
4,4'-DDD		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg		
4,4'-DDE		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg		
4,4'-DDT		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg		
Aldrin		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg		
Alpha-BHC		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg		
Alpha-Chlordane		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg		
Beta-BHC		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg		

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

Project:	421240C					421240C					421240C					
	Locator:	X322					BB322					E322				
		Descrip:	NEWAUKUM CREEK NEA					SE 392ND ST					NEWAUKUM CREEK AT			
Sample:	L48629-1					L48629-2					L48629-3					
Matrix:	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED					
ColDate:	8/10/09 11:10					8/10/09 9:50					8/10/09 12:10					
TotalSolid:	59.8					35.4					61.7					
	DRY Weight Basis					DRY Weight Basis					DRY Weight Basis					
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	
Delta-BHC		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg	
Dieldrin		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg	
Endosulfan I		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg	
Endosulfan II		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg	
Endosulfan Sulfate		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg	
Endrin		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg	
Endrin Aldehyde		<MDL	1.1	2.22	ug/Kg		<MDL	1.9	3.76	ug/Kg		<MDL	1.1	2.16	ug/Kg	
Gamma-BHC (Lindane)		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg	
Gamma-Chlordane		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg	
Heptachlor		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg	
Heptachlor Epoxide		<MDL	0.55	1.12	ug/Kg		<MDL	0.93	1.88	ug/Kg		<MDL	0.53	1.08	ug/Kg	
Methoxychlor		<MDL	5.5	11.2	ug/Kg		<MDL	9.3	18.8	ug/Kg		<MDL	5.3	10.8	ug/Kg	
Toxaphene		<MDL	11	22.2	ug/Kg		<MDL	19	37.6	ug/Kg		<MDL	11	21.6	ug/Kg	
OR SW846 3550B*SW846 8082A																
Aroclor 1016		<MDL	1.4	2.79	ug/Kg		<MDL	2.3	4.72	ug/Kg		<MDL	1.3	2.71	ug/Kg	
Aroclor 1221		<MDL	2.8	5.57	ug/Kg		<MDL	4.8	9.41	ug/Kg		<MDL	2.8	5.4	ug/Kg	
Aroclor 1232		<MDL	2.8	5.57	ug/Kg		<MDL	4.8	9.41	ug/Kg		<MDL	2.8	5.4	ug/Kg	
Aroclor 1242		<MDL	1.4	2.79	ug/Kg		<MDL	2.3	4.72	ug/Kg		<MDL	1.3	2.71	ug/Kg	
Aroclor 1248		<MDL	1.4	2.79	ug/Kg		<MDL	2.3	4.72	ug/Kg		<MDL	1.3	2.71	ug/Kg	
Aroclor 1254		<MDL	1.4	2.79	ug/Kg		<MDL	2.3	4.72	ug/Kg		<MDL	1.3	2.71	ug/Kg	
Aroclor 1260		<MDL	1.4	2.79	ug/Kg		<MDL	2.3	4.72	ug/Kg		<MDL	1.3	2.71	ug/Kg	
Total Aroclors		<MDL	1.4	2.79	ug/Kg		<MDL	2.3	4.72	ug/Kg		<MDL	1.3	2.71	ug/Kg	
OR SW846 3550B*SW846 8270D																
1,2,4-Trichlorobenzene		<MDL	0.17	0.334	ug/Kg		<MDL	0.28	0.565	ug/Kg		<MDL	0.16	0.324	ug/Kg	
1,2-Dichlorobenzene		<MDL	0.33	0.669	ug/Kg		<MDL	0.56	1.13	ug/Kg		<MDL	0.32	0.648	ug/Kg	
1,2-Diphenylhydrazine		<MDL	6.7	13.4	ug/Kg		<MDL	11	22.6	ug/Kg		<MDL	6.5	13	ug/Kg	

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
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<b>Project:</b> <b>Locator:</b> <b>Descrip:</b> <b>Sample:</b> <b>Matrix:</b> <b>ColDate:</b> <b>TotalSolid:</b>	421240C						421240C						421240C					
	X322						BB322						E322					
	NEWAUKUM CREEK NEA						SE 392ND ST						NEWAUKUM CREEK AT					
	L48629-1						L48629-2						L48629-3					
	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
	8/10/09 11:10						8/10/09 9:50						8/10/09 12:10					
	59.8						35.4						61.7					
	DRY Weight Basis						DRY Weight Basis						DRY Weight Basis					
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units			
1,3-Dichlorobenzene		<MDL	0.33	0.669	ug/Kg			<MDL	0.56	1.13	ug/Kg			<MDL	0.32	0.648	ug/Kg	
1,4-Dichlorobenzene		<MDL	0.33	0.669	ug/Kg			<MDL	0.56	1.13	ug/Kg			<MDL	0.32	0.648	ug/Kg	
2,4,5-Trichlorophenol		<MDL	17	33.4	ug/Kg			<MDL	28	56.5	ug/Kg			<MDL	16	32.4	ug/Kg	
2,4,6-Trichlorophenol		<MDL	17	33.4	ug/Kg			<MDL	28	56.5	ug/Kg			<MDL	16	32.4	ug/Kg	
2,4-Dichlorophenol		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
2,4-Dimethylphenol		<MDL	1.7	3.34	ug/Kg			<MDL	2.8	5.65	ug/Kg			<MDL	1.6	3.24	ug/Kg	
2,4-Dinitrotoluene		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
2,6-Dinitrotoluene		<MDL	17	33.4	ug/Kg			<MDL	28	56.5	ug/Kg			<MDL	16	32.4	ug/Kg	
2-Chloronaphthalene		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
2-Chlorophenol		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
2-Methylnaphthalene		<MDL	3.3	6.69	ug/Kg			<MDL	5.6	11.3	ug/Kg			<MDL	3.2	6.48	ug/Kg	
2-Methylphenol		<MDL	3.3	6.69	ug/Kg			<MDL	5.6	11.3	ug/Kg			<MDL	3.2	6.48	ug/Kg	
2-Nitrophenol		<MDL	17	33.4	ug/Kg			<MDL	28	56.5	ug/Kg			<MDL	16	32.4	ug/Kg	
4-Bromophenyl Phenyl Ether		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
4-Chlorophenyl Phenyl Ether		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
4-Methylphenol		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
Acenaphthene		<MDL	3.3	6.69	ug/Kg			<MDL	5.6	11.3	ug/Kg			<MDL	3.2	6.48	ug/Kg	
Acenaphthylene		<MDL	3.3	6.69	ug/Kg			<MDL	5.6	11.3	ug/Kg			<MDL	3.2	6.48	ug/Kg	
Aniline		<MDL	67	134	ug/Kg			<MDL	110	226	ug/Kg			<MDL	65	130	ug/Kg	
Anthracene		<MDL	3.3	6.69	ug/Kg			<MDL	5.6	11.3	ug/Kg			<MDL	3.2	6.48	ug/Kg	
Benzo(a)anthracene		<MDL	3.3	6.69	ug/Kg		7.9	<RDL	5.6	11.3	ug/Kg		3.7	<RDL	3.2	6.48	ug/Kg	
Benzo(a)pyrene		<MDL	3.3	6.69	ug/Kg		9	<RDL	5.6	11.3	ug/Kg		4.9	<RDL	3.2	6.48	ug/Kg	
Benzo(b)fluoranthene		<MDL	3.3	6.69	ug/Kg		12.7		5.6	11.3	ug/Kg		6.6		3.2	6.48	ug/Kg	
Benzo(g,h,i)perylene		<MDL	3.3	6.69	ug/Kg		7.1	<RDL	5.6	11.3	ug/Kg		3.7	<RDL	3.2	6.48	ug/Kg	
Benzo(k)fluoranthene		<MDL	3.3	6.69	ug/Kg		10	<RDL	5.6	11.3	ug/Kg		6.2	<RDL	3.2	6.48	ug/Kg	
Benzoic Acid	174		17	33.4	ug/Kg		387		28	56.5	ug/Kg		175		16	32.4	ug/Kg	

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
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<div>Project: 421240C</div> <div>Locator: X322</div> <div>Descrip: NEWAUKUM CREEK NEA</div> <div>Sample: L48629-1</div> <div>Matrix: SE FRSHWTRSED</div> <div>ColDate: 8/10/09 11:10</div> <div>TotalSolid: 59.8</div> <div>DRY Weight Basis</div>																		
Parameters	Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units	
Benzyl Alcohol		<MDL	3.3	6.69	ug/Kg			<MDL	5.6	11.3	ug/Kg			<MDL	3.2	6.48	ug/Kg	
Benzyl Butyl Phthalate		<MDL	6.7	13.4	ug/Kg		116		11	22.6	ug/Kg		61.9		6.5	13	ug/Kg	
Bis(2-Chloroethoxy)Methane		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
Bis(2-Chloroethyl)Ether		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
Bis(2-Chloroisopropyl)Ether		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
Bis(2-ethylhexyl)adipate	17	<RDL	17	33.4	ug/Kg		34	<RDL	28	56.5	ug/Kg		18	<RDL	16	32.4	ug/Kg	
Bis(2-Ethylhexyl)Phthalate	51.7	B	6.7	13.4	ug/Kg		101	B	11	22.6	ug/Kg		63.5	B	6.5	13	ug/Kg	
Bisphenol A		<MDL	17	33.4	ug/Kg			<MDL	28	56.5	ug/Kg			<MDL	16	32.4	ug/Kg	
Caffeine		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
Carbazole		<MDL	3.3	6.69	ug/Kg			<MDL	5.6	11.3	ug/Kg			<MDL	3.2	6.48	ug/Kg	
Chrysene		<MDL	3.3	6.69	ug/Kg		9.6	<RDL	5.6	11.3	ug/Kg		5.2	<RDL	3.2	6.48	ug/Kg	
Coprostanol		<MDL	67	134	ug/Kg			<MDL	110	226	ug/Kg			<MDL	65	130	ug/Kg	
Dibenzo(a,h)anthracene		<MDL	3.3	6.69	ug/Kg			<MDL	5.6	11.3	ug/Kg			<MDL	3.2	6.48	ug/Kg	
Dibenzofuran		<MDL	3.3	6.69	ug/Kg			<MDL	5.6	11.3	ug/Kg			<MDL	3.2	6.48	ug/Kg	
Diethyl Phthalate	7	<RDL	6.7	13.4	ug/Kg		12	<RDL	11	22.6	ug/Kg		6.6	<RDL	6.5	13	ug/Kg	
Dimethyl Phthalate		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
Di-N-Butyl Phthalate	9.9	<RDL,B	6.7	13.4	ug/Kg		18	<RDL,B	11	22.6	ug/Kg		8.6	<RDL,B	6.5	13	ug/Kg	
Di-N-Octyl Phthalate		<MDL	6.7	13.4	ug/Kg			<MDL	11	22.6	ug/Kg			<MDL	6.5	13	ug/Kg	
Fluoranthene		<MDL	3.3	6.69	ug/Kg		12.5		5.6	11.3	ug/Kg		7.73		3.2	6.48	ug/Kg	
Fluorene		<MDL	3.3	6.69	ug/Kg			<MDL	5.6	11.3	ug/Kg			<MDL	3.2	6.48	ug/Kg	
Hexachlorobenzene		<MDL	0.17	0.334	ug/Kg			<MDL	0.28	0.565	ug/Kg			<MDL	0.16	0.324	ug/Kg	
Hexachlorobutadiene		<MDL	0.84	1.67	ug/Kg			<MDL	1.4	2.82	ug/Kg			<MDL	0.81	1.62	ug/Kg	
Hexachloroethane		<MDL	1.7	3.34	ug/Kg			<MDL	2.8	5.65	ug/Kg			<MDL	1.6	3.24	ug/Kg	
Indeno(1,2,3-Cd)Pyrene		<MDL	3.3	6.69	ug/Kg		7.6	<RDL	5.6	11.3	ug/Kg			<MDL	3.2	6.48	ug/Kg	
Isophorone		<MDL	17	33.4	ug/Kg			<MDL	28	56.5	ug/Kg			<MDL	16	32.4	ug/Kg	
Naphthalene		<MDL	3.3	6.69	ug/Kg			<MDL	5.6	11.3	ug/Kg			<MDL	3.2	6.48	ug/Kg	

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<div>Project: 421240C</div> <div>Locator: X322</div> <div>Descrip: NEWAUKUM CREEK NEA</div> <div>Sample: L48629-1</div> <div>Matrix: SE FRSHWTRSED</div> <div>ColDate: 8/10/09 11:10</div> <div>TotalSolid: 59.8</div> <div>DRY Weight Basis</div>																												
	Parameters					Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units								
	Nitrobenzene					<MDL	6.7	13.4	ug/Kg	<MDL	11	22.6	ug/Kg	<MDL	6.5	13	ug/Kg	<MDL	6.5	13	ug/Kg							
	N-Nitrosodimethylamine					<MDL	6.7	13.4	ug/Kg	<MDL	11	22.6	ug/Kg	<MDL	6.5	13	ug/Kg	<MDL	6.5	13	ug/Kg							
	N-Nitrosodi-N-Propylamine					<MDL	6.7	13.4	ug/Kg	<MDL	11	22.6	ug/Kg	<MDL	6.5	13	ug/Kg	<MDL	6.5	13	ug/Kg							
	N-Nitrosodiphenylamine					<MDL	6.7	13.4	ug/Kg	<MDL	11	22.6	ug/Kg	<MDL	6.5	13	ug/Kg	<MDL	6.5	13	ug/Kg							
	Pentachlorophenol					<MDL	17	33.4	ug/Kg	<MDL	28	56.5	ug/Kg	<MDL	16	32.4	ug/Kg	<MDL	16	32.4	ug/Kg							
	Phenanthrene					<MDL	3.3	6.69	ug/Kg	5.9	<RDL	5.6	11.3	ug/Kg	4.7	<RDL	3.2	6.48	ug/Kg	4.7	<RDL	3.2	6.48	ug/Kg				
Phenol					<MDL	6.7	13.4	ug/Kg	<MDL	11	22.6	ug/Kg	<MDL	6.5	13	ug/Kg	<MDL	6.5	13	ug/Kg	<MDL	6.5	13	ug/Kg				
Pyrene					<MDL	3.3	6.69	ug/Kg	14.9		5.6	11.3	ug/Kg	8.15		3.2	6.48	ug/Kg	8.15		3.2	6.48	ug/Kg					
Total 4-Nonylphenol					<MDL	33	66.9	ug/Kg	<MDL	56	113	ug/Kg	<MDL	32	64.8	ug/Kg	<MDL	32	64.8	ug/Kg	<MDL	32	64.8	ug/Kg				
OR TERNS (2002)																												
Estradiol					<MDL	0.084	0.843	ug/Kg	<MDL	0.14	1.42	ug/Kg	<MDL	0.081	0.817	ug/Kg	<MDL	0.081	0.817	ug/Kg	<MDL	0.081	0.817	ug/Kg				
Estrone					<MDL	0.05	0.505	ug/Kg	0.1	<RDL	0.085	0.853	ug/Kg	0.12	<RDL	0.049	0.489	ug/Kg	0.12	<RDL	0.049	0.489	ug/Kg					
Ethynyl estradiol					<MDL	0.084	0.843	ug/Kg	<MDL	0.14	1.42	ug/Kg	<MDL	0.081	0.817	ug/Kg	<MDL	0.081	0.817	ug/Kg	<MDL	0.081	0.817	ug/Kg				
OR WDOE NWTPH-DX																												
Diesel Range (>C12-C24)					<MDL	42	42	mg/Kg																				
Lube Oil Range (>C24)					<MDL	42	42	mg/Kg	100		71	71	mg/Kg	50		41	41	mg/Kg	50		41	41	mg/Kg	50		41	41	mg/Kg

\* Not converted to dry weight basis

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
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<b>Project:</b>	421240C					421240C					421240C				
<b>Locator:</b>	F322					FF322					AD322				
<b>Descrip:</b>	NEWAUKUM SAMPLE OF					NEWAUKUM-424TH SE					US NEWAUKUM CR. @				
<b>Sample:</b>	L48629-4					L48629-5					L48629-6				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	8/10/09 12:40					8/10/09 13:00					8/10/09 13:22				
<b>TotalSolid:</b>	30.2					59.9					27.5				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
<b>CV ASTM D422</b>															
Clay*	7.3	J	1.8	3.65	%	<MDL		1.3	2.54	%	<MDL		1.7	3.46	%
Fines*	40.1	J	1.8	3.65	%	7.6		1.3	2.54	%	31.1		1.7	3.46	%
Gravel*	31.7	J	0.36	3.65	%	22.9		0.25	2.54	%	12.1		0.35	3.46	%
p+0.00*	11.5	J	0.36	3.65	%	9.1		0.25	2.54	%	6.2		0.35	3.46	%
p+1.00*	22.7	J	0.36	3.65	%	35		0.25	2.54	%	7.3		0.35	3.46	%
p+10.0(equal/more than)*	7.3	J	1.8	3.65	%	<MDL		1.3	2.54	%	<MDL		1.7	3.46	%
p+2.00*	18.2	J	0.36	3.65	%	26.3		0.25	2.54	%	13.3		0.35	3.46	%
p+3.00*	7.5	J	0.36	3.65	%	4.3		0.25	2.54	%	16.6		0.35	3.46	%
p+4.00*	8.3	J	0.36	3.65	%	2.6		0.25	2.54	%	8.1		0.35	3.46	%
p+5.00*	25.5	J	1.8	3.65	%	5.1		1.3	2.54	%	22.5		1.7	3.46	%
p+6.00*	3.6	J	1.8	3.65	%	<MDL		1.3	2.54	%	1.7		1.7	3.46	%
p+7.00*	3.6	J	1.8	3.65	%	2.5		1.3	2.54	%	6.9		1.7	3.46	%
p+8.00*	<MDL,J		1.8	3.65	%	<MDL		1.3	2.54	%	<MDL		1.7	3.46	%
p+9.00*	<MDL,J		1.8	3.65	%	<MDL		1.3	2.54	%	<MDL		1.7	3.46	%
p-1.00*	8.8	J	0.36	3.65	%	8.1		0.25	2.54	%	4.5		0.35	3.46	%
p-2.00(less than)*	20	J	0.36	3.65	%	11.3		0.25	2.54	%	5.8		0.35	3.46	%
p-2.00*	2.9	J	0.36	3.65	%	3.5		0.25	2.54	%	1.8		0.35	3.46	%
Sand*	68.3	J	0.36	3.65	%	77.3		0.25	2.54	%	51.6		0.35	3.46	%
Silt*	32.8	J	1.8	3.65	%	7.6		1.3	2.54	%	31.1		1.7	3.46	%
<b>CV EPA DEC 1991</b>															
Sulfide, Acid Volatile	0.86	<RDL,JG	0.83	3.3	mg/Kg	16.6	JG	0.42	1.66	mg/Kg	<MDL,JG		0.91	3.64	mg/Kg
<b>CV KEROUEL &amp; AMINOT 1997(KCL)</b>															
Ammonia Nitrogen	53.6		0.83	1.65	mg/Kg	21.2		0.83	1.66	mg/Kg	24.8		0.91	1.79	mg/Kg
<b>CV SM2540-G</b>															
Total Solids*	30.2		0.005	0.01	%	59.9		0.005	0.01	%	27.5		0.005	0.01	%

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Project:	421240C					421240C					421240C				
	F322					FF322					AD322				
Locator:	NEWAUKUM SAMPLE OF					NEWAUKUM-424TH SE					US NEWAUKUM CR. @				
Descrip:	L48629-4					L48629-5					L48629-6				
Sample:	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED				
Matrix:	8/10/09 12:40					8/10/09 13:00					8/10/09 13:22				
ColDate:	30.2					59.9					27.5				
TotalSolid:	DRY Weight Basis					DRY Weight Basis					DRY Weight Basis				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
CV SM4500-P-F OL															
Orthophosphate Phosphorus	53.6		3.2	8.08	mg/Kg	23.4		1.6	4.04	mg/Kg	65.1		3.6	9.05	mg/Kg
CV SW846 9045C															
pH*	7.05				pH	7.06				pH	7				pH
CV SW846 9060-PSEP96															
Total Organic Carbon	41700		6000	11700	mg/Kg	10400		2300	4510	mg/Kg	54900		5100	10400	mg/Kg
MT EPA 200.7															
Arsenic, Extractable, SEM		<MDL	1.7	8.28	mg/Kg		<MDL	0.83	4.14	mg/Kg	2.4	<RDL	1.8	9.13	mg/Kg
Cadmium, Extractable, SEM	0.16	<RDL	0.13	0.662	mg/Kg	0.12	<RDL	0.067	0.331	mg/Kg	0.24	<RDL	0.15	0.727	mg/Kg
Chromium, Extractable, SEM	1.43		0.2	0.993	mg/Kg	0.726		0.1	0.497	mg/Kg	1.72		0.22	1.09	mg/Kg
Copper, Extractable, SEM	5.1		0.26	1.32	mg/Kg	4.27		0.13	0.663	mg/Kg	12.4		0.29	1.46	mg/Kg
Lead, Extractable, SEM	5	<RDL	1.3	6.62	mg/Kg	3.47		0.67	3.31	mg/Kg	9.6		1.5	7.27	mg/Kg
Nickel, Extractable, SEM	1.5	<RDL	0.33	1.65	mg/Kg	0.985		0.17	0.828	mg/Kg	2.45		0.36	1.82	mg/Kg
Silver, Extractable, SEM		<MDL	0.26	1.32	mg/Kg		<MDL	0.13	0.663	mg/Kg		<MDL	0.29	1.46	mg/Kg
Zinc, Extractable, SEM	41.4		0.33	1.65	mg/Kg	21		0.17	0.828	mg/Kg	48.4		0.36	1.82	mg/Kg
MT EPA 245.1*SW846 7470A															
Mercury, Extractable, SEM		<MDL	0.0033	0.00993	mg/Kg		<MDL	0.0017	0.00497	mg/Kg	0.0036	<RDL	0.0036	0.0109	mg/Kg
MT SW846 3050B*SW846 6020A															
Arsenic, Total, ICP-MS	4.93		0.043	0.21	mg/Kg	3.14		0.02	0.103	mg/Kg	5.78		0.044	0.222	mg/Kg
Cadmium, Total, ICP-MS	0.189		0.021	0.105	mg/Kg	0.0835		0.01	0.0516	mg/Kg	0.197		0.022	0.111	mg/Kg
Chromium, Total, ICP-MS	20.7		0.83	4.21	mg/Kg	9.57		0.42	2.07	mg/Kg	29.4		0.87	4.44	mg/Kg
Copper, Total, ICP-MS	20.2		1.7	8.38	mg/Kg	12.4		0.82	4.12	mg/Kg	32.8		1.8	8.87	mg/Kg
Lead, Total, ICP-MS	9.74		0.043	0.21	mg/Kg	5.34		0.02	0.103	mg/Kg	17.8		0.044	0.222	mg/Kg
Nickel, Total, ICP-MS	12.4		0.43	2.1	mg/Kg	5.88		0.2	1.03	mg/Kg	25.8		0.44	2.22	mg/Kg
Phosphorus, Total, ICP-MS	790	<RDL	430	2100	mg/Kg	380	<RDL	200	1030	mg/Kg	980	<RDL	440	2220	mg/Kg
Silver, Total, ICP-MS	0.089	<RDL	0.021	0.105	mg/Kg	0.038	<RDL	0.01	0.0516	mg/Kg	0.11	<RDL	0.022	0.111	mg/Kg

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Project:	421240C						421240C						421240C					
	Locator:	F322						FF322						AD322				
Descrip:	NEWAUKUM SAMPLE OF						NEWAUKUM-424TH SE						US NEWAUKUM CR. @					
Sample:	L48629-4						L48629-5						L48629-6					
Matrix:	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
ColDate:	8/10/09 12:40						8/10/09 13:00						8/10/09 13:22					
TotalSolid:	30.2						59.9						27.5					
	DRY Weight Basis						DRY Weight Basis						DRY Weight Basis					
Parameters	Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units	
Zinc, Total, ICP-MS	101		2.1	10.5	mg/Kg		53.1		1	5.16	mg/Kg		120		2.2	11.1	mg/Kg	
MT SW846 7471B																		
Mercury, Total, CVAA	0.031	<RDL	0.016	0.162	mg/Kg		0.018	<RDL	0.0082	0.082	mg/Kg		0.047	<RDL	0.018	0.179	mg/Kg	
OR SW846 3550B*EPA 1614																		
DecaBDE-209	0.599	J	0.11	0.221	ug/Kg		0.536	J	0.055	0.111	ug/Kg		1.24	J	0.12	0.243	ug/Kg	
HeptaBDE-183		<MDL	0.022	0.044	ug/Kg			<MDL	0.011	0.0222	ug/Kg			<MDL	0.024	0.0484	ug/Kg	
HeptaBDE-190		<MDL	0.022	0.044	ug/Kg			<MDL	0.011	0.0222	ug/Kg			<MDL	0.024	0.0484	ug/Kg	
HexaBDE-138	0.0467	TA	0.022	0.044	ug/Kg		0.0384	TA	0.011	0.0222	ug/Kg			<MDL,TA	0.024	0.0484	ug/Kg	
HexaBDE-153	0.176		0.022	0.044	ug/Kg		0.109		0.011	0.0222	ug/Kg		0.212		0.024	0.0484	ug/Kg	
HexaBDE-154	0.043	<RDL	0.022	0.044	ug/Kg		0.0225		0.011	0.0222	ug/Kg		0.106		0.024	0.0484	ug/Kg	
PentaBDE-100	0.0493		0.022	0.044	ug/Kg		0.0235		0.011	0.0222	ug/Kg		0.203		0.024	0.0484	ug/Kg	
PentaBDE-85		<MDL	0.022	0.044	ug/Kg			<MDL	0.011	0.0222	ug/Kg		0.0731		0.024	0.0484	ug/Kg	
PentaBDE-99	0.239		0.022	0.044	ug/Kg		0.101	B3	0.011	0.0222	ug/Kg		1.11		0.024	0.0484	ug/Kg	
TetraBDE-47	0.265	B3	0.022	0.044	ug/Kg		0.128	B3	0.011	0.0222	ug/Kg		0.902		0.024	0.0484	ug/Kg	
TetraBDE-66		<MDL	0.022	0.044	ug/Kg		0.0865		0.011	0.0222	ug/Kg		0.214		0.024	0.0484	ug/Kg	
TetraBDE-71	0.032	<RDL,TA	0.022	0.044	ug/Kg			<MDL,TA	0.011	0.0222	ug/Kg		0.112	TA	0.024	0.0484	ug/Kg	
TriBDE-17		<MDL	0.022	0.044	ug/Kg			<MDL	0.011	0.0222	ug/Kg			<MDL	0.024	0.0484	ug/Kg	
TriBDE-28		<MDL,TA	0.022	0.044	ug/Kg			<MDL,TA	0.011	0.0222	ug/Kg			<MDL,TA	0.024	0.0484	ug/Kg	
OR SW846 3550B*SW846 8081B																		
4,4'-DDD		<MDL	2.2	4.4	ug/Kg			<MDL	1.1	2.22	ug/Kg			<MDL	2.4	4.84	ug/Kg	
4,4'-DDE		<MDL	2.2	4.4	ug/Kg			<MDL	1.1	2.22	ug/Kg			<MDL	2.4	4.84	ug/Kg	
4,4'-DDT		<MDL	2.2	4.4	ug/Kg			<MDL	1.1	2.22	ug/Kg		4.7	<RDL	2.4	4.84	ug/Kg	
Aldrin		<MDL	2.2	4.4	ug/Kg			<MDL	1.1	2.22	ug/Kg			<MDL	2.4	4.84	ug/Kg	
Alpha-BHC		<MDL	1.1	2.21	ug/Kg			<MDL	0.55	1.11	ug/Kg			<MDL	1.2	2.43	ug/Kg	
Alpha-Chlordane		<MDL	1.1	2.21	ug/Kg			<MDL	0.55	1.11	ug/Kg			<MDL	1.2	2.43	ug/Kg	
Beta-BHC		<MDL	1.1	2.21	ug/Kg			<MDL	0.55	1.11	ug/Kg			<MDL	1.2	2.43	ug/Kg	

**Table C-2: KCEI Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C						421240C						421240C					
<b>Locator:</b>	F322						FF322						AD322					
<b>Descrip:</b>	NEWAUKUM SAMPLE OF						NEWAUKUM-424TH SE						US NEWAUKUM CR. @					
<b>Sample:</b>	L48629-4						L48629-5						L48629-6					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/10/09 12:40						8/10/09 13:00						8/10/09 13:22					
<b>TotalSolid:</b>	30.2						59.9						27.5					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>			
Delta-BHC		<MDL	1.1	2.21	ug/Kg		<MDL	0.55	1.11	ug/Kg		<MDL	1.2	2.43	ug/Kg			
Dieldrin		<MDL	2.2	4.4	ug/Kg		<MDL	1.1	2.22	ug/Kg		<MDL	2.4	4.84	ug/Kg			
Endosulfan I		<MDL	2.2	4.4	ug/Kg		<MDL	1.1	2.22	ug/Kg		<MDL	2.4	4.84	ug/Kg			
Endosulfan II		<MDL	2.2	4.4	ug/Kg		<MDL	1.1	2.22	ug/Kg		<MDL	2.4	4.84	ug/Kg			
Endosulfan Sulfate		<MDL	2.2	4.4	ug/Kg		<MDL	1.1	2.22	ug/Kg		<MDL	2.4	4.84	ug/Kg			
Endrin		<MDL	2.2	4.4	ug/Kg		<MDL	1.1	2.22	ug/Kg		<MDL	2.4	4.84	ug/Kg			
Endrin Aldehyde		<MDL	2.2	4.4	ug/Kg		<MDL	1.1	2.22	ug/Kg		<MDL	2.4	4.84	ug/Kg			
Gamma-BHC (Lindane)		<MDL	1.1	2.21	ug/Kg		<MDL	0.55	1.11	ug/Kg		<MDL	1.2	2.43	ug/Kg			
Gamma-Chlordane		<MDL	1.1	2.21	ug/Kg		<MDL	0.55	1.11	ug/Kg		<MDL	1.2	2.43	ug/Kg			
Heptachlor		<MDL	1.1	2.21	ug/Kg		<MDL	0.55	1.11	ug/Kg		<MDL	1.2	2.43	ug/Kg			
Heptachlor Epoxide		<MDL	1.1	2.21	ug/Kg		<MDL	0.55	1.11	ug/Kg		<MDL	1.2	2.43	ug/Kg			
Methoxychlor		<MDL	11	22.1	ug/Kg		<MDL	5.5	11.1	ug/Kg		<MDL	12	24.3	ug/Kg			
Toxaphene		<MDL	22	44	ug/Kg		<MDL	11	22.2	ug/Kg		<MDL	24	48.4	ug/Kg			
<b>OR SW846 3550B*SW846 8082A</b>																		
Aroclor 1016		<MDL	2.7	5.53	ug/Kg		<MDL	1.4	2.79	ug/Kg		<MDL	3	6.07	ug/Kg			
Aroclor 1221		<MDL	5.6	11	ug/Kg		<MDL	2.8	5.56	ug/Kg		<MDL	6.2	12.1	ug/Kg			
Aroclor 1232		<MDL	5.6	11	ug/Kg		<MDL	2.8	5.56	ug/Kg		<MDL	6.2	12.1	ug/Kg			
Aroclor 1242		<MDL	2.7	5.53	ug/Kg		<MDL	1.4	2.79	ug/Kg		<MDL	3	6.07	ug/Kg			
Aroclor 1248		<MDL	2.7	5.53	ug/Kg		<MDL	1.4	2.79	ug/Kg		<MDL	3	6.07	ug/Kg			
Aroclor 1254		<MDL	2.7	5.53	ug/Kg		<MDL	1.4	2.79	ug/Kg		<MDL	3	6.07	ug/Kg			
Aroclor 1260		<MDL	2.7	5.53	ug/Kg		<MDL	1.4	2.79	ug/Kg		<MDL	3	6.07	ug/Kg			
Total Aroclors		<MDL	2.7	5.53	ug/Kg		<MDL	1.4	2.79	ug/Kg		<MDL	3	6.07	ug/Kg			
<b>OR SW846 3550B*SW846 8270D</b>																		
1,2,4-Trichlorobenzene		<MDL	0.33	0.662	ug/Kg		<MDL	0.17	0.334	ug/Kg		<MDL	0.36	0.727	ug/Kg			
1,2-Dichlorobenzene		<MDL	0.66	1.32	ug/Kg		<MDL	0.33	0.668	ug/Kg		<MDL	0.73	1.45	ug/Kg			
1,2-Diphenylhydrazine		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg			

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

Project:	421240C					421240C					421240C				
	F322					FF322					AD322				
	NEWAUKUM SAMPLE OF					NEWAUKUM-424TH SE					US NEWAUKUM CR. @				
Sample:	L48629-4					L48629-5					L48629-6				
Matrix:	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED				
ColDate:	8/10/09 12:40					8/10/09 13:00					8/10/09 13:22				
TotalSolid:	30.2					59.9					27.5				
	DRY Weight Basis					DRY Weight Basis					DRY Weight Basis				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
1,3-Dichlorobenzene		<MDL	0.66	1.32	ug/Kg		<MDL	0.33	0.668	ug/Kg		<MDL	0.73	1.45	ug/Kg
1,4-Dichlorobenzene		<MDL	0.66	1.32	ug/Kg		<MDL	0.33	0.668	ug/Kg		<MDL	0.73	1.45	ug/Kg
2,4,5-Trichlorophenol		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg		<MDL	36	72.7	ug/Kg
2,4,6-Trichlorophenol		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg		<MDL	36	72.7	ug/Kg
2,4-Dichlorophenol		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
2,4-Dimethylphenol		<MDL	3.3	6.62	ug/Kg		<MDL	1.7	3.34	ug/Kg		<MDL	3.6	7.27	ug/Kg
2,4-Dinitrotoluene		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
2,6-Dinitrotoluene		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg		<MDL	36	72.7	ug/Kg
2-Chloronaphthalene		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
2-Chlorophenol		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
2-Methylnaphthalene		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
2-Methylphenol		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
2-Nitrophenol		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg		<MDL	36	72.7	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
4-Methylphenol		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Acenaphthene		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
Acenaphthylene		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
Aniline		<MDL	130	265	ug/Kg		<MDL	67	134	ug/Kg		<MDL	150	291	ug/Kg
Anthracene	11	<RDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg	17		7.3	14.5	ug/Kg
Benzo(a)anthracene	17.7		6.6	13.2	ug/Kg	4.7	<RDL	3.3	6.68	ug/Kg	54.5		7.3	14.5	ug/Kg
Benzo(a)pyrene	17.7		6.6	13.2	ug/Kg	4.8	<RDL	3.3	6.68	ug/Kg	62.9		7.3	14.5	ug/Kg
Benzo(b)fluoranthene	25		6.6	13.2	ug/Kg	7.75		3.3	6.68	ug/Kg	93.5		7.3	14.5	ug/Kg
Benzo(g,h,i)perylene	9.9	<RDL	6.6	13.2	ug/Kg	3.5	<RDL	3.3	6.68	ug/Kg	45.5		7.3	14.5	ug/Kg
Benzo(k)fluoranthene	17.7		6.6	13.2	ug/Kg	5.8	<RDL	3.3	6.68	ug/Kg	61.8		7.3	14.5	ug/Kg
Benzoic Acid	579		33	66.2	ug/Kg	204		17	33.4	ug/Kg	727		36	72.7	ug/Kg

**Table C-2: KCEI Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

Project:	421240C					421240C					421240C				
	F322					FF322					AD322				
Locator:	NEWAUKUM SAMPLE OF					NEWAUKUM-424TH SE					US NEWAUKUM CR. @				
Descrip:	L48629-4					L48629-5					L48629-6				
Sample:	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED				
Matrix:	8/10/09 12:40					8/10/09 13:00					8/10/09 13:22				
ColDate:	30.2					59.9					27.5				
TotalSolid:	DRY Weight Basis					DRY Weight Basis					DRY Weight Basis				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
Benzyl Alcohol		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
Benzyl Butyl Phthalate		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg	95.6		15	29.1	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Bis(2-ethylhexyl)adipate	43	<RDL	33	66.2	ug/Kg	33.6		17	33.4	ug/Kg	98.9		36	72.7	ug/Kg
Bis(2-Ethylhexyl)Phthalate	125	B	13	26.5	ug/Kg	58.9	B	6.7	13.4	ug/Kg	418	B	15	29.1	ug/Kg
Bisphenol A		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg	148		36	72.7	ug/Kg
Caffeine		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Carbazole		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg	10	<RDL	7.3	14.5	ug/Kg
Chrysene	36.4		6.6	13.2	ug/Kg	8.78		3.3	6.68	ug/Kg	86.9		7.3	14.5	ug/Kg
Coprostanol		<MDL	130	265	ug/Kg		<MDL	67	134	ug/Kg		<MDL	150	291	ug/Kg
Dibenzo(a,h)anthracene		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg	15.2		7.3	14.5	ug/Kg
Dibenzofuran		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
Diethyl Phthalate	13	<RDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg	16	<RDL	15	29.1	ug/Kg
Dimethyl Phthalate		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Di-N-Butyl Phthalate	33.8	B	13	26.5	ug/Kg	10	<RDL,B	6.7	13.4	ug/Kg	24	<RDL,B	15	29.1	ug/Kg
Di-N-Octyl Phthalate		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg
Fluoranthene	31.2		6.6	13.2	ug/Kg	7.31		3.3	6.68	ug/Kg	152		7.3	14.5	ug/Kg
Fluorene		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg
Hexachlorobenzene		<MDL	0.33	0.662	ug/Kg		<MDL	0.17	0.334	ug/Kg		<MDL	0.36	0.727	ug/Kg
Hexachlorobutadiene		<MDL	1.7	3.31	ug/Kg		<MDL	0.83	1.67	ug/Kg		<MDL	1.8	3.64	ug/Kg
Hexachloroethane		<MDL	3.3	6.62	ug/Kg		<MDL	1.7	3.34	ug/Kg		<MDL	3.6	7.27	ug/Kg
Indeno(1,2,3-Cd)Pyrene	11	<RDL	6.6	13.2	ug/Kg	3.5	<RDL	3.3	6.68	ug/Kg	42.2		7.3	14.5	ug/Kg
Isophorone		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg		<MDL	36	72.7	ug/Kg
Naphthalene		<MDL	6.6	13.2	ug/Kg		<MDL	3.3	6.68	ug/Kg		<MDL	7.3	14.5	ug/Kg

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
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<div>Project: 421240C</div> <div>Locator: F322</div> <div>Descrip: NEWAUKUM SAMPLE OF</div> <div>Sample: L48629-4</div> <div>Matrix: SE FRSHWTRSED</div> <div>ColDate: 8/10/09 12:40</div> <div>TotalSolid: 30.2</div> <div>DRY Weight Basis</div>						<div>421240C</div> <div>FF322</div> <div>NEWAUKUM-424TH SE</div> <div>L48629-5</div> <div>SE FRSHWTRSED</div> <div>8/10/09 13:00</div> <div>59.9</div> <div>DRY Weight Basis</div>					<div>421240C</div> <div>AD322</div> <div>US NEWAUKUM CR. @</div> <div>L48629-6</div> <div>SE FRSHWTRSED</div> <div>8/10/09 13:22</div> <div>27.5</div> <div>DRY Weight Basis</div>						
	Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	
	Nitrobenzene		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg	
	N-Nitrosodimethylamine		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg	
	N-Nitrosodi-N-Propylamine		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg	
	N-Nitrosodiphenylamine		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg	
	Pentachlorophenol		<MDL	33	66.2	ug/Kg		<MDL	17	33.4	ug/Kg	47	<RDL	36	72.7	ug/Kg	
	Phenanthrene	16.9		6.6	13.2	ug/Kg	3.5	<RDL	3.3	6.68	ug/Kg	101		7.3	14.5	ug/Kg	
Phenol		<MDL	13	26.5	ug/Kg		<MDL	6.7	13.4	ug/Kg		<MDL	15	29.1	ug/Kg		
Pyrene	36.1		6.6	13.2	ug/Kg	7.78		3.3	6.68	ug/Kg	169		7.3	14.5	ug/Kg		
Total 4-Nonylphenol		<MDL	66	132	ug/Kg		<MDL	33	66.8	ug/Kg	343		73	145	ug/Kg		
OR TERNS (2002)																	
Estradiol		<MDL	0.17	1.67	ug/Kg		<MDL	0.083	0.841	ug/Kg		<MDL	0.18	1.83	ug/Kg		
Estrone		<MDL	0.099	1	ug/Kg	0.11	<RDL	0.05	0.504	ug/Kg	0.2	<RDL	0.11	1.1	ug/Kg		
Ethynyl estradiol		<MDL	0.17	1.67	ug/Kg		<MDL	0.083	0.841	ug/Kg		<MDL	0.18	1.83	ug/Kg		
OR WDOE NWTPH-DX																	
Diesel Range (>C12-C24)																	
Lube Oil Range (>C24)	120		83	83	mg/Kg	45		42	42	mg/Kg	200		91	91	mg/Kg		

\* Not converted to dry weight basis

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

Project:	421240C					421240C					421240C				
	AE322					G322					QQ322				
Descrp:	DS NEWAUKUM CR. @					NEWAUKUM CREEK AT					SE 416TH -QUARRY				
Sample:	L48629-7					L48629-8					L48629-9				
Matrix:	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED				
ColDate:	8/10/09 13:55					8/10/09 14:25					8/10/09 15:15				
TotalSolid:	64.8					41.1					20.6				
	DRY Weight Basis					DRY Weight Basis					DRY Weight Basis				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
CV ASTM D422															
Clay*		<MDL	0.71	1.43	%		<MDL	1.2	2.37	%	13.9		2.3	4.65	%
Fines*	2.9		0.71	1.43	%	23.7		1.2	2.37	%	46.5		2.3	4.65	%
Gravel*	42		0.14	1.43	%	2.1		0.24	2.37	%	0.9	<RDL	0.46	4.65	%
p+0.00*	17.5		0.14	1.43	%	3.1		0.24	2.37	%	2.6		0.46	4.65	%
p+1.00*	16.9		0.14	1.43	%	5.9		0.24	2.37	%	5.9		0.46	4.65	%
p+10.0(equal/more than)*		<MDL	0.71	1.43	%		<MDL	1.2	2.37	%	9.3		2.3	4.65	%
p+2.00*	9.3		0.14	1.43	%	18.9		0.24	2.37	%	8.3		0.46	4.65	%
p+3.00*	3.4		0.14	1.43	%	26.1		0.24	2.37	%	14.9		0.46	4.65	%
p+4.00*	1.4		0.14	1.43	%	11.9		0.24	2.37	%	11.2		0.46	4.65	%
p+5.00*		<MDL	0.71	1.43	%	18.9		1.2	2.37	%	23.2		2.3	4.65	%
p+6.00*	1.4		0.71	1.43	%	2.4		1.2	2.37	%	4.6		2.3	4.65	%
p+7.00*		<MDL	0.71	1.43	%		<MDL	1.2	2.37	%	4.6		2.3	4.65	%
p+8.00*	1.4		0.71	1.43	%	2.4		1.2	2.37	%		<MDL	2.3	4.65	%
p+9.00*		<MDL	0.71	1.43	%		<MDL	1.2	2.37	%	4.6		2.3	4.65	%
p-1.00*	14.4		0.14	1.43	%	1.1		0.24	2.37	%	0.9	<RDL	0.46	4.65	%
p-2.00(less than)*	24.4		0.14	1.43	%	1.1		0.24	2.37	%		<MDL	0.46	4.65	%
p-2.00*	3.2		0.14	1.43	%		<MDL	0.24	2.37	%		<MDL	0.46	4.65	%
Sand*	48.5		0.14	1.43	%	65.9		0.24	2.37	%	42.9		0.46	4.65	%
Silt*	2.9		0.71	1.43	%	23.7		1.2	2.37	%	32.5		2.3	4.65	%
CV EPA DEC 1991															
Sulfide, Acid Volatile		<MDL,JG	0.39	1.54	mg/Kg		<MDL,JG	0.61	2.43	mg/Kg	17.6	JG	1.2	4.85	mg/Kg
CV KEROUEL & AMINOT 1997(KCL)															
Ammonia Nitrogen	11.3		0.39	0.765	mg/Kg	23.2		0.58	1.19	mg/Kg	60.7		1.2	2.35	mg/Kg
CV SM2540-G															
Total Solids*	64.8		0.005	0.01	%	41.1		0.005	0.01	%	20.6		0.005	0.01	%

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
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<b>Project:</b>	421240C					421240C					421240C				
<b>Locator:</b>	AE322					G322					QQ322				
<b>Descrip:</b>	DS NEWAUKUM CR. @					NEWAUKUM CREEK AT					SE 416TH -QUARRY				
<b>Sample:</b>	L48629-7					L48629-8					L48629-9				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	8/10/09 13:55					8/10/09 14:25					8/10/09 15:15				
<b>TotalSolid:</b>	64.8					41.1					20.6				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
<b>CV SM4500-P-F OL</b>															
Orthophosphate Phosphorus	17.9		1.5	3.84	mg/Kg	39.9		2.3	5.79	mg/Kg	82.5		4.8	11.8	mg/Kg
<b>CV SW846 9045C</b>															
pH*	6.9				pH	6.83				pH	7.07				pH
<b>CV SW846 9060-PSEP96</b>															
Total Organic Carbon	10700		1900	3700	mg/Kg	23000		2700	5470	mg/Kg	82000		6800	13600	mg/Kg
<b>MT EPA 200.7</b>															
Arsenic, Extractable, SEM		<MDL	0.77	3.86	mg/Kg		<MDL	1.2	6.06	mg/Kg	2.8	<RDL	2.4	12.2	mg/Kg
Cadmium, Extractable, SEM		<MDL	0.062	0.309	mg/Kg	0.13	<RDL	0.097	0.487	mg/Kg	0.28	<RDL	0.19	0.971	mg/Kg
Chromium, Extractable, SEM	0.497		0.093	0.465	mg/Kg	1.09		0.15	0.727	mg/Kg	2		0.29	1.46	mg/Kg
Copper, Extractable, SEM	2.15		0.12	0.619	mg/Kg	5.6		0.19	0.971	mg/Kg	15.8		0.39	1.95	mg/Kg
Lead, Extractable, SEM	2.2	<RDL	0.62	3.09	mg/Kg	4.4	<RDL	0.97	4.87	mg/Kg	6.8	<RDL	1.9	9.71	mg/Kg
Nickel, Extractable, SEM	0.65	<RDL	0.15	0.773	mg/Kg	1.1	<RDL	0.24	1.21	mg/Kg	2.87		0.49	2.43	mg/Kg
Silver, Extractable, SEM		<MDL	0.12	0.619	mg/Kg		<MDL	0.97	4.87	mg/Kg		<MDL	0.39	1.95	mg/Kg
Zinc, Extractable, SEM	17.3		0.15	0.773	mg/Kg	29		0.24	1.21	mg/Kg	54.4		0.49	2.43	mg/Kg
<b>MT EPA 245.1*SW846 7470A</b>															
Mercury, Extractable, SEM		<MDL	0.0015	0.00465	mg/Kg		<MDL	0.0024	0.00727	mg/Kg		<MDL	0.0049	0.0146	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>															
Arsenic, Total, ICP-MS	3.04		0.019	0.0954	mg/Kg	4.38		0.029	0.152	mg/Kg	7.33		0.058	0.299	mg/Kg
Cadmium, Total, ICP-MS	0.0878		0.0096	0.0477	mg/Kg	0.162		0.015	0.0757	mg/Kg	0.278		0.03	0.15	mg/Kg
Chromium, Total, ICP-MS	14.5	J	0.39	1.91	mg/Kg	17.1		0.61	3.04	mg/Kg	23.1		1.2	5.97	mg/Kg
Copper, Total, ICP-MS	13.1		0.76	3.81	mg/Kg	20.7		1.2	6.06	mg/Kg	37		2.4	11.9	mg/Kg
Lead, Total, ICP-MS	5.63		0.019	0.0954	mg/Kg	10		0.029	0.152	mg/Kg	12.5		0.058	0.299	mg/Kg
Nickel, Total, ICP-MS	8.43		0.19	0.954	mg/Kg	10.1		0.29	1.52	mg/Kg	13.8		0.58	2.99	mg/Kg
Phosphorus, Total, ICP-MS	480	<RDL	190	954	mg/Kg	560	<RDL	290	1520	mg/Kg	730	<RDL	580	2990	mg/Kg
Silver, Total, ICP-MS	0.043	<RDL	0.0096	0.0477	mg/Kg	0.0849		0.015	0.0757	mg/Kg	0.14	<RDL	0.03	0.15	mg/Kg

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<b>Project:</b>	421240C						421240C						421240C					
<b>Locator:</b>	AE322						G322						QQ322					
<b>Descrip:</b>	DS NEWAUKUM CR. @						NEWAUKUM CREEK AT						SE 416TH -QUARRY					
<b>Sample:</b>	L48629-7						L48629-8						L48629-9					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/10/09 13:55						8/10/09 14:25						8/10/09 15:15					
<b>TotalSolid:</b>	64.8						41.1						20.6					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units	
Zinc, Total, ICP-MS	60.6		0.96	4.77	mg/Kg		84.9		1.5	7.57	mg/Kg		126		3	15	mg/Kg	
<b>MT SW846 7471B</b>																		
Mercury, Total, CVAA	0.015	<RDL	0.0076	0.0756	mg/Kg		0.036	<RDL	0.012	0.117	mg/Kg		0.073	<RDL	0.024	0.241	mg/Kg	
<b>OR SW846 3550B*EPA 1614</b>																		
DecaBDE-209	0.182	J	0.051	0.103	ug/Kg		0.309	J	0.08	0.162	ug/Kg		0.675	J	0.16	0.324	ug/Kg	
HeptaBDE-183		<MDL	0.01	0.0205	ug/Kg			<MDL	0.016	0.0324	ug/Kg			<MDL	0.033	0.0646	ug/Kg	
HeptaBDE-190		<MDL	0.01	0.0205	ug/Kg			<MDL	0.016	0.0324	ug/Kg			<MDL	0.033	0.0646	ug/Kg	
HexaBDE-138	0.0261	TA	0.01	0.0205	ug/Kg		0.029	<RDL,TA	0.016	0.0324	ug/Kg			<MDL,TA	0.033	0.0646	ug/Kg	
HexaBDE-153	0.0753		0.01	0.0205	ug/Kg		0.141		0.016	0.0324	ug/Kg		0.22		0.033	0.0646	ug/Kg	
HexaBDE-154	0.019	<RDL	0.01	0.0205	ug/Kg		0.029	<RDL	0.016	0.0324	ug/Kg		0.046	<RDL	0.033	0.0646	ug/Kg	
PentaBDE-100	0.017	<RDL	0.01	0.0205	ug/Kg		0.024	<RDL	0.016	0.0324	ug/Kg		0.049	<RDL	0.033	0.0646	ug/Kg	
PentaBDE-85		<MDL	0.01	0.0205	ug/Kg			<MDL	0.016	0.0324	ug/Kg			<MDL	0.033	0.0646	ug/Kg	
PentaBDE-99	0.0651	B3	0.01	0.0205	ug/Kg		0.0827	B3	0.016	0.0324	ug/Kg		0.213	B3	0.033	0.0646	ug/Kg	
TetraBDE-47	0.0991	B3	0.01	0.0205	ug/Kg		0.117		0.016	0.0324	ug/Kg		0.246	B3	0.033	0.0646	ug/Kg	
TetraBDE-66		<MDL	0.01	0.0205	ug/Kg			<MDL	0.016	0.0324	ug/Kg			<MDL	0.033	0.0646	ug/Kg	
TetraBDE-71		<MDL,TA	0.01	0.0205	ug/Kg			<MDL,TA	0.016	0.0324	ug/Kg			<MDL,TA	0.033	0.0646	ug/Kg	
TriBDE-17		<MDL	0.01	0.0205	ug/Kg			<MDL	0.016	0.0324	ug/Kg			<MDL	0.033	0.0646	ug/Kg	
TriBDE-28		<MDL,TA	0.01	0.0205	ug/Kg			<MDL,TA	0.016	0.0324	ug/Kg			<MDL,TA	0.033	0.0646	ug/Kg	
<b>OR SW846 3550B*SW846 8081B</b>																		
4,4'-DDD		<MDL	1	2.05	ug/Kg			<MDL	1.6	3.24	ug/Kg			<MDL	3.3	6.46	ug/Kg	
4,4'-DDE		<MDL	1	2.05	ug/Kg			<MDL	1.6	3.24	ug/Kg			<MDL	3.3	6.46	ug/Kg	
4,4'-DDT		<MDL	1	2.05	ug/Kg			<MDL	1.6	3.24	ug/Kg			<MDL	3.3	6.46	ug/Kg	
Aldrin		<MDL	1	2.05	ug/Kg			<MDL	1.6	3.24	ug/Kg			<MDL	3.3	6.46	ug/Kg	
Alpha-BHC		<MDL	0.51	1.03	ug/Kg			<MDL	0.8	1.62	ug/Kg			<MDL	1.6	3.24	ug/Kg	
Alpha-Chlordane		<MDL	0.51	1.03	ug/Kg			<MDL	0.8	1.62	ug/Kg			<MDL	1.6	3.24	ug/Kg	
Beta-BHC		<MDL	0.51	1.03	ug/Kg			<MDL	0.8	1.62	ug/Kg			<MDL	1.6	3.24	ug/Kg	

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
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<b>Project:</b>	421240C						421240C						421240C					
<b>Locator:</b>	AE322						G322						QQ322					
<b>Descrip:</b>	DS NEWAUKUM CR. @						NEWAUKUM CREEK AT						SE 416TH -QUARRY					
<b>Sample:</b>	L48629-7						L48629-8						L48629-9					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	8/10/09 13:55						8/10/09 14:25						8/10/09 15:15					
<b>TotalSolid:</b>	64.8						41.1						20.6					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units		Value	Qual	MDL	RDL	Units	
Delta-BHC	<MDL		0.51	1.03	ug/Kg		<MDL		0.8	1.62	ug/Kg		<MDL		1.6	3.24	ug/Kg	
Dieldrin	<MDL		1	2.05	ug/Kg		<MDL		1.6	3.24	ug/Kg		<MDL		3.3	6.46	ug/Kg	
Endosulfan I	<MDL		1	2.05	ug/Kg		<MDL		1.6	3.24	ug/Kg		<MDL		3.3	6.46	ug/Kg	
Endosulfan II	<MDL		1	2.05	ug/Kg		<MDL		1.6	3.24	ug/Kg		<MDL		3.3	6.46	ug/Kg	
Endosulfan Sulfate	<MDL		1	2.05	ug/Kg		<MDL		1.6	3.24	ug/Kg		<MDL		3.3	6.46	ug/Kg	
Endrin	<MDL		1	2.05	ug/Kg		<MDL		1.6	3.24	ug/Kg		<MDL		3.3	6.46	ug/Kg	
Endrin Aldehyde	<MDL		1	2.05	ug/Kg		<MDL		1.6	3.24	ug/Kg		<MDL		3.3	6.46	ug/Kg	
Gamma-BHC (Lindane)	<MDL		0.51	1.03	ug/Kg		<MDL		0.8	1.62	ug/Kg		<MDL		1.6	3.24	ug/Kg	
Gamma-Chlordane	<MDL		0.51	1.03	ug/Kg		<MDL		0.8	1.62	ug/Kg		<MDL		1.6	3.24	ug/Kg	
Heptachlor	<MDL		0.51	1.03	ug/Kg		<MDL		0.8	1.62	ug/Kg		<MDL		1.6	3.24	ug/Kg	
Heptachlor Epoxide	<MDL		0.51	1.03	ug/Kg		<MDL		0.8	1.62	ug/Kg		<MDL		1.6	3.24	ug/Kg	
Methoxychlor	<MDL		5.1	10.3	ug/Kg		<MDL		8	16.2	ug/Kg		<MDL		16	32.4	ug/Kg	
Toxaphene	<MDL		10	20.5	ug/Kg		<MDL		16	32.4	ug/Kg		<MDL		33	64.6	ug/Kg	
<b>OR SW846 3550B*SW846 8082A</b>																		
Aroclor 1016	<MDL		1.3	2.58	ug/Kg		<MDL		2	4.06	ug/Kg		<MDL		4	8.11	ug/Kg	
Aroclor 1221	<MDL		2.6	5.14	ug/Kg		<MDL		4.1	8.1	ug/Kg		<MDL		8.3	16.2	ug/Kg	
Aroclor 1232	<MDL		2.6	5.14	ug/Kg		<MDL		4.1	8.1	ug/Kg		<MDL		8.3	16.2	ug/Kg	
Aroclor 1242	<MDL		1.3	2.58	ug/Kg		<MDL		2	4.06	ug/Kg		<MDL		4	8.11	ug/Kg	
Aroclor 1248	<MDL		1.3	2.58	ug/Kg		<MDL		2	4.06	ug/Kg		<MDL		4	8.11	ug/Kg	
Aroclor 1254	<MDL		1.3	2.58	ug/Kg		<MDL		2	4.06	ug/Kg		<MDL		4	8.11	ug/Kg	
Aroclor 1260	<MDL		1.3	2.58	ug/Kg		<MDL		2	4.06	ug/Kg		<MDL		4	8.11	ug/Kg	
Total Aroclors	<MDL		1.3	2.58	ug/Kg		<MDL		2	4.06	ug/Kg		<MDL		4	8.11	ug/Kg	
<b>OR SW846 3550B*SW846 8270D</b>																		
1,2,4-Trichlorobenzene	<MDL		0.15	0.309	ug/Kg		<MDL		0.24	0.487	ug/Kg		<MDL		0.49	0.971	ug/Kg	
1,2-Dichlorobenzene	<MDL		0.31	0.617	ug/Kg		<MDL		0.49	0.973	ug/Kg		<MDL		0.97	1.94	ug/Kg	
1,2-Diphenylhydrazine	<MDL		6.2	12.3	ug/Kg		<MDL		9.7	19.5	ug/Kg		<MDL		19	38.8	ug/Kg	

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
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	<b>Project:</b> 421240C						<b>Project:</b> 421240C						<b>Project:</b> 421240C					
	<b>Locator:</b> AE322						<b>Locator:</b> G322						<b>Locator:</b> QQ322					
	<b>Descrip:</b> DS NEWAUKUM CR. @						<b>Descrip:</b> NEWAUKUM CREEK AT						<b>Descrip:</b> SE 416TH -QUARRY					
	<b>Sample:</b> L48629-7						<b>Sample:</b> L48629-8						<b>Sample:</b> L48629-9					
	<b>Matrix:</b> SE FRSHWTRSED						<b>Matrix:</b> SE FRSHWTRSED						<b>Matrix:</b> SE FRSHWTRSED					
	<b>ColDate:</b> 8/10/09 13:55						<b>ColDate:</b> 8/10/09 14:25						<b>ColDate:</b> 8/10/09 15:15					
	<b>TotalSolid:</b> 64.8						<b>TotalSolid:</b> 41.1						<b>TotalSolid:</b> 20.6					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>		<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>		<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	
1,3-Dichlorobenzene	<MDL		0.31	0.617	ug/Kg		<MDL		0.49	0.973	ug/Kg		<MDL		0.97	1.94	ug/Kg	
1,4-Dichlorobenzene	<MDL		0.31	0.617	ug/Kg		<MDL		0.49	0.973	ug/Kg		<MDL		0.97	1.94	ug/Kg	
2,4,5-Trichlorophenol	<MDL		15	30.9	ug/Kg		<MDL		24	48.7	ug/Kg		<MDL		49	97.1	ug/Kg	
2,4,6-Trichlorophenol	<MDL		15	30.9	ug/Kg		<MDL		24	48.7	ug/Kg		<MDL		49	97.1	ug/Kg	
2,4-Dichlorophenol	<MDL		6.2	12.3	ug/Kg		<MDL		9.7	19.5	ug/Kg		<MDL		19	38.8	ug/Kg	
2,4-Dimethylphenol	<MDL		1.5	3.09	ug/Kg		<MDL		2.4	4.87	ug/Kg		<MDL		4.9	9.71	ug/Kg	
2,4-Dinitrotoluene	<MDL		6.2	12.3	ug/Kg		<MDL		9.7	19.5	ug/Kg		<MDL		19	38.8	ug/Kg	
2,6-Dinitrotoluene	<MDL		15	30.9	ug/Kg		<MDL		24	48.7	ug/Kg		<MDL		49	97.1	ug/Kg	
2-Chloronaphthalene	<MDL		6.2	12.3	ug/Kg		<MDL		9.7	19.5	ug/Kg		<MDL		19	38.8	ug/Kg	
2-Chlorophenol	<MDL		6.2	12.3	ug/Kg		<MDL		9.7	19.5	ug/Kg		<MDL		19	38.8	ug/Kg	
2-Methylnaphthalene	<MDL		3.1	6.17	ug/Kg		<MDL		4.9	9.73	ug/Kg		<MDL		9.7	19.4	ug/Kg	
2-Methylphenol	<MDL		3.1	6.17	ug/Kg		<MDL		4.9	9.73	ug/Kg		<MDL		9.7	19.4	ug/Kg	
2-Nitrophenol	<MDL		15	30.9	ug/Kg		<MDL		24	48.7	ug/Kg		<MDL		49	97.1	ug/Kg	
4-Bromophenyl Phenyl Ether	<MDL		6.2	12.3	ug/Kg		<MDL		9.7	19.5	ug/Kg		<MDL		19	38.8	ug/Kg	
4-Chlorophenyl Phenyl Ether	<MDL		6.2	12.3	ug/Kg		<MDL		9.7	19.5	ug/Kg		<MDL		19	38.8	ug/Kg	
4-Methylphenol	<MDL		6.2	12.3	ug/Kg		<MDL		9.7	19.5	ug/Kg		<MDL		19	38.8	ug/Kg	
Acenaphthene	<MDL		3.1	6.17	ug/Kg		11.2		4.9	9.73	ug/Kg		<MDL		9.7	19.4	ug/Kg	
Acenaphthylene	<MDL		3.1	6.17	ug/Kg		<MDL		4.9	9.73	ug/Kg		<MDL		9.7	19.4	ug/Kg	
Aniline	<MDL		62	123	ug/Kg		<MDL		97	195	ug/Kg		<MDL		190	388	ug/Kg	
Anthracene	<MDL		3.1	6.17	ug/Kg		7.5	<RDL	4.9	9.73	ug/Kg		17	<RDL	9.7	19.4	ug/Kg	
Benzo(a)anthracene	<MDL		3.1	6.17	ug/Kg		16.9		4.9	9.73	ug/Kg		41.7		9.7	19.4	ug/Kg	
Benzo(a)pyrene	3.5	<RDL	3.1	6.17	ug/Kg		12.7		4.9	9.73	ug/Kg		39.9		9.7	19.4	ug/Kg	
Benzo(b)fluoranthene	4.5	<RDL	3.1	6.17	ug/Kg		19.6		4.9	9.73	ug/Kg		67.5		9.7	19.4	ug/Kg	
Benzo(g,h,i)perylene	<MDL		3.1	6.17	ug/Kg		7.3	<RDL	4.9	9.73	ug/Kg		21.3		9.7	19.4	ug/Kg	
Benzo(k)fluoranthene	3.4	<RDL	3.1	6.17	ug/Kg		18.6		4.9	9.73	ug/Kg		68.9		9.7	19.4	ug/Kg	
Benzoic Acid	205		15	30.9	ug/Kg		294		24	48.7	ug/Kg		607		49	97.1	ug/Kg	

**Table C-2: KCEI Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

	<b>Project:</b>	421240C					421240C					421240C				
	<b>Locator:</b>	AE322					G322					QQ322				
	<b>Descrip:</b>	DS NEWAUKUM CR. @					NEWAUKUM CREEK AT					SE 416TH -QUARRY				
	<b>Sample:</b>	L48629-7					L48629-8					L48629-9				
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED				
	<b>ColDate:</b>	8/10/09 13:55					8/10/09 14:25					8/10/09 15:15				
	<b>TotalSolid:</b>	64.8					41.1					20.6				
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
	Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
	Benzyl Alcohol		<MDL	3.1	6.17	ug/Kg		<MDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
	Benzyl Butyl Phthalate		<MDL	6.2	12.3	ug/Kg	57.2		9.7	19.5	ug/Kg	121		19	38.8	ug/Kg
	Bis(2-Chloroethoxy)Methane		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
	Bis(2-Chloroethyl)Ether		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
	Bis(2-Chloroisopropyl)Ether		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
	Bis(2-ethylhexyl)adipate	28	<RDL	15	30.9	ug/Kg		<MDL	24	48.7	ug/Kg	98.1		49	97.1	ug/Kg
	Bis(2-Ethylhexyl)Phthalate	55.4	B	6.2	12.3	ug/Kg	78.3	B	9.7	19.5	ug/Kg	184	B	19	38.8	ug/Kg
	Bisphenol A		<MDL	15	30.9	ug/Kg		<MDL	24	48.7	ug/Kg		<MDL	49	97.1	ug/Kg
	Caffeine		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
	Carbazole		<MDL	3.1	6.17	ug/Kg		<MDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
	Chrysene	4.3	<RDL	3.1	6.17	ug/Kg	30.4	J	4.9	9.73	ug/Kg	50.5		9.7	19.4	ug/Kg
	Coprostanol		<MDL	62	123	ug/Kg		<MDL	97	195	ug/Kg		<MDL	190	388	ug/Kg
	Dibenzo(a,h)anthracene		<MDL	3.1	6.17	ug/Kg		<MDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
	Dibenzofuran		<MDL	3.1	6.17	ug/Kg	9.2	<RDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
	Diethyl Phthalate		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
	Dimethyl Phthalate		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
	Di-N-Butyl Phthalate	7.7	<RDL,B	6.2	12.3	ug/Kg	15	<RDL,B	9.7	19.5	ug/Kg	39	B	19	38.8	ug/Kg
	Di-N-Octyl Phthalate		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
	Fluoranthene	5.6	<RDL	3.1	6.17	ug/Kg	32.8		4.9	9.73	ug/Kg	97.6		9.7	19.4	ug/Kg
	Fluorene		<MDL	3.1	6.17	ug/Kg	18.9		4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg
	Hexachlorobenzene		<MDL	0.15	0.309	ug/Kg		<MDL	0.24	0.487	ug/Kg		<MDL	0.49	0.971	ug/Kg
	Hexachlorobutadiene		<MDL	0.77	1.54	ug/Kg		<MDL	1.2	2.43	ug/Kg		<MDL	2.4	4.85	ug/Kg
	Hexachloroethane		<MDL	1.5	3.09	ug/Kg		<MDL	2.4	4.87	ug/Kg		<MDL	4.9	9.71	ug/Kg
	Indeno(1,2,3-Cd)Pyrene		<MDL	3.1	6.17	ug/Kg	6.8	<RDL	4.9	9.73	ug/Kg	21		9.7	19.4	ug/Kg
	Isophorone		<MDL	15	30.9	ug/Kg		<MDL	24	48.7	ug/Kg		<MDL	49	97.1	ug/Kg
	Naphthalene		<MDL	3.1	6.17	ug/Kg		<MDL	4.9	9.73	ug/Kg		<MDL	9.7	19.4	ug/Kg

**Table C-2: KCEI Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

<b>Project:</b> 421240C <b>Locator:</b> AE322 <b>Descrip:</b> DS NEWAUKUM CR. @ <b>Sample:</b> L48629-7 <b>Matrix:</b> SE FRSHWTRSED <b>ColDate:</b> 8/10/09 13:55 <b>TotalSolid:</b> 64.8 <b>DRY Weight Basis</b>						<b>421240C</b> <b>G322</b> <b>NEWAUKUM CREEK AT</b> <b>L48629-8</b> <b>SE FRSHWTRSED</b> <b>8/10/09 14:25</b> <b>41.1</b> <b>DRY Weight Basis</b>					<b>421240C</b> <b>QQ322</b> <b>SE 416TH -QUARRY</b> <b>L48629-9</b> <b>SE FRSHWTRSED</b> <b>8/10/09 15:15</b> <b>20.6</b> <b>DRY Weight Basis</b>				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
Nitrobenzene		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
N-Nitrosodimethylamine		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
N-Nitrosodiphenylamine		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
Pentachlorophenol		<MDL	15	30.9	ug/Kg		<MDL	24	48.7	ug/Kg		<MDL	49	97.1	ug/Kg
Phenanthrene		<MDL	3.1	6.17	ug/Kg	40.1		4.9	9.73	ug/Kg	27.6		9.7	19.4	ug/Kg
Phenol		<MDL	6.2	12.3	ug/Kg		<MDL	9.7	19.5	ug/Kg		<MDL	19	38.8	ug/Kg
Pyrene	6.48		3.1	6.17	ug/Kg	38.2		4.9	9.73	ug/Kg	95.1		9.7	19.4	ug/Kg
Total 4-Nonylphenol		<MDL	31	61.7	ug/Kg		<MDL	49	97.3	ug/Kg		<MDL	97	194	ug/Kg
<b>OR TERNS (2002)</b>															
Estradiol		<MDL	0.077	0.778	ug/Kg		<MDL	0.12	1.23	ug/Kg		<MDL	0.24	2.45	ug/Kg
Estrone	0.17	<RDL	0.046	0.466	ug/Kg	0.16	<RDL	0.073	0.735	ug/Kg	0.43	<RDL	0.15	1.47	ug/Kg
Ethynyl estradiol		<MDL	0.077	0.778	ug/Kg		<MDL	0.12	1.23	ug/Kg		<MDL	0.24	2.45	ug/Kg
<b>OR WDOE NWTPH-DX</b>															
Diesel Range (>C12-C24)															
Lube Oil Range (>C24)	42		39	39	mg/Kg	72		61	61	mg/Kg	190		120	120	mg/Kg

\* Not converted to dry weight basis

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C				
<b>Locator:</b>	'0322				
<b>Descrip:</b>	NEWAUKUM CREEK DOW				
<b>Sample:</b>	L48633-6				
<b>Matrix:</b>	SE FRSHWTRSED				
<b>ColDate:</b>	8/10/09 11:40				
<b>TotalSolid:</b>	39.9				
	<b>DRY Weight Basis</b>				
Parameters	Value	Qual	MDL	RDL	Units
<b>CV ASTM D422</b>					
Clay*		<MDL	1.1	2.2	%
Fines*	24.2		1.1	2.2	%
Gravel*	7.3		0.22	2.2	%
p+0.00*	3.3		0.22	2.2	%
p+1.00*	10.7		0.22	2.2	%
p+10.0(equal/more than)*		<MDL	1.1	2.2	%
p+2.00*	17.2		0.22	2.2	%
p+3.00*	19.4		0.22	2.2	%
p+4.00*	13.4		0.22	2.2	%
p+5.00*	22		1.1	2.2	%
p+6.00*	1.1		1.1	2.2	%
p+7.00*	1.1		1.1	2.2	%
p+8.00*		<MDL	1.1	2.2	%
p+9.00*		<MDL	1.1	2.2	%
p-1.00*	1.5		0.22	2.2	%
p-2.00(less than)*	5.8		0.22	2.2	%
p-2.00*		<MDL	0.22	2.2	%
Sand*	63.9		0.22	2.2	%
Silt*	24.2		1.1	2.2	%
<b>CV EPA DEC 1991</b>					
Sulfide, Acid Volatile		<MDL,JG	0.63	2.49	mg/Kg
<b>CV KEROUEL &amp; AMINOT 1997(KCL)</b>					
Ammonia Nitrogen	18.7		0.63	1.24	mg/Kg
<b>CV SM2540-G</b>					
Total Solids*	39.9		0.005	0.01	%

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C				
<b>Locator:</b>	'0322				
<b>Descrip:</b>	NEWAUKUM CREEK DOW				
<b>Sample:</b>	L48633-6				
<b>Matrix:</b>	SE FRSHWTRSED				
<b>ColDate:</b>	8/10/09 11:40				
<b>TotalSolid:</b>	39.9				
	<b>DRY Weight Basis</b>				
<b>Parameters</b>	<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
<b>CV SM4500-P-F OL</b>					
Orthophosphate Phosphorus	34.8		2.5	6.17	mg/Kg
<b>CV SW846 9045C</b>					
pH*	7.29				pH
<b>CV SW846 9060-PSEP96</b>					
Total Organic Carbon	27300		2100	4140	mg/Kg
<b>MT EPA 200.7</b>					
Arsenic, Extractable, SEM	1.8	<RDL	1.3	6.24	mg/Kg
Cadmium, Extractable, SEM	0.12	<RDL	0.1	0.499	mg/Kg
Chromium, Extractable, SEM	1.64		0.15	0.747	mg/Kg
Copper, Extractable, SEM	8.82		0.2	0.997	mg/Kg
Lead, Extractable, SEM	3.8	<RDL	1	4.99	mg/Kg
Nickel, Extractable, SEM	3.16		0.25	1.25	mg/Kg
Silver, Extractable, SEM		<MDL	0.2	0.997	mg/Kg
Zinc, Extractable, SEM	26.6		0.25	1.25	mg/Kg
<b>MT EPA 245.1*SW846 7470A</b>					
Mercury, Extractable, SEM		<MDL	0.0025	0.00747	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>					
Arsenic, Total, ICP-MS	5.04		0.03	0.154	mg/Kg
Cadmium, Total, ICP-MS	0.124		0.016	0.0772	mg/Kg
Chromium, Total, ICP-MS	23.3		0.63	3.08	mg/Kg
Copper, Total, ICP-MS	20.1		1.2	6.17	mg/Kg
Lead, Total, ICP-MS	5.41		0.03	0.154	mg/Kg
Nickel, Total, ICP-MS	22.3		0.3	1.54	mg/Kg
Phosphorus, Total, ICP-MS	600	<RDL	300	1540	mg/Kg
Silver, Total, ICP-MS	0.063	<RDL	0.016	0.0772	mg/Kg

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C				
<b>Locator:</b>	'0322				
<b>Descrip:</b>	NEWAUKUM CREEK DOW				
<b>Sample:</b>	L48633-6				
<b>Matrix:</b>	SE FRSHWTRSED				
<b>ColDate:</b>	8/10/09 11:40				
<b>TotalSolid:</b>	39.9				
	<b>DRY Weight Basis</b>				
<b>Parameters</b>	<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Zinc, Total, ICP-MS	62.2		1.6	7.72	mg/Kg
<b>MT SW846 7471B</b>					
Mercury, Total, CVAA	0.048	<RDL	0.012	0.123	mg/Kg
<b>OR SW846 3550B*EPA 1614</b>					
DecaBDE-209	0.193	J	0.083	0.167	ug/Kg
HeptaBDE-183		<MDL	0.017	0.0333	ug/Kg
HeptaBDE-190		<MDL	0.017	0.0333	ug/Kg
HexaBDE-138		<MDL,TA	0.017	0.0333	ug/Kg
HexaBDE-153	0.0632		0.017	0.0333	ug/Kg
HexaBDE-154		<MDL	0.017	0.0333	ug/Kg
PentaBDE-100	0.021	<RDL	0.017	0.0333	ug/Kg
PentaBDE-85		<MDL	0.017	0.0333	ug/Kg
PentaBDE-99	0.089	B3	0.017	0.0333	ug/Kg
TetraBDE-47	0.151	B3	0.017	0.0333	ug/Kg
TetraBDE-66		<MDL	0.017	0.0333	ug/Kg
TetraBDE-71		<MDL,TA	0.017	0.0333	ug/Kg
TriBDE-17		<MDL	0.017	0.0333	ug/Kg
TriBDE-28		<MDL,TA	0.017	0.0333	ug/Kg
<b>OR SW846 3550B*SW846 8081B</b>					
4,4'-DDD		<MDL	1.7	3.33	ug/Kg
4,4'-DDE		<MDL	1.7	3.33	ug/Kg
4,4'-DDT		<MDL	1.7	3.33	ug/Kg
Aldrin		<MDL	1.7	3.33	ug/Kg
Alpha-BHC		<MDL	0.83	1.67	ug/Kg
Alpha-Chlordane		<MDL	0.83	1.67	ug/Kg
Beta-BHC		<MDL	0.83	1.67	ug/Kg

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

<b>Project:</b> <b>Locator:</b> <b>Descrip:</b> <b>Sample:</b> <b>Matrix:</b> <b>ColDate:</b> <b>TotalSolid:</b>	421240C				
	'0322				
	NEWAUKUM CREEK DOW				
	L48633-6				
	SE FRSHWTRSED				
	8/10/09 11:40				
	39.9				
	<b>DRY Weight Basis</b>				
<b>Parameters</b>	<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Delta-BHC		<MDL	0.83	1.67	ug/Kg
Dieldrin		<MDL	1.7	3.33	ug/Kg
Endosulfan I		<MDL	1.7	3.33	ug/Kg
Endosulfan II		<MDL	1.7	3.33	ug/Kg
Endosulfan Sulfate		<MDL	1.7	3.33	ug/Kg
Endrin		<MDL	1.7	3.33	ug/Kg
Endrin Aldehyde		<MDL	1.7	3.33	ug/Kg
Gamma-BHC (Lindane)		<MDL	0.83	1.67	ug/Kg
Gamma-Chlordane		<MDL	0.83	1.67	ug/Kg
Heptachlor		<MDL	0.83	1.67	ug/Kg
Heptachlor Epoxide		<MDL	0.83	1.67	ug/Kg
Methoxychlor		<MDL	8.3	16.7	ug/Kg
Toxaphene		<MDL	17	33.3	ug/Kg
<b>OR SW846 3550B*SW846 8082A</b>					
Aroclor 1016		<MDL	2.1	4.19	ug/Kg
Aroclor 1221		<MDL	4.3	8.35	ug/Kg
Aroclor 1232		<MDL	4.3	8.35	ug/Kg
Aroclor 1242		<MDL	2.1	4.19	ug/Kg
Aroclor 1248		<MDL	2.1	4.19	ug/Kg
Aroclor 1254		<MDL	2.1	4.19	ug/Kg
Aroclor 1260		<MDL	2.1	4.19	ug/Kg
Total Aroclors		<MDL	2.1	4.19	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>					
1,2,4-Trichlorobenzene		<MDL	0.25	0.501	ug/Kg
1,2-Dichlorobenzene		<MDL	0.5	1	ug/Kg
1,2-Diphenylhydrazine		<MDL	10	20.1	ug/Kg

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C				
<b>Locator:</b>	'0322				
<b>Descrip:</b>	NEWAUKUM CREEK DOW				
<b>Sample:</b>	L48633-6				
<b>Matrix:</b>	SE FRSHWTRSED				
<b>ColDate:</b>	8/10/09 11:40				
<b>TotalSolid:</b>	39.9				
	<b>DRY Weight Basis</b>				
Parameters	Value	Qual	MDL	RDL	Units
1,3-Dichlorobenzene		<MDL	0.5	1	ug/Kg
1,4-Dichlorobenzene		<MDL	0.5	1	ug/Kg
2,4,5-Trichlorophenol		<MDL	25	50.1	ug/Kg
2,4,6-Trichlorophenol		<MDL	25	50.1	ug/Kg
2,4-Dichlorophenol		<MDL	10	20.1	ug/Kg
2,4-Dimethylphenol		<MDL	2.5	5.01	ug/Kg
2,4-Dinitrotoluene		<MDL	10	20.1	ug/Kg
2,6-Dinitrotoluene		<MDL	25	50.1	ug/Kg
2-Chloronaphthalene		<MDL	10	20.1	ug/Kg
2-Chlorophenol		<MDL	10	20.1	ug/Kg
2-Methylnaphthalene		<MDL	5	10	ug/Kg
2-Methylphenol		<MDL	5	10	ug/Kg
2-Nitrophenol		<MDL	25	50.1	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	10	20.1	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	10	20.1	ug/Kg
4-Methylphenol		<MDL	10	20.1	ug/Kg
Acenaphthene		<MDL	5	10	ug/Kg
Acenaphthylene		<MDL	5	10	ug/Kg
Aniline		<MDL	100	201	ug/Kg
Anthracene		<MDL	5	10	ug/Kg
Benzo(a)anthracene		<MDL	5	10	ug/Kg
Benzo(a)pyrene	33.8		5	10	ug/Kg
Benzo(b)fluoranthene		<MDL	5	10	ug/Kg
Benzo(g,h,i)perylene		<MDL	5	10	ug/Kg
Benzo(k)fluoranthene	5.3	<RDL	5	10	ug/Kg
Benzoic Acid	258		25	50.1	ug/Kg

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C				
<b>Locator:</b>	'0322				
<b>Descrip:</b>	NEWAUKUM CREEK DOW				
<b>Sample:</b>	L48633-6				
<b>Matrix:</b>	SE FRSHWTRSED				
<b>ColDate:</b>	8/10/09 11:40				
<b>TotalSolid:</b>	39.9				
	<b>DRY Weight Basis</b>				
Parameters	Value	Qual	MDL	RDL	Units
Benzyl Alcohol		<MDL	5	10	ug/Kg
Benzyl Butyl Phthalate	59.6		10	20.1	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	10	20.1	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	10	20.1	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	10	20.1	ug/Kg
Bis(2-ethylhexyl)adipate		<MDL	25	50.1	ug/Kg
Bis(2-Ethylhexyl)Phthalate	89.5	B	10	20.1	ug/Kg
Bisphenol A		<MDL	25	50.1	ug/Kg
Caffeine		<MDL	10	20.1	ug/Kg
Carbazole		<MDL	5	10	ug/Kg
Chrysene	5.3	<RDL	5	10	ug/Kg
Coprostanol		<MDL	100	201	ug/Kg
Dibenzo(a,h)anthracene		<MDL	5	10	ug/Kg
Dibenzofuran		<MDL	5	10	ug/Kg
Diethyl Phthalate		<MDL	10	20.1	ug/Kg
Dimethyl Phthalate		<MDL	10	20.1	ug/Kg
Di-N-Butyl Phthalate	13	<RDL,B	10	20.1	ug/Kg
Di-N-Octyl Phthalate		<MDL	10	20.1	ug/Kg
Fluoranthene		<MDL	5	10	ug/Kg
Fluorene		<MDL	5	10	ug/Kg
Hexachlorobenzene		<MDL	0.25	0.501	ug/Kg
Hexachlorobutadiene		<MDL	1.3	2.51	ug/Kg
Hexachloroethane		<MDL	2.5	5.01	ug/Kg
Indeno(1,2,3-Cd)Pyrene		<MDL	5	10	ug/Kg
Isophorone		<MDL	25	50.1	ug/Kg
Naphthalene		<MDL	5	10	ug/Kg

**Table C-2: KCEL Stream Sediment Analytical Data 2009**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C				
<b>Locator:</b>	'0322				
<b>Descrip:</b>	NEWAUKUM CREEK DOW				
<b>Sample:</b>	L48633-6				
<b>Matrix:</b>	SE FRSHWTRSED				
<b>ColDate:</b>	8/10/09 11:40				
<b>TotalSolid:</b>	39.9				
	<b>DRY Weight Basis</b>				
<b>Parameters</b>	<b>Value</b>	<b>Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Nitrobenzene		<MDL	10	20.1	ug/Kg
N-Nitrosodimethylamine		<MDL	10	20.1	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	10	20.1	ug/Kg
N-Nitrosodiphenylamine		<MDL	10	20.1	ug/Kg
Pentachlorophenol		<MDL	25	50.1	ug/Kg
Phenanthrene		<MDL	5	10	ug/Kg
Phenol		<MDL	10	20.1	ug/Kg
Pyrene	5.3	<RDL	5	10	ug/Kg
Total 4-Nonylphenol		<MDL	50	100	ug/Kg
<b>OR TERNS (2002)</b>					
Estradiol		<MDL	0.13	1.26	ug/Kg
Estrone	0.12	<RDL	0.075	0.757	ug/Kg
Ethynyl estradiol		<MDL	0.13	1.26	ug/Kg
<b>OR WDOE NWTPH-DX</b>					
Diesel Range (>C12-C24)		<MDL	63	63	mg/Kg
Lube Oil Range (>C24)		<MDL	63	63	mg/Kg

\* Not converted to dry weight basis

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C-300						421240C-300						421240C-300					
<b>Locator:</b>	A320						'0320						AA320					
<b>Descrip:</b>	BIG SOOS CREEK//US						BIG SOOS CREEK//FO						BIG SOOS CREEK, DO					
<b>Sample:</b>	L51247-7						L51298-1						L51298-2					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/26/10 10:35						7/26/10 10:20						7/26/10 11:15					
<b>TotalSolid:</b>	76.6						64.9						76.4					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units	
<b>CV ASTM D422</b>																		
Clay*	0.7	<RDL	0.72	1.44	%			<MDL	0.82	1.65	%		0.7	<RDL	0.68	1.35	%	
Fines*	2.9		0.72	1.44	%		8.2		0.82	1.65	%		2		0.68	1.35	%	
Gravel*	11.3		0.14	1.44	%		36.7		0.16	1.65	%		11		0.14	1.35	%	
p+0.00*	10		0.14	1.44	%		37.2		0.16	1.65	%		14.9		0.14	1.35	%	
p+1.00*	27		0.14	1.44	%		15.9		0.16	1.65	%		26.3		0.14	1.35	%	
p+10.0(equal/more than)*		<MDL	0.72	1.44	%			<MDL	0.82	1.65	%		0.7	<RDL	0.68	1.35	%	
p+2.00*	29.1		0.14	1.44	%		6.9		0.16	1.65	%		26.7		0.14	1.35	%	
p+3.00*	15.2		0.14	1.44	%		1	<RDL	0.16	1.65	%		4.4		0.14	1.35	%	
p+4.00*	3.7		0.14	1.44	%			<MDL	0.16	1.65	%		9.9		0.14	1.35	%	
p+5.00*	1.4	RDL	0.72	1.44	%		5.8		0.82	1.65	%		0.7	<RDL	0.68	1.35	%	
p+6.00*		<MDL	0.72	1.44	%		0.8	<RDL	0.82	1.65	%		0.7	<RDL	0.68	1.35	%	
p+7.00*		<MDL	0.72	1.44	%		0.8	<RDL	0.82	1.65	%			<MDL	0.68	1.35	%	
p+8.00*	0.7	<RDL	0.72	1.44	%		0.8	<RDL	0.82	1.65	%			<MDL	0.68	1.35	%	
p+9.00*	0.7	<RDL	0.72	1.44	%			<MDL	0.82	1.65	%			<MDL	0.68	1.35	%	
p-1.00*	8.4		0.14	1.44	%		3.2		0.16	1.65	%		6.1		0.14	1.35	%	
p-2.00(less than)*	0.9	<RDL	0.14	1.44	%		32.3		0.16	1.65	%		3.2		0.14	1.35	%	
p-2.00*	2		0.14	1.44	%		1.2	<RDL	0.16	1.65	%		1.7		0.14	1.35	%	
Sand*	85.1		0.14	1.44	%		60.9		0.16	1.65	%		82.2		0.14	1.35	%	
Silt*	2.2		0.72	1.44	%		8.2		0.82	1.65	%		1.4	RDL	0.68	1.35	%	
<b>CV EPA DEC 1991</b>																		
Sulfide, Acid Volatile		<MDL,JG	0.33	1.29	mg/Kg			<MDL,JG	0.39	1.52	mg/Kg			<MDL,JG	0.33	1.3	mg/Kg	
<b>CV SM2540-G</b>																		
Total Solids*	76.6		0.005	0.01	%		64.9		0.005	0.01	%		76.4		0.005	0.01	%	
<b>CV SM4500-NH3-G KCL</b>																		
Ammonia Nitrogen	2.58		0.13	0.251	mg/Kg		5.86		0.15	0.305	mg/Kg		2.53		0.12	0.246	mg/Kg	
<b>CV SM4500-P-F OL</b>																		
Orthophosphate Phosphorus	5.46		1.3	3.21	mg/Kg		11		1.5	3.68	mg/Kg		4.06		1.2	3.09	mg/Kg	
<b>CV SW846 9045C</b>																		
pH*	7.42				pH		7.19				pH		7.41				pH	
<b>CV SW846 9060-PSEP96</b>																		
Total Organic Carbon	4780		990	1980	mg/Kg		10800		1000	2050	mg/Kg		4060		990	1990	mg/Kg	
<b>MT EPA 200.7</b>																		
Arsenic, Extractable, SEM	0.94	<RDL	0.64	3.21	mg/Kg		1	<RDL	0.76	3.79	mg/Kg		1.1	<RDL	0.65	3.26	mg/Kg	
Cadmium, Extractable, SEM		<MDL	0.051	0.257	mg/Kg			<MDL	0.06	0.304	mg/Kg			<MDL	0.052	0.26	mg/Kg	

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C-300						421240C-300						421240C-300					
<b>Locator:</b>	A320						'0320						AA320					
<b>Descrip:</b>	BIG SOOS CREEK//US						BIG SOOS CREEK//FO						BIG SOOS CREEK, DO					
<b>Sample:</b>	L51247-7						L51298-1						L51298-2					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/26/10 10:35						7/26/10 10:20						7/26/10 11:15					
<b>TotalSolid:</b>	76.6						64.9						76.4					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units	
Chromium, Extractable, SEM	0.786		0.077	0.386	mg/Kg		1.54		0.091	0.455	mg/Kg		1.12		0.079	0.391	mg/Kg	
Copper, Extractable, SEM	1.92		0.1	0.514	mg/Kg		3.62		0.12	0.607	mg/Kg		2.6		0.1	0.521	mg/Kg	
Lead, Extractable, SEM	1.3	<RDL	0.51	2.57	mg/Kg		2.5	<RDL	0.6	3.04	mg/Kg		1.7	<RDL	0.52	2.6	mg/Kg	
Nickel, Extractable, SEM	1.27		0.13	0.644	mg/Kg		2.77		0.15	0.758	mg/Kg		4.25		0.13	0.652	mg/Kg	
Silver, Extractable, SEM		<MDL	0.1	0.514	mg/Kg			<MDL	0.12	0.607	mg/Kg			<MDL	0.1	0.521	mg/Kg	
Zinc, Extractable, SEM	4.77		0.13	0.644	mg/Kg		9.2		0.15	0.758	mg/Kg		7.34		0.13	0.652	mg/Kg	
<b>MT EPA 245.1*SW846 7470A</b>																		
Mercury, Extractable, SEM		<MDL	0.0013	0.00386	mg/Kg			<MDL	0.0015	0.00455	mg/Kg		0.002	<RDL	0.0013	0.00391	mg/Kg	
<b>MT SW846 3050B*SW846 6020A</b>																		
Arsenic, Total, ICP-MS	3.38		0.017	0.0836	mg/Kg		2.93		0.018	0.0945	mg/Kg		3.9		0.033	0.162	mg/Kg	
Cadmium, Total, ICP-MS	0.0559		0.0084	0.0418	mg/Kg		0.0753		0.0094	0.0473	mg/Kg		0.064	<RDL	0.016	0.0812	mg/Kg	
Chromium, Total, ICP-MS	21		0.067	0.334	mg/Kg		22.8		0.076	0.378	mg/Kg		27.5		0.065	0.325	mg/Kg	
Copper, Total, ICP-MS	9.5		0.13	0.668	mg/Kg		10		0.15	0.755	mg/Kg		9.54		0.13	0.649	mg/Kg	
Lead, Total, ICP-MS	2.79		0.017	0.0836	mg/Kg		4.51		0.018	0.0945	mg/Kg		2.84		0.033	0.162	mg/Kg	
Nickel, Total, ICP-MS	26.8		0.034	0.167	mg/Kg		26.5		0.039	0.19	mg/Kg		36.4		0.033	0.162	mg/Kg	
Phosphorus, Total, ICP-MS	371		17	83.6	mg/Kg		398		18	94.5	mg/Kg		370		33	162	mg/Kg	
Silver, Total, ICP-MS	0.026	<RDL	0.0084	0.0418	mg/Kg		0.025	<RDL	0.0094	0.0473	mg/Kg		0.021	<RDL	0.016	0.0812	mg/Kg	
Zinc, Total, ICP-MS	34.9		0.084	0.418	mg/Kg		36.5		0.094	0.473	mg/Kg		35.2		0.16	0.812	mg/Kg	
<b>MT SW846 7471B</b>																		
Mercury, Total, CVAA	0.021	<RDL	0.0063	0.0627	mg/Kg		0.025	<RDL	0.0076	0.0761	mg/Kg		0.027	<RDL	0.0063	0.0626	mg/Kg	
<b>OR SW846 3550B*EPA 1614</b>																		
DecaBDE-209	0.144		0.043	0.0871	ug/Kg		0.183		0.051	0.103	ug/Kg		0.118		0.043	0.0873	ug/Kg	
HeptaBDE-183		<MDL	0.0087	0.0174	ug/Kg			<MDL	0.01	0.0205	ug/Kg			<MDL	0.0088	0.0174	ug/Kg	
HeptaBDE-190		<MDL	0.0087	0.0174	ug/Kg			<MDL	0.01	0.0205	ug/Kg			<MDL	0.0088	0.0174	ug/Kg	
HexaBDE-138	0.016	<RDL,TA	0.0087	0.0174	ug/Kg		0.017	<RDL,TA	0.01	0.0205	ug/Kg		0.0271	TA	0.0088	0.0174	ug/Kg	
HexaBDE-153	0.107		0.0087	0.0174	ug/Kg		0.0864		0.01	0.0205	ug/Kg		0.208		0.0088	0.0174	ug/Kg	
HexaBDE-154	0.041		0.0087	0.0174	ug/Kg		0.011	<RDL	0.01	0.0205	ug/Kg			<MDL	0.0088	0.0174	ug/Kg	
PentaBDE-100	0.0205		0.0087	0.0174	ug/Kg		0.018	<RDL	0.01	0.0205	ug/Kg		0.014	<RDL	0.0088	0.0174	ug/Kg	
PentaBDE-85		<MDL	0.0087	0.0174	ug/Kg			<MDL	0.01	0.0205	ug/Kg			<MDL	0.0088	0.0174	ug/Kg	
PentaBDE-99	0.0585	B	0.0087	0.0174	ug/Kg		0.039	B	0.01	0.0205	ug/Kg		0.0391	B	0.0088	0.0174	ug/Kg	
TetraBDE-47	0.0885	B	0.0087	0.0174	ug/Kg		0.0852	B	0.01	0.0205	ug/Kg		0.0556	B	0.0088	0.0174	ug/Kg	
TetraBDE-66		<MDL	0.0087	0.0174	ug/Kg			<MDL	0.01	0.0205	ug/Kg			<MDL	0.0088	0.0174	ug/Kg	
TetraBDE-71		<MDL,TA	0.0087	0.0174	ug/Kg			<MDL,TA	0.01	0.0205	ug/Kg			<MDL,TA	0.0088	0.0174	ug/Kg	
TriBDE-17		<MDL	0.0087	0.0174	ug/Kg			<MDL	0.01	0.0205	ug/Kg			<MDL	0.0088	0.0174	ug/Kg	
TriBDE-28		<MDL,TA	0.0087	0.0174	ug/Kg			<MDL,TA	0.01	0.0205	ug/Kg			<MDL,TA	0.0088	0.0174	ug/Kg	

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C-300						421240C-300						421240C-300					
<b>Locator:</b>	A320						'0320						AA320					
<b>Descrip:</b>	BIG SOOS CREEK//US						BIG SOOS CREEK//FO						BIG SOOS CREEK, DO					
<b>Sample:</b>	L51247-7						L51298-1						L51298-2					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/26/10 10:35						7/26/10 10:20						7/26/10 11:15					
<b>TotalSolid:</b>	76.6						64.9						76.4					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units	
<b>OR SW846 3550B*SW846 8081B</b>																		
4,4'-DDD		<MDL	0.87	1.74	ug/Kg			<MDL	1	2.05	ug/Kg			<MDL	0.88	1.74	ug/Kg	
4,4'-DDE		<MDL	0.87	1.74	ug/Kg			<MDL	1	2.05	ug/Kg			<MDL	0.88	1.74	ug/Kg	
4,4'-DDT		<MDL	0.87	1.74	ug/Kg			<MDL	1	2.05	ug/Kg			<MDL	0.88	1.74	ug/Kg	
Aldrin		<MDL	0.87	1.74	ug/Kg			<MDL	1	2.05	ug/Kg			<MDL	0.88	1.74	ug/Kg	
Alpha-BHC		<MDL	0.43	0.871	ug/Kg			<MDL	0.51	1.03	ug/Kg			<MDL	0.43	0.873	ug/Kg	
Alpha-Chlordane		<MDL	0.43	0.871	ug/Kg			<MDL	0.51	1.03	ug/Kg			<MDL	0.43	0.873	ug/Kg	
Beta-BHC		<MDL	0.43	0.871	ug/Kg			<MDL	0.51	1.03	ug/Kg			<MDL	0.43	0.873	ug/Kg	
Delta-BHC		<MDL	0.43	0.871	ug/Kg			<MDL	0.51	1.03	ug/Kg			<MDL	0.43	0.873	ug/Kg	
Dieldrin		<MDL	0.87	1.74	ug/Kg			<MDL	1	2.05	ug/Kg			<MDL	0.88	1.74	ug/Kg	
Endosulfan I		<MDL	0.87	1.74	ug/Kg			<MDL	1	2.05	ug/Kg			<MDL	0.88	1.74	ug/Kg	
Endosulfan II		<MDL	0.87	1.74	ug/Kg			<MDL	1	2.05	ug/Kg			<MDL	0.88	1.74	ug/Kg	
Endosulfan Sulfate		<MDL	0.87	1.74	ug/Kg			<MDL	1	2.05	ug/Kg			<MDL	0.88	1.74	ug/Kg	
Endrin		<MDL	0.87	1.74	ug/Kg			<MDL	1	2.05	ug/Kg			<MDL	0.88	1.74	ug/Kg	
Endrin Aldehyde		<MDL	0.87	1.74	ug/Kg			<MDL	1	2.05	ug/Kg			<MDL	0.88	1.74	ug/Kg	
Gamma-BHC (Lindane)		<MDL	0.43	0.871	ug/Kg			<MDL	0.51	1.03	ug/Kg			<MDL	0.43	0.873	ug/Kg	
Heptachlor		<MDL	0.43	0.871	ug/Kg			<MDL	0.51	1.03	ug/Kg			<MDL	0.43	0.873	ug/Kg	
Heptachlor Epoxide		<MDL	0.43	0.871	ug/Kg			<MDL	0.51	1.03	ug/Kg			<MDL	0.43	0.873	ug/Kg	
Methoxychlor		<MDL	4.3	8.71	ug/Kg			<MDL	5.1	10.3	ug/Kg			<MDL	4.3	8.73	ug/Kg	
Toxaphene		<MDL	8.7	17.4	ug/Kg			<MDL	10	20.5	ug/Kg			<MDL	8.8	17.4	ug/Kg	
trans-Chlordane		<MDL	0.43	0.871	ug/Kg			<MDL	0.51	1.03	ug/Kg			<MDL	0.43	0.873	ug/Kg	
<b>OR SW846 3550B*SW846 8082A</b>																		
Aroclor 1016		<MDL	1.1	2.18	ug/Kg			<MDL	1.3	2.57	ug/Kg			<MDL	1.1	2.19	ug/Kg	
Aroclor 1221		<MDL	2.2	4.35	ug/Kg			<MDL	2.6	5.13	ug/Kg			<MDL	2.2	4.36	ug/Kg	
Aroclor 1232		<MDL	2.2	4.35	ug/Kg			<MDL	2.6	5.13	ug/Kg			<MDL	2.2	4.36	ug/Kg	
Aroclor 1242		<MDL	1.1	2.18	ug/Kg			<MDL	1.3	2.57	ug/Kg			<MDL	1.1	2.19	ug/Kg	
Aroclor 1248		<MDL	1.1	2.18	ug/Kg			<MDL	1.3	2.57	ug/Kg			<MDL	1.1	2.19	ug/Kg	
Aroclor 1254		<MDL	1.1	2.18	ug/Kg			<MDL	1.3	2.57	ug/Kg			<MDL	1.1	2.19	ug/Kg	
Aroclor 1260		<MDL	1.1	2.18	ug/Kg			<MDL	1.3	2.57	ug/Kg			<MDL	1.1	2.19	ug/Kg	
Total Aroclors		<MDL	1.1	2.18	ug/Kg			<MDL	1.3	2.57	ug/Kg			<MDL	1.1	2.19	ug/Kg	
<b>OR SW846 3550B*SW846 8270D</b>																		
1,2,4-Trichlorobenzene		<MDL	0.13	0.261	ug/Kg			<MDL	0.15	0.308	ug/Kg			<MDL	0.13	0.262	ug/Kg	
1,2-Dichlorobenzene		<MDL	0.26	0.522	ug/Kg			<MDL	0.31	0.616	ug/Kg			<MDL	0.26	0.524	ug/Kg	
1,2-Diphenylhydrazine		<MDL	5.2	10.4	ug/Kg			<MDL	6.2	12.3	ug/Kg			<MDL	5.2	10.5	ug/Kg	
1,3-Dichlorobenzene		<MDL	0.26	0.522	ug/Kg			<MDL	0.31	0.616	ug/Kg			<MDL	0.26	0.524	ug/Kg	

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
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	<b>Project:</b>	421240C-300					421240C-300					421240C-300				
	<b>Locator:</b>	A320					'0320					AA320				
	<b>Descrip:</b>	BIG SOOS CREEK//US					BIG SOOS CREEK//FO					BIG SOOS CREEK, DO				
	<b>Sample:</b>	L51247-7					L51298-1					L51298-2				
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED				
	<b>ColDate:</b>	7/26/10 10:35					7/26/10 10:20					7/26/10 11:15				
	<b>TotalSolid:</b>	76.6					64.9					76.4				
		DRY Weight Basis					DRY Weight Basis					DRY Weight Basis				
	<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
	1,4-Dichlorobenzene		<MDL	0.26	0.522	ug/Kg		<MDL	0.31	0.616	ug/Kg		<MDL	0.26	0.524	ug/Kg
	2,4,5-Trichlorophenol		<MDL	13	26.1	ug/Kg		<MDL	15	30.8	ug/Kg		<MDL	13	26.2	ug/Kg
	2,4,6-Trichlorophenol		<MDL	13	26.1	ug/Kg		<MDL	15	30.8	ug/Kg		<MDL	13	26.2	ug/Kg
	2,4-Dichlorophenol		<MDL	5.2	10.4	ug/Kg		<MDL	6.2	12.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
	2,4-Dimethylphenol		<MDL	1.3	2.61	ug/Kg		<MDL	1.5	3.08	ug/Kg		<MDL	1.3	2.62	ug/Kg
	2,4-Dinitrotoluene		<MDL	5.2	10.4	ug/Kg		<MDL	6.2	12.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
	2,6-Dinitrotoluene		<MDL	13	26.1	ug/Kg		<MDL	15	30.8	ug/Kg		<MDL	13	26.2	ug/Kg
	2-Chloronaphthalene		<MDL	5.2	10.4	ug/Kg		<MDL	6.2	12.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
	2-Chlorophenol		<MDL	5.2	10.4	ug/Kg		<MDL	6.2	12.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
	2-Methylnaphthalene		<MDL	2.6	5.22	ug/Kg		<MDL	3.1	6.16	ug/Kg		<MDL	2.6	5.24	ug/Kg
	2-Methylphenol		<MDL	2.6	5.22	ug/Kg		<MDL	3.1	6.16	ug/Kg		<MDL	2.6	5.24	ug/Kg
	2-Nitrophenol		<MDL	13	26.1	ug/Kg		<MDL	15	30.8	ug/Kg		<MDL	13	26.2	ug/Kg
	4-Bromophenyl Phenyl Ether		<MDL	5.2	10.4	ug/Kg		<MDL	6.2	12.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
	4-Chlorophenyl Phenyl Ether		<MDL	5.2	10.4	ug/Kg		<MDL	6.2	12.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
	4-Methylphenol		<MDL	5.2	10.4	ug/Kg		<MDL	6.2	12.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
	Acenaphthene		<MDL	2.6	5.22	ug/Kg		<MDL	3.1	6.16	ug/Kg		<MDL	2.6	5.24	ug/Kg
	Acenaphthylene		<MDL	2.6	5.22	ug/Kg		<MDL	3.1	6.16	ug/Kg		<MDL	2.6	5.24	ug/Kg
	Aniline		<MDL	52	104	ug/Kg		<MDL	62	123	ug/Kg		<MDL	52	105	ug/Kg
	Anthracene		<MDL	2.6	5.22	ug/Kg		<MDL	3.1	6.16	ug/Kg		<MDL	2.6	5.24	ug/Kg
	Benzo(a)anthracene	4.2	<RDL	2.6	5.22	ug/Kg		<MDL	3.1	6.16	ug/Kg		<MDL	2.6	5.24	ug/Kg
	Benzo(a)pyrene		<MDL	2.6	5.22	ug/Kg	4.3	<RDL	3.1	6.16	ug/Kg		<MDL	2.6	5.24	ug/Kg
	Benzo(b)fluoranthene	3.5	<RDL	2.6	5.22	ug/Kg	4.2	<RDL	3.1	6.16	ug/Kg		<MDL	2.6	5.24	ug/Kg
	Benzo(g,h,i)perylene		<MDL	2.6	5.22	ug/Kg		<MDL	3.1	6.16	ug/Kg		<MDL	2.6	5.24	ug/Kg
	Benzo(k)fluoranthene		<MDL	2.6	5.22	ug/Kg		<MDL	3.1	6.16	ug/Kg		<MDL	2.6	5.24	ug/Kg
	Benzoic Acid	54	B,J	13	26.1	ug/Kg	90.8	B,J	15	30.8	ug/Kg	59.7	B,J	13	26.2	ug/Kg
	Benzyl Alcohol		<MDL	2.6	5.22	ug/Kg		<MDL	3.1	6.16	ug/Kg		<MDL	2.6	5.24	ug/Kg
	Benzyl Butyl Phthalate		<MDL	5.2	10.4	ug/Kg		<MDL	6.2	12.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
	Bis(2-Chloroethoxy)Methane		<MDL	5.2	10.4	ug/Kg		<MDL	6.2	12.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
	Bis(2-Chloroethyl)Ether		<MDL	5.2	10.4	ug/Kg		<MDL	6.2	12.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
	Bis(2-Chloroisopropyl)Ether		<MDL	5.2	10.4	ug/Kg		<MDL	6.2	12.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
	Bis(2-ethylhexyl)adipate		<MDL	13	26.1	ug/Kg		<MDL	15	30.8	ug/Kg		<MDL	13	26.2	ug/Kg
	Bis(2-Ethylhexyl)Phthalate	15	B	5.2	10.4	ug/Kg	16.3	B	6.2	12.3	ug/Kg	8.8	<RDL,B	5.2	10.5	ug/Kg
	Bisphenol A		<MDL	13	26.1	ug/Kg		<MDL	15	30.8	ug/Kg		<MDL	13	26.2	ug/Kg
	Caffeine		<MDL	5.2	10.4	ug/Kg		<MDL	6.2	12.3	ug/Kg		<MDL	5.2	10.5	ug/Kg

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
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<b>Project:</b>	421240C-300						421240C-300						421240C-300					
<b>Locator:</b>	A320						'0320						AA320					
<b>Descrip:</b>	BIG SOOS CREEK//US						BIG SOOS CREEK//FO						BIG SOOS CREEK, DO					
<b>Sample:</b>	L51247-7						L51298-1						L51298-2					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/26/10 10:35						7/26/10 10:20						7/26/10 11:15					
<b>TotalSolid:</b>	76.6						64.9						76.4					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units	
Carbazole		<MDL	2.6	5.22	ug/Kg			<MDL	3.1	6.16	ug/Kg			<MDL	2.6	5.24	ug/Kg	
Chrysene	6.54		2.6	5.22	ug/Kg		3.9	<RDL	3.1	6.16	ug/Kg			<MDL	2.6	5.24	ug/Kg	
Coprostanol		<MDL	52	104	ug/Kg			<MDL	62	123	ug/Kg			<MDL	52	105	ug/Kg	
Dibenzo(a,h)anthracene		<MDL	2.6	5.22	ug/Kg			<MDL	3.1	6.16	ug/Kg			<MDL	2.6	5.24	ug/Kg	
Dibenzofuran		<MDL	2.6	5.22	ug/Kg			<MDL	3.1	6.16	ug/Kg			<MDL	2.6	5.24	ug/Kg	
Diethyl Phthalate		<MDL	5.2	10.4	ug/Kg			<MDL	6.2	12.3	ug/Kg			<MDL	5.2	10.5	ug/Kg	
Dimethyl Phthalate		<MDL	5.2	10.4	ug/Kg			<MDL	6.2	12.3	ug/Kg			<MDL	5.2	10.5	ug/Kg	
Di-N-Butyl Phthalate	14.2	B	5.2	10.4	ug/Kg		18.8	B	6.2	12.3	ug/Kg		13.9	B	5.2	10.5	ug/Kg	
Di-N-Octyl Phthalate		<MDL	5.2	10.4	ug/Kg			<MDL	6.2	12.3	ug/Kg			<MDL	5.2	10.5	ug/Kg	
Fluoranthene	16.2		2.6	5.22	ug/Kg		8.69		3.1	6.16	ug/Kg			<MDL	2.6	5.24	ug/Kg	
Fluorene		<MDL	2.6	5.22	ug/Kg			<MDL	3.1	6.16	ug/Kg			<MDL	2.6	5.24	ug/Kg	
Hexachlorobenzene		<MDL	0.13	0.261	ug/Kg			<MDL	0.15	0.308	ug/Kg			<MDL	0.13	0.262	ug/Kg	
Hexachlorobutadiene		<MDL	0.65	1.31	ug/Kg			<MDL	0.77	1.54	ug/Kg			<MDL	0.65	1.31	ug/Kg	
Hexachloroethane		<MDL	1.3	2.61	ug/Kg			<MDL	1.5	3.08	ug/Kg			<MDL	1.3	2.62	ug/Kg	
Indeno(1,2,3-Cd)Pyrene		<MDL	2.6	5.22	ug/Kg			<MDL	3.1	6.16	ug/Kg			<MDL	2.6	5.24	ug/Kg	
Isophorone		<MDL	13	26.1	ug/Kg			<MDL	15	30.8	ug/Kg			<MDL	13	26.2	ug/Kg	
Naphthalene		<MDL	2.6	5.22	ug/Kg			<MDL	3.1	6.16	ug/Kg			<MDL	2.6	5.24	ug/Kg	
Nitrobenzene		<MDL	5.2	10.4	ug/Kg			<MDL	6.2	12.3	ug/Kg			<MDL	5.2	10.5	ug/Kg	
N-Nitrosodimethylamine		<MDL	5.2	10.4	ug/Kg			<MDL	6.2	12.3	ug/Kg			<MDL	5.2	10.5	ug/Kg	
N-Nitrosodi-N-Propylamine		<MDL	5.2	10.4	ug/Kg			<MDL	6.2	12.3	ug/Kg			<MDL	5.2	10.5	ug/Kg	
N-Nitrosodiphenylamine		<MDL	5.2	10.4	ug/Kg			<MDL	6.2	12.3	ug/Kg			<MDL	5.2	10.5	ug/Kg	
Pentachlorophenol		<MDL	13	26.1	ug/Kg			<MDL	15	30.8	ug/Kg			<MDL	13	26.2	ug/Kg	
Phenanthrene	6.38		2.6	5.22	ug/Kg		6.32		3.1	6.16	ug/Kg			<MDL	2.6	5.24	ug/Kg	
Phenol		<MDL	5.2	10.4	ug/Kg			<MDL	6.2	12.3	ug/Kg			<MDL	5.2	10.5	ug/Kg	
Pyrene	11.1		2.6	5.22	ug/Kg		7.2		3.1	6.16	ug/Kg			<MDL	2.6	5.24	ug/Kg	
Total 4-Nonylphenol		<MDL	26	52.2	ug/Kg			<MDL	31	61.6	ug/Kg			<MDL	26	52.4	ug/Kg	
<b>OR TERNS (2002)</b>																		
Estradiol		<MDL	0.065	0.658	ug/Kg			<MDL	0.077	0.777	ug/Kg			<MDL	0.065	0.66	ug/Kg	
Estrone	0.11	<RDL,B	0.039	0.394	ug/Kg		0.18	<RDL,B	0.046	0.465	ug/Kg		0.16	<RDL,B	0.039	0.395	ug/Kg	
Ethinyl estradiol		<MDL	0.065	0.658	ug/Kg			<MDL	0.077	0.777	ug/Kg			<MDL	0.065	0.66	ug/Kg	
<b>OR WDOE NWTTPH-DX</b>																		
Diesel Range (>C12-C24)		<MDL	33	33	mg/Kg			<MDL	39	39	mg/Kg			<MDL	33	33	mg/Kg	
Lube Oil Range (>C24)		<MDL	33	33	mg/Kg		43		39	39	mg/Kg			<MDL	33	33	mg/Kg	

\* Not converted to dry weight basis

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
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<b>Project:</b>	421240C-300					421240C-300					421240C-300				
<b>Locator:</b>	GG320					Q320					HH320				
<b>Descrip:</b>	BIG SOOS CREEK DOW					BIG SOOS CR. AT SE					BIG SOOS CREEK AT				
<b>Sample:</b>	L51298-3					L51298-4					L51298-5				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	7/26/10 11:45					7/26/10 12:05					7/26/10 12:35				
<b>TotalSolid:</b>	37.1					8.87					36.1				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
<b>CV ASTM D422</b>															
Clay*	4	RDL	2	4.01	%	24.8		6.2	12.4	%	7.9		2.6	5.26	%
Fines*	12		2	4.01	%	49.6		6.2	12.4	%	18.4		2.6	5.26	%
Gravel*	12.9		0.4	4.01	%	12	<RDL	1.2	12.4	%	10.3		0.53	5.26	%
p+0.00*	7.1		0.4	4.01	%	6.8	<RDL	1.2	12.4	%	12.4		0.53	5.26	%
p+1.00*	25.2		0.4	4.01	%	9.4	<RDL	1.2	12.4	%	21.2		0.53	5.26	%
p+10.0(equal/more than)*	2	<RDL	2	4.01	%	24.8		6.2	12.4	%	7.9		2.6	5.26	%
p+2.00*	23.1		0.4	4.01	%	12	<RDL	1.2	12.4	%	25.5		0.53	5.26	%
p+3.00*	7.6		0.4	4.01	%	7.9	<RDL	1.2	12.4	%	11.9		0.53	5.26	%
p+4.00*	2.6	<RDL	0.4	4.01	%	11	<RDL	1.2	12.4	%	8.5		0.53	5.26	%
p+5.00*	6		2	4.01	%	18.6		6.2	12.4	%	7.9		2.6	5.26	%
p+6.00*		<MDL	2	4.01	%		<MDL	6.2	12.4	%		<MDL	2.6	5.26	%
p+7.00*	2	<RDL	2	4.01	%		<MDL	6.2	12.4	%		<MDL	2.6	5.26	%
p+8.00*		<MDL	2	4.01	%		<MDL	6.2	12.4	%	2.6	<RDL	2.6	5.26	%
p+9.00*	2	<RDL	2	4.01	%		<MDL	6.2	12.4	%		<MDL	2.6	5.26	%
p-1.00*	4.7		0.4	4.01	%	5	<RDL	1.2	12.4	%	4.1	<RDL	0.53	5.26	%
p-2.00(less than)*	6.1		0.4	4.01	%	7.2	<RDL	1.2	12.4	%	4.1	<RDL	0.53	5.26	%
p-2.00*	2.2	<RDL	0.4	4.01	%		<MDL	1.2	12.4	%	2.1	<RDL	0.53	5.26	%
Sand*	65.7		0.4	4.01	%	46.7		1.2	12.4	%	79.5		0.53	5.26	%
Silt*	8		2	4.01	%	24.8		6.2	12.4	%	10.5		2.6	5.26	%
<b>CV EPA DEC 1991</b>															
Sulfide, Acid Volatile		<MDL,JG	0.65	2.63	mg/kg		<MDL,JG	2.8	11	mg/Kg	5.96	JG	0.66	2.64	mg/Kg
<b>CV SM2540-G</b>															
Total Solids*	37.1		0.005	0.01	%	8.87		0.005	0.01	%	36.1		0.005	0.01	%
<b>CV SM4500-NH3-G KCL</b>															
Ammonia Nitrogen	11.5		0.27	0.534	mg/Kg	32.6		1.1	2.25	mg/Kg	11.2		0.27	0.543	mg/Kg
<b>CV SM4500-P-F OL</b>															
Orthophosphate Phosphorus	28.8		2.6	6.58	mg/Kg	213		11	27.7	mg/Kg	57.9		2.7	6.9	mg/Kg
<b>CV SW846 9045C</b>															
pH*	7.31				pH	7.19				pH	7.36				pH
<b>CV SW846 9060-PSEP96</b>															
Total Organic Carbon	57100		4600	9000	mg/Kg	168000		11000	22700	mg/Kg	38500		3600	7010	mg/Kg
<b>MT EPA 200.7</b>															
Arsenic, Extractable, SEM	8.14		1.3	6.58	mg/Kg	46.6		5.5	27.6	mg/Kg	15		1.3	6.59	mg/Kg
Cadmium, Extractable, SEM	0.2	<RDL	0.11	0.526	mg/Kg	0.69	<RDL	0.44	2.21	mg/Kg	0.15	<RDL	0.11	0.529	mg/Kg

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
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<b>Project:</b>	421240C-300						421240C-300						421240C-300					
<b>Locator:</b>	GG320						Q320						HH320					
<b>Descrip:</b>	BIG SOOS CREEK DOW						BIG SOOS CR. AT SE						BIG SOOS CREEK AT					
<b>Sample:</b>	L51298-3						L51298-4						L51298-5					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/26/10 11:45						7/26/10 12:05						7/26/10 12:35					
<b>TotalSolid:</b>	37.1						8.87						36.1					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units	
Chromium, Extractable, SEM	0.838		0.16	0.79	mg/Kg		3.68		0.67	3.31	mg/Kg		1.42		0.16	0.792	mg/Kg	
Copper, Extractable, SEM	5.63		0.21	1.05	mg/Kg		16.3		0.88	4.41	mg/Kg		5.48		0.21	1.06	mg/Kg	
Lead, Extractable, SEM	11.1		1.1	5.26	mg/Kg		35.5		4.4	22.1	mg/Kg		9.47		1.1	5.29	mg/Kg	
Nickel, Extractable, SEM	2.27		0.26	1.32	mg/Kg		6.81		1.1	5.51	mg/Kg		2.07		0.26	1.32	mg/Kg	
Silver, Extractable, SEM	0.24	<RDL	0.21	1.05	mg/Kg		0.91	<RDL	0.88	4.41	mg/Kg			<MDL	0.21	1.06	mg/Kg	
Zinc, Extractable, SEM	36.4		0.26	1.32	mg/Kg		121		1.1	5.51	mg/Kg		40.2		0.26	1.32	mg/Kg	
<b>MT EPA 245.1*SW846 7470A</b>																		
Mercury, Extractable, SEM	0.004	<RDL	0.0026	0.0079	mg/Kg			<MDL	0.011	0.0331	mg/Kg			<MDL	0.0026	0.00792	mg/Kg	
<b>MT SW846 3050B*SW846 6020A</b>																		
Arsenic, Total, ICP-MS	15.7		0.032	0.167	mg/Kg		63.6		0.15	0.707	mg/Kg		29.6		0.036	0.175	mg/Kg	
Cadmium, Total, ICP-MS	0.199		0.017	0.0833	mg/Kg		0.738		0.071	0.354	mg/Kg		0.176		0.017	0.0873	mg/Kg	
Chromium, Total, ICP-MS	20.2		0.067	0.334	mg/Kg		25.7		0.28	1.41	mg/Kg		21.2		0.14	0.698	mg/Kg	
Copper, Total, ICP-MS	12.9		0.13	0.666	mg/Kg		25.8		0.56	2.83	mg/Kg		10.2		0.28	1.4	mg/Kg	
Lead, Total, ICP-MS	19.8		0.032	0.167	mg/Kg		37.5		0.15	0.707	mg/Kg		12.9		0.036	0.175	mg/Kg	
Nickel, Total, ICP-MS	17.8		0.032	0.167	mg/Kg		23.4		0.15	0.707	mg/Kg		19		0.069	0.349	mg/Kg	
Phosphorus, Total, ICP-MS	951		32	167	mg/Kg		2590		150	707	mg/Kg		1080		36	175	mg/Kg	
Silver, Total, ICP-MS	0.049	<RDL	0.017	0.0833	mg/Kg		0.12	<RDL	0.071	0.354	mg/Kg		0.058	<RDL	0.017	0.0873	mg/Kg	
Zinc, Total, ICP-MS	104		0.17	0.833	mg/Kg		189		0.71	3.54	mg/Kg		93.6		0.17	0.873	mg/Kg	
<b>MT SW846 7471B</b>																		
Mercury, Total, CVAA	0.054	<RDL	0.013	0.134	mg/Kg		0.21	<RDL	0.054	0.539	mg/Kg		0.075	<RDL	0.014	0.138	mg/Kg	
<b>OR SW846 3550B*EPA 1614</b>																		
DecaBDE-209	1.26		0.089	0.18	ug/Kg		3.59		0.37	0.752	ug/Kg		3.85		0.091	0.185	ug/Kg	
HeptaBDE-183	0.0437		0.018	0.0358	ug/Kg			<MDL	0.076	0.15	ug/Kg		0.025	<RDL	0.019	0.0368	ug/Kg	
HeptaBDE-190		<MDL	0.018	0.0358	ug/Kg		0.11	<RDL	0.076	0.15	ug/Kg			<MDL	0.019	0.0368	ug/Kg	
HexaBDE-138	0.14	TA	0.018	0.0358	ug/Kg		0.216	TA	0.076	0.15	ug/Kg		0.0947	TA	0.019	0.0368	ug/Kg	
HexaBDE-153	0.523		0.018	0.0358	ug/Kg		0.94		0.076	0.15	ug/Kg		0.299		0.019	0.0368	ug/Kg	
HexaBDE-154	0.122		0.018	0.0358	ug/Kg		0.271		0.076	0.15	ug/Kg		0.0983		0.019	0.0368	ug/Kg	
PentaBDE-100	0.136		0.018	0.0358	ug/Kg		0.389		0.076	0.15	ug/Kg		0.103		0.019	0.0368	ug/Kg	
PentaBDE-85	0.027	<RDL	0.018	0.0358	ug/Kg		0.14	<RDL	0.076	0.15	ug/Kg			<MDL	0.019	0.0368	ug/Kg	
PentaBDE-99	0.442		0.018	0.0358	ug/Kg		1.22	B3	0.076	0.15	ug/Kg		0.316	B3	0.019	0.0368	ug/Kg	
TetraBDE-47	0.86		0.018	0.0358	ug/Kg		1.3	B3	0.076	0.15	ug/Kg		0.41	B3	0.019	0.0368	ug/Kg	
TetraBDE-66		<MDL	0.018	0.0358	ug/Kg			<MDL	0.076	0.15	ug/Kg			<MDL	0.019	0.0368	ug/Kg	
TetraBDE-71	0.0466	TA	0.018	0.0358	ug/Kg		0.11	<RDL,TA	0.076	0.15	ug/Kg		0.025	<RDL,TA	0.019	0.0368	ug/Kg	
TriBDE-17		<MDL	0.018	0.0358	ug/Kg			<MDL	0.076	0.15	ug/Kg			<MDL	0.019	0.0368	ug/Kg	
TriBDE-28	0.022	<RDL,TA	0.018	0.0358	ug/Kg		0.1	<RDL,TA	0.076	0.15	ug/Kg		0.021	<RDL,TA	0.019	0.0368	ug/Kg	

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
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<b>Project:</b>	421240C-300						421240C-300						421240C-300					
<b>Locator:</b>	GG320						Q320						HH320					
<b>Descrip:</b>	BIG SOOS CREEK DOW						BIG SOOS CR. AT SE						BIG SOOS CREEK AT					
<b>Sample:</b>	L51298-3						L51298-4						L51298-5					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/26/10 11:45						7/26/10 12:05						7/26/10 12:35					
<b>TotalSolid:</b>	37.1						8.87						36.1					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units	
<b>OR SW846 3550B*SW846 8081B</b>																		
4,4'-DDD		<MDL	1.8	3.58	ug/Kg			<MDL	7.6	15	ug/Kg			<MDL	1.9	3.68	ug/Kg	
4,4'-DDE		<MDL	1.8	3.58	ug/Kg			<MDL	7.6	15	ug/Kg			<MDL	1.9	3.68	ug/Kg	
4,4'-DDT		<MDL	1.8	3.58	ug/Kg			<MDL	7.6	15	ug/Kg			<MDL	1.9	3.68	ug/Kg	
Aldrin		<MDL	1.8	3.58	ug/Kg			<MDL	7.6	15	ug/Kg			<MDL	1.9	3.68	ug/Kg	
Alpha-BHC		<MDL	0.89	1.8	ug/Kg			<MDL	3.7	7.52	ug/Kg			<MDL	0.91	1.85	ug/Kg	
Alpha-Chlordane		<MDL	0.89	1.8	ug/Kg			<MDL	3.7	7.52	ug/Kg			<MDL	0.91	1.85	ug/Kg	
Beta-BHC		<MDL	0.89	1.8	ug/Kg			<MDL	3.7	7.52	ug/Kg			<MDL	0.91	1.85	ug/Kg	
Delta-BHC		<MDL	0.89	1.8	ug/Kg			<MDL	3.7	7.52	ug/Kg			<MDL	0.91	1.85	ug/Kg	
Dieldrin		<MDL	1.8	3.58	ug/Kg			<MDL	7.6	15	ug/Kg			<MDL	1.9	3.68	ug/Kg	
Endosulfan I		<MDL	1.8	3.58	ug/Kg			<MDL	7.6	15	ug/Kg			<MDL	1.9	3.68	ug/Kg	
Endosulfan II		<MDL	1.8	3.58	ug/Kg			<MDL	7.6	15	ug/Kg			<MDL	1.9	3.68	ug/Kg	
Endosulfan Sulfate		<MDL	1.8	3.58	ug/Kg			<MDL	7.6	15	ug/Kg			<MDL	1.9	3.68	ug/Kg	
Endrin		<MDL	1.8	3.58	ug/Kg			<MDL	7.6	15	ug/Kg			<MDL	1.9	3.68	ug/Kg	
Endrin Aldehyde		<MDL	1.8	3.58	ug/Kg			<MDL	7.6	15	ug/Kg			<MDL	1.9	3.68	ug/Kg	
Gamma-BHC (Lindane)		<MDL	0.89	1.8	ug/Kg			<MDL	3.7	7.52	ug/Kg			<MDL	0.91	1.85	ug/Kg	
Heptachlor		<MDL	0.89	1.8	ug/Kg			<MDL	3.7	7.52	ug/Kg			<MDL	0.91	1.85	ug/Kg	
Heptachlor Epoxide		<MDL	0.89	1.8	ug/Kg			<MDL	3.7	7.52	ug/Kg			<MDL	0.91	1.85	ug/Kg	
Methoxychlor		<MDL	8.9	18	ug/Kg			<MDL	37	75.2	ug/Kg			<MDL	9.1	18.5	ug/Kg	
Toxaphene		<MDL	18	35.8	ug/Kg			<MDL	76	150	ug/Kg			<MDL	19	36.8	ug/Kg	
trans-Chlordane		<MDL	0.89	1.8	ug/Kg			<MDL	3.7	7.52	ug/Kg			<MDL	0.91	1.85	ug/Kg	
<b>OR SW846 3550B*SW846 8082A</b>																		
Aroclor 1016		<MDL	2.2	4.5	ug/Kg			<MDL	9.4	18.8	ug/Kg			<MDL	2.3	4.63	ug/Kg	
Aroclor 1221		<MDL	4.6	8.98	ug/Kg			<MDL	19	37.5	ug/Kg			<MDL	4.7	9.22	ug/Kg	
Aroclor 1232		<MDL	4.6	8.98	ug/Kg			<MDL	19	37.5	ug/Kg			<MDL	4.7	9.22	ug/Kg	
Aroclor 1242		<MDL	2.2	4.5	ug/Kg			<MDL	9.4	18.8	ug/Kg			<MDL	2.3	4.63	ug/Kg	
Aroclor 1248		<MDL	2.2	4.5	ug/Kg			<MDL	9.4	18.8	ug/Kg			<MDL	2.3	4.63	ug/Kg	
Aroclor 1254		<MDL	2.2	4.5	ug/Kg			<MDL	9.4	18.8	ug/Kg			<MDL	2.3	4.63	ug/Kg	
Aroclor 1260		<MDL	2.2	4.5	ug/Kg			<MDL	9.4	18.8	ug/Kg			<MDL	2.3	4.63	ug/Kg	
Total Aroclors		<MDL	2.2	4.5	ug/Kg			<MDL	9.4	18.8	ug/Kg			<MDL	2.3	4.63	ug/Kg	
<b>OR SW846 3550B*SW846 8270D</b>																		
1,2,4-Trichlorobenzene		<MDL	0.27	0.539	ug/Kg			<MDL	1.1	2.25	ug/Kg			<MDL	0.28	0.554	ug/Kg	
1,2-Dichlorobenzene		<MDL	0.54	1.08	ug/Kg			<MDL	2.3	4.51	ug/Kg			<MDL	0.55	1.11	ug/Kg	
1,2-Diphenylhydrazine		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg			<MDL	11	22.2	ug/Kg	
1,3-Dichlorobenzene		<MDL	0.54	1.08	ug/Kg			<MDL	2.3	4.51	ug/Kg			<MDL	0.55	1.11	ug/Kg	

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
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Project: Locator: Descrip: Sample: Matrix: ColDate: TotalSolid:	421240C-300 GG320 BIG SOOS CREEK DOW L51298-3 SE FRSHWTRSED 7/26/10 11:45 37.1 DRY Weight Basis					421240C-300 Q320 BIG SOOS CR. AT SE L51298-4 SE FRSHWTRSED 7/26/10 12:05 8.87 DRY Weight Basis					421240C-300 HH320 BIG SOOS CREEK AT L51298-5 SE FRSHWTRSED 7/26/10 12:35 36.1 DRY Weight Basis					
	Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
1,4-Dichlorobenzene		<MDL	0.54	1.08	ug/Kg		<MDL	2.3	4.51	ug/Kg		<MDL	0.55	1.11	ug/Kg	
2,4,5-Trichlorophenol		<MDL	27	53.9	ug/Kg		<MDL	110	225	ug/Kg		<MDL	28	55.4	ug/Kg	
2,4,6-Trichlorophenol		<MDL	27	53.9	ug/Kg		<MDL	110	225	ug/Kg		<MDL	28	55.4	ug/Kg	
2,4-Dichlorophenol		<MDL	11	21.6	ug/Kg		<MDL	45	90.2	ug/Kg		<MDL	11	22.2	ug/Kg	
2,4-Dimethylphenol		<MDL	2.7	5.39	ug/Kg		<MDL	11	22.5	ug/Kg		<MDL	2.8	5.54	ug/Kg	
2,4-Dinitrotoluene		<MDL	11	21.6	ug/Kg		<MDL	45	90.2	ug/Kg		<MDL	11	22.2	ug/Kg	
2,6-Dinitrotoluene		<MDL	27	53.9	ug/Kg		<MDL	110	225	ug/Kg		<MDL	28	55.4	ug/Kg	
2-Chloronaphthalene		<MDL	11	21.6	ug/Kg		<MDL	45	90.2	ug/Kg		<MDL	11	22.2	ug/Kg	
2-Chlorophenol		<MDL	11	21.6	ug/Kg		<MDL	45	90.2	ug/Kg		<MDL	11	22.2	ug/Kg	
2-Methylnaphthalene		<MDL	5.4	10.8	ug/Kg		<MDL	23	45.1	ug/Kg		<MDL	5.5	11.1	ug/Kg	
2-Methylphenol		<MDL	5.4	10.8	ug/Kg		<MDL	23	45.1	ug/Kg		<MDL	5.5	11.1	ug/Kg	
2-Nitrophenol		<MDL	27	53.9	ug/Kg		<MDL	110	225	ug/Kg		<MDL	28	55.4	ug/Kg	
4-Bromophenyl Phenyl Ether		<MDL	11	21.6	ug/Kg		<MDL	45	90.2	ug/Kg		<MDL	11	22.2	ug/Kg	
4-Chlorophenyl Phenyl Ether		<MDL	11	21.6	ug/Kg		<MDL	45	90.2	ug/Kg		<MDL	11	22.2	ug/Kg	
4-Methylphenol		<MDL	11	21.6	ug/Kg		<MDL	45	90.2	ug/Kg		<MDL	11	22.2	ug/Kg	
Acenaphthene		<MDL	5.4	10.8	ug/Kg		<MDL	23	45.1	ug/Kg		<MDL	5.5	11.1	ug/Kg	
Acenaphthylene		<MDL	5.4	10.8	ug/Kg		<MDL	23	45.1	ug/Kg		<MDL	5.5	11.1	ug/Kg	
Aniline		<MDL	110	216	ug/Kg		<MDL	450	902	ug/Kg		<MDL	110	222	ug/Kg	
Anthracene		<MDL	5.4	10.8	ug/Kg		38	<RDL	23	45.1	ug/Kg	11.5		5.5	11.1	ug/Kg
Benzo(a)anthracene	6.5	<RDL	5.4	10.8	ug/Kg		83.5		23	45.1	ug/Kg	31		5.5	11.1	ug/Kg
Benzo(a)pyrene		<MDL	5.4	10.8	ug/Kg		60.9		23	45.1	ug/Kg	31.6		5.5	11.1	ug/Kg
Benzo(b)fluoranthene		<MDL	5.4	10.8	ug/Kg		96.3		23	45.1	ug/Kg	37.1		5.5	11.1	ug/Kg
Benzo(g,h,i)perylene		<MDL	5.4	10.8	ug/Kg		64.4		23	45.1	ug/Kg	30.7		5.5	11.1	ug/Kg
Benzo(k)fluoranthene		<MDL	5.4	10.8	ug/Kg		79.9		23	45.1	ug/Kg	39.6		5.5	11.1	ug/Kg
Benzoic Acid	210	B,J	27	53.9	ug/Kg		678	B,J	110	225	ug/Kg	133	B,J	28	55.4	ug/Kg
Benzyl Alcohol		<MDL	5.4	10.8	ug/Kg			<MDL	23	45.1	ug/Kg		<MDL	5.5	11.1	ug/Kg
Benzyl Butyl Phthalate		<MDL	11	21.6	ug/Kg		54	<RDL	45	90.2	ug/Kg	14	<RDL	11	22.2	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg		<MDL	11	22.2	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg		<MDL	11	22.2	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg		<MDL	11	22.2	ug/Kg
Bis(2-ethylhexyl)adipate		<MDL	27	53.9	ug/Kg			<MDL	110	225	ug/Kg		<MDL	28	55.4	ug/Kg
Bis(2-Ethylhexyl)Phthalate	39.9	B	11	21.6	ug/Kg		203	B	45	90.2	ug/Kg	102	B2	11	22.2	ug/Kg
Bisphenol A		<MDL	27	53.9	ug/Kg			<MDL	110	225	ug/Kg		<MDL	28	55.4	ug/Kg
Caffeine		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg		<MDL	11	22.2	ug/Kg

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
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<b>Project:</b>	421240C-300						421240C-300						421240C-300					
<b>Locator:</b>	GG320						Q320						HH320					
<b>Descrip:</b>	BIG SOOS CREEK DOW						BIG SOOS CR. AT SE						BIG SOOS CREEK AT					
<b>Sample:</b>	L51298-3						L51298-4						L51298-5					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/26/10 11:45						7/26/10 12:05						7/26/10 12:35					
<b>TotalSolid:</b>	37.1						8.87						36.1					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units	
Carbazole		<MDL	5.4	10.8	ug/Kg			<MDL	23	45.1	ug/Kg			<MDL	5.5	11.1	ug/Kg	
Chrysene	10	<RDL	5.4	10.8	ug/Kg		143		23	45.1	ug/Kg		40.4		5.5	11.1	ug/Kg	
Coprostanol		<MDL	110	216	ug/Kg			<MDL	450	902	ug/Kg			<MDL	110	222	ug/Kg	
Dibenzo(a,h)anthracene		<MDL	5.4	10.8	ug/Kg			<MDL	23	45.1	ug/Kg			<MDL	5.5	11.1	ug/Kg	
Dibenzofuran		<MDL	5.4	10.8	ug/Kg			<MDL	23	45.1	ug/Kg			<MDL	5.5	11.1	ug/Kg	
Diethyl Phthalate		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg			<MDL	11	22.2	ug/Kg	
Dimethyl Phthalate		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg			<MDL	11	22.2	ug/Kg	
Di-N-Butyl Phthalate	35	B	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg			<MDL	11	22.2	ug/Kg	
Di-N-Octyl Phthalate		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg			<MDL	11	22.2	ug/Kg	
Fluoranthene	17.5		5.4	10.8	ug/Kg		229		23	45.1	ug/Kg		95		5.5	11.1	ug/Kg	
Fluorene		<MDL	5.4	10.8	ug/Kg			<MDL	23	45.1	ug/Kg			<MDL	5.5	11.1	ug/Kg	
Hexachlorobenzene		<MDL	0.27	0.539	ug/Kg			<MDL	1.1	2.25	ug/Kg			<MDL	0.28	0.554	ug/Kg	
Hexachlorobutadiene		<MDL	1.3	2.7	ug/Kg			<MDL	5.6	11.3	ug/Kg			<MDL	1.4	2.77	ug/Kg	
Hexachloroethane		<MDL	2.7	5.39	ug/Kg			<MDL	11	22.5	ug/Kg			<MDL	2.8	5.54	ug/Kg	
Indeno(1,2,3-Cd)Pyrene		<MDL	5.4	10.8	ug/Kg			<MDL	23	45.1	ug/Kg			<MDL	5.5	11.1	ug/Kg	
Isophorone		<MDL	27	53.9	ug/Kg			<MDL	110	225	ug/Kg			<MDL	28	55.4	ug/Kg	
Naphthalene		<MDL	5.4	10.8	ug/Kg			<MDL	23	45.1	ug/Kg			<MDL	5.5	11.1	ug/Kg	
Nitrobenzene		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg			<MDL	11	22.2	ug/Kg	
N-Nitrosodimethylamine		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg			<MDL	11	22.2	ug/Kg	
N-Nitrosodi-N-Propylamine		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg			<MDL	11	22.2	ug/Kg	
N-Nitrosodiphenylamine		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg			<MDL	11	22.2	ug/Kg	
Pentachlorophenol		<MDL	27	53.9	ug/Kg			<MDL	110	225	ug/Kg			<MDL	28	55.4	ug/Kg	
Phenanthrene	11.7		5.4	10.8	ug/Kg		59.8		23	45.1	ug/Kg		35.7		5.5	11.1	ug/Kg	
Phenol		<MDL	11	21.6	ug/Kg			<MDL	45	90.2	ug/Kg			<MDL	11	22.2	ug/Kg	
Pyrene	14.3		5.4	10.8	ug/Kg		183		23	45.1	ug/Kg		76.2		5.5	11.1	ug/Kg	
Total 4-Nonylphenol		<MDL	54	108	ug/Kg			<MDL	230	451	ug/Kg			<MDL	55	111	ug/Kg	
<b>OR TERNS (2002)</b>																		
Estradiol		<MDL	0.13	1.36	ug/Kg			<MDL	0.56	5.68	ug/Kg			<MDL	0.14	1.4	ug/Kg	
Estrone	0.19	<RDL,B	0.081	0.814	ug/Kg		0.79	<RDL,B	0.34	3.4	ug/Kg		0.17	<RDL,B	0.083	0.837	ug/Kg	
Ethinyl estradiol		<MDL	0.13	1.36	ug/Kg			<MDL	0.56	5.68	ug/Kg			<MDL	0.14	1.4	ug/Kg	
<b>OR WDOE NWTTPH-DX</b>																		
Diesel Range (>C12-C24)		<MDL	67	67	mg/Kg			<MDL	280	280	mg/Kg			<MDL	69	69	mg/Kg	
Lube Oil Range (>C24)	130		67	67	mg/Kg		850		280	280	mg/Kg		130		69	69	mg/Kg	

\* Not converted to dry weight bas

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
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<b>Project:</b>	421240C-300					421240C-300					421240C-300				
<b>Locator:</b>	P320					II320					RR320				
<b>Descrip:</b>	BIG SOOS 256TH					BIG SOOS CREEK AT					BIG SOOS CREEK NEA				
<b>Sample:</b>	L51298-6					L51298-7					L51298-8				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	7/26/10 13:00					7/26/10 13:20					7/26/10 13:50				
<b>TotalSolid:</b>	64.9					33.4					52.8				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
<b>CV ASTM D422</b>															
Clay*	6.9	RDL	3.4	6.88	%	4.6		1.5	3.09	%	3.7		0.93	1.86	%
Fines*	34.4		3.4	6.88	%	30.9		1.5	3.09	%	11.2		0.93	1.86	%
Gravel*	13		0.69	6.88	%	0.7	<RDL	0.31	3.09	%	48.9		0.19	1.86	%
p+0.00*	21.7		0.69	6.88	%	12.5		0.31	3.09	%	12.4		0.19	1.86	%
p+1.00*	3.9	<RDL	0.69	6.88	%	37.7		0.31	3.09	%	1.8	<RDL	0.19	1.86	%
p+10.0(equal/more than)*	6.9	RDL	3.4	6.88	%	1.5	<RDL	1.5	3.09	%	2.8		0.93	1.86	%
p+2.00*		<MDL	0.69	6.88	%	21.3		0.31	3.09	%	22.3		0.19	1.86	%
p+3.00*	7.5		0.69	6.88	%		<MDL	0.31	3.09	%	8.1		0.19	1.86	%
p+4.00*	27.8		0.69	6.88	%	1.1	<RDL	0.31	3.09	%	2.9		0.19	1.86	%
p+5.00*	17.2		3.4	6.88	%	17		1.5	3.09	%	2.8		0.93	1.86	%
p+6.00*		<MDL	3.4	6.88	%	3.1	RDL	1.5	3.09	%	0.9	<RDL	0.93	1.86	%
p+7.00*	3.4	<RDL	3.4	6.88	%	3.1	RDL	1.5	3.09	%	1.9	RDL	0.93	1.86	%
p+8.00*	6.9	RDL	3.4	6.88	%	3.1	RDL	1.5	3.09	%	1.9	RDL	0.93	1.86	%
p+9.00*		<MDL	3.4	6.88	%	3.1	RDL	1.5	3.09	%	0.9	<RDL	0.93	1.86	%
p-1.00*	6.5	<RDL	0.69	6.88	%	0.7	<RDL	0.31	3.09	%	11.4		0.19	1.86	%
p-2.00(less than)*	2.5	<RDL	0.69	6.88	%		<MDL	0.31	3.09	%	30.8		0.19	1.86	%
p-2.00*	4.1	<RDL	0.69	6.88	%		<MDL	0.31	3.09	%	6.6		0.19	1.86	%
Sand*	60.9		0.69	6.88	%	72.6		0.31	3.09	%	47.5		0.19	1.86	%
Silt*	27.5		3.4	6.88	%	26.3		1.5	3.09	%	7.4		0.93	1.86	%
<b>CV EPA DEC 1991</b>															
Sulfide, Acid Volatile	32.8	JG	1.8	7.33	mg/Kg		<MDL,JG	0.75	2.95	mg/Kg	4.15	JG	0.47	1.86	mg/Kg
<b>CV SM2540-G</b>															
Total Solids*	64.9		0.005	0.01	%	33.4		0.005	0.01	%	52.8		0.005	0.01	%
<b>CV SM4500-NH3-G KCL</b>															
Ammonia Nitrogen	5.69		0.15	0.302	mg/Kg	14.3		1.4	2.8	mg/Kg	11.7		0.95	1.88	mg/Kg
<b>CV SM4500-P-F OL</b>															
Orthophosphate Phosphorus	13.6		1.4	3.48	mg/Kg	35		3	7.49	mg/Kg	14.4		1.8	4.51	mg/Kg
<b>CV SW846 9045C</b>															
pH*	7.32				pH	7.06				pH	6.68				pH
<b>CV SW846 9060-PSEP96</b>															
Total Organic Carbon	24300		2300	4700	mg/Kg	63800		4500	8950	mg/Kg	27800		2300	4560	mg/Kg
<b>MT EPA 200.7</b>															
Arsenic, Extractable, SEM	4.11		0.74	3.67	mg/Kg	5.7	<RDL	1.5	7.37	mg/Kg	1.3	<RDL	0.93	4.66	mg/Kg
Cadmium, Extractable, SEM	0.088	<RDL	0.059	0.293	mg/Kg	0.13	<RDL	0.12	0.59	mg/Kg	0.087	<RDL	0.074	0.373	mg/Kg

**Table C-3: KCEI Stream Sediment Analytical Data 2010**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C-300						421240C-300						421240C-300					
<b>Locator:</b>	P320						II320						RR320					
<b>Descrip:</b>	BIG SOOS 256TH						BIG SOOS CREEK AT						BIG SOOS CREEK NEA					
<b>Sample:</b>	L51298-6						L51298-7						L51298-8					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/26/10 13:00						7/26/10 13:20						7/26/10 13:50					
<b>TotalSolid:</b>	64.9						33.4						52.8					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units	
Chromium, Extractable, SEM	0.505		0.088	0.441	mg/Kg		3.62		0.18	0.883	mg/Kg		1.43		0.11	0.559	mg/Kg	
Copper, Extractable, SEM	2.43		0.12	0.587	mg/Kg		11		0.24	1.18	mg/Kg		7.22		0.15	0.744	mg/Kg	
Lead, Extractable, SEM	3.88		0.59	2.93	mg/Kg		13.7		1.2	5.9	mg/Kg		19.3		0.74	3.73	mg/Kg	
Nickel, Extractable, SEM	1.13		0.15	0.733	mg/Kg		6.71		0.29	1.47	mg/Kg		1.91		0.19	0.93	mg/Kg	
Silver, Extractable, SEM		<MDL	0.12	0.587	mg/Kg			<MDL	0.24	1.18	mg/Kg			<MDL	0.15	0.744	mg/Kg	
Zinc, Extractable, SEM	13.8		0.15	0.733	mg/Kg		26		0.29	1.47	mg/Kg		14.9		0.19	0.93	mg/Kg	
<b>MT EPA 245.1*SW846 7470A</b>																		
Mercury, Extractable, SEM		<MDL	0.0015	0.00441	mg/Kg			<MDL	0.0029	0.00883	mg/Kg			<MDL	0.0019	0.00559	mg/Kg	
<b>MT SW846 3050B*SW846 6020A</b>																		
Arsenic, Total, ICP-MS	7.12		0.02	0.0985	mg/Kg		11.6		0.039	0.19	mg/Kg		6.14		0.025	0.12	mg/Kg	
Cadmium, Total, ICP-MS	0.0663		0.0099	0.0493	mg/Kg		0.271		0.019	0.0952	mg/Kg		0.101		0.012	0.0602	mg/Kg	
Chromium, Total, ICP-MS	13.7		0.079	0.394	mg/Kg		22.7		0.15	0.76	mg/Kg		11.9		0.047	0.241	mg/Kg	
Copper, Total, ICP-MS	13.8		0.15	0.787	mg/Kg		15.1		0.3	1.52	mg/Kg		11.1		0.097	0.481	mg/Kg	
Lead, Total, ICP-MS	4.96		0.02	0.0985	mg/Kg		18		0.039	0.19	mg/Kg		20.6		0.025	0.12	mg/Kg	
Nickel, Total, ICP-MS	16		0.04	0.197	mg/Kg		21.8		0.075	0.38	mg/Kg		12.5		0.025	0.12	mg/Kg	
Phosphorus, Total, ICP-MS	550		20	98.5	mg/Kg		775		39	190	mg/Kg		475		25	120	mg/Kg	
Silver, Total, ICP-MS	0.023	<RDL	0.0099	0.0493	mg/Kg		0.051	<RDL	0.019	0.0952	mg/Kg		0.032	<RDL	0.012	0.0602	mg/Kg	
Zinc, Total, ICP-MS	55.2		0.099	0.493	mg/Kg		85.9		0.19	0.952	mg/Kg		38.8		0.12	0.602	mg/Kg	
<b>MT SW846 7471B</b>																		
Mercury, Total, CVAA	0.031	<RDL	0.0077	0.0767	mg/Kg		0.063	<RDL	0.015	0.149	mg/Kg		0.047	<RDL	0.0091	0.0917	mg/Kg	
<b>OR SW846 3550B*EPA 1614</b>																		
DecaBDE-209	0.481		0.051	0.103	ug/Kg		0.428		0.099	0.2	ug/Kg		0.098	<RDL	0.063	0.126	ug/Kg	
HeptaBDE-183		<MDL	0.01	0.0205	ug/Kg			<MDL	0.02	0.0398	ug/Kg			<MDL	0.013	0.0252	ug/Kg	
HeptaBDE-190	0.012	<RDL	0.01	0.0205	ug/Kg			<MDL	0.02	0.0398	ug/Kg			<MDL	0.013	0.0252	ug/Kg	
HexaBDE-138	0.0861	TA	0.01	0.0205	ug/Kg		0.114	TA	0.02	0.0398	ug/Kg			<MDL,TA	0.013	0.0252	ug/Kg	
HexaBDE-153	0.376		0.01	0.0205	ug/Kg		0.356		0.02	0.0398	ug/Kg		0.021	<RDL	0.013	0.0252	ug/Kg	
HexaBDE-154	0.0673		0.01	0.0205	ug/Kg		0.0638		0.02	0.0398	ug/Kg		0.019	<RDL	0.013	0.0252	ug/Kg	
PentaBDE-100	0.0442		0.01	0.0205	ug/Kg		0.0527		0.02	0.0398	ug/Kg		0.0326		0.013	0.0252	ug/Kg	
PentaBDE-85	0.0357		0.01	0.0205	ug/Kg			<MDL	0.02	0.0398	ug/Kg			<MDL	0.013	0.0252	ug/Kg	
PentaBDE-99	0.102	B3	0.01	0.0205	ug/Kg		0.0799	B	0.02	0.0398	ug/Kg		0.0419	B	0.013	0.0252	ug/Kg	
TetraBDE-47	0.0903	B	0.01	0.0205	ug/Kg		0.171	B	0.02	0.0398	ug/Kg		0.072	B	0.013	0.0252	ug/Kg	
TetraBDE-66		<MDL	0.01	0.0205	ug/Kg			<MDL	0.02	0.0398	ug/Kg			<MDL	0.013	0.0252	ug/Kg	
TetraBDE-71		<MDL,TA	0.01	0.0205	ug/Kg			<MDL,TA	0.02	0.0398	ug/Kg			<MDL,TA	0.013	0.0252	ug/Kg	
TriBDE-17		<MDL	0.01	0.0205	ug/Kg			<MDL	0.02	0.0398	ug/Kg			<MDL	0.013	0.0252	ug/Kg	
TriBDE-28		<MDL,TA	0.01	0.0205	ug/Kg			<MDL,TA	0.02	0.0398	ug/Kg			<MDL,TA	0.013	0.0252	ug/Kg	

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C-300						421240C-300						421240C-300					
<b>Locator:</b>	P320						II320						RR320					
<b>Descrip:</b>	BIG SOOS 256TH						BIG SOOS CREEK AT						BIG SOOS CREEK NEA					
<b>Sample:</b>	L51298-6						L51298-7						L51298-8					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/26/10 13:00						7/26/10 13:20						7/26/10 13:50					
<b>TotalSolid:</b>	64.9						33.4						52.8					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units	
<b>OR SW846 3550B*SW846 8081B</b>																		
4,4'-DDD		<MDL	1	2.05	ug/Kg		<MDL	2	3.98	ug/Kg			<MDL	1.3	2.52	ug/Kg		
4,4'-DDE		<MDL	1	2.05	ug/Kg		<MDL	2	3.98	ug/Kg			<MDL	1.3	2.52	ug/Kg		
4,4'-DDT		<MDL	1	2.05	ug/Kg		<MDL	2	3.98	ug/Kg			<MDL	1.3	2.52	ug/Kg		
Aldrin		<MDL	1	2.05	ug/Kg		<MDL	2	3.98	ug/Kg			<MDL	1.3	2.52	ug/Kg		
Alpha-BHC		<MDL	0.51	1.03	ug/Kg		<MDL	0.99	2	ug/Kg			<MDL	0.63	1.26	ug/Kg		
Alpha-Chlordane		<MDL	0.51	1.03	ug/Kg		<MDL	0.99	2	ug/Kg			<MDL	0.63	1.26	ug/Kg		
Beta-BHC		<MDL	0.51	1.03	ug/Kg		<MDL	0.99	2	ug/Kg			<MDL	0.63	1.26	ug/Kg		
Delta-BHC		<MDL	0.51	1.03	ug/Kg		<MDL	0.99	2	ug/Kg			<MDL	0.63	1.26	ug/Kg		
Dieldrin		<MDL	1	2.05	ug/Kg		<MDL	2	3.98	ug/Kg			<MDL	1.3	2.52	ug/Kg		
Endosulfan I		<MDL	1	2.05	ug/Kg		<MDL	2	3.98	ug/Kg			<MDL	1.3	2.52	ug/Kg		
Endosulfan II		<MDL	1	2.05	ug/Kg		<MDL	2	3.98	ug/Kg			<MDL	1.3	2.52	ug/Kg		
Endosulfan Sulfate		<MDL	1	2.05	ug/Kg		<MDL	2	3.98	ug/Kg			<MDL	1.3	2.52	ug/Kg		
Endrin		<MDL	1	2.05	ug/Kg		<MDL	2	3.98	ug/Kg			<MDL	1.3	2.52	ug/Kg		
Endrin Aldehyde		<MDL	1	2.05	ug/Kg		<MDL	2	3.98	ug/Kg			<MDL	1.3	2.52	ug/Kg		
Gamma-BHC (Lindane)		<MDL	0.51	1.03	ug/Kg		<MDL	0.99	2	ug/Kg			<MDL	0.63	1.26	ug/Kg		
Heptachlor		<MDL	0.51	1.03	ug/Kg		<MDL	0.99	2	ug/Kg			<MDL	0.63	1.26	ug/Kg		
Heptachlor Epoxide		<MDL	0.51	1.03	ug/Kg		<MDL	0.99	2	ug/Kg			<MDL	0.63	1.26	ug/Kg		
Methoxychlor		<MDL	5.1	10.3	ug/Kg		<MDL	9.9	20	ug/Kg			<MDL	6.3	12.6	ug/Kg		
Toxaphene		<MDL	10	20.5	ug/Kg		<MDL	20	39.8	ug/Kg			<MDL	13	25.2	ug/Kg		
trans-Chlordane		<MDL	0.51	1.03	ug/Kg		<MDL	0.99	2	ug/Kg			<MDL	0.63	1.26	ug/Kg		
<b>OR SW846 3550B*SW846 8082A</b>																		
Aroclor 1016		<MDL	1.3	2.57	ug/Kg		<MDL	2.5	5	ug/Kg			<MDL	1.6	3.16	ug/Kg		
Aroclor 1221		<MDL	2.6	5.13	ug/Kg		<MDL	5.1	9.97	ug/Kg			<MDL	3.2	6.31	ug/Kg		
Aroclor 1232		<MDL	2.6	5.13	ug/Kg		<MDL	5.1	9.97	ug/Kg			<MDL	3.2	6.31	ug/Kg		
Aroclor 1242		<MDL	1.3	2.57	ug/Kg		<MDL	2.5	5	ug/Kg			<MDL	1.6	3.16	ug/Kg		
Aroclor 1248		<MDL	1.3	2.57	ug/Kg		<MDL	2.5	5	ug/Kg			<MDL	1.6	3.16	ug/Kg		
Aroclor 1254		<MDL	1.3	2.57	ug/Kg		<MDL	2.5	5	ug/Kg			<MDL,TA	2.5	5.06	ug/Kg		
Aroclor 1260		<MDL	1.3	2.57	ug/Kg		<MDL	2.5	5	ug/Kg		1.9	<RDL	1.6	3.16	ug/Kg		
Total Aroclors		<MDL	1.3	2.57	ug/Kg		<MDL	2.5	5	ug/Kg		1.9	<RDL	1.6	3.16	ug/Kg		
<b>OR SW846 3550B*SW846 8270D</b>																		
1,2,4-Trichlorobenzene		<MDL	0.15	0.308	ug/Kg		<MDL	0.3	0.599	ug/Kg			<MDL	0.19	0.379	ug/Kg		
1,2-Dichlorobenzene		<MDL	0.31	0.616	ug/Kg		<MDL	0.6	1.2	ug/Kg			<MDL	0.38	0.758	ug/Kg		
1,2-Diphenylhydrazine		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg			<MDL	7.6	15.2	ug/Kg		
1,3-Dichlorobenzene		<MDL	0.31	0.616	ug/Kg		<MDL	0.6	1.2	ug/Kg			<MDL	0.38	0.758	ug/Kg		

**Table C-3: KCEI Stream Sediment Analytical Data 2010**  
King County Environmental Lab Analytical Report

<b>Project:</b> <b>Locator:</b> <b>Descrip:</b> <b>Sample:</b> <b>Matrix:</b> <b>ColDate:</b> <b>TotalSolid:</b>	421240C-300 P320 BIG SOOS 256TH L51298-6 SE FRSHWTRSED 7/26/10 13:00 64.9 <b>DRY Weight Basis</b>					421240C-300 II320 BIG SOOS CREEK AT L51298-7 SE FRSHWTRSED 7/26/10 13:20 33.4 <b>DRY Weight Basis</b>					421240C-300 RR320 BIG SOOS CREEK NEA L51298-8 SE FRSHWTRSED 7/26/10 13:50 52.8 <b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
1,4-Dichlorobenzene		<MDL	0.31	0.616	ug/Kg		<MDL	0.6	1.2	ug/Kg		<MDL	0.38	0.758	ug/Kg
2,4,5-Trichlorophenol		<MDL	15	30.8	ug/Kg		<MDL	30	59.9	ug/Kg		<MDL	19	37.9	ug/Kg
2,4,6-Trichlorophenol		<MDL	15	30.8	ug/Kg		<MDL	30	59.9	ug/Kg		<MDL	19	37.9	ug/Kg
2,4-Dichlorophenol		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg		<MDL	7.6	15.2	ug/Kg
2,4-Dimethylphenol		<MDL	1.5	3.08	ug/Kg		<MDL	3	5.99	ug/Kg		<MDL	1.9	3.79	ug/Kg
2,4-Dinitrotoluene		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg		<MDL	7.6	15.2	ug/Kg
2,6-Dinitrotoluene		<MDL	15	30.8	ug/Kg		<MDL	30	59.9	ug/Kg		<MDL	19	37.9	ug/Kg
2-Chloronaphthalene		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg		<MDL	7.6	15.2	ug/Kg
2-Chlorophenol		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg		<MDL	7.6	15.2	ug/Kg
2-Methylnaphthalene		<MDL	3.1	6.16	ug/Kg	32		6	12	ug/Kg		<MDL	3.8	7.58	ug/Kg
2-Methylphenol		<MDL	3.1	6.16	ug/Kg		<MDL	6	12	ug/Kg		<MDL	3.8	7.58	ug/Kg
2-Nitrophenol		<MDL	15	30.8	ug/Kg		<MDL	30	59.9	ug/Kg		<MDL	19	37.9	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg		<MDL	7.6	15.2	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg		<MDL	7.6	15.2	ug/Kg
4-Methylphenol		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg		<MDL	7.6	15.2	ug/Kg
Acenaphthene		<MDL	3.1	6.16	ug/Kg	207		6	12	ug/Kg		<MDL	3.8	7.58	ug/Kg
Acenaphthylene		<MDL	3.1	6.16	ug/Kg		<MDL	6	12	ug/Kg		<MDL	3.8	7.58	ug/Kg
Aniline		<MDL	62	123	ug/Kg		<MDL	120	240	ug/Kg		<MDL	76	152	ug/Kg
Anthracene	4.9	<RDL	3.1	6.16	ug/Kg	461		6	12	ug/Kg		<MDL	3.8	7.58	ug/Kg
Benzo(a)anthracene	13.1		3.1	6.16	ug/Kg	608		6	12	ug/Kg		<MDL	3.8	7.58	ug/Kg
Benzo(a)pyrene	6.27		3.1	6.16	ug/Kg	290		6	12	ug/Kg		<MDL	3.8	7.58	ug/Kg
Benzo(b)fluoranthene	9.82		3.1	6.16	ug/Kg	292		6	12	ug/Kg	4	<RDL	3.8	7.58	ug/Kg
Benzo(g,h,i)perylene	4	<RDL	3.1	6.16	ug/Kg	137		6	12	ug/Kg		<MDL	3.8	7.58	ug/Kg
Benzo(k)fluoranthene	8.41		3.1	6.16	ug/Kg	341		6	12	ug/Kg		<MDL	3.8	7.58	ug/Kg
Benzoic Acid	63.2	B,J	15	30.8	ug/Kg	174	B,J	30	59.9	ug/Kg	101	B,J	19	37.9	ug/Kg
Benzyl Alcohol		<MDL	3.1	6.16	ug/Kg		<MDL	6	12	ug/Kg		<MDL	3.8	7.58	ug/Kg
Benzyl Butyl Phthalate		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg		<MDL	7.6	15.2	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg		<MDL	7.6	15.2	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg		<MDL	7.6	15.2	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg		<MDL	7.6	15.2	ug/Kg
Bis(2-ethylhexyl)adipate		<MDL	15	30.8	ug/Kg		<MDL	30	59.9	ug/Kg		<MDL	19	37.9	ug/Kg
Bis(2-Ethylhexyl)Phthalate	20.6	B	6.2	12.3	ug/Kg	34.4	B	12	24	ug/Kg	18.4	B	7.6	15.2	ug/Kg
Bisphenol A		<MDL	15	30.8	ug/Kg		<MDL	30	59.9	ug/Kg		<MDL	19	37.9	ug/Kg
Caffeine		<MDL	6.2	12.3	ug/Kg		<MDL	12	24	ug/Kg		<MDL	7.6	15.2	ug/Kg

**Table C-3: KCEI Stream Sediment Analytical Data 2010**  
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<b>Project:</b>	421240C-300						421240C-300						421240C-300					
<b>Locator:</b>	P320						II320						RR320					
<b>Descrip:</b>	BIG SOOS 256TH						BIG SOOS CREEK AT						BIG SOOS CREEK NEA					
<b>Sample:</b>	L51298-6						L51298-7						L51298-8					
<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED						SE FRSHWTRSED					
<b>ColDate:</b>	7/26/10 13:00						7/26/10 13:20						7/26/10 13:50					
<b>TotalSolid:</b>	64.9						33.4						52.8					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units		Value	Lab Qual	MDL	RDL	Units	
Carbazole		<MDL	3.1	6.16	ug/Kg		120		6	12	ug/Kg			<MDL	3.8	7.58	ug/Kg	
Chrysene	13.5		3.1	6.16	ug/Kg		731		6	12	ug/Kg			<MDL	3.8	7.58	ug/Kg	
Coprostanol		<MDL	62	123	ug/Kg			<MDL	120	240	ug/Kg			<MDL	76	152	ug/Kg	
Dibenzo(a,h)anthracene		<MDL	3.1	6.16	ug/Kg		51.8		6	12	ug/Kg			<MDL	3.8	7.58	ug/Kg	
Dibenzofuran		<MDL	3.1	6.16	ug/Kg		86.8		6	12	ug/Kg			<MDL	3.8	7.58	ug/Kg	
Diethyl Phthalate		<MDL	6.2	12.3	ug/Kg			<MDL	12	24	ug/Kg			<MDL	7.6	15.2	ug/Kg	
Dimethyl Phthalate		<MDL	6.2	12.3	ug/Kg			<MDL	12	24	ug/Kg			<MDL	7.6	15.2	ug/Kg	
Di-N-Butyl Phthalate	12	<RDL,B	6.2	12.3	ug/Kg			<MDL	12	24	ug/Kg		20.8	B	7.6	15.2	ug/Kg	
Di-N-Octyl Phthalate		<MDL	6.2	12.3	ug/Kg			<MDL	12	24	ug/Kg			<MDL	7.6	15.2	ug/Kg	
Fluoranthene	26.8		3.1	6.16	ug/Kg		1010		6	12	ug/Kg		4.5	<RDL	3.8	7.58	ug/Kg	
Fluorene		<MDL	3.1	6.16	ug/Kg		205		6	12	ug/Kg			<MDL	3.8	7.58	ug/Kg	
Hexachlorobenzene		<MDL	0.15	0.308	ug/Kg			<MDL	0.3	0.599	ug/Kg			<MDL	0.19	0.379	ug/Kg	
Hexachlorobutadiene		<MDL	0.77	1.54	ug/Kg			<MDL	1.5	2.99	ug/Kg			<MDL	0.95	1.89	ug/Kg	
Hexachloroethane		<MDL	1.5	3.08	ug/Kg			<MDL	3	5.99	ug/Kg			<MDL	1.9	3.79	ug/Kg	
Indeno(1,2,3-Cd)Pyrene		<MDL	3.1	6.16	ug/Kg		123		6	12	ug/Kg			<MDL	3.8	7.58	ug/Kg	
Isophorone		<MDL	15	30.8	ug/Kg			<MDL	30	59.9	ug/Kg			<MDL	19	37.9	ug/Kg	
Naphthalene		<MDL	3.1	6.16	ug/Kg		65.6		6	12	ug/Kg			<MDL	3.8	7.58	ug/Kg	
Nitrobenzene		<MDL	6.2	12.3	ug/Kg			<MDL	12	24	ug/Kg			<MDL	7.6	15.2	ug/Kg	
N-Nitrosodimethylamine		<MDL	6.2	12.3	ug/Kg			<MDL	12	24	ug/Kg			<MDL	7.6	15.2	ug/Kg	
N-Nitrosodi-N-Propylamine		<MDL	6.2	12.3	ug/Kg			<MDL	12	24	ug/Kg			<MDL	7.6	15.2	ug/Kg	
N-Nitrosodiphenylamine		<MDL	6.2	12.3	ug/Kg			<MDL	12	24	ug/Kg			<MDL	7.6	15.2	ug/Kg	
Pentachlorophenol		<MDL	15	30.8	ug/Kg			<MDL	30	59.9	ug/Kg			<MDL	19	37.9	ug/Kg	
Phenanthrene	9.04		3.1	6.16	ug/Kg		994		6	12	ug/Kg			<MDL	3.8	7.58	ug/Kg	
Phenol		<MDL	6.2	12.3	ug/Kg			<MDL	12	24	ug/Kg			<MDL	7.6	15.2	ug/Kg	
Pyrene	20.3		3.1	6.16	ug/Kg		916		6	12	ug/Kg			<MDL	3.8	7.58	ug/Kg	
Total 4-Nonylphenol		<MDL	31	61.6	ug/Kg			<MDL	60	120	ug/Kg			<MDL	38	75.8	ug/Kg	
<b>OR TERNS (2002)</b>																		
Estradiol		<MDL	0.077	0.777	ug/Kg			<MDL	0.15	1.51	ug/Kg			<MDL	0.095	0.955	ug/Kg	
Estrone	0.12	<RDL,B	0.046	0.465	ug/Kg		0.33	<RDL,B	0.09	0.904	ug/Kg		0.21	<RDL,B	0.057	0.572	ug/Kg	
Ethinyl estradiol		<MDL	0.077	0.777	ug/Kg			<MDL	0.15	1.51	ug/Kg			<MDL	0.095	0.955	ug/Kg	
<b>OR WDOE NWT PH-DX</b>																		
Diesel Range (>C12-C24)		<MDL	39	39	mg/Kg			<MDL	75	75	mg/Kg			<MDL	47	47	mg/Kg	
Lube Oil Range (>C24)	98		39	39	mg/Kg		180		75	75	mg/Kg		100		47	47	mg/Kg	

\* Not converted to dry weight bas

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
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<b>Project:</b>	421240C-300					421240C-300				
<b>Locator:</b>	SS320					L320				
<b>Descrip:</b>	BIG SOOS CREEK-GAR					BIG SOOS AT GRANT				
<b>Sample:</b>	L51298-9					L51298-10				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	7/26/10 14:15					7/26/10 14:45				
<b>TotalSolid:</b>	70.8					76.5				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
<b>CV ASTM D422</b>										
Clay*		<MDL	0.73	1.46	%	1.7	RDL	0.86	1.72	%
Fines*		<MDL	0.73	1.46	%	3.4		0.86	1.72	%
Gravel*	15.2		0.15	1.46	%	26.1		0.17	1.72	%
p+0.00*	12.7		0.15	1.46	%	5		0.17	1.72	%
p+1.00*	41.8		0.15	1.46	%	7.6		0.17	1.72	%
p+10.0(equal/more than)*		<MDL	0.73	1.46	%	0.9	<RDL	0.86	1.72	%
p+2.00*	29.3		0.15	1.46	%	20.3		0.17	1.72	%
p+3.00*	4		0.15	1.46	%	18.5		0.17	1.72	%
p+4.00*		<MDL	0.15	1.46	%	9.6		0.17	1.72	%
p+5.00*		<MDL	0.73	1.46	%		<MDL	0.86	1.72	%
p+6.00*		<MDL	0.73	1.46	%	0.9	<RDL	0.86	1.72	%
p+7.00*		<MDL	0.73	1.46	%		<MDL	0.86	1.72	%
p+8.00*		<MDL	0.73	1.46	%	0.9	<RDL	0.86	1.72	%
p+9.00*		<MDL	0.73	1.46	%	0.9	<RDL	0.86	1.72	%
p-1.00*	1.6		0.15	1.46	%	5.3		0.17	1.72	%
p-2.00(less than)*	13.7		0.15	1.46	%	15.2		0.17	1.72	%
p-2.00*		<MDL	0.15	1.46	%	5.6		0.17	1.72	%
Sand*	87.8		0.15	1.46	%	61		0.17	1.72	%
Silt*		<MDL	0.73	1.46	%	1.7	RDL	0.86	1.72	%
<b>CV EPA DEC 1991</b>										
Sulfide, Acid Volatile	0.45	<RDL,JG	0.34	1.34	mg/Kg	9.48	JG	0.33	1.28	mg/Kg
<b>CV SM2540-G</b>										
Total Solids*	70.8		0.005	0.01	%	76.5		0.005	0.01	%
<b>CV SM4500-NH3-G KCL</b>										
Ammonia Nitrogen	5.59		0.13	0.257	mg/Kg	4.04		0.13	0.259	mg/Kg
<b>CV SM4500-P-F OL</b>										
Orthophosphate Phosphorus	9.08		1.3	3.31	mg/Kg	5.2		1.2	2.89	mg/Kg
<b>CV SW846 9045C</b>										
pH*	6.99				pH	6.94				pH
<b>CV SW846 9060-PSEP96</b>										
Total Organic Carbon	7600		1000	2020	mg/Kg	10600		1000	2070	mg/Kg
<b>MT EPA 200.7</b>										
Arsenic, Extractable, SEM	1.8	<RDL	0.66	3.35	mg/Kg	0.82	<RDL	0.64	3.2	mg/Kg
Cadmium, Extractable, SEM		<MDL	0.054	0.268	mg/Kg		<MDL	0.051	0.256	mg/Kg

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
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<b>Project:</b>	421240C-300					421240C-300				
<b>Locator:</b>	SS320					L320				
<b>Descrip:</b>	BIG SOOS CREEK-GAR					BIG SOOS AT GRANT				
<b>Sample:</b>	L51298-9					L51298-10				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	7/26/10 14:15					7/26/10 14:45				
<b>TotalSolid:</b>	70.8					76.5				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Chromium, Extractable, SEM	0.531		0.081	0.403	mg/Kg	0.27	<RDL	0.077	0.384	mg/Kg
Copper, Extractable, SEM	0.905		0.11	0.537	mg/Kg	1.52		0.1	0.512	mg/Kg
Lead, Extractable, SEM	3.88		0.54	2.68	mg/Kg	5.67		0.51	2.56	mg/Kg
Nickel, Extractable, SEM	0.38	<RDL	0.13	0.671	mg/Kg	0.647		0.13	0.641	mg/Kg
Silver, Extractable, SEM		<MDL	0.11	0.537	mg/Kg		<MDL	0.1	0.512	mg/Kg
Zinc, Extractable, SEM	12.1		0.13	0.671	mg/Kg	9.74		0.13	0.641	mg/Kg
<b>MT EPA 245.1*SW846 7470A</b>										
Mercury, Extractable, SEM		<MDL	0.0013	0.00403	mg/Kg		<MDL	0.0013	0.00384	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>										
Arsenic, Total, ICP-MS	3.59		0.035	0.175	mg/Kg	8.24		0.017	0.083	mg/Kg
Cadmium, Total, ICP-MS	0.059	<RDL	0.017	0.0879	mg/Kg	0.0518		0.0084	0.0416	mg/Kg
Chromium, Total, ICP-MS	13.3		0.071	0.352	mg/Kg	8.18		0.033	0.166	mg/Kg
Copper, Total, ICP-MS	4.82		0.14	0.703	mg/Kg	4.71		0.067	0.332	mg/Kg
Lead, Total, ICP-MS	5.51		0.035	0.175	mg/Kg	4.46		0.017	0.083	mg/Kg
Nickel, Total, ICP-MS	15.4		0.035	0.175	mg/Kg	9.87		0.017	0.083	mg/Kg
Phosphorus, Total, ICP-MS	380		35	175	mg/Kg	416		17	83	mg/Kg
Silver, Total, ICP-MS	0.018	<RDL	0.017	0.0879	mg/Kg	0.039	<RDL	0.0084	0.0416	mg/Kg
Zinc, Total, ICP-MS	46.3		0.17	0.879	mg/Kg	29.4		0.084	0.416	mg/Kg
<b>MT SW846 7471B</b>										
Mercury, Total, CVAA	0.017	<RDL	0.0069	0.0698	mg/Kg	0.018	<RDL	0.0065	0.0654	mg/Kg
<b>OR SW846 3550B*EPA 1614</b>										
DecaBDE-209	0.105		0.047	0.0942	ug/Kg	0.14		0.043	0.0872	ug/Kg
HeptaBDE-183	0.0681		0.0095	0.0188	ug/Kg		<MDL	0.0088	0.0174	ug/Kg
HeptaBDE-190	0.011	<RDL	0.0095	0.0188	ug/Kg		<MDL	0.0088	0.0174	ug/Kg
HexaBDE-138	0.264	TA	0.0095	0.0188	ug/Kg	0.0438	J,TA	0.0088	0.0174	ug/Kg
HexaBDE-153	0.912		0.0095	0.0188	ug/Kg	0.157		0.0088	0.0174	ug/Kg
HexaBDE-154		<MDL	0.0095	0.0188	ug/Kg	0.0255		0.0088	0.0174	ug/Kg
PentaBDE-100	0.0297		0.0095	0.0188	ug/Kg	0.023		0.0088	0.0174	ug/Kg
PentaBDE-85		<MDL	0.0095	0.0188	ug/Kg		<MDL	0.0088	0.0174	ug/Kg
PentaBDE-99	0.0232	B	0.0095	0.0188	ug/Kg	0.0486	B	0.0088	0.0174	ug/Kg
TetraBDE-47	0.0633	B	0.0095	0.0188	ug/Kg	0.0898	B	0.0088	0.0174	ug/Kg
TetraBDE-66		<MDL	0.0095	0.0188	ug/Kg		<MDL	0.0088	0.0174	ug/Kg
TetraBDE-71		<MDL,TA	0.0095	0.0188	ug/Kg		<MDL,TA	0.0088	0.0174	ug/Kg
TriBDE-17		<MDL	0.0095	0.0188	ug/Kg		<MDL	0.0088	0.0174	ug/Kg
TriBDE-28	0.013	<RDL,TA	0.0095	0.0188	ug/Kg		<MDL,TA	0.0088	0.0174	ug/Kg

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
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<b>Project:</b>	421240C-300					421240C-300				
<b>Locator:</b>	SS320					L320				
<b>Descrip:</b>	BIG SOOS CREEK-GAR					BIG SOOS AT GRANT				
<b>Sample:</b>	L51298-9					L51298-10				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	7/26/10 14:15					7/26/10 14:45				
<b>TotalSolid:</b>	70.8					76.5				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
<b>OR SW846 3550B*SW846 8081B</b>										
4,4'-DDD		<MDL	0.95	1.88	ug/Kg		<MDL	0.88	1.74	ug/Kg
4,4'-DDE		<MDL	0.95	1.88	ug/Kg		<MDL	0.88	1.74	ug/Kg
4,4'-DDT		<MDL	0.95	1.88	ug/Kg		<MDL	0.88	1.74	ug/Kg
Aldrin		<MDL	0.95	1.88	ug/Kg		<MDL	0.88	1.74	ug/Kg
Alpha-BHC		<MDL	0.47	0.942	ug/Kg		<MDL	0.43	0.872	ug/Kg
Alpha-Chlordane		<MDL	0.47	0.942	ug/Kg		<MDL	0.43	0.872	ug/Kg
Beta-BHC		<MDL	0.47	0.942	ug/Kg		<MDL	0.43	0.872	ug/Kg
Delta-BHC		<MDL	0.47	0.942	ug/Kg		<MDL	0.43	0.872	ug/Kg
Dieldrin		<MDL	0.95	1.88	ug/Kg		<MDL	0.88	1.74	ug/Kg
Endosulfan I		<MDL	0.95	1.88	ug/Kg		<MDL	0.88	1.74	ug/Kg
Endosulfan II		<MDL	0.95	1.88	ug/Kg		<MDL	0.88	1.74	ug/Kg
Endosulfan Sulfate		<MDL	0.95	1.88	ug/Kg		<MDL	0.88	1.74	ug/Kg
Endrin		<MDL	0.95	1.88	ug/Kg		<MDL	0.88	1.74	ug/Kg
Endrin Aldehyde		<MDL	0.95	1.88	ug/Kg		<MDL	0.88	1.74	ug/Kg
Gamma-BHC (Lindane)		<MDL	0.47	0.942	ug/Kg		<MDL	0.43	0.872	ug/Kg
Heptachlor		<MDL	0.47	0.942	ug/Kg		<MDL	0.43	0.872	ug/Kg
Heptachlor Epoxide		<MDL	0.47	0.942	ug/Kg		<MDL	0.43	0.872	ug/Kg
Methoxychlor		<MDL	4.7	9.42	ug/Kg		<MDL	4.3	8.72	ug/Kg
Toxaphene		<MDL	9.5	18.8	ug/Kg		<MDL	8.8	17.4	ug/Kg
trans-Chlordane		<MDL	0.47	0.942	ug/Kg		<MDL	0.43	0.872	ug/Kg
<b>OR SW846 3550B*SW846 8082A</b>										
Aroclor 1016		<MDL	1.2	2.36	ug/Kg		<MDL	1.1	2.18	ug/Kg
Aroclor 1221		<MDL	2.4	4.7	ug/Kg		<MDL	2.2	4.35	ug/Kg
Aroclor 1232		<MDL	2.4	4.7	ug/Kg		<MDL	2.2	4.35	ug/Kg
Aroclor 1242		<MDL	1.2	2.36	ug/Kg		<MDL	1.1	2.18	ug/Kg
Aroclor 1248		<MDL	1.2	2.36	ug/Kg		<MDL	1.1	2.18	ug/Kg
Aroclor 1254		<MDL	1.2	2.36	ug/Kg		<MDL	1.1	2.18	ug/Kg
Aroclor 1260		<MDL	1.2	2.36	ug/Kg		<MDL	1.1	2.18	ug/Kg
Total Aroclors		<MDL	1.2	2.36	ug/Kg		<MDL	1.1	2.18	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>										
1,2,4-Trichlorobenzene		<MDL	0.14	0.282	ug/Kg		<MDL	0.13	0.261	ug/Kg
1,2-Dichlorobenzene		<MDL	0.28	0.565	ug/Kg		<MDL	0.26	0.523	ug/Kg
1,2-Diphenylhydrazine		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
1,3-Dichlorobenzene		<MDL	0.28	0.565	ug/Kg		<MDL	0.26	0.523	ug/Kg

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C-300					421240C-300				
<b>Locator:</b>	SS320					L320				
<b>Descrip:</b>	BIG SOOS CREEK-GAR					BIG SOOS AT GRANT				
<b>Sample:</b>	L51298-9					L51298-10				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	7/26/10 14:15					7/26/10 14:45				
<b>TotalSolid:</b>	70.8					76.5				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
Parameters	Value	Lab Qual	MDL	RDL	Units	Value	Lab Qual	MDL	RDL	Units
1,4-Dichlorobenzene		<MDL	0.28	0.565	ug/Kg		<MDL	0.26	0.523	ug/Kg
2,4,5-Trichlorophenol		<MDL	14	28.2	ug/Kg		<MDL	13	26.1	ug/Kg
2,4,6-Trichlorophenol		<MDL	14	28.2	ug/Kg		<MDL	13	26.1	ug/Kg
2,4-Dichlorophenol		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
2,4-Dimethylphenol		<MDL	1.4	2.82	ug/Kg		<MDL	1.3	2.61	ug/Kg
2,4-Dinitrotoluene		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
2,6-Dinitrotoluene		<MDL	14	28.2	ug/Kg		<MDL	13	26.1	ug/Kg
2-Chloronaphthalene		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
2-Chlorophenol		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
2-Methylnaphthalene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
2-Methylphenol		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
2-Nitrophenol		<MDL	14	28.2	ug/Kg		<MDL	13	26.1	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
4-Methylphenol		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
Acenaphthene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Acenaphthylene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Aniline		<MDL,JG	56	113	ug/Kg		<MDL	52	105	ug/Kg
Anthracene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Benzo(a)anthracene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Benzo(a)pyrene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Benzo(b)fluoranthene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Benzo(g,h,i)perylene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Benzo(k)fluoranthene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Benzoic Acid	75.3	B,J	14	28.2	ug/Kg	56.7	B,J	13	26.1	ug/Kg
Benzyl Alcohol		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Benzyl Butyl Phthalate		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
Bis(2-ethylhexyl)adipate		<MDL,JG	14	28.2	ug/Kg		<MDL,JG	13	26.1	ug/Kg
Bis(2-Ethylhexyl)Phthalate	15.7	B	5.6	11.3	ug/Kg	10.8	B	5.2	10.5	ug/Kg
Bisphenol A		<MDL,JG	14	28.2	ug/Kg		<MDL,JG	13	26.1	ug/Kg
Caffeine		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg

**Table C-3: KCEL Stream Sediment Analytical Data 2010**  
King County Environmental Lab Analytical Report

<b>Project:</b>	421240C-300					421240C-300				
<b>Locator:</b>	SS320					L320				
<b>Descrip:</b>	BIG SOOS CREEK-GAR					BIG SOOS AT GRANT				
<b>Sample:</b>	L51298-9					L51298-10				
<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED				
<b>ColDate:</b>	7/26/10 14:15					7/26/10 14:45				
<b>TotalSolid:</b>	70.8					76.5				
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>				
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Carbazole		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Chrysene	3.1	<RDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Coprostanol		<MDL	56	113	ug/Kg		<MDL	52	105	ug/Kg
Dibenzo(a,h)anthracene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Dibenzofuran		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Diethyl Phthalate		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
Dimethyl Phthalate		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
Di-N-Butyl Phthalate	16.2	B	5.6	11.3	ug/Kg	15.9	B	5.2	10.5	ug/Kg
Di-N-Octyl Phthalate		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
Fluoranthene	6.81		2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Fluorene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Hexachlorobenzene		<MDL	0.14	0.282	ug/Kg		<MDL	0.13	0.261	ug/Kg
Hexachlorobutadiene		<MDL	0.71	1.41	ug/Kg		<MDL	0.65	1.31	ug/Kg
Hexachloroethane		<MDL	1.4	2.82	ug/Kg		<MDL	1.3	2.61	ug/Kg
Indeno(1,2,3-Cd)Pyrene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Isophorone		<MDL	14	28.2	ug/Kg		<MDL	13	26.1	ug/Kg
Naphthalene		<MDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Nitrobenzene		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
N-Nitrosodimethylamine		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
N-Nitrosodiphenylamine		<MDL	5.6	11.3	ug/Kg		<MDL	5.2	10.5	ug/Kg
Pentachlorophenol		<MDL	14	28.2	ug/Kg		<MDL	13	26.1	ug/Kg
Phenanthrene	3.1	<RDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Phenol		<MDL	5.6	11.3	ug/Kg		<MDL,J	5.2	10.5	ug/Kg
Pyrene	5.5	<RDL	2.8	5.65	ug/Kg		<MDL	2.6	5.23	ug/Kg
Total 4-Nonylphenol		<MDL	28	56.5	ug/Kg		<MDL	26	52.3	ug/Kg
<b>OR TERNS (2002)</b>										
Estradiol		<MDL	0.071	0.712	ug/Kg		<MDL	0.065	0.659	ug/Kg
Estrone	0.089	<RDL,B	0.042	0.427	ug/Kg	0.17	<RDL,B	0.039	0.395	ug/Kg
Ethynyl estradiol		<MDL	0.071	0.712	ug/Kg		<MDL	0.065	0.659	ug/Kg
<b>OR WDOE NWTTPH-DX</b>										
Diesel Range (>C12-C24)		<MDL	35	35	mg/Kg		<MDL	33	33	mg/Kg
Lube Oil Range (>C24)		<MDL	35	35	mg/Kg	39		33	33	mg/Kg

\* Not converted to dry weight bas

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	A315					SD315					
	<b>Descrip:</b>	HILL CREEK (MILL)/					MILL CRK AT W.VALL					
	<b>Sample:</b>	L56024-1					L56024-2					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/13/12 11:35					8/13/12 12:20					
	<b>TotalSolid:</b>	49.7					47.5					
	<b>Sample Information:</b>	20 spoons; under bridge, H2S slight					20 spoons; lots of plant debris, hay, H2S slight					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
<b>CV ASTM D422</b>												
Fines*	25.7	—	—	1.1	2.1	%	11.8	—	—	0.9	1.8	%
Gravel*	18.2	—	—	0.2	2.1	%	31.2	—	—	0.2	1.8	%
Sand*	47	—	—	0.2	2.1	%	49.4	—	—	0.2	1.8	%
Silt*	21.4	—	—	1.1	2.1	%	7.3	—	—	0.9	1.8	%
Clay*	4.3	—	—	1.1	2.1	%	4.5	—	—	0.9	1.8	%
p+0.00*	1.2	<RDL	J	0.2	2.1	%	2.9	—	—	0.2	1.8	%
p+1.00*	5.3	—	—	0.2	2.1	%	3.9	—	—	0.2	1.8	%
p+10.0(equal/more than)*	4.3	—	—	1.1	2.1	%	3.6	—	—	0.9	1.8	%
p+2.00*	8.1	—	—	0.2	2.1	%	14.3	—	—	0.2	1.8	%
p+3.00*	8.6	—	—	0.2	2.1	%	15.6	—	—	0.2	1.8	%
p+4.00*	23.8	—	—	0.2	2.1	%	12.6	—	—	0.2	1.8	%
p+5.00*	12.8	—	—	1.1	2.1	%	3.6	—	—	0.9	1.8	%
p+6.00*	5.4	—	—	1.1	2.1	%	1.8	RDL	—	0.9	1.8	%
p+7.00*	2.1	RDL	—	1.1	2.1	%	0.9	<RDL	J	0.9	1.8	%
p+8.00*	1.1	<RDL	J	1.1	2.1	%	0.9	<RDL	J	0.9	1.8	%
p+9.00*	—	<MDL	U	1.1	2.1	%	0.9	<RDL	J	0.9	1.8	%
p-1.00*	3.7	—	—	0.2	2.1	%	3.5	—	—	0.2	1.8	%
p-2.00(less than)*	14.3	—	—	0.2	2.1	%	26.1	—	—	0.2	1.8	%
p-2.00*	0.2	<RDL	J	0.2	2.1	%	1.6	<RDL	J	0.2	1.8	%
<b>CV EPA DEC 1991</b>												
Sulfide, Acid Volatile	10.2	JG	—	0.48	1.94	mg/Kg	84.4	JG	—	2.5	10.2	mg/Kg
<b>CV SM2540-G</b>												
Total Solids*	49.7	—	—	0.005	0.01	%	47.5	—	—	0.005	0.01	%
<b>CV SW846 9045D</b>												
pH*	6.94	—	—	—	—	pH	6.84	—	—	—	—	pH
<b>CV SW846 9060-PSEP96</b>												
Total Organic Carbon	15400	—	—	1200	2490	mg/Kg	16300	—	—	2000	4000	mg/Kg
<b>MT EPA 1991/200.7</b>												
Arsenic, Extractable, SEM	2.8	<RDL	J	0.97	4.85	mg/Kg	4.4	<RDL	J	1	5.12	mg/Kg
Cadmium, Extractable, SEM	0.11	<RDL	J	0.078	0.388	mg/Kg	0.594	—	—	0.082	0.408	mg/Kg
Chromium, Extractable, SEM	1.8	—	—	0.12	0.581	mg/Kg	4.19	—	—	0.12	0.615	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	A315					SD315					
	<b>Descrip:</b>	HILL CREEK (MILL)/					MILL CRK AT W.VALL					
	<b>Sample:</b>	L56024-1					L56024-2					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/13/12 11:35					8/13/12 12:20					
	<b>TotalSolid:</b>	49.7					47.5					
	<b>Sample Information:</b>	20 spoons; under bridge, H2S slight					20 spoons; lots of plant debris, hay, H2S slight					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Copper, Extractable, SEM	9.72	—	—	0.15	0.777	mg/Kg	17.8	—	—	0.16	0.819	mg/Kg
Lead, Extractable, SEM	6.18	—	—	0.78	3.88	mg/Kg	37.1	—	—	0.82	4.08	mg/Kg
Nickel, Extractable, SEM	1.87	—	—	0.19	0.97	mg/Kg	5.52	—	—	0.2	1.02	mg/Kg
Silver, Extractable, SEM	—	<MDL	U	0.15	0.777	mg/Kg	—	<MDL	U	0.16	0.819	mg/Kg
Zinc, Extractable, SEM	21.7	—	—	0.19	0.97	mg/Kg	134	—	—	0.2	1.02	mg/Kg
<b>MT EPA 821 1991/245.1*SW846 7470A</b>												
Mercury, Extractable, SEM	0.004	<RDL	J	0.0019	0.00581	mg/Kg	—	<MDL	U	0.002	0.00615	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>												
Arsenic, Total, ICP-MS	5.88	—	—	0.017	0.0849	mg/Kg	8.67	—	—	0.021	0.104	mg/Kg
Cadmium, Total, ICP-MS	0.128	—	—	0.0085	0.0425	mg/Kg	0.335	—	—	0.01	0.052	mg/Kg
Chromium, Total, ICP-MS	11.8	—	—	0.14	0.68	mg/Kg	12.9	—	—	0.17	0.832	mg/Kg
Copper, Total, ICP-MS	18.3	—	—	0.28	1.36	mg/Kg	18.2	—	—	0.34	1.67	mg/Kg
Lead, Total, ICP-MS	8.09	—	—	0.017	0.0849	mg/Kg	28.2	—	—	0.021	0.104	mg/Kg
Nickel, Total, ICP-MS	11.4	—	—	0.068	0.34	mg/Kg	12.1	—	—	0.084	0.417	mg/Kg
Silver, Total, ICP-MS	0.062	—	—	0.0068	0.034	mg/Kg	0.103	—	—	0.0084	0.0417	mg/Kg
Zinc, Total, ICP-MS	50.1	—	—	0.085	0.425	mg/Kg	120	—	—	0.42	2.08	mg/Kg
<b>MT SW846 7471B</b>												
Mercury, Total, CVAA	0.114	—	—	0.0097	0.0962	mg/Kg	0.059	<RDL	J	0.01	0.104	mg/Kg
<b>OR SW846 3550B*SW846 8081B</b>												
4,4'-DDD	2	<RDL	J	1.1	2.15	ug/Kg	2	<RDL	J	1.1	2.25	ug/Kg
4,4'-DDE	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
4,4'-DDT	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Aldrin	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Alpha-BHC	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Alpha-Chlordane	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Beta-BHC	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Delta-BHC	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Dieldrin	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Endosulfan I	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Endosulfan II	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Endosulfan Sulfate	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Endrin	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

Locator: Descrip: Sample: Matrix: ColDate: TotalSolid: Sample Information:	A315 HILL CREEK (MILL)/ L56024-1 SE FRSHWTRSED 8/13/12 11:35 49.7 20 spoons; under bridge, H2S slight	SD315 MILL CRK AT W.VALL L56024-2 SE FRSHWTRSED 8/13/12 12:20 47.5 20 spoons; lots of plant debris, hay, H2S slight										
	DRY Weight Basis						DRY Weight Basis					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Endrin Aldehyde	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Heptachlor	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Heptachlor Epoxide	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Methoxychlor	—	<MDL	U	5.4	10.7	ug/Kg	—	<MDL	U	5.7	11.2	ug/Kg
Toxaphene	—	<MDL	U	22	107	ug/Kg	—	<MDL	U	23	112	ug/Kg
trans-Chlordane	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
OR SW846 3550B*SW846 8082A												
Aroclor 1016	—	<MDL	U	2.6	10.7	ug/Kg	—	<MDL	U	2.7	11.2	ug/Kg
Aroclor 1221	—	<MDL	U	5.4	10.7	ug/Kg	—	<MDL	U	5.7	11.2	ug/Kg
Aroclor 1232	—	<MDL	U	5.4	10.7	ug/Kg	—	<MDL	U	5.7	11.2	ug/Kg
Aroclor 1242	—	<MDL	U	2.6	10.7	ug/Kg	—	<MDL	U	2.7	11.2	ug/Kg
Aroclor 1248	—	<MDL	U	2.6	10.7	ug/Kg	—	<MDL	U	2.7	11.2	ug/Kg
Aroclor 1254	—	<MDL	U	2.6	10.7	ug/Kg	4	<RDL	J	2.7	11.2	ug/Kg
Aroclor 1260	—	<MDL	U	2.6	10.7	ug/Kg	5.3	<RDL	J	2.7	11.2	ug/Kg
Total Aroclors	—	<MDL	—	5.4	10.7	ug/Kg	9.3	<RDL	—	2.7	11.2	ug/Kg
OR SW846 3550B*SW846 8270D												
1,2,4-Trichlorobenzene	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	5.7	11.2	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	10.7	10.7	ug/Kg	—	<MDL	U	11.2	11.2	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	16.1	16.1	ug/Kg	—	<MDL	U	16.8	16.8	ug/Kg
2,4-Dimethylphenol		<MDL,JG	UJ	11	21.5	ug/Kg		<MDL,JG	UJ	57	112	ug/Kg
2-Methylnaphthalene	—	<MDL	U	11	21.5	ug/Kg	—	<MDL	U	57	112	ug/Kg
2-Methylphenol	—	<MDL	U	11	21.5	ug/Kg	—	<MDL	U	11	22.5	ug/Kg
3-,4-Methylphenol	—	<MDL	U	54	107	ug/Kg	—	<MDL	U	57	112	ug/Kg
Acenaphthene	—	<MDL	U	11	21.5	ug/Kg	—	<MDL	U	11	22.5	ug/Kg
Acenaphthylene	—	<MDL	U	11	21.5	ug/Kg	—	<MDL	U	11	22.5	ug/Kg
Anthracene	—	<MDL	U	11	21.5	ug/Kg	—	<MDL	U	11	22.5	ug/Kg
Benzo(a)anthracene	43.1	—	—	11	21.5	ug/Kg	62.3	—	—	11	22.5	ug/Kg
Benzo(a)pyrene	—	<MDL	U	54	107	ug/Kg	85.1	—	—	11	22.5	ug/Kg
Benzo(b,j,k)fluoranthene	140	—	—	54	107	ug/Kg	324	—	—	11	22.5	ug/Kg
Benzo(g,h,i)perylene	—	<MDL	U	54	107	ug/Kg	39.4	—	—	11	22.5	ug/Kg
Benzoic Acid	1030	—	—	215	215	ug/Kg	—	<MDL	U	1120	1120	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	A315					SD315					
	<b>Descrip:</b>	HILL CREEK (MILL)/					MILL CRK AT W.VALL					
	<b>Sample:</b>	L56024-1					L56024-2					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/13/12 11:35					8/13/12 12:20					
	<b>TotalSolid:</b>	49.7					47.5					
	<b>Sample Information:</b>	20 spoons; under bridge, H2S slight					20 spoons; lots of plant debris, hay, H2S slight					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Benzyl Alcohol	—	<MDL	U	26.8	26.8	ug/Kg	—	<MDL	U	28	28	ug/Kg
Benzyl Butyl Phthalate	—	<MDL	U	16.1	16.1	ug/Kg	169	—	—	16.8	16.8	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	360	1720	ug/Kg	—	<MDL	U	380	1800	ug/Kg
Bis(2-Ethylhexyl)Phthalate	60	—	—	22	42.9	ug/Kg	484	—	—	23	44.8	ug/Kg
Bisphenol A	—	<MDL	U	360	1720	ug/Kg	—	<MDL	U	380	1800	ug/Kg
Carbazole	—	<MDL	U	11	21.5	ug/Kg	—	<MDL	U	11	22.5	ug/Kg
Chrysene	51.1	—	—	11	21.5	ug/Kg	118	—	—	11	22.5	ug/Kg
Coprostanol	—	<MDL	U	1800	17200	ug/Kg	—	<MDL	U	1900	18000	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	54	107	ug/Kg	—	<MDL	U	11	22.5	ug/Kg
Dibenzofuran	—	<MDL	U	11	21.5	ug/Kg	—	<MDL	U	11	22.5	ug/Kg
Diethyl Phthalate	—	<MDL	U	22	42.9	ug/Kg	—	<MDL	U	23	44.8	ug/Kg
Dimethyl Phthalate	—	<MDL	U	21.5	21.5	ug/Kg	135	—	—	22.5	22.5	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	22	42.9	ug/Kg	23	<RDL	J	23	44.8	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	107	107	ug/Kg	—	<MDL	U	22.5	22.5	ug/Kg
Fluoranthene	99	—	—	11	21.5	ug/Kg	148	—	—	11	22.5	ug/Kg
Fluorene	—	<MDL	U	11	21.5	ug/Kg	—	<MDL	U	11	22.5	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.1	2.15	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Hexachlorobutadiene	—	<MDL	U	5.4	10.7	ug/Kg	—	<MDL	U	27	56.2	ug/Kg
Indeno(1,2,3-Cd)Pyrene	—	<MDL	U	54	107	ug/Kg	45.7	—	—	11	22.5	ug/Kg
Naphthalene	—	<MDL	U	11	21.5	ug/Kg	—	<MDL	U	57	112	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	26.8	26.8	ug/Kg	—	<MDL	U	28	28	ug/Kg
Pentachlorophenol	—	<MDL	U	161	161	ug/Kg	—	<MDL	U	168	168	ug/Kg
Phenanthrene	58.6	—	—	11	21.5	ug/Kg	45.7	—	—	11	22.5	ug/Kg
Phenol	—	<MDL	U	54	161	ug/Kg	—	<MDL	U	57	168	ug/Kg
Pyrene	86.7	—	—	11	21.5	ug/Kg	156	—	—	11	22.5	ug/Kg
Total 4-Nonylphenol	—	<MDL	U	160	1720	ug/Kg	180	<RDL	J	170	1800	ug/Kg
Total HPAHS	420	—	—	11	21.5	ug/Kg	978	—	—	11	22.5	ug/Kg
Total LPAHS	58.6	—	—	11	21.5	ug/Kg	45.7	—	—	11	22.5	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> FR315						TS315					
	<b>Descrip:</b> MILL CRK ON FRONTA						MILL CRK NEAR 1ST					
	<b>Sample:</b> L56024-3						L56024-4					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/29/12 11:30						8/13/12 13:25					
	<b>TotalSolid:</b> 21.9						20.4					
	<b>Sample Information:</b> 30 spoons; much canary grass, H2S moderate						15 spoons; H2S moderate					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
<b>CV ASTM D422</b>												
Fines*	31.8	—	—	4	8	%	51.1	—	—	3.2	6.4	%
Gravel*	—	<MDL	U	0.8	8	%	—	<MDL	U	0.6	6.4	%
Sand*	58.1	—	—	0.8	8	%	38.9	—	—	0.6	6.4	%
Silt*	7.9	RDL	—	4	8	%	22.3	—	—	3.2	6.4	%
Clay*	23.8	—	—	4	8	%	28.7	—	—	3.2	6.4	%
p+0.00*	—	<MDL	U	0.8	8	%	0.7	<RDL	J	0.6	6.4	%
p+1.00*	—	<MDL	U	0.8	8	%	1	<RDL	J	0.6	6.4	%
p+10.0(equal/more than)*	23.8	—	—	4	8	%	25.5	—	—	3.2	6.4	%
p+2.00*	1.4	<RDL	J	0.8	8	%	3.3	<RDL	J	0.6	6.4	%
p+3.00*	22.6	—	—	0.8	8	%	12	—	—	0.6	6.4	%
p+4.00*	34.1	—	—	0.8	8	%	22	—	—	0.6	6.4	%
p+5.00*	4	<RDL	J	4	8	%	12.8	—	—	3.2	6.4	%
p+6.00*	4	<RDL	J	4	8	%	3.2	<RDL	J	3.2	6.4	%
p+7.00*	—	<MDL	U	4	8	%	3.2	<RDL	J	3.2	6.4	%
p+8.00*	—	<MDL	U	4	8	%	3.2	<RDL	J	3.2	6.4	%
p+9.00*	—	<MDL	U	4	8	%	3.2	<RDL	J	3.2	6.4	%
p-1.00*	—	<MDL	U	0.8	8	%	—	<MDL	U	0.6	6.4	%
p-2.00(less than)*	—	<MDL	U	0.8	8	%	—	<MDL	U	0.6	6.4	%
p-2.00*	—	<MDL	U	0.8	8	%	—	<MDL	U	0.6	6.4	%
<b>CV EPA DEC 1991</b>												
Sulfide, Acid Volatile	77.6	JG	—	5.5	22.6	mg/Kg	120	JG	J	5.9	23.8	mg/Kg
<b>CV SM2540-G</b>												
Total Solids*	21.9	—	—	0.005	0.01	%	20.4	—	—	0.005	0.01	%
<b>CV SW846 9045D</b>												
pH*	6.71	—	—	—	—	pH	6.71	—	—	—	—	pH
<b>CV SW846 9060-PSEP96</b>												
Total Organic Carbon	47000	—	—	5000	10300	mg/Kg	45300	—	—	3900	7790	mg/Kg
<b>MT EPA 1991/200.7</b>												
Arsenic, Extractable, SEM	13.9	—	—	2.3	11.3	mg/Kg	19.8	—	—	2.4	11.9	mg/Kg
Cadmium, Extractable, SEM	0.45	<RDL	J	0.18	0.904	mg/Kg	0.45	<RDL	J	0.19	0.951	mg/Kg
Chromium, Extractable, SEM	5.34	—	—	0.27	1.36	mg/Kg	5.25	—	—	0.28	1.43	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> FR315						TS315					
	<b>Descrip:</b> MILL CRK ON FRONTA						MILL CRK NEAR 1ST					
	<b>Sample:</b> L56024-3						L56024-4					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/29/12 11:30						8/13/12 13:25					
	<b>TotalSolid:</b> 21.9						20.4					
	<b>Sample Information:</b> 30 spoons; much canary grass, H2S moderate						15 spoons; H2S moderate					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Copper, Extractable, SEM	16.4	—	—	0.36	1.81	mg/Kg	17.2	—	—	0.38	1.91	mg/Kg
Lead, Extractable, SEM	21	—	—	1.8	9.04	mg/Kg	15.5	—	—	1.9	9.51	mg/Kg
Nickel, Extractable, SEM	4.12	—	—	0.45	2.26	mg/Kg	7.06	—	—	0.48	2.38	mg/Kg
Silver, Extractable, SEM	—	<MDL	U	0.36	1.81	mg/Kg	—	<MDL	U	0.38	1.91	mg/Kg
Zinc, Extractable, SEM	148	—	—	0.45	2.26	mg/Kg	124	—	—	0.48	2.38	mg/Kg
<b>MT EPA 821 1991/245.1*SW846 7470A</b>												
Mercury, Extractable, SEM	—	<MDL	U	0.0045	0.0136	mg/Kg	—	<MDL	U	0.0048	0.0143	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>												
Arsenic, Total, ICP-MS	15.7	—	—	0.042	0.211	mg/Kg	26.4	—	—	0.048	0.238	mg/Kg
Cadmium, Total, ICP-MS	0.394	—	—	0.021	0.105	mg/Kg	0.356	—	—	0.024	0.119	mg/Kg
Chromium, Total, ICP-MS	10.5	—	—	0.082	0.421	mg/Kg	13.4	—	—	0.38	1.9	mg/Kg
Copper, Total, ICP-MS	18.9	—	—	0.17	0.84	mg/Kg	23.3	—	—	0.78	3.8	mg/Kg
Lead, Total, ICP-MS	23.2	—	—	0.042	0.211	mg/Kg	15.4	—	—	0.048	0.238	mg/Kg
Nickel, Total, ICP-MS	8.26	—	—	0.042	0.211	mg/Kg	12.5	—	—	0.19	0.951	mg/Kg
Silver, Total, ICP-MS	0.112	—	—	0.017	0.084	mg/Kg	0.105	—	—	0.019	0.0951	mg/Kg
Zinc, Total, ICP-MS	152	—	—	0.21	1.05	mg/Kg	137	—	—	0.24	1.19	mg/Kg
<b>MT SW846 7471B</b>												
Mercury, Total, CVAA	0.087	<RDL	J	0.022	0.224	mg/Kg	0.083	<RDL	J	0.025	0.244	mg/Kg
<b>OR SW846 3550B*SW846 8081B</b>												
4,4'-DDD	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
4,4'-DDE	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
4,4'-DDT	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Aldrin	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Alpha-BHC	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Alpha-Chlordane	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Beta-BHC	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Delta-BHC	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Dieldrin	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Endosulfan I	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Endosulfan II	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Endosulfan Sulfate	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Endrin	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> FR315						TS315					
	<b>Descrip:</b> MILL CRK ON FRONTA						MILL CRK NEAR 1ST					
	<b>Sample:</b> L56024-3						L56024-4					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/29/12 11:30						8/13/12 13:25					
	<b>TotalSolid:</b> 21.9						20.4					
	<b>Sample Information:</b> 30 spoons; much canary grass, H2S moderate						15 spoons; H2S moderate					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Endrin Aldehyde	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Heptachlor	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Heptachlor Epoxide	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
Methoxychlor	—	<MDL	U	12	24.3	ug/Kg	—	<MDL	U	13	26.1	ug/Kg
Toxaphene	—	<MDL	U	50	243	ug/Kg	—	<MDL	U	54	261	ug/Kg
trans-Chlordane	—	<MDL	U	2.4	4.89	ug/Kg	—	<MDL	U	2.6	5.25	ug/Kg
<b>OR SW846 3550B*SW846 8082A</b>												
Aroclor 1016	—	<MDL	U	5.9	24.3	ug/Kg	—	<MDL	U	6.4	26.1	ug/Kg
Aroclor 1221	—	<MDL	U	12	24.3	ug/Kg	—	<MDL	U	13	26.1	ug/Kg
Aroclor 1232	—	<MDL	U	12	24.3	ug/Kg	—	<MDL	U	13	26.1	ug/Kg
Aroclor 1242	—	<MDL	U	5.9	24.3	ug/Kg	—	<MDL	U	6.4	26.1	ug/Kg
Aroclor 1248	—	<MDL	U	5.9	24.3	ug/Kg	—	<MDL	U	6.4	26.1	ug/Kg
Aroclor 1254	10	<RDL	J	5.9	24.3	ug/Kg	—	<MDL	U	6.4	26.1	ug/Kg
Aroclor 1260	9.6	<RDL	J	5.9	24.3	ug/Kg	—	<MDL	U	6.4	26.1	ug/Kg
Total Aroclors	20	<RDL	—	5.9	24.3	ug/Kg	—	<MDL	—	13	26.1	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>												
1,2,4-Trichlorobenzene	—	<MDL	U	5.9	12	ug/Kg	—	<MDL	U	6.4	12.8	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	12	12	ug/Kg	—	<MDL	U	12.8	12.8	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	17.9	17.9	ug/Kg	—	<MDL	U	19.3	19.3	ug/Kg
2,4-Dimethylphenol	—	<MDL,JG	UJ	59	120	ug/Kg	—	<MDL,JG	UJ	64	128	ug/Kg
2-Methylnaphthalene	—	<MDL	U	59	120	ug/Kg	—	<MDL	U	64	128	ug/Kg
2-Methylphenol	—	<MDL	U	12	24	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
3-,4-Methylphenol	—	<MDL	U	59	120	ug/Kg	—	<MDL	U	64	128	ug/Kg
Acenaphthene	—	<MDL	U	12	24	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Acenaphthylene	—	<MDL	U	12	24	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Anthracene	—	<MDL	U	12	24	ug/Kg	14	<RDL	J	13	25.7	ug/Kg
Benzo(a)anthracene	102	—	—	12	24	ug/Kg	42.8	—	—	13	25.7	ug/Kg
Benzo(a)pyrene	152	—	—	59	120	ug/Kg	74	<RDL	J	64	128	ug/Kg
Benzo(b,j,k)fluoranthene	424	—	—	59	120	ug/Kg	228	—	—	64	128	ug/Kg
Benzo(g,h,i)perylene	110	<RDL	J	59	120	ug/Kg	—	<MDL	U	64	128	ug/Kg
Benzoic Acid	—	<MDL	U	1200	1200	ug/Kg	—	<MDL	U	1280	1280	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> FR315						TS315					
	<b>Descrip:</b> MILL CRK ON FRONTA						MILL CRK NEAR 1ST					
	<b>Sample:</b> L56024-3						L56024-4					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/29/12 11:30						8/13/12 13:25					
	<b>TotalSolid:</b> 21.9						20.4					
	<b>Sample Information:</b> 30 spoons; much canary grass, H2S moderate						15 spoons; H2S moderate					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Benzyl Alcohol	—	<MDL	U	30	30	ug/Kg	—	<MDL	U	32.2	32.2	ug/Kg
Benzyl Butyl Phthalate	270	—	—	17.9	17.9	ug/Kg	52.9	—	—	19.3	19.3	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	400	1920	ug/Kg	—	<MDL	U	430	2060	ug/Kg
Bis(2-Ethylhexyl)Phthalate	2060	—	—	24	47.9	ug/Kg	897	—	—	25	51.5	ug/Kg
Bisphenol A	—	<MDL	U	400	1920	ug/Kg	—	<MDL	U	430	2060	ug/Kg
Carbazole	21	<RDL	J	12	24	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Chrysene	199	—	—	12	24	ug/Kg	100	—	—	13	25.7	ug/Kg
Coprostanol	2200	<RDL,J	J	2000	19200	ug/Kg	2400	<RDL,J	J	2100	20600	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	59	120	ug/Kg	—	<MDL	U	64	128	ug/Kg
Dibenzofuran	—	<MDL	U	12	24	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Diethyl Phthalate	—	<MDL	U	24	47.9	ug/Kg	—	<MDL	U	25	51.5	ug/Kg
Dimethyl Phthalate	159	—	—	24	24	ug/Kg	—	<MDL	U	25.7	25.7	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	24	47.9	ug/Kg	—	<MDL	U	25	51.5	ug/Kg
Di-N-Octyl Phthalate	252	—	—	120	120	ug/Kg	—	<MDL	U	128	128	ug/Kg
Fluoranthene	265	—	—	12	24	ug/Kg	108	—	—	13	25.7	ug/Kg
Fluorene	—	<MDL	U	12	24	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.2	2.4	ug/Kg	—	<MDL	U	1.3	2.57	ug/Kg
Hexachlorobutadiene	—	<MDL	U	30	59.8	ug/Kg	—	<MDL	U	32	64.2	ug/Kg
Indeno(1,2,3-Cd)Pyrene	96	<RDL	J	59	120	ug/Kg	—	<MDL	U	64	128	ug/Kg
Naphthalene	—	<MDL	U	59	120	ug/Kg	—	<MDL	U	64	128	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	30	30	ug/Kg	—	<MDL	U	32.2	32.2	ug/Kg
Pentachlorophenol	—	<MDL	U	179	179	ug/Kg	—	<MDL	U	193	193	ug/Kg
Phenanthrene	94.5	—	—	12	24	ug/Kg	43	—	—	13	25.7	ug/Kg
Phenol	—	<MDL	U	59	179	ug/Kg	—	<MDL	U	64	193	ug/Kg
Pyrene	280	—	—	12	24	ug/Kg	111	—	—	13	25.7	ug/Kg
Total 4-Nonylphenol	370	<RDL	J	180	1920	ug/Kg	320	<RDL	J	190	2060	ug/Kg
Total HPAHS	1630	—	—	12	24	ug/Kg	663	—	—	13	25.7	ug/Kg
Total LPAHS	94.5	—	—	12	24	ug/Kg	57.2	—	—	13	25.7	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> ED315						PR315					
	<b>Descrip:</b> MILL CRK ON M ST N						MILL CRK AT PEASLE					
	<b>Sample:</b> L56024-5						L56024-7					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/13/12 14:20						8/14/12 10:50					
	<b>TotalSolid:</b> 35.4						67.8					
	<b>Sample Information:</b> 15 spoons; much plant debris, H2S slight						20 spoons; difficult access					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
<b>CV ASTM D422</b>												
Fines*	11.8	—	—	1.7	3.4	%	3.3	—	J	0.7	1.3	%
Gravel*	12.1	—	—	0.3	3.4	%	6.8	—	—	0.1	1.3	%
Sand*	66.1	—	—	0.3	3.4	%	92.6	—	—	0.1	1.3	%
Silt*	1.7	<RDL	J	1.7	3.4	%	0.7	<RDL,J	J	0.7	1.3	%
Clay*	10.2	—	—	1.7	3.4	%	2.6	—	—	0.7	1.3	%
p+0.00*	2.1	<RDL	J	0.3	3.4	%	9.2	—	—	0.1	1.3	%
p+1.00*	3.6	—	—	0.3	3.4	%	24.7	—	—	0.1	1.3	%
p+10.0(equal/more than)*	10.2	—	—	1.7	3.4	%	2.6	—	—	0.7	1.3	%
p+2.00*	14.9	—	—	0.3	3.4	%	38.7	—	—	0.1	1.3	%
p+3.00*	28	—	—	0.3	3.4	%	16.7	—	—	0.1	1.3	%
p+4.00*	17.5	—	—	0.3	3.4	%	3.3	—	—	0.1	1.3	%
p+5.00*	1.7	<RDL	J	1.7	3.4	%	0.7	<RDL	J	0.7	1.3	%
p+6.00*	—	<MDL	U	1.7	3.4	%	—	<MDL	UJ	0.7	1.3	%
p+7.00*	—	<MDL	U	1.7	3.4	%	—	<MDL	UJ	0.7	1.3	%
p+8.00*	—	<MDL	U	1.7	3.4	%	—	<MDL	UJ	0.7	1.3	%
p+9.00*	—	<MDL	U	1.7	3.4	%	—	<MDL	U	0.7	1.3	%
p-1.00*	4.7	—	—	0.3	3.4	%	4.3	—	—	0.1	1.3	%
p-2.00(less than)*	6.9	—	—	0.3	3.4	%	2	—	—	0.1	1.3	%
p-2.00*	0.5	<RDL	J	0.3	3.4	%	0.5	<RDL	J	0.1	1.3	%
<b>CV EPA DEC 1991</b>												
Sulfide, Acid Volatile	112	JG	—	3.4	13.2	mg/Kg	2.96	JG	—	0.37	1.46	mg/Kg
<b>CV SM2540-G</b>												
Total Solids*	35.4	—	—	0.005	0.01	%	67.8	—	—	0.005	0.01	%
<b>CV SW846 9045D</b>												
pH*	6.75	—	—	—	—	pH	7.32	—	—	—	—	pH
<b>CV SW846 9060-PSEP96</b>												
Total Organic Carbon	25800	—	—	2600	5200	mg/Kg	9590	—	—	590	1170	mg/Kg
<b>MT EPA 1991/200.7</b>												
Arsenic, Extractable, SEM	7.57	—	—	1.3	6.61	mg/Kg	0.88	<RDL	J	0.72	3.64	mg/Kg
Cadmium, Extractable, SEM	0.23	<RDL	J	0.1	0.528	mg/Kg	0.16	<RDL	J	0.059	0.292	mg/Kg
Chromium, Extractable, SEM	1.89	—	—	0.16	0.794	mg/Kg	3.05	—	—	0.087	0.438	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> ED315						PR315					
	<b>Descrip:</b> MILL CRK ON M ST N						MILL CRK AT PEASLE					
	<b>Sample:</b> L56024-5						L56024-7					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/13/12 14:20						8/14/12 10:50					
	<b>TotalSolid:</b> 35.4						67.8					
	<b>Sample Information:</b> 15 spoons; much plant debris, H2S slight						20 spoons; difficult access					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Copper, Extractable, SEM	6.64	—	—	0.21	1.06	mg/Kg	12.3	—	—	0.12	0.583	mg/Kg
Lead, Extractable, SEM	7.82	—	—	1	5.28	mg/Kg	8.81	—	—	0.59	2.92	mg/Kg
Nickel, Extractable, SEM	2.17	—	—	0.27	1.32	mg/Kg	2.48	—	—	0.15	0.729	mg/Kg
Silver, Extractable, SEM	—	<MDL	U	0.21	1.06	mg/Kg	—	<MDL	U	0.12	0.583	mg/Kg
Zinc, Extractable, SEM	62.7	—	—	0.27	1.32	mg/Kg	71.5	—	—	0.15	0.729	mg/Kg
<b>MT EPA 821 1991/245.1*SW846 7470A</b>												
Mercury, Extractable, SEM	—	<MDL	U	0.0027	0.00794	mg/Kg	—	<MDL	U	0.0015	0.00438	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>												
Arsenic, Total, ICP-MS	16.6	—	—	0.031	0.16	mg/Kg	4.13	J	J	0.024	0.117	mg/Kg
Cadmium, Total, ICP-MS	0.333	—	—	0.016	0.0802	mg/Kg	0.268	—	—	0.012	0.0583	mg/Kg
Chromium, Total, ICP-MS	9.29	—	—	0.065	0.319	mg/Kg	32.9	—	—	0.19	0.932	mg/Kg
Copper, Total, ICP-MS	11.6	—	—	0.13	0.641	mg/Kg	36.7	—	J	0.37	1.86	mg/Kg
Lead, Total, ICP-MS	11.6	—	—	0.031	0.16	mg/Kg	13.9	J	J	0.024	0.117	mg/Kg
Nickel, Total, ICP-MS	7.2	—	—	0.031	0.16	mg/Kg	28.9	—	—	0.093	0.466	mg/Kg
Silver, Total, ICP-MS	0.048	<RDL	J	0.013	0.0641	mg/Kg	0.0549	—	—	0.0093	0.0466	mg/Kg
Zinc, Total, ICP-MS	102	—	—	0.16	0.802	mg/Kg	167	—	J	0.47	2.33	mg/Kg
<b>MT SW846 7471B</b>												
Mercury, Total, CVAA	0.042	<RDL	J	0.014	0.136	mg/Kg	0.028	<RDL	J	0.0071	0.0708	mg/Kg
<b>OR SW846 3550B*SW846 8081B</b>												
4,4'-DDD	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
4,4'-DDE	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
4,4'-DDT	—	<MDL	U	1.5	3.02	ug/Kg	0.83	<RDL	J	0.78	1.58	ug/Kg
Aldrin	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Alpha-BHC	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Alpha-Chlordane	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Beta-BHC	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Delta-BHC	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Dieldrin	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Endosulfan I	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Endosulfan II	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Endosulfan Sulfate	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Endrin	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

Locator: Descrip: Sample: Matrix: ColDate: TotalSolid: Sample Information:	ED315	MILL CRK ON M ST N					PR315	MILL CRK AT PEASLE				
	L56024-5						L56024-7					
	SE FRSHWTRSED						SE FRSHWTRSED					
	8/13/12 14:20						8/14/12 10:50					
	35.4						67.8					
	15 spoons; much plant debris, H2S slight						20 spoons; difficult access					
	DRY Weight Basis						DRY Weight Basis					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Endrin Aldehyde	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Heptachlor	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Heptachlor Epoxide	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Methoxychlor	—	<MDL	U	7.6	15.1	ug/Kg	—	<MDL	U	4	7.86	ug/Kg
Toxaphene	—	<MDL	U	31	151	ug/Kg	—	<MDL	U	16	78.6	ug/Kg
trans-Chlordane	—	<MDL	U	1.5	3.02	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
OR SW846 3550B*SW846 8082A												
Aroclor 1016	—	<MDL	U	3.7	15.1	ug/Kg	—	<MDL	U	1.9	7.86	ug/Kg
Aroclor 1221	—	<MDL	U	7.6	15.1	ug/Kg	—	<MDL	U	4	7.86	ug/Kg
Aroclor 1232	—	<MDL	U	7.6	15.1	ug/Kg	—	<MDL	U	4	7.86	ug/Kg
Aroclor 1242	—	<MDL	U	3.7	15.1	ug/Kg	4.7	<RDL	J	1.9	7.86	ug/Kg
Aroclor 1248	—	<MDL	U	3.7	15.1	ug/Kg	—	<MDL	U	1.9	7.86	ug/Kg
Aroclor 1254	—	<MDL	U	3.7	15.1	ug/Kg	8.75	—	—	1.9	7.86	ug/Kg
Aroclor 1260	—	<MDL	U	3.7	15.1	ug/Kg	—	<MDL	U	1.9	7.86	ug/Kg
Total Aroclors	—	<MDL	—	7.6	15.1	ug/Kg	13.5	—	—	1.9	7.86	ug/Kg
OR SW846 3550B*SW846 8270D												
1,2,4-Trichlorobenzene	—	<MDL	U	5.6	11.3	ug/Kg	—	<MDL	U	4	7.86	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	11.3	11.3	ug/Kg	—	<MDL	U	7.86	7.86	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	16.9	16.9	ug/Kg	—	<MDL	U	11.8	11.8	ug/Kg
2,4-Dimethylphenol	—	<MDL,JG	UJ	56	113	ug/Kg	—	<MDL,JG	UJ	40	78.6	ug/Kg
2-Methylnaphthalene	—	<MDL	U	56	113	ug/Kg	—	<MDL	U	40	78.6	ug/Kg
2-Methylphenol	—	<MDL	U	11	22.6	ug/Kg	—	<MDL	U	7.8	15.8	ug/Kg
3-,4-Methylphenol	—	<MDL	U	56	113	ug/Kg	—	<MDL	U	40	78.6	ug/Kg
Acenaphthene	—	<MDL	U	11	22.6	ug/Kg	—	<MDL	U	7.8	15.8	ug/Kg
Acenaphthylene	—	<MDL	U	11	22.6	ug/Kg	—	<MDL	U	7.8	15.8	ug/Kg
Anthracene	11	<RDL	J	11	22.6	ug/Kg	12	<RDL	J	7.8	15.8	ug/Kg
Benzo(a)anthracene	39	—	—	11	22.6	ug/Kg	81.1	—	—	7.8	15.8	ug/Kg
Benzo(a)pyrene	59	<RDL	J	56	113	ug/Kg	75	<RDL	J	40	78.6	ug/Kg
Benzo(b,j,k)fluoranthene	139	—	—	56	113	ug/Kg	192	—	—	40	78.6	ug/Kg
Benzo(g,h,i)perylene	—	<MDL	U	56	113	ug/Kg	41	<RDL	J	40	78.6	ug/Kg
Benzoic Acid	—	<MDL	U	1130	1130	ug/Kg	—	<MDL	U	786	786	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	ED315					PR315					
	<b>Descrip:</b>	MILL CRK ON M ST N					MILL CRK AT PEASLE					
	<b>Sample:</b>	L56024-5					L56024-7					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/13/12 14:20					8/14/12 10:50					
	<b>TotalSolid:</b>	35.4					67.8					
	<b>Sample Information:</b>	15 spoons; much plant debris, H2S slight					20 spoons; difficult access					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Benzyl Alcohol	—	<MDL	U	28.2	28.2	ug/Kg	—	<MDL	U	19.6	19.6	ug/Kg
Benzyl Butyl Phthalate	—	<MDL	U	16.9	16.9	ug/Kg	1320	—	—	11.8	11.8	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	370	1810	ug/Kg	—	<MDL	U	270	1260	ug/Kg
Bis(2-Ethylhexyl)Phthalate	927	—	—	23	45.2	ug/Kg	1760	—	—	16	31.4	ug/Kg
Bisphenol A	—	<MDL	U	370	1810	ug/Kg	—	<MDL	U	270	1260	ug/Kg
Carbazole	—	<MDL	U	11	22.6	ug/Kg	12	<RDL	J	7.8	15.8	ug/Kg
Chrysene	78.2	—	—	11	22.6	ug/Kg	131	—	—	7.8	15.8	ug/Kg
Coprostanol	4000	<RDL,J	J	1900	18100	ug/Kg	—	<MDL	U	1300	12600	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	56	113	ug/Kg	—	<MDL	U	40	78.6	ug/Kg
Dibenzofuran	—	<MDL	U	11	22.6	ug/Kg	—	<MDL	U	7.8	15.8	ug/Kg
Diethyl Phthalate	—	<MDL	U	23	45.2	ug/Kg	—	<MDL	U	16	31.4	ug/Kg
Dimethyl Phthalate	—	<MDL	U	22.6	22.6	ug/Kg	—	<MDL	U	15.8	15.8	ug/Kg
Di-N-Butyl Phthalate	34	<RDL	J	23	45.2	ug/Kg	51.3	—	—	16	31.4	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	113	113	ug/Kg	—	<MDL	U	78.6	78.6	ug/Kg
Fluoranthene	92.7	—	—	11	22.6	ug/Kg	167	—	—	7.8	15.8	ug/Kg
Fluorene	20	<RDL	J	11	22.6	ug/Kg	—	<MDL	U	7.8	15.8	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.1	2.26	ug/Kg	—	<MDL	U	0.78	1.58	ug/Kg
Hexachlorobutadiene	—	<MDL	U	28	56.5	ug/Kg	—	<MDL	U	19	39.4	ug/Kg
Indeno(1,2,3-Cd)Pyrene	—	<MDL	U	56	113	ug/Kg	—	<MDL	U	40	78.6	ug/Kg
Naphthalene	—	<MDL	U	56	113	ug/Kg	—	<MDL	U	40	78.6	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	28.2	28.2	ug/Kg	—	<MDL	U	19.6	19.6	ug/Kg
Pentachlorophenol	—	<MDL	U	169	169	ug/Kg	—	<MDL	U	118	118	ug/Kg
Phenanthrene	89.5	—	—	11	22.6	ug/Kg	72.1	—	—	7.8	15.8	ug/Kg
Phenol	—	<MDL	U	56	169	ug/Kg	—	<MDL	U	40	118	ug/Kg
Pyrene	128	—	—	11	22.6	ug/Kg	243	—	—	7.8	15.8	ug/Kg
Total 4-Nonylphenol	—	<MDL	U	170	1810	ug/Kg	490	<RDL	J	120	1260	ug/Kg
Total HPAHS	536	—	—	11	22.6	ug/Kg	931	—	—	7.8	15.8	ug/Kg
Total LPAHs	121	—	—	11	22.6	ug/Kg	84.1	—	—	7.8	15.8	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> PC315						UH315					
	<b>Descrip:</b> MILL CRK ON PEASLE						MILL CRK AT 321ST					
	<b>Sample:</b> L56024-8						L56024-9					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/14/12 11:40						8/14/12 12:25					
	<b>TotalSolid:</b> 75.1						15.2					
	<b>Sample Information:</b> 25 spoons; substrate mostly cobbles						15 spoons; U.S. side of road, H2S moderate					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
<b>CV ASTM D422</b>												
Fines*	2.6	—	—	0.6	1.3	%	48.3	—	—	4.4	8.8	%
Gravel*	57.2	—	—	0.1	1.3	%	10.9	—	—	0.9	8.8	%
Sand*	41.4	—	—	0.1	1.3	%	41	—	—	0.9	8.8	%
Silt*	0.6	<RDL	J	0.6	1.3	%	26.3	—	—	4.4	8.8	%
Clay*	1.9	—	—	0.6	1.3	%	21.9	—	—	4.4	8.8	%
p+0.00*	11.5	—	—	0.1	1.3	%	3.4	<RDL	J	0.9	8.8	%
p+1.00*	10.1	—	—	0.1	1.3	%	5.3	<RDL	J	0.9	8.8	%
p+10.0(equal/more than)*	1.9	—	—	0.6	1.3	%	21.9	—	—	4.4	8.8	%
p+2.00*	13.6	—	—	0.1	1.3	%	8.2	<RDL	J	0.9	8.8	%
p+3.00*	4.8	—	—	0.1	1.3	%	11	—	—	0.9	8.8	%
p+4.00*	1.4	—	—	0.1	1.3	%	13.1	—	—	0.9	8.8	%
p+5.00*	—	<MDL	U	0.6	1.3	%	13.2	—	—	4.4	8.8	%
p+6.00*	—	<MDL	U	0.6	1.3	%	4.4	<RDL	J	4.4	8.8	%
p+7.00*	0.6	<RDL	J	0.6	1.3	%	4.4	<RDL	J	4.4	8.8	%
p+8.00*	—	<MDL	U	0.6	1.3	%	4.4	<RDL	J	4.4	8.8	%
p+9.00*	—	<MDL	U	0.6	1.3	%	—	<MDL	U	4.4	8.8	%
p-1.00*	20.4	—	—	0.1	1.3	%	3.2	<RDL	J	0.9	8.8	%
p-2.00(less than)*	28.7	—	—	0.1	1.3	%	3.7	<RDL	J	0.9	8.8	%
p-2.00*	8.1	—	—	0.1	1.3	%	3.9	<RDL	J	0.9	8.8	%
<b>CV EPA DEC 1991</b>												
Sulfide, Acid Volatile		<MDL,JG	U	0.32	1.28	mg/Kg	200	JG	—	7.9	31.8	mg/Kg
<b>CV SM2540-G</b>												
Total Solids*	75.1	—	—	0.005	0.01	%	15.2	—	—	0.005	0.01	%
<b>CV SW846 9045D</b>												
pH*	7.08	—	—	—	—	pH	6.45	—	—	—	—	pH
<b>CV SW846 9060-PSEP96</b>												
Total Organic Carbon	17700	—	—	2400	4930	mg/Kg	123000	—	—	11000	21600	mg/Kg
<b>MT EPA 1991/200.7</b>												
Arsenic, Extractable, SEM	1.5	<RDL	J	0.64	3.21	mg/Kg	9.2	<RDL	J	3.2	15.9	mg/Kg
Cadmium, Extractable, SEM	0.088	<RDL	J	0.052	0.257	mg/Kg	0.79	<RDL	J	0.26	1.27	mg/Kg
Chromium, Extractable, SEM	0.551	—	—	0.077	0.385	mg/Kg	1.8	<RDL	J	0.38	1.91	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> PC315						UH315					
	<b>Descrip:</b> MILL CRK ON PEASLE						MILL CRK AT 321ST					
	<b>Sample:</b> L56024-8						L56024-9					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/14/12 11:40						8/14/12 12:25					
	<b>TotalSolid:</b> 75.1						15.2					
	<b>Sample Information:</b> 25 spoons; substrate mostly cobbles						15 spoons; U.S. side of road, H2S moderate					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Copper, Extractable, SEM	1.13	—	—	0.1	0.514	mg/Kg	16.8	—	—	0.51	2.54	mg/Kg
Lead, Extractable, SEM	5.17	—	—	0.52	2.57	mg/Kg	45.9	—	—	2.6	12.7	mg/Kg
Nickel, Extractable, SEM	1.24	—	—	0.13	0.642	mg/Kg	6.16	—	—	0.64	3.18	mg/Kg
Silver, Extractable, SEM	—	<MDL	U	0.1	0.514	mg/Kg	—	<MDL	U	0.51	2.54	mg/Kg
Zinc, Extractable, SEM	28.2	—	—	0.13	0.642	mg/Kg	130	—	—	0.64	3.18	mg/Kg
<b>MT EPA 821 1991/245.1*SW846 7470A</b>												
Mercury, Extractable, SEM	0.0029	<RDL	J	0.0013	0.00385	mg/Kg	—	<MDL	U	0.0064	0.0191	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>												
Arsenic, Total, ICP-MS	6.58	—	—	0.021	0.109	mg/Kg	16.9	—	—	0.064	0.324	mg/Kg
Cadmium, Total, ICP-MS	0.119	—	—	0.011	0.0547	mg/Kg	0.684	—	—	0.032	0.162	mg/Kg
Chromium, Total, ICP-MS	20.9	—	—	0.17	0.875	mg/Kg	22.4	—	—	0.52	2.59	mg/Kg
Copper, Total, ICP-MS	8.26	—	—	0.35	1.74	mg/Kg	25.1	—	—	1.1	5.18	mg/Kg
Lead, Total, ICP-MS	10	—	—	0.021	0.109	mg/Kg	48.9	—	—	0.064	0.324	mg/Kg
Nickel, Total, ICP-MS	22.2	—	—	0.088	0.438	mg/Kg	27.9	—	—	0.26	1.3	mg/Kg
Silver, Total, ICP-MS	0.028	<RDL	J	0.0088	0.0438	mg/Kg	0.13	<RDL	J	0.026	0.13	mg/Kg
Zinc, Total, ICP-MS	74.8	—	—	0.44	2.18	mg/Kg	180	—	—	1.3	6.47	mg/Kg
<b>MT SW846 7471B</b>												
Mercury, Total, CVAA	0.015	<RDL	J	0.0065	0.0659	mg/Kg	0.13	<RDL	J	0.032	0.318	mg/Kg
<b>OR SW846 3550B*SW846 8081B</b>												
4,4'-DDD	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
4,4'-DDE	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
4,4'-DDT	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Aldrin	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Alpha-BHC	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Alpha-Chlordane	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Beta-BHC	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Delta-BHC	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Dieldrin	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Endosulfan I	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Endosulfan II	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Endosulfan Sulfate	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Endrin	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

Locator: Descrip: Sample: Matrix: ColDate: TotalSolid: Sample Information:	PC315 MILL CRK ON PEASLE L56024-8 SE FRSHWTRSED 8/14/12 11:40 75.1 25 spoons; substrate mostly cobbles						UH315 MILL CRK AT 321ST L56024-9 SE FRSHWTRSED 8/14/12 12:25 15.2 15 spoons; U.S. side of road, H2S moderate					
	DRY Weight Basis						DRY Weight Basis					
	Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL
Endrin Aldehyde	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Heptachlor	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Heptachlor Epoxide	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
Methoxychlor	—	<MDL	U	3.6	7.1	ug/Kg	—	<MDL	U	18	35.1	ug/Kg
Toxaphene	—	<MDL	U	15	71	ug/Kg	—	<MDL	U	72	351	ug/Kg
trans-Chlordane	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	3.5	7.04	ug/Kg
OR SW846 3550B*SW846 8082A												
Aroclor 1016	—	<MDL	U	1.7	7.1	ug/Kg	—	<MDL	U	8.6	35.1	ug/Kg
Aroclor 1221	—	<MDL	U	3.6	7.1	ug/Kg	—	<MDL	U	18	35.1	ug/Kg
Aroclor 1232	—	<MDL	U	3.6	7.1	ug/Kg	—	<MDL	U	18	35.1	ug/Kg
Aroclor 1242	—	<MDL	U	1.7	7.1	ug/Kg	—	<MDL	U	8.6	35.1	ug/Kg
Aroclor 1248	—	<MDL	U	1.7	7.1	ug/Kg	—	<MDL	U	8.6	35.1	ug/Kg
Aroclor 1254	—	<MDL	U	1.7	7.1	ug/Kg	18	<RDL	J	8.6	35.1	ug/Kg
Aroclor 1260	—	<MDL	U	1.7	7.1	ug/Kg	13	<RDL	J	8.6	35.1	ug/Kg
Total Aroclors	—	<MDL	—	3.6	7.1	ug/Kg	31	<RDL	—	8.6	35.1	ug/Kg
OR SW846 3550B*SW846 8270D												
1,2,4-Trichlorobenzene	—	<MDL	U	3.6	7.1	ug/Kg	—	<MDL	U	5.9	11.7	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	7.1	7.1	ug/Kg	—	<MDL	U	11.7	11.7	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	10.7	10.7	ug/Kg	—	<MDL	U	17.6	17.6	ug/Kg
2,4-Dimethylphenol	—	<MDL,JG	UJ	36	71	ug/Kg	—	<MDL,JG	UJ	59	117	ug/Kg
2-Methylnaphthalene	—	<MDL	U	36	71	ug/Kg	—	<MDL	U	59	117	ug/Kg
2-Methylphenol	—	<MDL	U	7.1	14.2	ug/Kg	—	<MDL	U	12	23.4	ug/Kg
3-,4-Methylphenol	—	<MDL	U	36	71	ug/Kg	862	—	—	290	585	ug/Kg
Acenaphthene	—	<MDL	U	7.1	14.2	ug/Kg	—	<MDL	U	12	23.4	ug/Kg
Acenaphthylene	—	<MDL	U	7.1	14.2	ug/Kg	—	<MDL	U	12	23.4	ug/Kg
Anthracene	—	<MDL	U	7.1	14.2	ug/Kg	—	<MDL	U	12	23.4	ug/Kg
Benzo(a)anthracene	—	<MDL	U	7.1	14.2	ug/Kg	56.6	—	—	12	23.4	ug/Kg
Benzo(a)pyrene	9.6	<RDL	J	7.1	14.2	ug/Kg	66	<RDL	J	59	117	ug/Kg
Benzo(b,j,k)fluoranthene	23.3	—	—	7.1	14.2	ug/Kg	209	—	—	59	117	ug/Kg
Benzo(g,h,i)perylene	—	<MDL	U	7.1	14.2	ug/Kg	—	<MDL	U	59	117	ug/Kg
Benzoic Acid	—	<MDL	U	710	710	ug/Kg	—	<MDL	U	1170	1170	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	PC315					UH315					
	<b>Descrip:</b>	MILL CRK ON PEASLE					MILL CRK AT 321ST					
	<b>Sample:</b>	L56024-8					L56024-9					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/14/12 11:40					8/14/12 12:25					
	<b>TotalSolid:</b>	75.1					15.2					
	<b>Sample Information:</b>	25 spoons; substrate mostly cobbles					15 spoons; U.S. side of road, H2S moderate					
		DRY Weight Basis					DRY Weight Basis					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Benzyl Alcohol	—	<MDL	U	17.7	17.7	ug/Kg	—	<MDL	U	29.2	29.2	ug/Kg
Benzyl Butyl Phthalate	—	<MDL	U	10.7	10.7	ug/Kg	—	<MDL	U	17.6	17.6	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	240	1140	ug/Kg	—	<MDL	U	390	1870	ug/Kg
Bis(2-Ethylhexyl)Phthalate	39.4	—	—	15	28.4	ug/Kg	335	—	—	24	46.8	ug/Kg
Bisphenol A	—	<MDL	U	240	1140	ug/Kg	—	<MDL	U	390	1870	ug/Kg
Carbazole	—	<MDL	U	7.1	14.2	ug/Kg	13	<RDL	J	12	23.4	ug/Kg
Chrysene	9.2	<RDL	J	7.1	14.2	ug/Kg	105	—	—	12	23.4	ug/Kg
Coprostanol	—	<MDL	U	240	1140	ug/Kg	—	<MDL	U	1900	18700	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	7.1	14.2	ug/Kg	—	<MDL	U	59	117	ug/Kg
Dibenzofuran	—	<MDL	U	7.1	14.2	ug/Kg	—	<MDL	U	12	23.4	ug/Kg
Diethyl Phthalate	—	<MDL	U	15	28.4	ug/Kg	—	<MDL	U	24	46.8	ug/Kg
Dimethyl Phthalate	—	<MDL	U	14.2	14.2	ug/Kg	—	<MDL	U	23.4	23.4	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	15	28.4	ug/Kg	—	<MDL	U	24	46.8	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	14.2	14.2	ug/Kg	—	<MDL	U	117	117	ug/Kg
Fluoranthene	15.6	—	—	7.1	14.2	ug/Kg	175	—	—	12	23.4	ug/Kg
Fluorene	—	<MDL	U	7.1	14.2	ug/Kg	—	<MDL	U	12	23.4	ug/Kg
Hexachlorobenzene	—	<MDL	U	0.71	1.42	ug/Kg	—	<MDL	U	1.2	2.34	ug/Kg
Hexachlorobutadiene	—	<MDL	U	17	35.6	ug/Kg	—	<MDL	U	29	58.5	ug/Kg
Indeno(1,2,3-Cd)Pyrene	—	<MDL	U	7.1	14.2	ug/Kg	—	<MDL	U	59	117	ug/Kg
Naphthalene	—	<MDL	U	36	71	ug/Kg	—	<MDL	U	59	117	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	17.7	17.7	ug/Kg	—	<MDL	U	29.2	29.2	ug/Kg
Pentachlorophenol	—	<MDL	U	107	107	ug/Kg	—	<MDL	U	176	176	ug/Kg
Phenanthrene	—	<MDL	U	7.1	14.2	ug/Kg	57.1	—	—	12	23.4	ug/Kg
Phenol	—	<MDL	U	36	107	ug/Kg	—	<MDL	U	59	176	ug/Kg
Pyrene	15.8	—	—	7.1	14.2	ug/Kg	168	—	—	12	23.4	ug/Kg
Total 4-Nonylphenol	—	<MDL	U	110	1140	ug/Kg	—	<MDL	U	180	1870	ug/Kg
Total HPAHS	73.5	—	—	7.1	14.2	ug/Kg	779	—	—	12	23.4	ug/Kg
Total LPAHs	—	<MDL	—	36	71	ug/Kg	57.1	—	—	12	23.4	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> IT318						DT318					
	<b>Descrip:</b> EMILL CRK NEAR 723						EMILL CRK 196TH AN					
	<b>Sample:</b> L56024-11						L56024-12					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/30/12 12:15						8/27/12 14:20					
	<b>TotalSolid:</b> 34						35.6					
	<b>Sample Information:</b> 15 spoons; D.S. side of trestle, strange odor						20 spoons; strange creosote-like odor					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
<b>CV ASTM D422</b>												
Fines*	33.9	—	—	1.4	2.8	%	53	—	—	2.1	4.2	%
Gravel*	0.3	<RDL	J	0.3	2.8	%	—	<MDL	U	0.4	4.2	%
Sand*	56	—	—	0.3	2.8	%	36.6	—	—	0.4	4.2	%
Silt*	22.6	—	—	1.4	2.8	%	29.7	—	—	2.1	4.2	%
Clay*	11.3	—	—	1.4	2.8	%	23.3	—	—	2.1	4.2	%
p+0.00*	0.8	<RDL	J	0.3	2.8	%	—	<MDL	U	0.4	4.2	%
p+1.00*	0.9	<RDL	J	0.3	2.8	%	—	<MDL	U	0.4	4.2	%
p+10.0(equal/more than)*	11.3	—	—	1.4	2.8	%	19.1	—	—	2.1	4.2	%
p+2.00*	5	—	—	0.3	2.8	%	—	<MDL	U	0.4	4.2	%
p+3.00*	23.8	—	—	0.3	2.8	%	4.4	—	—	0.4	4.2	%
p+4.00*	25.5	—	—	0.3	2.8	%	32.3	—	—	0.4	4.2	%
p+5.00*	9.9	—	—	1.4	2.8	%	17	—	—	2.1	4.2	%
p+6.00*	2.8	RDL	—	1.4	2.8	%	2.1	<RDL	J	2.1	4.2	%
p+7.00*	4.2	—	—	1.4	2.8	%	6.4	—	—	2.1	4.2	%
p+8.00*	5.7	—	—	1.4	2.8	%	4.2	RDL	—	2.1	4.2	%
p+9.00*	—	<MDL	U	1.4	2.8	%	4.2	RDL	—	2.1	4.2	%
p-1.00*	0.3	<RDL	J	0.3	2.8	%	—	<MDL	U	0.4	4.2	%
p-2.00(less than)*	—	<MDL	U	0.3	2.8	%	—	<MDL	U	0.4	4.2	%
p-2.00*	—	<MDL	U	0.3	2.8	%	—	<MDL	U	0.4	4.2	%
<b>CV EPA DEC 1991</b>												
Sulfide, Acid Volatile	84.4	JG	—	7.1	28	mg/Kg	90.4	JG	—	3.4	13	mg/Kg
<b>CV SM2540-G</b>												
Total Solids*	34	—	—	0.005	0.01	%	35.6	—	—	0.005	0.01	%
<b>CV SW846 9045D</b>												
pH*	7.04	—	—	—	—	pH	6.44	—	—	—	—	pH
<b>CV SW846 9060-PSEP96</b>												
Total Organic Carbon	34400	—	—	3200	6620	mg/Kg	29500	—	—	3700	7110	mg/Kg
<b>MT EPA 1991/200.7</b>												
Arsenic, Extractable, SEM	11.3	—	—	1.4	7	mg/Kg	10	—	—	1.3	6.52	mg/Kg
Cadmium, Extractable, SEM	3.41	—	—	0.11	0.562	mg/Kg	1.47	—	—	0.1	0.522	mg/Kg
Chromium, Extractable, SEM	19.2	—	—	0.17	0.841	mg/Kg	9.3	—	—	0.16	0.781	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

<b>Sample Information:</b>	<b>Locator:</b>	IT318					DT318					
	<b>Descrip:</b>	EMILL CRK NEAR 723					EMILL CRK 196TH AN					
	<b>Sample:</b>	L56024-11					L56024-12					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/30/12 12:15					8/27/12 14:20					
<b>Sample Information:</b>	<b>TotalSolid:</b>	34					35.6					
		15 spoons; D.S. side of trestle, strange odor					20 spoons; strange creosote-like odor					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Copper, Extractable, SEM	31.8	—	—	0.22	1.12	mg/Kg	31.2	—	—	0.21	1.04	mg/Kg
Lead, Extractable, SEM	35.9	—	—	1.1	5.62	mg/Kg	29.5	—	—	1	5.22	mg/Kg
Nickel, Extractable, SEM	6.24	—	—	0.28	1.4	mg/Kg	4.63	—	—	0.26	1.3	mg/Kg
Silver, Extractable, SEM	0.25	<RDL	J	0.22	1.12	mg/Kg	—	<MDL	U	0.21	1.04	mg/Kg
Zinc, Extractable, SEM	368	—	—	0.28	1.4	mg/Kg	284	—	—	0.26	1.3	mg/Kg
<b>MT EPA 821 1991/245.1*SW846 7470A</b>												
Mercury, Extractable, SEM	—	<MDL	U	0.0028	0.00841	mg/Kg	—	<MDL	U	0.0026	0.00781	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>												
Arsenic, Total, ICP-MS	17.6	—	—	0.028	0.141	mg/Kg	14.1	—	—	0.026	0.132	mg/Kg
Cadmium, Total, ICP-MS	3.94	—	—	0.014	0.0703	mg/Kg	1.57	—	—	0.013	0.0663	mg/Kg
Chromium, Total, ICP-MS	40.9	—	—	0.23	1.13	mg/Kg	27.2	—	—	0.21	1.06	mg/Kg
Copper, Total, ICP-MS	47.6	—	—	0.44	2.25	mg/Kg	39.3	—	—	0.42	2.12	mg/Kg
Lead, Total, ICP-MS	49.7	—	—	0.028	0.141	mg/Kg	34.8	—	—	0.026	0.132	mg/Kg
Nickel, Total, ICP-MS	19.4	—	—	0.11	0.565	mg/Kg	13.2	—	—	0.11	0.528	mg/Kg
Silver, Total, ICP-MS	0.227	—	—	0.011	0.0565	mg/Kg	0.167	—	—	0.011	0.0528	mg/Kg
Zinc, Total, ICP-MS	532	—	—	0.56	2.82	mg/Kg	365	—	—	0.53	2.65	mg/Kg
<b>MT SW846 7471B</b>												
Mercury, Total, CVAA	0.11	<RDL	J	0.014	0.141	mg/Kg	0.093	<RDL	J	0.013	0.136	mg/Kg
<b>OR SW846 3550B*SW846 8081B</b>												
4,4'-DDD	2.6	<RDL	J	1.6	3.15	ug/Kg	2.6	<RDL	J	1.5	3.01	ug/Kg
4,4'-DDE	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
4,4'-DDT	2.5	<RDL	J	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Aldrin	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	UJ	1.5	3.01	ug/Kg
Alpha-BHC	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Alpha-Chlordane	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Beta-BHC	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Delta-BHC	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Dieldrin	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Endosulfan I	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Endosulfan II	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Endosulfan Sulfate	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Endrin	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> IT318						DT318					
	<b>Descrip:</b> EMILL CRK NEAR 723						EMILL CRK 196TH AN					
	<b>Sample:</b> L56024-11						L56024-12					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/30/12 12:15						8/27/12 14:20					
	<b>TotalSolid:</b> 34						35.6					
	<b>Sample Information:</b> 15 spoons; D.S. side of trestle, strange odor						20 spoons; strange creosote-like odor					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Endrin Aldehyde	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Heptachlor	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Heptachlor Epoxide	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
Methoxychlor	—	<MDL	U	7.9	15.7	ug/Kg	—	<MDL	U	7.6	15	ug/Kg
Toxaphene	—	<MDL	U	32	157	ug/Kg	—	<MDL	U	31	150	ug/Kg
trans-Chlordane	—	<MDL	U	1.6	3.15	ug/Kg	—	<MDL	U	1.5	3.01	ug/Kg
<b>OR SW846 3550B*SW846 8082A</b>												
Aroclor 1016	—	<MDL	U	3.8	15.7	ug/Kg	—	<MDL	U	3.7	15	ug/Kg
Aroclor 1221	—	<MDL	U	7.9	15.7	ug/Kg	—	<MDL	U	7.6	15	ug/Kg
Aroclor 1232	—	<MDL	U	7.9	15.7	ug/Kg	—	<MDL	U	7.6	15	ug/Kg
Aroclor 1242	—	<MDL	U	3.8	15.7	ug/Kg	—	<MDL	U	3.7	15	ug/Kg
Aroclor 1248	—	<MDL	U	3.8	15.7	ug/Kg	—	<MDL	U	3.7	15	ug/Kg
Aroclor 1254	35	—	—	3.8	15.7	ug/Kg	38.2	—	—	3.7	15	ug/Kg
Aroclor 1260	41.2	—	—	3.8	15.7	ug/Kg	36.2	—	—	3.7	15	ug/Kg
Total Aroclors	76.2	—	—	3.8	15.7	ug/Kg	74.4	—	—	3.7	15	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>												
1,2,4-Trichlorobenzene	—	<MDL	U	5.9	11.8	ug/Kg	—	<MDL	U	5.6	11.2	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	11.8	11.8	ug/Kg	—	<MDL	U	11.2	11.2	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	17.6	17.6	ug/Kg	—	<MDL	U	16.9	16.9	ug/Kg
2,4-Dimethylphenol	—	<MDL,JG	UJ	59	118	ug/Kg	—	<MDL	UJ	56	112	ug/Kg
2-Methylnaphthalene	—	<MDL	U	59	118	ug/Kg	—	<MDL	U	56	112	ug/Kg
2-Methylphenol	—	<MDL	U	12	23.5	ug/Kg	—	<MDL	UJ	11	22.5	ug/Kg
3-,4-Methylphenol	—	<MDL	U	59	118	ug/Kg	—	<MDL	U	56	112	ug/Kg
Acenaphthene	13	<RDL	J	12	23.5	ug/Kg	—	<MDL	U	11	22.5	ug/Kg
Acenaphthylene	—	<MDL	U	12	23.5	ug/Kg	—	<MDL	U	11	22.5	ug/Kg
Anthracene	46.5	—	—	12	23.5	ug/Kg	37.4	—	—	11	22.5	ug/Kg
Benzo(a)anthracene	371	—	—	12	23.5	ug/Kg	284	—	—	11	22.5	ug/Kg
Benzo(a)pyrene	571	—	—	59	118	ug/Kg	463	—	—	56	112	ug/Kg
Benzo(b,j,k)fluoranthene	1690	—	—	59	118	ug/Kg	1430	—	—	56	112	ug/Kg
Benzo(g,h,i)perylene	287	—	—	59	118	ug/Kg	312	—	—	56	112	ug/Kg
Benzoic Acid	—	<MDL	U	1180	1180	ug/Kg	—	<MDL	U	1120	1120	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> IT318 <b>Descrip:</b> EMILL CRK NEAR 723 <b>Sample:</b> L56024-11 <b>Matrix:</b> SE FRSHWTRSED <b>ColDate:</b> 8/30/12 12:15 <b>TotalSolid:</b> 34 <b>Sample Information:</b> 15 spoons; D.S. side of trestle, strange odor						<b>DT318</b> <b>EMILL CRK 196TH AN</b> <b>L56024-12</b> <b>SE FRSHWTRSED</b> <b>8/27/12 14:20</b> <b>35.6</b> <b>20 spoons; strange creosote-like odor</b>					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Benzyl Alcohol	—	<MDL	U	29.4	29.4	ug/Kg	—	<MDL	U	28.1	28.1	ug/Kg
Benzyl Butyl Phthalate	143	—	—	17.6	17.6	ug/Kg	153	—	—	16.9	16.9	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	380	1880	ug/Kg	—	<MDL	U	370	1800	ug/Kg
Bis(2-Ethylhexyl)Phthalate	1930	—	—	24	47.1	ug/Kg	2390	—	—	22	44.9	ug/Kg
Bisphenol A	—	<MDL	U	380	1880	ug/Kg	—	<MDL	U	370	1800	ug/Kg
Carbazole	62.6	—	—	12	23.5	ug/Kg	45.2	—	—	11	22.5	ug/Kg
Chrysene	738	—	—	12	23.5	ug/Kg	570	—	—	11	22.5	ug/Kg
Coprostanol	—	<MDL	U	1900	18800	ug/Kg	—	<MDL	U	1900	18000	ug/Kg
Dibenzo(a,h)anthracene	91	<RDL	J	59	118	ug/Kg	84	<RDL	J	56	112	ug/Kg
Dibenzofuran	—	<MDL	U	12	23.5	ug/Kg	—	<MDL	U	11	22.5	ug/Kg
Diethyl Phthalate	—	<MDL	U	24	47.1	ug/Kg	—	<MDL	U	22	44.9	ug/Kg
Dimethyl Phthalate	—	<MDL	U	23.5	23.5	ug/Kg	—	<MDL	U	22.5	22.5	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	24	47.1	ug/Kg	—	<MDL	U	22	44.9	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	118	118	ug/Kg	245	—	—	112	112	ug/Kg
Fluoranthene	962	—	—	12	23.5	ug/Kg	638	—	—	11	22.5	ug/Kg
Fluorene	18	<RDL	J	12	23.5	ug/Kg	14	<RDL	J	11	22.5	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.2	2.35	ug/Kg	—	<MDL	U	1.1	2.25	ug/Kg
Hexachlorobutadiene	—	<MDL	U	29	58.8	ug/Kg	—	<MDL	U	28	56.2	ug/Kg
Indeno(1,2,3-Cd)Pyrene	318	—	—	59	118	ug/Kg	315	—	—	56	112	ug/Kg
Naphthalene	—	<MDL	U	59	118	ug/Kg	—	<MDL	U	56	112	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	29.4	29.4	ug/Kg	—	<MDL	U	28.1	28.1	ug/Kg
Pentachlorophenol	—	<MDL	U	176	176	ug/Kg	—	<MDL	U	169	169	ug/Kg
Phenanthrene	303	—	—	12	23.5	ug/Kg	196	—	—	11	22.5	ug/Kg
Phenol	—	<MDL	U	59	176	ug/Kg	—	<MDL	UJ	56	169	ug/Kg
Pyrene	1170	—	—	12	23.5	ug/Kg	778	—	—	11	22.5	ug/Kg
Total 4-Nonylphenol	1200	<RDL	J	180	1880	ug/Kg	760	<RDL,J	J	170	1800	ug/Kg
Total HPAHS	6200	—	—	12	23.5	ug/Kg	4870	—	—	11	22.5	ug/Kg
Total LPAHS	380	—	—	12	23.5	ug/Kg	247	—	—	11	22.5	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	FS318					CS318					
	<b>Descrip:</b>	EMILL CRK NEAR 72N					EMILL CRK NEAR 222					
	<b>Sample:</b>	L56024-13					L56024-14					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/28/12 15:00					8/28/12 14:40					
	<b>TotalSolid:</b>	49.5					32.7					
	<b>Sample Information:</b>	15 spoons; nearly stagnant, H2S moderate					15 spoons; nearly stagnant, H2S moderate					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
<b>CV ASTM D422</b>												
Fines*	21.1	—	—	1.2	2.4	%	61	—	—	2.3	4.5	%
Gravel*	0.3	<RDL	J	0.2	2.4	%	0.7	<RDL	J	0.5	4.5	%
Sand*	70.2	—	—	0.2	2.4	%	35.1	—	—	0.5	4.5	%
Silt*	14.1	—	—	1.2	2.4	%	45.2	—	—	2.3	4.5	%
Clay*	7	—	—	1.2	2.4	%	15.8	—	—	2.3	4.5	%
p+0.00*	0.8	<RDL	J	0.2	2.4	%	0.5	<RDL	J	0.5	4.5	%
p+1.00*	3.2	—	—	0.2	2.4	%	1.4	<RDL	J	0.5	4.5	%
p+10.0(equal/more than)*	7	—	—	1.2	2.4	%	15.8	—	—	2.3	4.5	%
p+2.00*	15.7	—	—	0.2	2.4	%	8.9	—	—	0.5	4.5	%
p+3.00*	34.1	—	—	0.2	2.4	%	11.9	—	—	0.5	4.5	%
p+4.00*	16.4	—	—	0.2	2.4	%	12.4	—	—	0.5	4.5	%
p+5.00*	5.9	—	—	1.2	2.4	%	18.1	—	—	2.3	4.5	%
p+6.00*	3.5	—	—	1.2	2.4	%	11.3	—	—	2.3	4.5	%
p+7.00*	2.3	RDL	—	1.2	2.4	%	11.3	—	—	2.3	4.5	%
p+8.00*	2.3	RDL	—	1.2	2.4	%	4.5	RDL	—	2.3	4.5	%
p+9.00*	—	<MDL	U	1.2	2.4	%	—	<MDL	U	2.3	4.5	%
p-1.00*	0.3	<RDL	J	0.2	2.4	%	0.7	<RDL	J	0.5	4.5	%
p-2.00(less than)*	—	<MDL	U	0.2	2.4	%	—	<MDL	U	0.5	4.5	%
p-2.00*	—	<MDL	U	0.2	2.4	%	—	<MDL	U	0.5	4.5	%
<b>CV EPA DEC 1991</b>												
Sulfide, Acid Volatile	151	JG	—	5.1	20	mg/Kg	225	JG	—	7.3	29.9	mg/Kg
<b>CV SM2540-G</b>												
Total Solids*	49.5	—	—	0.005	0.01	%	32.7	—	—	0.005	0.01	%
<b>CV SW846 9045D</b>												
pH*	6.56	—	—	—	—	pH	6.4	—	—	—	—	pH
<b>CV SW846 9060-PSEP96</b>												
Total Organic Carbon	17100	—	—	2000	4060	mg/Kg	50800	—	—	4900	9790	mg/Kg
<b>MT EPA 1991/200.7</b>												
Arsenic, Extractable, SEM	2.6	<RDL	J	0.99	4.99	mg/Kg	6.7	<RDL	J	1.5	7.46	mg/Kg
Cadmium, Extractable, SEM	0.705	—	—	0.081	0.4	mg/Kg	1.65	—	—	0.12	0.599	mg/Kg
Chromium, Extractable, SEM	2.75	—	—	0.12	0.6	mg/Kg	16.8	—	—	0.18	0.896	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	FS318						CS318					
	<b>Descrip:</b>	EMILL CRK NEAR 72N						EMILL CRK NEAR 222					
	<b>Sample:</b>	L56024-13						L56024-14					
	<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b>	8/28/12 15:00						8/28/12 14:40					
	<b>TotalSolid:</b>	49.5						32.7					
	<b>Sample Information:</b>	15 spoons; nearly stagnant, H2S moderate						15 spoons; nearly stagnant, H2S moderate					
		<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units		Value	Lab Qual	Validation Qual	MDL	RDL	Units
Copper, Extractable, SEM	9.43	—	—	0.16	0.798	mg/Kg		43.1	—	—	0.24	1.2	mg/Kg
Lead, Extractable, SEM	13.2	—	—	0.81	4	mg/Kg		57.8	—	—	1.2	5.99	mg/Kg
Nickel, Extractable, SEM	2.28	—	—	0.2	0.998	mg/Kg		6.15	—	—	0.3	1.5	mg/Kg
Silver, Extractable, SEM	—	<MDL	U	0.16	0.798	mg/Kg		—	<MDL	U	0.24	1.2	mg/Kg
Zinc, Extractable, SEM	105	—	—	0.2	0.998	mg/Kg		413	—	—	0.3	1.5	mg/Kg
<b>MT EPA 821 1991/245.1*SW846 7470A</b>													
Mercury, Extractable, SEM	—	<MDL	U	0.002	0.006	mg/Kg		—	<MDL	U	0.003	0.00896	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>													
Arsenic, Total, ICP-MS	7.58	—	—	0.02	0.0976	mg/Kg		10.2	—	—	0.03	0.149	mg/Kg
Cadmium, Total, ICP-MS	0.885	—	—	0.0097	0.0489	mg/Kg		1.17	—	—	0.015	0.0746	mg/Kg
Chromium, Total, ICP-MS	16.9	—	—	0.16	0.782	mg/Kg		29	—	—	0.24	1.19	mg/Kg
Copper, Total, ICP-MS	28.1	—	—	0.3	1.56	mg/Kg		52.9	—	—	0.49	2.39	mg/Kg
Lead, Total, ICP-MS	21	—	—	0.02	0.0976	mg/Kg		64.2	—	—	0.03	0.149	mg/Kg
Nickel, Total, ICP-MS	15.3	—	—	0.079	0.39	mg/Kg		18.2	—	—	0.12	0.596	mg/Kg
Silver, Total, ICP-MS	0.143	—	—	0.0079	0.039	mg/Kg		0.169	—	—	0.012	0.0596	mg/Kg
Zinc, Total, ICP-MS	189	—	—	0.38	1.95	mg/Kg		446	—	—	0.61	2.98	mg/Kg
<b>MT SW846 7471B</b>													
Mercury, Total, CVAA	0.063	<RDL	J	0.0099	0.0998	mg/Kg		0.11	<RDL	J	0.015	0.146	mg/Kg
<b>OR SW846 3550B*SW846 8081B</b>													
4,4'-DDD	7.17	—	—	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg
4,4'-DDE	3	<RDL	J	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg
4,4'-DDT	—	<MDL	U	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg
Aldrin	—	<MDL	U	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg
Alpha-BHC	—	<MDL	U	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg
Alpha-Chlordane	3.2	<RDL	J	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg
Beta-BHC	—	<MDL	U	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg
Delta-BHC	—	<MDL	U	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg
Dieldrin	—	<MDL	U	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg
Endosulfan I	—	<MDL	U	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg
Endosulfan II	—	<MDL	U	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg
Endosulfan Sulfate	—	<MDL	U	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg
Endrin	—	<MDL	U	2.2	4.3	ug/Kg		—	<MDL	U	8.3	16.3	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	FS318					CS318					
	<b>Descrip:</b>	EMILL CRK NEAR 72N					EMILL CRK NEAR 222					
	<b>Sample:</b>	L56024-13					L56024-14					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/28/12 15:00					8/28/12 14:40					
	<b>TotalSolid:</b>	49.5					32.7					
	<b>Sample Information:</b>	15 spoons; nearly stagnant, H2S moderate					15 spoons; nearly stagnant, H2S moderate					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Endrin Aldehyde	—	<MDL	U	2.2	4.3	ug/Kg	—	<MDL	U	8.3	16.3	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	2.2	4.3	ug/Kg	—	<MDL	U	8.3	16.3	ug/Kg
Heptachlor	—	<MDL	U	2.2	4.3	ug/Kg	—	<MDL	U	8.3	16.3	ug/Kg
Heptachlor Epoxide	—	<MDL	U	2.2	4.3	ug/Kg	—	<MDL	U	8.3	16.3	ug/Kg
Methoxychlor	—	<MDL	U	11	21.6	ug/Kg	—	<MDL	U	40	81.7	ug/Kg
Toxaphene	—	<MDL	U	42	216	ug/Kg	—	<MDL	U	160	817	ug/Kg
trans-Chlordane	—	<MDL	U	2.2	4.3	ug/Kg	—	<MDL	U	8.3	16.3	ug/Kg
<b>OR SW846 3550B*SW846 8082A</b>												
Aroclor 1016	—	<MDL	U	2.6	10.8	ug/Kg	—	<MDL	U	4	16.3	ug/Kg
Aroclor 1221	—	<MDL	U	5.5	10.8	ug/Kg	—	<MDL	U	8.3	16.3	ug/Kg
Aroclor 1232	—	<MDL	U	5.5	10.8	ug/Kg	—	<MDL	U	8.3	16.3	ug/Kg
Aroclor 1242	—	<MDL	U	2.6	10.8	ug/Kg	8.9	<RDL	J	4	16.3	ug/Kg
Aroclor 1248	—	<MDL	U	2.6	10.8	ug/Kg	—	<MDL	U	4	16.3	ug/Kg
Aroclor 1254	32.3	—	—	2.6	10.8	ug/Kg	70	<RDL	J	20	81.7	ug/Kg
Aroclor 1260	19.5	—	—	2.6	10.8	ug/Kg	49	<RDL	J	20	81.7	ug/Kg
Total Aroclors	51.8	—	—	2.6	10.8	ug/Kg	128	—	—	4	16.3	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>												
1,2,4-Trichlorobenzene	—	<MDL	U	5.5	10.8	ug/Kg	—	<MDL	U	6.1	12.2	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	10.8	10.8	ug/Kg	—	<MDL	U	12.2	12.2	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	16.2	16.2	ug/Kg	—	<MDL	U	18.3	18.3	ug/Kg
2,4-Dimethylphenol	—	<MDL,JG	UJ	55	108	ug/Kg	—	<MDL,JG	UJ	61	122	ug/Kg
2-Methylnaphthalene	—	<MDL	U	55	108	ug/Kg	—	<MDL	U	61	122	ug/Kg
2-Methylphenol	—	<MDL	U	11	21.6	ug/Kg	—	<MDL	U	12	24.5	ug/Kg
3-,4-Methylphenol	—	<MDL	U	55	108	ug/Kg	123	—	—	61	122	ug/Kg
Acenaphthene	—	<MDL	U	11	21.6	ug/Kg	29.8	—	—	12	24.5	ug/Kg
Acenaphthylene	—	<MDL	U	11	21.6	ug/Kg	—	<MDL	U	12	24.5	ug/Kg
Anthracene	20	<RDL	J	11	21.6	ug/Kg	65.4	—	—	12	24.5	ug/Kg
Benzo(a)anthracene	170	—	—	11	21.6	ug/Kg	471	—	J	12	24.5	ug/Kg
Benzo(a)pyrene	232	—	—	55	108	ug/Kg	618	—	—	61	122	ug/Kg
Benzo(b,j,k)fluoranthene	705	—	—	55	108	ug/Kg	1910	—	—	61	122	ug/Kg
Benzo(g,h,i)perylene	140	—	—	55	108	ug/Kg	267	—	—	61	122	ug/Kg
Benzoic Acid	—	<MDL	U	1080	1080	ug/Kg	—	<MDL	U	1220	1220	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> FS318	FS318					CS318	CS318				
	<b>Descrip:</b> EMILL CRK NEAR 72N	EMILL CRK NEAR 72N					EMILL CRK NEAR 222	EMILL CRK NEAR 222				
	<b>Sample:</b> L56024-13	L56024-13					L56024-14	L56024-14				
	<b>Matrix:</b> SE FRSHWTRSED	SE FRSHWTRSED					SE FRSHWTRSED	SE FRSHWTRSED				
	<b>ColDate:</b> 8/28/12 15:00	8/28/12 15:00					8/28/12 14:40	8/28/12 14:40				
	<b>TotalSolid:</b> 49.5	49.5					32.7	32.7				
	<b>Sample Information:</b> 15 spoons; nearly stagnant, H2S moderate	15 spoons; nearly stagnant, H2S moderate					15 spoons; nearly stagnant, H2S moderate	15 spoons; nearly stagnant, H2S moderate				
	<b>DRY Weight Basis</b>	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>	<b>DRY Weight Basis</b>				
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Benzyl Alcohol	—	<MDL	U	26.9	26.9	ug/Kg	—	<MDL	U	30.6	30.6	ug/Kg
Benzyl Butyl Phthalate	192	—	—	16.2	16.2	ug/Kg	376	—	J	18.3	18.3	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	360	1720	ug/Kg	—	<MDL	U	2000	9790	ug/Kg
Bis(2-Ethylhexyl)Phthalate	1710	—	—	22	43	ug/Kg	8010	—	J	24	48.9	ug/Kg
Bisphenol A	—	<MDL	U	360	1720	ug/Kg	—	<MDL	U	400	1960	ug/Kg
Carbazole	25.3	—	—	11	21.6	ug/Kg	93.9	—	—	12	24.5	ug/Kg
Chrysene	317	—	—	11	21.6	ug/Kg	924	—	J	12	24.5	ug/Kg
Coprostanol	—	<MDL	U	1800	17200	ug/Kg	—	<MDL	U	2000	19600	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	55	108	ug/Kg	80	<RDL	J	61	122	ug/Kg
Dibenzofuran	—	<MDL	U	11	21.6	ug/Kg	23	<RDL	J	12	24.5	ug/Kg
Diethyl Phthalate	—	<MDL	U	22	43	ug/Kg	—	<MDL	U	24	48.9	ug/Kg
Dimethyl Phthalate	—	<MDL	U	21.6	21.6	ug/Kg	29.7	—	—	24.5	24.5	ug/Kg
Di-N-Butyl Phthalate	28	<RDL	J	22	43	ug/Kg	—	<MDL	U	24	48.9	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	108	108	ug/Kg	—	<MDL	U	122	122	ug/Kg
Fluoranthene	453	—	—	11	21.6	ug/Kg	1130	—	—	12	24.5	ug/Kg
Fluorene	12	<RDL	J	11	21.6	ug/Kg	39.4	—	—	12	24.5	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.1	2.16	ug/Kg	—	<MDL	U	1.2	2.45	ug/Kg
Hexachlorobutadiene	—	<MDL	U	26	53.9	ug/Kg	—	<MDL	U	31	61.2	ug/Kg
Indeno(1,2,3-Cd)Pyrene	142	—	—	55	108	ug/Kg	250	—	—	61	122	ug/Kg
Naphthalene	—	<MDL	U	55	108	ug/Kg	—	<MDL	U	61	122	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	26.9	26.9	ug/Kg	—	<MDL	U	30.6	30.6	ug/Kg
Pentachlorophenol	—	<MDL	U	162	162	ug/Kg	—	<MDL	U	183	183	ug/Kg
Phenanthrene	146	—	—	11	21.6	ug/Kg	462	—	—	12	24.5	ug/Kg
Phenol	—	<MDL	U	55	162	ug/Kg	—	<MDL	U	61	183	ug/Kg
Pyrene	541	—	—	11	21.6	ug/Kg	2150	—	J	12	24.5	ug/Kg
Total 4-Nonylphenol	1760	—	J	160	1720	ug/Kg	3240	—	J	180	1960	ug/Kg
Total HPAHS	2700	—	—	11	21.6	ug/Kg	7800	—	—	12	24.5	ug/Kg
Total LPAHs	178	—	—	11	21.6	ug/Kg	596	—	—	12	24.5	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

<b>Sample Information:</b>	<b>Locator:</b>	AA318						EP318					
	<b>Descrip:</b>	EMILL CRK NOVAK LN						EMILL CRK AT EARTH					
	<b>Sample:</b>	L56024-15						L56024-16					
	<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b>	8/28/12 12:00						8/28/12 10:00					
	<b>TotalSolid:</b>	36.7						31.6					
	<b>Sample Information:</b>	22 spoons; H2S slight						20 spoons; under ped bridge					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	
<b>CV ASTM D422</b>													
Fines*	41.3	—	—	2.1	4.1	%	20	—	—	2	4	%	
Gravel*	3	<RDL	J	0.4	4.1	%	32.9	—	—	0.4	4	%	
Sand*	48.4	—	—	0.4	4.1	%	45.4	—	—	0.4	4	%	
Silt*	28.9	—	—	2.1	4.1	%	8	—	—	2	4	%	
Clay*	12.4	—	—	2.1	4.1	%	12	—	—	2	4	%	
p+0.00*	3.2	<RDL	J	0.4	4.1	%	1.8	<RDL	J	0.4	4	%	
p+1.00*	4.7	—	—	0.4	4.1	%	3.7	<RDL	J	0.4	4	%	
p+10.0(equal/more than)*	12.4	—	—	2.1	4.1	%	12	—	—	2	4	%	
p+2.00*	10.2	—	—	0.4	4.1	%	14	—	—	0.4	4	%	
p+3.00*	13.7	—	—	0.4	4.1	%	16.1	—	—	0.4	4	%	
p+4.00*	16.6	—	—	0.4	4.1	%	9.9	—	—	0.4	4	%	
p+5.00*	18.6	—	—	2.1	4.1	%	6	—	—	2	4	%	
p+6.00*	4.1	RDL	—	2.1	4.1	%	2	<RDL	J	2	4	%	
p+7.00*	4.1	RDL	—	2.1	4.1	%	—	<MDL	U	2	4	%	
p+8.00*	2.1	<RDL	J	2.1	4.1	%	—	<MDL	U	2	4	%	
p+9.00*	—	<MDL	U	2.1	4.1	%	—	<MDL	U	2	4	%	
p-1.00*	1.8	<RDL	J	0.4	4.1	%	3.3	<RDL	J	0.4	4	%	
p-2.00(less than)*	—	<MDL	U	0.4	4.1	%	27.7	—	—	0.4	4	%	
p-2.00*	1.2	<RDL	J	0.4	4.1	%	1.9	<RDL	J	0.4	4	%	
<b>CV EPA DEC 1991</b>													
Sulfide, Acid Volatile	27.2	JG	—	3.3	12.7	mg/Kg	1.1	<RDL,JG	J	0.73	2.96	mg/Kg	
<b>CV SM2540-G</b>													
Total Solids*	36.7	—	—	0.005	0.01	%	31.6	—	—	0.005	0.01	%	
<b>CV SW846 9045D</b>													
pH*	6.68	—	—	—	—	pH	7.15	—	—	—	—	pH	
<b>CV SW846 9060-PSEP96</b>													
Total Organic Carbon	62900	—	—	7100	14300	mg/Kg	42100	—	—	5700	11600	mg/Kg	
<b>MT EPA 1991/200.7</b>													
Arsenic, Extractable, SEM	1.9	<RDL	J	1.3	6.35	mg/Kg	2.1	<RDL	J	1.5	7.41	mg/Kg	
Cadmium, Extractable, SEM	0.616	—	—	0.1	0.507	mg/Kg	0.28	<RDL	J	0.12	0.592	mg/Kg	
Chromium, Extractable, SEM	5.12	—	—	0.15	0.76	mg/Kg	4.68	—	—	0.18	0.889	mg/Kg	

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

Sample Information:	Locator:	AA318						EP318					
	Descrip:	EMILL CRK NOVAK LN						EMILL CRK AT EARTH					
	Sample:	L56024-15						L56024-16					
	Matrix:	SE FRSHWTRSED						SE FRSHWTRSED					
	ColDate:	8/28/12 12:00						8/28/12 10:00					
Sample Information:	TotalSolid:	36.7						31.6					
	22 spoons; H2S slight DRY Weight Basis							20 spoons; under ped bridge DRY Weight Basis					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units	
Copper, Extractable, SEM	38.1	—	—	0.2	1.01	mg/Kg	19.6	—	—	0.24	1.18	mg/Kg	
Lead, Extractable, SEM	54	—	—	1	5.07	mg/Kg	32.3	—	—	1.2	5.92	mg/Kg	
Nickel, Extractable, SEM	4.85	—	—	0.25	1.27	mg/Kg	4.46	—	—	0.3	1.48	mg/Kg	
Silver, Extractable, SEM	—	<MDL	U	0.2	1.01	mg/Kg	—	<MDL	U	0.24	1.18	mg/Kg	
Zinc, Extractable, SEM	275	—	—	0.25	1.27	mg/Kg	162	—	—	0.3	1.48	mg/Kg	
MT EPA 821 1991/245.1*SW846 7470A													
Mercury, Extractable, SEM	—	<MDL	U	0.0025	0.0076	mg/Kg	—	<MDL	U	0.003	0.00889	mg/Kg	
MT SW846 3050B*SW846 6020A													
Arsenic, Total, ICP-MS	3.84	—	—	0.027	0.134	mg/Kg	2.92	—	—	0.03	0.151	mg/Kg	
Cadmium, Total, ICP-MS	0.678	—	—	0.013	0.0673	mg/Kg	0.307	—	—	0.015	0.0753	mg/Kg	
Chromium, Total, ICP-MS	25.1	—	—	0.22	1.08	mg/Kg	12.6	—	—	0.24	1.21	mg/Kg	
Copper, Total, ICP-MS	52.6	—	—	0.44	2.15	mg/Kg	27.5	—	—	0.47	2.41	mg/Kg	
Lead, Total, ICP-MS	66.5	—	—	0.027	0.134	mg/Kg	26.9	—	—	0.03	0.151	mg/Kg	
Nickel, Total, ICP-MS	18.1	—	—	0.11	0.537	mg/Kg	11	—	—	0.12	0.604	mg/Kg	
Silver, Total, ICP-MS	0.137	—	—	0.011	0.0537	mg/Kg	0.051	<RDL	J	0.012	0.0604	mg/Kg	
Zinc, Total, ICP-MS	401	—	—	0.54	2.69	mg/Kg	187	—	—	0.6	3.02	mg/Kg	
MT SW846 7471B													
Mercury, Total, CVAA	0.1	<RDL	J	0.013	0.131	mg/Kg	0.082	<RDL	J	0.016	0.155	mg/Kg	
OR SW846 3550B*SW846 8081B													
4,4'-DDD	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg	
4,4'-DDE	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg	
4,4'-DDT	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg	
Aldrin	—	<MDL	UJ	7.4	14.5	ug/Kg	—	<MDL	UJ	1.7	3.39	ug/Kg	
Alpha-BHC	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg	
Alpha-Chlordane	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg	
Beta-BHC	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg	
Delta-BHC	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg	
Dieldrin	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg	
Endosulfan I	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg	
Endosulfan II	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg	
Endosulfan Sulfate	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg	
Endrin	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg	

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> AA318						EP318					
	<b>Descrip:</b> EMILL CRK NOVAK LN						EMILL CRK AT EARTH					
	<b>Sample:</b> L56024-15						L56024-16					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/28/12 12:00						8/28/12 10:00					
	<b>TotalSolid:</b> 36.7						31.6					
	<b>Sample Information:</b> 22 spoons; H2S slight						20 spoons; under ped bridge					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Endrin Aldehyde	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg
Heptachlor	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg
Heptachlor Epoxide	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg
Methoxychlor	—	<MDL	U	35	72.8	ug/Kg	—	<MDL	U	8.5	16.9	ug/Kg
Toxaphene	—	<MDL	U	140	728	ug/Kg	—	<MDL	U	35	169	ug/Kg
trans-Chlordane	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	1.7	3.39	ug/Kg
<b>OR SW846 3550B*SW846 8082A</b>												
Aroclor 1016	—	<MDL	U	3.5	14.5	ug/Kg	—	<MDL	U	4.1	16.9	ug/Kg
Aroclor 1221	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	8.5	16.9	ug/Kg
Aroclor 1232	—	<MDL	U	7.4	14.5	ug/Kg	—	<MDL	U	8.5	16.9	ug/Kg
Aroclor 1242	—	<MDL	U	3.5	14.5	ug/Kg	—	<MDL	U	4.1	16.9	ug/Kg
Aroclor 1248	—	<MDL	U	3.5	14.5	ug/Kg	—	<MDL	U	4.1	16.9	ug/Kg
Aroclor 1254	17.2	—	—	3.5	14.5	ug/Kg	—	<MDL	U	4.1	16.9	ug/Kg
Aroclor 1260	13	<RDL	J	3.5	14.5	ug/Kg	—	<MDL	U	4.1	16.9	ug/Kg
Total Aroclors	29.7	—	—	3.5	14.5	ug/Kg	—	<MDL	—	8.5	16.9	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>												
1,2,4-Trichlorobenzene	—	<MDL	U	5.4	10.9	ug/Kg	—	<MDL	U	6.3	12.7	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	10.9	10.9	ug/Kg	—	<MDL	U	12.7	12.7	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	16.3	16.3	ug/Kg	—	<MDL	U	19	19	ug/Kg
2,4-Dimethylphenol	—	<MDL	UJ	54	109	ug/Kg	—	<MDL	UJ	63	127	ug/Kg
2-Methylnaphthalene	—	<MDL	U	54	109	ug/Kg	—	<MDL	U	63	127	ug/Kg
2-Methylphenol	—	<MDL	UJ	11	21.8	ug/Kg	—	<MDL	UJ	13	25.3	ug/Kg
3-,4-Methylphenol	283	—	—	54	109	ug/Kg	135	—	—	63	127	ug/Kg
Acenaphthene	—	<MDL	U	11	21.8	ug/Kg	—	<MDL	U	13	25.3	ug/Kg
Acenaphthylene	—	<MDL	U	11	21.8	ug/Kg	—	<MDL	U	13	25.3	ug/Kg
Anthracene	106	—	—	11	21.8	ug/Kg	98.7	—	—	13	25.3	ug/Kg
Benzo(a)anthracene	790	—	J	54	109	ug/Kg	611	—	H	13	25.3	ug/Kg
Benzo(a)pyrene	1030	—	—	54	109	ug/Kg	636	—	—	63	127	ug/Kg
Benzo(b,j,k)fluoranthene	2830	—	—	54	109	ug/Kg	1580	—	—	63	127	ug/Kg
Benzo(g,h,i)perylene	351	—	—	54	109	ug/Kg	206	—	—	63	127	ug/Kg
Benzoic Acid	—	<MDL	U	1090	1090	ug/Kg	—	<MDL	U	1270	1270	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	AA318					EP318					
	<b>Descrip:</b>	EMILL CRK NOVAK LN					EMILL CRK AT EARTH					
<b>Sample Information:</b>	<b>Sample:</b>	L56024-15					L56024-16					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/28/12 12:00					8/28/12 10:00					
	<b>TotalSolid:</b>	36.7					31.6					
		22 spoons; H2S slight					20 spoons; under ped bridge					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Benzyl Alcohol	—	<MDL	U	27.2	27.2	ug/Kg	—	<MDL	U	31.6	31.6	ug/Kg
Benzyl Butyl Phthalate	460	—	J	81.7	81.7	ug/Kg	75.9	—	J	19	19	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	1800	8720	ug/Kg	—	<MDL	U	410	2030	ug/Kg
Bis(2-Ethylhexyl)Phthalate	6080	—	J	110	218	ug/Kg	1720	—	J	25	50.6	ug/Kg
Bisphenol A	—	<MDL	U	350	1740	ug/Kg	—	<MDL	U	410	2030	ug/Kg
Carbazole	132	—	—	11	21.8	ug/Kg	110	—	—	13	25.3	ug/Kg
Chrysene	1240	—	J	54	109	ug/Kg	915	—	J	13	25.3	ug/Kg
Coprostanol	—	<MDL	U	1800	17400	ug/Kg	—	<MDL	U	2100	20300	ug/Kg
Dibenzo(a,h)anthracene	115	—	U	54	109	ug/Kg	66	<RDL	J	63	127	ug/Kg
Dibenzofuran	—	<MDL	U	11	21.8	ug/Kg	16	<RDL	J	13	25.3	ug/Kg
Diethyl Phthalate	—	<MDL	U	22	43.6	ug/Kg	—	<MDL	U	25	50.6	ug/Kg
Dimethyl Phthalate	45	—	—	21.8	21.8	ug/Kg	—	<MDL	U	25.3	25.3	ug/Kg
Di-N-Butyl Phthalate	81.7	—	—	22	43.6	ug/Kg	—	<MDL	U	25	50.6	ug/Kg
Di-N-Octyl Phthalate	602	—	—	109	109	ug/Kg	—	<MDL	U	127	127	ug/Kg
Fluoranthene	1950	—	—	11	21.8	ug/Kg	1540	—	—	13	25.3	ug/Kg
Fluorene	34.9	—	—	11	21.8	ug/Kg	33.9	—	—	13	25.3	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.1	2.18	ug/Kg	4.75	—	—	1.3	2.53	ug/Kg
Hexachlorobutadiene	—	<MDL	U	27	54.5	ug/Kg	—	<MDL	U	32	63.3	ug/Kg
Indeno(1,2,3-Cd)Pyrene	384	—	—	54	109	ug/Kg	223	—	—	63	127	ug/Kg
Naphthalene	—	<MDL	U	54	109	ug/Kg	—	<MDL	U	63	127	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	27.2	27.2	ug/Kg	—	<MDL	U	31.6	31.6	ug/Kg
Pentachlorophenol	—	<MDL	U	163	163	ug/Kg	213	—	—	190	190	ug/Kg
Phenanthrene	643	—	—	11	21.8	ug/Kg	627	—	—	13	25.3	ug/Kg
Phenol	—	<MDL	UJ	54	163	ug/Kg	—	<MDL	UJ	63	190	ug/Kg
Pyrene	1830	—	J	54	109	ug/Kg	1970	—	J	13	25.3	ug/Kg
Total 4-Nonylphenol	1400	<RDL,J	J	160	1740	ug/Kg		<MDL,J	U	190	2030	ug/Kg
Total HPAHS	10500	—	—	11	21.8	ug/Kg	7740	—	—	13	25.3	ug/Kg
Total LPAHs	784	—	—	11	21.8	ug/Kg	759	—	—	13	25.3	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	Locator:	EG318					SH318					
	Descrip:	EMILL CRK AT 104TH					EMILL CRK NEAR SCE					
Sample Information:	Sample:	L56024-17					L56024-19					
	Matrix:	SE FRSHWTRSED					SE FRSHWTRSED					
	ColDate:	8/28/12 11:00					8/28/12 13:20					
	TotalSolid:	31.4					35					
		25 spoons; nearly stagnant, H2S moderate					20 spoons; D.S. side of trail					
		DRY Weight Basis					DRY Weight Basis					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
CV ASTM D422												
Fines*	30	—	—	2.3	4.6	%	9.4	—	—	1	2.1	%
Gravel*	8.9	—	—	0.5	4.6	%	25.5	—	—	0.2	2.1	%
Sand*	63.6	—	—	0.5	4.6	%	68.3	—	—	0.2	2.1	%
Silt*	13.8	—	—	2.3	4.6	%	4.2	—	—	1	2.1	%
Clay*	16.2	—	—	2.3	4.6	%	5.2	—	—	1	2.1	%
p+0.00*	2.5	<RDL	J	0.5	4.6	%	7.8	—	—	0.2	2.1	%
p+1.00*	9.2	—	—	0.5	4.6	%	16.2	—	—	0.2	2.1	%
p+10.0(equal/more than)*	16.2	—	—	2.3	4.6	%	5.2	—	—	1	2.1	%
p+2.00*	30.8	—	—	0.5	4.6	%	29.3	—	—	0.2	2.1	%
p+3.00*	16.1	—	—	0.5	4.6	%	11.5	—	—	0.2	2.1	%
p+4.00*	5	—	—	0.5	4.6	%	3.7	—	—	0.2	2.1	%
p+5.00*	6.9	—	—	2.3	4.6	%	2.1	RDL	—	1	2.1	%
p+6.00*	2.3	<RDL	J	2.3	4.6	%	—	<MDL	U	1	2.1	%
p+7.00*	2.3	<RDL	J	2.3	4.6	%	1	<RDL	J	1	2.1	%
p+8.00*	2.3	<RDL	J	2.3	4.6	%	1	<RDL	J	1	2.1	%
p+9.00*	—	<MDL	U	2.3	4.6	%	—	<MDL	U	1	2.1	%
p-1.00*	3	<RDL	J	0.5	4.6	%	8.7	—	—	0.2	2.1	%
p-2.00(less than)*	5.1	—	—	0.5	4.6	%	12.5	—	—	0.2	2.1	%
p-2.00*	0.7	<RDL	J	0.5	4.6	%	4.3	—	—	0.2	2.1	%
CV EPA DEC 1991												
Sulfide, Acid Volatile	7.74	JG	—	0.76	3.02	mg/Kg	3.54	JG	J	0.66	2.61	mg/Kg
CV SM2540-G												
Total Solids*	31.4	—	—	0.005	0.01	%	35	—	—	0.005	0.01	%
CV SW846 9045D												
pH*	6.15	—	—	—	—	pH	6.66	—	—	—	—	pH
CV SW846 9060-PSEP96												
Total Organic Carbon	36900	—	—	4500	8660	mg/Kg	32600	—	—	2900	5970	mg/Kg
MT EPA 1991/200.7												
Arsenic, Extractable, SEM	2.7	<RDL	J	1.5	7.55	mg/Kg	2.3	<RDL	J	1.3	6.51	mg/Kg
Cadmium, Extractable, SEM	0.31	<RDL	J	0.12	0.605	mg/Kg	0.19	<RDL	J	0.11	0.523	mg/Kg
Chromium, Extractable, SEM	3.28	—	—	0.18	0.904	mg/Kg	2.66	—	—	0.16	0.783	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	Locator:	EG318					SH318					
	Descrip:	EMILL CRK AT 104TH					EMILL CRK NEAR SCE					
	Sample:	L56024-17					L56024-19					
	Matrix:	SE FRSHWTRSED					SE FRSHWTRSED					
	ColDate:	8/28/12 11:00					8/28/12 13:20					
	TotalSolid:	31.4					35					
	Sample Information:	25 spoons; nearly stagnant, H2S moderate					20 spoons; D.S. side of trail					
		DRY Weight Basis					DRY Weight Basis					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Copper, Extractable, SEM	13.2	—	—	0.24	1.21	mg/Kg	8.63	—	—	0.21	1.04	mg/Kg
Lead, Extractable, SEM	28.2	—	—	1.2	6.05	mg/Kg	18.9	—	—	1.1	5.23	mg/Kg
Nickel, Extractable, SEM	1.74	—	—	0.3	1.51	mg/Kg	2.27	—	—	0.26	1.31	mg/Kg
Silver, Extractable, SEM	—	<MDL	U	0.24	1.21	mg/Kg	—	<MDL	U	0.21	1.04	mg/Kg
Zinc, Extractable, SEM	132	—	—	0.3	1.51	mg/Kg	136	—	—	0.26	1.31	mg/Kg
MT EPA 821 1991/245.1*SW846 7470A												
Mercury, Extractable, SEM	—	<MDL	U	0.003	0.00904	mg/Kg	0.0037	<RDL	J	0.0026	0.00783	mg/Kg
MT SW846 3050B*SW846 6020A												
Arsenic, Total, ICP-MS	3.76	—	—	0.028	0.142	mg/Kg	4.06	—	—	0.024	0.121	mg/Kg
Cadmium, Total, ICP-MS	0.259	—	—	0.014	0.071	mg/Kg	0.283	—	—	0.012	0.0606	mg/Kg
Chromium, Total, ICP-MS	8.41	—	—	0.057	0.284	mg/Kg	10.8	—	—	0.19	0.969	mg/Kg
Copper, Total, ICP-MS	11.3	—	—	0.11	0.567	mg/Kg	18.3	—	—	0.4	1.93	mg/Kg
Lead, Total, ICP-MS	32.2	—	—	0.028	0.142	mg/Kg	26	—	—	0.024	0.121	mg/Kg
Nickel, Total, ICP-MS	5.96	—	—	0.028	0.142	mg/Kg	8.83	—	—	0.097	0.483	mg/Kg
Silver, Total, ICP-MS	0.054	<RDL	J	0.011	0.0567	mg/Kg	0.0551	—	—	0.0097	0.0483	mg/Kg
Zinc, Total, ICP-MS	108	—	—	0.14	0.71	mg/Kg	228	—	—	0.49	2.42	mg/Kg
MT SW846 7471B												
Mercury, Total, CVAA	0.096	<RDL	J	0.015	0.154	mg/Kg	0.069	<RDL	J	0.014	0.142	mg/Kg
OR SW846 3550B*SW846 8081B												
4,4'-DDD	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
4,4'-DDE	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
4,4'-DDT	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
Aldrin	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
Alpha-BHC	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
Alpha-Chlordane	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
Beta-BHC	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
Delta-BHC	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
Dieldrin	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
Endosulfan I	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
Endosulfan II	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
Endosulfan Sulfate	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
Endrin	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

Locator: Descrip: Sample: Matrix: ColDate: TotalSolid: Sample Information:	EG318 EMILL CRK AT 104TH L56024-17 SE FRSHWTRSED 8/28/12 11:00 31.4 25 spoons; nearly stagnant, H2S moderate						SH318 EMILL CRK NEAR SCE L56024-19 SE FRSHWTRSED 8/28/12 13:20 35 20 spoons; D.S. side of trail						
	DRY Weight Basis						DRY Weight Basis						
	Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
	Endrin Aldehyde	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg	
Heptachlor	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg	
Heptachlor Epoxide	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg	
Methoxychlor	—	<MDL	U	17	34.1	ug/Kg	—	<MDL	U	7.7	15.2	ug/Kg	
Toxaphene	—	<MDL	U	67	341	ug/Kg	—	<MDL	U	31	152	ug/Kg	
trans-Chlordane	—	<MDL	U	3.5	6.78	ug/Kg	—	<MDL	U	1.5	3.06	ug/Kg	
OR SW846 3550B*SW846 8082A													
Aroclor 1016	—	<MDL	U	4.1	17	ug/Kg	—	<MDL	U	3.7	15.2	ug/Kg	
Aroclor 1221	—	<MDL	U	8.6	17	ug/Kg	—	<MDL	U	7.7	15.2	ug/Kg	
Aroclor 1232	—	<MDL	U	8.6	17	ug/Kg	—	<MDL	U	7.7	15.2	ug/Kg	
Aroclor 1242	—	<MDL	U	4.1	17	ug/Kg	—	<MDL	U	3.7	15.2	ug/Kg	
Aroclor 1248	—	<MDL	U	4.1	17	ug/Kg	—	<MDL	U	3.7	15.2	ug/Kg	
Aroclor 1254	12	<RDL	J	4.1	17	ug/Kg	8.6	<RDL	J	3.7	15.2	ug/Kg	
Aroclor 1260	9.2	<RDL	J	4.1	17	ug/Kg	8.9	<RDL	J	3.7	15.2	ug/Kg	
Total Aroclors	21	—	—	4.1	17	ug/Kg	17.4	—	—	3.7	15.2	ug/Kg	
OR SW846 3550B*SW846 8270D													
1,2,4-Trichlorobenzene	—	<MDL	U	6.4	12.7	ug/Kg	—	<MDL	U	5.7	11.4	ug/Kg	
1,2-Dichlorobenzene	—	<MDL	U	12.7	12.7	ug/Kg	—	<MDL	U	11.4	11.4	ug/Kg	
1,4-Dichlorobenzene	—	<MDL	U	19.1	19.1	ug/Kg	—	<MDL	U	17.1	17.1	ug/Kg	
2,4-Dimethylphenol	—	<MDL,JG	UJ	64	127	ug/Kg	—	<MDL,JG	UJ	57	114	ug/Kg	
2-Methylnaphthalene	—	<MDL	U	64	127	ug/Kg	—	<MDL	U	57	114	ug/Kg	
2-Methylphenol	—	<MDL	U	13	25.5	ug/Kg	—	<MDL	U	11	22.9	ug/Kg	
3-,4-Methylphenol	—	<MDL	U	64	127	ug/Kg	—	<MDL	U	57	114	ug/Kg	
Acenaphthene	—	<MDL	U	13	25.5	ug/Kg	—	<MDL	U	11	22.9	ug/Kg	
Acenaphthylene	—	<MDL	U	13	25.5	ug/Kg	—	<MDL	U	11	22.9	ug/Kg	
Anthracene	49	—	—	13	25.5	ug/Kg	14	<RDL	J	11	22.9	ug/Kg	
Benzo(a)anthracene	238	—	—	13	25.5	ug/Kg	95.1	—	—	11	22.9	ug/Kg	
Benzo(a)pyrene	279	—	—	64	127	ug/Kg	122	—	—	57	114	ug/Kg	
Benzo(b,j,k)fluoranthene	812	—	—	64	127	ug/Kg	323	—	—	57	114	ug/Kg	
Benzo(g,h,i)perylene	110	<RDL	J	64	127	ug/Kg	71	<RDL	J	57	114	ug/Kg	
Benzoic Acid	—	<MDL	U	1270	1270	ug/Kg	—	<MDL	U	1140	1140	ug/Kg	

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	EG318					SH318					
	<b>Descrip:</b>	EMILL CRK AT 104TH					EMILL CRK NEAR SCE					
	<b>Sample:</b>	L56024-17					L56024-19					
<b>Sample Information:</b>	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/28/12 11:00					8/28/12 13:20					
	<b>TotalSolid:</b>	31.4					35					
		25 spoons; nearly stagnant, H2S moderate					20 spoons; D.S. side of trail					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Benzyl Alcohol	—	<MDL	U	31.8	31.8	ug/Kg	—	<MDL	U	28.6	28.6	ug/Kg
Benzyl Butyl Phthalate	191	—	—	19.1	19.1	ug/Kg	126	—	—	17.1	17.1	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	410	2040	ug/Kg	—	<MDL	U	370	1830	ug/Kg
Bis(2-Ethylhexyl)Phthalate	1920	—	—	25	51	ug/Kg	1420	—	—	23	45.7	ug/Kg
Bisphenol A	—	<MDL	U	410	2040	ug/Kg	—	<MDL	U	370	1830	ug/Kg
Carbazole	35	—	—	13	25.5	ug/Kg	18	<RDL	J	11	22.9	ug/Kg
Chrysene	379	—	—	13	25.5	ug/Kg	173	—	—	11	22.9	ug/Kg
Coprostanol	—	<MDL	U	2100	20400	ug/Kg	—	<MDL	U	1900	18300	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	64	127	ug/Kg	—	<MDL	U	57	114	ug/Kg
Dibenzofuran	—	<MDL	U	13	25.5	ug/Kg	—	<MDL	U	11	22.9	ug/Kg
Diethyl Phthalate	—	<MDL	U	25	51	ug/Kg	—	<MDL	U	23	45.7	ug/Kg
Dimethyl Phthalate	—	<MDL	U	25.5	25.5	ug/Kg	—	<MDL	U	22.9	22.9	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	25	51	ug/Kg	—	<MDL	U	23	45.7	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	127	127	ug/Kg	—	<MDL	U	114	114	ug/Kg
Fluoranthene	561	—	—	13	25.5	ug/Kg	230	—	—	11	22.9	ug/Kg
Fluorene	14	<RDL	J	13	25.5	ug/Kg	—	<MDL	U	11	22.9	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.3	2.55	ug/Kg	—	<MDL	U	1.1	2.29	ug/Kg
Hexachlorobutadiene	—	<MDL	U	32	63.7	ug/Kg	—	<MDL	U	29	57.1	ug/Kg
Indeno(1,2,3-Cd)Pyrene	120	<RDL	J	64	127	ug/Kg	63	<RDL	J	57	114	ug/Kg
Naphthalene	—	<MDL	U	64	127	ug/Kg	—	<MDL	U	57	114	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	31.8	31.8	ug/Kg	—	<MDL	U	28.6	28.6	ug/Kg
Pentachlorophenol	—	<MDL	U	191	191	ug/Kg	—	<MDL	U	171	171	ug/Kg
Phenanthrene	236	—	—	13	25.5	ug/Kg	92.9	—	—	11	22.9	ug/Kg
Phenol	—	<MDL	U	64	191	ug/Kg	—	<MDL	U	57	171	ug/Kg
Pyrene	682	—	—	13	25.5	ug/Kg	254	—	—	11	22.9	ug/Kg
Total 4-Nonylphenol	—	<MDL	U	190	2040	ug/Kg	—	<MDL	U	170	1830	ug/Kg
Total HPAHS	3190	—	—	13	25.5	ug/Kg	1330	—	—	11	22.9	ug/Kg
Total LPAHs	299	—	—	13	25.5	ug/Kg	107	—	—	11	22.9	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> AB320						CC320					
	<b>Descrip:</b> COVINGTON CRK AT 1						COVINGTON CREEK AT					
	<b>Sample:</b> L56024-20						L56024-21					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/14/12 14:15						8/14/12 14:50					
	<b>TotalSolid:</b> 59.9						76.6					
	<b>Sample Information:</b> 15 spoons						20 spoons; much cobble, limited fines					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
<b>CV ASTM D422</b>												
Fines*	5.1	—	—	0.7	1.5	%	3.1	—	—	0.6	1.2	%
Gravel*	7.7	—	—	0.2	1.5	%	70	—	—	0.1	1.2	%
Sand*	83.1	—	—	0.2	1.5	%	28.8	—	—	0.1	1.2	%
Silt*	2.2	—	—	0.7	1.5	%	0.6	<RDL	J	0.6	1.2	%
Clay*	2.9	—	—	0.7	1.5	%	2.4	—	—	0.6	1.2	%
p+0.00*	9.2	—	—	0.2	1.5	%	6.3	—	—	0.1	1.2	%
p+1.00*	30.7	—	—	0.2	1.5	%	6.5	—	—	0.1	1.2	%
p+10.0(equal/more than)*	2.9	—	—	0.7	1.5	%	2.4	—	—	0.6	1.2	%
p+2.00*	27.7	—	—	0.2	1.5	%	6.5	—	—	0.1	1.2	%
p+3.00*	11.5	—	—	0.2	1.5	%	6.1	—	—	0.1	1.2	%
p+4.00*	4.1	—	—	0.2	1.5	%	3.3	—	—	0.1	1.2	%
p+5.00*	1.5	RDL	—	0.7	1.5	%	0.6	<RDL	J	0.6	1.2	%
p+6.00*	—	<MDL	U	0.7	1.5	%	—	<MDL	U	0.6	1.2	%
p+7.00*	0.7	<RDL	J	0.7	1.5	%	—	<MDL	U	0.6	1.2	%
p+8.00*	—	<MDL	U	0.7	1.5	%	—	<MDL	U	0.6	1.2	%
p+9.00*	—	<MDL	U	0.7	1.5	%	—	<MDL	U	0.6	1.2	%
p-1.00*	2.4	—	—	0.2	1.5	%	10.4	—	—	0.1	1.2	%
p-2.00(less than)*	5.1	—	—	0.2	1.5	%	56.3	—	—	0.1	1.2	%
p-2.00*	0.2	<RDL	J	0.2	1.5	%	3.4	—	—	0.1	1.2	%
<b>CV EPA DEC 1991</b>												
Sulfide, Acid Volatile	3.71	JG	—	0.4	1.6	mg/Kg		<MDL,JG	U	0.3	1.21	mg/Kg
<b>CV SM2540-G</b>												
Total Solids*	59.9	—	—	0.005	0.01	%	76.6	—	—	0.005	0.01	%
<b>CV SW846 9045D</b>												
pH*	6.69	—	—	—	—	pH	6.93	—	—	—	—	pH
<b>CV SW846 9060-PSEP96</b>												
Total Organic Carbon	16700	—	—	1300	2620	mg/Kg	8860	—	—	560	1110	mg/Kg
<b>MT EPA 1991/200.7</b>												
Arsenic, Extractable, SEM	1	<RDL	J	0.8	3.99	mg/Kg	0.61	<RDL	J	0.6	3.03	mg/Kg
Cadmium, Extractable, SEM	—	<MDL	U	0.063	0.321	mg/Kg	—	<MDL	U	0.048	0.242	mg/Kg
Chromium, Extractable, SEM	0.684	—	—	0.095	0.479	mg/Kg	0.463	—	—	0.073	0.363	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

Sample Information:	Locator:	AB320					CC320					
	Descrip:	COVINGTON CRK AT 1					COVINGTON CREEK AT					
	Sample:	L56024-20					L56024-21					
	Matrix:	SE FRSHWTRSED					SE FRSHWTRSED					
	ColDate:	8/14/12 14:15					8/14/12 14:50					
Sample Information:	TotalSolid:	59.9					76.6					
	15 spoons						20 spoons; much cobble, limited fines					
	DRY Weight Basis						DRY Weight Basis					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Copper, Extractable, SEM	2.25	—	—	0.13	0.639	mg/Kg	1.2	—	—	0.097	0.483	mg/Kg
Lead, Extractable, SEM	1.7	<RDL	J	0.63	3.21	mg/Kg	1.8	<RDL	J	0.48	2.42	mg/Kg
Nickel, Extractable, SEM	0.856	—	—	0.16	0.8	mg/Kg	0.37	<RDL	J	0.12	0.604	mg/Kg
Silver, Extractable, SEM	—	<MDL	U	0.13	0.639	mg/Kg	—	<MDL	U	0.097	0.483	mg/Kg
Zinc, Extractable, SEM	6.54	—	—	0.16	0.8	mg/Kg	3.84	—	—	0.12	0.604	mg/Kg
MT EPA 821 1991/245.1*SW846 7470A												
Mercury, Extractable, SEM	0.0023	<RDL	J	0.0016	0.00479	mg/Kg	—	<MDL	U	0.0012	0.00363	mg/Kg
MT SW846 3050B*SW846 6020A												
Arsenic, Total, ICP-MS	4.91	—	—	0.025	0.129	mg/Kg	3.12	—	—	0.021	0.107	mg/Kg
Cadmium, Total, ICP-MS	0.06	<RDL	J	0.013	0.0644	mg/Kg	0.04	<RDL	J	0.011	0.0533	mg/Kg
Chromium, Total, ICP-MS	21	—	—	0.2	1.03	mg/Kg	12.5	—	—	0.17	0.852	mg/Kg
Copper, Total, ICP-MS	13.2	—	—	0.42	2.07	mg/Kg	10.1	—	—	0.34	1.71	mg/Kg
Lead, Total, ICP-MS	3.11	—	—	0.025	0.129	mg/Kg	2.87	—	—	0.021	0.107	mg/Kg
Nickel, Total, ICP-MS	24	—	—	0.1	0.516	mg/Kg	14.4	—	—	0.085	0.426	mg/Kg
Silver, Total, ICP-MS	0.03	<RDL	J	0.01	0.0516	mg/Kg	0.022	<RDL	J	0.0085	0.0426	mg/Kg
Zinc, Total, ICP-MS	39.2	—	—	0.13	0.644	mg/Kg	34.5	—	—	0.11	0.533	mg/Kg
MT SW846 7471B												
Mercury, Total, CVAA	0.027	<RDL	J	0.0083	0.0828	mg/Kg	0.014	<RDL	J	0.0064	0.0633	mg/Kg
OR SW846 3550B*SW846 8081B												
4,4'-DDD	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
4,4'-DDE	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
4,4'-DDT	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Aldrin	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	UJ	0.69	1.4	ug/Kg
Alpha-BHC	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Alpha-Chlordane	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Beta-BHC	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Delta-BHC	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Dieldrin	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Endosulfan I	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Endosulfan II	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Endosulfan Sulfate	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Endrin	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> AB320						CC320					
	<b>Descrip:</b> COVINGTON CRK AT 1						COVINGTON CREEK AT					
	<b>Sample:</b> L56024-20						L56024-21					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/14/12 14:15						8/14/12 14:50					
	<b>TotalSolid:</b> 59.9						76.6					
	<b>Sample Information:</b> 15 spoons						20 spoons; much cobble, limited fines					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Endrin Aldehyde	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Heptachlor	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Heptachlor Epoxide	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Methoxychlor	—	<MDL	U	4.5	8.9	ug/Kg	—	<MDL	U	3.5	6.96	ug/Kg
Toxaphene	—	<MDL	U	18	89	ug/Kg	—	<MDL	U	14	69.6	ug/Kg
trans-Chlordane	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
<b>OR SW846 3550B*SW846 8082A</b>												
Aroclor 1016	—	<MDL	U	2.2	8.9	ug/Kg	—	<MDL	U	1.7	6.96	ug/Kg
Aroclor 1221	—	<MDL	U	4.5	8.9	ug/Kg	—	<MDL	U	3.5	6.96	ug/Kg
Aroclor 1232	—	<MDL	U	4.5	8.9	ug/Kg	—	<MDL	U	3.5	6.96	ug/Kg
Aroclor 1242	—	<MDL	U	2.2	8.9	ug/Kg	—	<MDL	U	1.7	6.96	ug/Kg
Aroclor 1248	—	<MDL	U	2.2	8.9	ug/Kg	—	<MDL	U	1.7	6.96	ug/Kg
Aroclor 1254	—	<MDL	U	2.2	8.9	ug/Kg	—	<MDL	U	1.7	6.96	ug/Kg
Aroclor 1260	—	<MDL	U	2.2	8.9	ug/Kg	—	<MDL	U	1.7	6.96	ug/Kg
Total Aroclors	—	<MDL	—	4.5	8.9	ug/Kg	—	<MDL	—	3.5	6.96	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>												
1,2,4-Trichlorobenzene	—	<MDL	U	4.5	8.9	ug/Kg	—	<MDL	U	3.5	6.96	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	8.9	8.9	ug/Kg	—	<MDL,J	U	6.96	6.96	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	13.4	13.4	ug/Kg	—	<MDL,J	U	10.4	10.4	ug/Kg
2,4-Dimethylphenol	—	<MDL,JG	UJ	45	89	ug/Kg	—	<MDL	UJ	35	69.6	ug/Kg
2-Methylnaphthalene	—	<MDL	U	45	89	ug/Kg	—	<MDL	U	35	69.6	ug/Kg
2-Methylphenol	—	<MDL	U	8.8	17.9	ug/Kg	—	<MDL	UJ	6.9	14	ug/Kg
3-,4-Methylphenol	—	<MDL	U	220	446	ug/Kg	—	<MDL	U	35	69.6	ug/Kg
Acenaphthene	—	<MDL	U	8.8	17.9	ug/Kg	—	<MDL	U	6.9	14	ug/Kg
Acenaphthylene	—	<MDL	U	8.8	17.9	ug/Kg	—	<MDL	U	6.9	14	ug/Kg
Anthracene	—	<MDL	U	8.8	17.9	ug/Kg	—	<MDL	U	6.9	14	ug/Kg
Benzo(a)anthracene	—	<MDL	U	8.8	17.9	ug/Kg	8.2	<RDL	J	6.9	14	ug/Kg
Benzo(a)pyrene	—	<MDL	U	45	89	ug/Kg	—	<MDL	U	6.9	14	ug/Kg
Benzo(b,j,k)fluoranthene	—	<MDL	U	45	89	ug/Kg	20	—	—	6.9	14	ug/Kg
Benzo(g,h,i)perylene	—	<MDL	U	45	89	ug/Kg	—	<MDL	U	6.9	14	ug/Kg
Benzoic Acid	—	<MDL	U	890	890	ug/Kg	—	<MDL	U	696	696	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	AB320					CC320					
	<b>Descrip:</b>	COVINGTON CRK AT 1					COVINGTON CREEK AT					
	<b>Sample:</b>	L56024-20					L56024-21					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/14/12 14:15					8/14/12 14:50					
	<b>TotalSolid:</b>	59.9					76.6					
	<b>Sample Information:</b>	15 spoons					20 spoons; much cobble, limited fines					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Benzyl Alcohol	—	<MDL	U	22.2	22.2	ug/Kg	—	<MDL	U	17.4	17.4	ug/Kg
Benzyl Butyl Phthalate	—	<MDL	U	13.4	13.4	ug/Kg	—	<MDL	U	10.4	10.4	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	300	1420	ug/Kg	—	<MDL	U	230	1110	ug/Kg
Bis(2-Ethylhexyl)Phthalate	27	<RDL	J	18	35.6	ug/Kg	20	<RDL,B	U	14	27.8	ug/Kg
Bisphenol A	—	<MDL	U	300	1420	ug/Kg	—	<MDL	U	230	1110	ug/Kg
Carbazole	—	<MDL	U	8.8	17.9	ug/Kg	—	<MDL	U	6.9	14	ug/Kg
Chrysene	—	<MDL	U	8.8	17.9	ug/Kg	17.9	—	—	6.9	14	ug/Kg
Coprostanol	—	<MDL	U	1500	14200	ug/Kg	—	<MDL	U	230	2230	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	45	89	ug/Kg	—	<MDL	U	6.9	14	ug/Kg
Dibenzofuran	—	<MDL	U	8.8	17.9	ug/Kg	—	<MDL	U	6.9	14	ug/Kg
Diethyl Phthalate	—	<MDL	U	18	35.6	ug/Kg	—	<MDL	U	14	27.8	ug/Kg
Dimethyl Phthalate	—	<MDL	U	17.9	17.9	ug/Kg	—	<MDL	U	14	14	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	18	35.6	ug/Kg	—	<MDL	U	14	27.8	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	89	89	ug/Kg	—	<MDL	U	14	14	ug/Kg
Fluoranthene	—	<MDL	U	8.8	17.9	ug/Kg	17.1	—	—	6.9	14	ug/Kg
Fluorene	—	<MDL	U	8.8	17.9	ug/Kg	—	<MDL	U	6.9	14	ug/Kg
Hexachlorobenzene	—	<MDL	U	0.88	1.79	ug/Kg	—	<MDL	U	0.69	1.4	ug/Kg
Hexachlorobutadiene	—	<MDL	U	22	44.6	ug/Kg	—	<MDL	U	17	34.9	ug/Kg
Indeno(1,2,3-Cd)Pyrene	—	<MDL	U	45	89	ug/Kg	—	<MDL	U	6.9	14	ug/Kg
Naphthalene	—	<MDL	U	45	89	ug/Kg	—	<MDL	U	35	69.6	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	22.2	22.2	ug/Kg	—	<MDL	U	17.4	17.4	ug/Kg
Pentachlorophenol	—	<MDL	U	134	134	ug/Kg	—	<MDL	U	104	104	ug/Kg
Phenanthrene	—	<MDL	U	8.8	17.9	ug/Kg	—	<MDL	U	6.9	14	ug/Kg
Phenol	—	<MDL	U	45	134	ug/Kg	—	<MDL	UJ	35	104	ug/Kg
Pyrene	—	<MDL	U	8.8	17.9	ug/Kg	15.9	—	—	6.9	14	ug/Kg
Total 4-Nonylphenol	—	<MDL	U	130	1420	ug/Kg		<MDL,J	U	100	1110	ug/Kg
Total HPAHS	—	<MDL	—	45	89	ug/Kg	79.1	—	—	6.9	14	ug/Kg
Total LPAHS	—	<MDL	—	45	89	ug/Kg	—	<MDL	—	35	69.6	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> C320						CD320					
	<b>Descrip:</b> COVINGTON CREEK//B						COVINGTON CRK AT 1					
	<b>Sample:</b> L56024-22						L56024-23					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/14/12 15:25						8/15/12 11:45					
	<b>TotalSolid:</b> 42.9						48					
	<b>Sample Information:</b> 15 spoons; U.S. side of bridge						15 spoons; D.S. of bridge, H2S slight					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
<b>CV ASTM D422</b>												
Fines*	15.4	—	—	1.3	2.6	%	5.8	—	—	1	1.9	%
Gravel*	20.2	—	—	0.3	2.6	%	23	—	—	0.2	1.9	%
Sand*	63.2	—	—	0.3	2.6	%	69.3	—	—	0.2	1.9	%
Silt*	10.3	—	—	1.3	2.6	%	1.9	RDL	—	1	1.9	%
Clay*	5.1	—	—	1.3	2.6	%	3.9	—	—	1	1.9	%
p+0.00*	4.3	—	—	0.3	2.6	%	4.3	—	—	0.2	1.9	%
p+1.00*	7.5	—	—	0.3	2.6	%	16	—	—	0.2	1.9	%
p+10.0(equal/more than)*	5.1	—	—	1.3	2.6	%	3.9	—	—	1	1.9	%
p+2.00*	11.8	—	—	0.3	2.6	%	34.1	—	—	0.2	1.9	%
p+3.00*	22.2	—	—	0.3	2.6	%	11.1	—	—	0.2	1.9	%
p+4.00*	17.3	—	—	0.3	2.6	%	3.8	—	—	0.2	1.9	%
p+5.00*	9	—	—	1.3	2.6	%	1.9	RDL	—	1	1.9	%
p+6.00*	1.3	<RDL	J	1.3	2.6	%	—	<MDL	U	1	1.9	%
p+7.00*	—	<MDL	U	1.3	2.6	%	—	<MDL	U	1	1.9	%
p+8.00*	—	<MDL	U	1.3	2.6	%	—	<MDL	U	1	1.9	%
p+9.00*	—	<MDL	U	1.3	2.6	%	—	<MDL	U	1	1.9	%
p-1.00*	4.1	—	—	0.3	2.6	%	3.2	—	—	0.2	1.9	%
p-2.00(less than)*	15.6	—	—	0.3	2.6	%	18.3	—	—	0.2	1.9	%
p-2.00*	0.5	<RDL	J	0.3	2.6	%	1.5	<RDL	J	0.2	1.9	%
<b>CV EPA DEC 1991</b>												
Sulfide, Acid Volatile	39.4	JG	—	2.8	11.2	mg/Kg	38.8	JG	—	2.5	9.92	mg/Kg
<b>CV SM2540-G</b>												
Total Solids*	42.9	—	—	0.005	0.01	%	48	—	—	0.005	0.01	%
<b>CV SW846 9045D</b>												
pH*	6.73	—	—	—	—	pH	6.95	—	—	—	—	pH
<b>CV SW846 9060-PSEP96</b>												
Total Organic Carbon	40300	—	—	3500	6830	mg/Kg	37900	—	—	2900	6000	mg/Kg
<b>MT EPA 1991/200.7</b>												
Arsenic, Extractable, SEM	—	<MDL	U	1.1	5.59	mg/Kg	—	<MDL	U	1	4.96	mg/Kg
Cadmium, Extractable, SEM	—	<MDL	U	0.089	0.448	mg/Kg	—	<MDL	U	0.079	0.398	mg/Kg
Chromium, Extractable, SEM	0.72	—	—	0.14	0.671	mg/Kg	1.3	—	—	0.12	0.596	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

<b>Sample Information:</b>	<b>Locator:</b>	C320						CD320					
	<b>Descrip:</b>	COVINGTON CREEK//B						COVINGTON CRK AT 1					
	<b>Sample:</b>	L56024-22						L56024-23					
	<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b>	8/14/12 15:25						8/15/12 11:45					
<b>Sample Information:</b>	<b>TotalSolid:</b>	42.9						48					
		15 spoons; U.S. side of bridge						15 spoons; D.S. of bridge, H2S slight					
		<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
	<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
	Copper, Extractable, SEM	4.57	—	—	0.18	0.895	mg/Kg	2.71	—	—	0.16	0.794	mg/Kg
	Lead, Extractable, SEM	5.36	—	—	0.89	4.48	mg/Kg	3.3	<RDL	J	0.79	3.98	mg/Kg
	Nickel, Extractable, SEM	0.65	<RDL	J	0.22	1.12	mg/Kg	0.65	<RDL	J	0.2	0.992	mg/Kg
	Silver, Extractable, SEM	—	<MDL	U	0.18	0.895	mg/Kg	—	<MDL	U	0.16	0.794	mg/Kg
	Zinc, Extractable, SEM	11.7	—	—	0.22	1.12	mg/Kg	9.33	—	—	0.2	0.992	mg/Kg
	<b>MT EPA 821 1991/245.1*SW846 7470A</b>												
	Mercury, Extractable, SEM	—	<MDL	U	0.0022	0.00671	mg/Kg	—	<MDL	U	0.002	0.00596	mg/Kg
	<b>MT SW846 3050B*SW846 6020A</b>												
	Arsenic, Total, ICP-MS	0.706	—	—	0.022	0.109	mg/Kg	1.18	—	—	0.018	0.0921	mg/Kg
	Cadmium, Total, ICP-MS	0.03	<RDL	J	0.011	0.0543	mg/Kg	0.038	<RDL	J	0.0092	0.046	mg/Kg
	Chromium, Total, ICP-MS	3.1	—	—	0.044	0.217	mg/Kg	3.9	—	—	0.038	0.184	mg/Kg
	Copper, Total, ICP-MS	1.93	—	—	0.086	0.434	mg/Kg	2.9	—	—	0.073	0.369	mg/Kg
	Lead, Total, ICP-MS	1.78	—	—	0.022	0.109	mg/Kg	1.98	—	—	0.018	0.0921	mg/Kg
	Nickel, Total, ICP-MS	2.33	—	—	0.022	0.109	mg/Kg	3.54	—	—	0.018	0.0921	mg/Kg
	Silver, Total, ICP-MS	0.0096	<RDL	J	0.0086	0.0434	mg/Kg	0.013	<RDL	J	0.0073	0.0369	mg/Kg
	Zinc, Total, ICP-MS	7.02	—	—	0.11	0.543	mg/Kg	10.5	—	—	0.092	0.46	mg/Kg
	<b>MT SW846 7471B</b>												
	Mercury, Total, CVAA	0.065	<RDL	J	0.011	0.111	mg/Kg	0.019	<RDL	J	0.01	0.104	mg/Kg
	<b>OR SW846 3550B*SW846 8081B</b>												
	4,4'-DDD	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	4,4'-DDE	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	4,4'-DDT	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Aldrin	—	<MDL	UJ	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Alpha-BHC	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Alpha-Chlordane	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Beta-BHC	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Delta-BHC	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Dieldrin	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Endosulfan I	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Endosulfan II	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Endosulfan Sulfate	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Endrin	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

<div>Locator: C320</div> <div>Descrip: COVINGTON CREEK//B</div> <div>Sample: L56024-22</div> <div>Matrix: SE FRSHWTRSED</div> <div>ColDate: 8/14/12 15:25</div> <div>TotalSolid: 42.9</div> <div>Sample Information: 15 spoons; U.S. side of bridge</div>	<div>DRY Weight Basis</div>						<div>CD320</div> <div>COVINGTON CRK AT 1</div> <div>L56024-23</div> <div>SE FRSHWTRSED</div> <div>8/15/12 11:45</div> <div>48</div> <div>15 spoons; D.S. of bridge, H2S slight</div> <div>DRY Weight Basis</div>							
	Parameters	Value	Lab Qual	Validation Qual	MDL	RDL		Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
	Endrin Aldehyde	—	<MDL	U	1.2	2.49		ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Gamma-BHC (Lindane)	—	<MDL	U	1.2	2.49		ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Heptachlor	—	<MDL	U	1.2	2.49		ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Heptachlor Epoxide	—	<MDL	U	1.2	2.49		ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	Methoxychlor	—	<MDL	U	6.3	12.4		ug/Kg	—	<MDL	U	5.6	11.1	ug/Kg
	Toxaphene	—	<MDL	U	26	124		ug/Kg	—	<MDL	U	23	111	ug/Kg
	trans-Chlordane	—	<MDL	U	1.2	2.49		ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
	OR SW846 3550B*SW846 8082A													
Aroclor 1016	—	<MDL	U	3	12.4	ug/Kg	—	<MDL	U	2.7	11.1	ug/Kg		
Aroclor 1221	—	<MDL	U	6.3	12.4	ug/Kg	—	<MDL	U	5.6	11.1	ug/Kg		
Aroclor 1232	—	<MDL	U	6.3	12.4	ug/Kg	—	<MDL	U	5.6	11.1	ug/Kg		
Aroclor 1242	—	<MDL	U	3	12.4	ug/Kg	—	<MDL	U	2.7	11.1	ug/Kg		
Aroclor 1248	—	<MDL	U	3	12.4	ug/Kg	—	<MDL	U	2.7	11.1	ug/Kg		
Aroclor 1254	—	<MDL	U	3	12.4	ug/Kg	—	<MDL	U	2.7	11.1	ug/Kg		
Aroclor 1260	—	<MDL	U	3	12.4	ug/Kg	—	<MDL	U	2.7	11.1	ug/Kg		
Total Aroclors	—	<MDL	—	6.3	12.4	ug/Kg	—	<MDL	—	5.6	11.1	ug/Kg		
OR SW846 3550B*SW846 8270D														
1,2,4-Trichlorobenzene	—	<MDL	U	6.3	12.4	ug/Kg	—	<MDL	U	5.6	11.1	ug/Kg		
1,2-Dichlorobenzene	—	<MDL	U	12.4	12.4	ug/Kg	—	<MDL	U	11.1	11.1	ug/Kg		
1,4-Dichlorobenzene	—	<MDL	U	18.6	18.6	ug/Kg	—	<MDL	U	16.7	16.7	ug/Kg		
2,4-Dimethylphenol	—	<MDL	UJ	63	124	ug/Kg	—	<MDL,JG	UJ	56	111	ug/Kg		
2-Methylnaphthalene	—	<MDL	U	63	124	ug/Kg	—	<MDL	U	56	111	ug/Kg		
2-Methylphenol	—	<MDL	UJ	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg		
3-,4-Methylphenol	296	—	—	63	124	ug/Kg	131	—	—	56	111	ug/Kg		
Acenaphthene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg		
Acenaphthylene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg		
Anthracene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg		
Benzo(a)anthracene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg		
Benzo(a)pyrene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg		
Benzo(b,j,k)fluoranthene	22	<RDL	J	12	24.9	ug/Kg	14	<RDL	J	11	22.3	ug/Kg		
Benzo(g,h,i)perylene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg		
Benzoic Acid	—	<MDL	U	1240	1240	ug/Kg	—	<MDL	U	1110	1110	ug/Kg		

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> C320						CD320					
	<b>Descrip:</b> COVINGTON CREEK//B						COVINGTON CRK AT 1					
	<b>Sample:</b> L56024-22						L56024-23					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/14/12 15:25						8/15/12 11:45					
	<b>TotalSolid:</b> 42.9						48					
	<b>Sample Information:</b> 15 spoons; U.S. side of bridge						15 spoons; D.S. of bridge, H2S slight					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Benzyl Alcohol	—	<MDL	U	31	31	ug/Kg	—	<MDL	U	27.7	27.7	ug/Kg
Benzyl Butyl Phthalate	—	<MDL	U	18.6	18.6	ug/Kg	—	<MDL	U	16.7	16.7	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	420	1990	ug/Kg	—	<MDL	U	380	1780	ug/Kg
Bis(2-Ethylhexyl)Phthalate	49	<RDL,B	U	26	49.7	ug/Kg	38	<RDL	J	23	44.4	ug/Kg
Bisphenol A	—	<MDL	U	420	1990	ug/Kg	—	<MDL	U	380	1780	ug/Kg
Carbazole	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg
Chrysene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg
Coprostanol	—	<MDL	U	420	3990	ug/Kg	—	<MDL	U	1800	17800	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg
Dibenzofuran	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg
Diethyl Phthalate	—	<MDL	U	26	49.7	ug/Kg	49	—	—	23	44.4	ug/Kg
Dimethyl Phthalate	—	<MDL	U	24.9	24.9	ug/Kg	—	<MDL	U	22.3	22.3	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	26	49.7	ug/Kg	—	<MDL	U	23	44.4	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	24.9	24.9	ug/Kg	—	<MDL	U	22.3	22.3	ug/Kg
Fluoranthene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg
Fluorene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.2	2.49	ug/Kg	—	<MDL	U	1.1	2.23	ug/Kg
Hexachlorobutadiene	—	<MDL	U	30	62.2	ug/Kg	—	<MDL	U	27	55.6	ug/Kg
Indeno(1,2,3-Cd)Pyrene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg
Naphthalene	—	<MDL	U	63	124	ug/Kg	—	<MDL	U	56	111	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	31	31	ug/Kg	—	<MDL	U	27.7	27.7	ug/Kg
Pentachlorophenol	—	<MDL	U	186	186	ug/Kg	—	<MDL	U	167	167	ug/Kg
Phenanthrene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg
Phenol	—	<MDL	UJ	63	186	ug/Kg	—	<MDL	U	56	167	ug/Kg
Pyrene	—	<MDL	U	12	24.9	ug/Kg	—	<MDL	U	11	22.3	ug/Kg
Total 4-Nonylphenol		<MDL,J	U	190	1990	ug/Kg	—	<MDL	U	170	1780	ug/Kg
Total HPAHS	22	<RDL	—	12	24.9	ug/Kg	14	<RDL	—	11	22.3	ug/Kg
Total LPAHS	—	<MDL	—	63	124	ug/Kg	—	<MDL	—	56	111	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	PT320					Z320					
	<b>Descrip:</b>	COVINGTON CRK NEAR					COVINGTON CREEK BE					
	<b>Sample:</b>	L56024-24					L56024-25					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/15/12 12:15					8/15/12 12:45					
	<b>TotalSolid:</b>	44.2					43.1					
	<b>Sample Information:</b>	15 spoons; H2S slight					20 spoons; H2S slight					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
<b>CV ASTM D422</b>												
Fines*	11.3	—	—	1.3	2.5	%	16.9	—	—	2.4	4.8	%
Gravel*	33.7	—	—	0.3	2.5	%	46.2	—	—	0.5	4.8	%
Sand*	47.8	—	—	0.3	2.5	%	40.3	—	—	0.5	4.8	%
Silt*	6.3	—	—	1.3	2.5	%	7.2	—	—	2.4	4.8	%
Clay*	5	—	—	1.3	2.5	%	9.6	—	—	2.4	4.8	%
p+0.00*	10.5	—	—	0.3	2.5	%	9.5	—	—	0.5	4.8	%
p+1.00*	4.9	—	—	0.3	2.5	%	7.4	—	—	0.5	4.8	%
p+10.0(equal/more than)*	5	—	—	1.3	2.5	%	9.6	—	—	2.4	4.8	%
p+2.00*	9.1	—	—	0.3	2.5	%	8.9	—	—	0.5	4.8	%
p+3.00*	14	—	—	0.3	2.5	%	10.4	—	—	0.5	4.8	%
p+4.00*	9.4	—	—	0.3	2.5	%	4.1	<RDL	J	0.5	4.8	%
p+5.00*	5	—	—	1.3	2.5	%	4.8	RDL	—	2.4	4.8	%
p+6.00*	—	<MDL	U	1.3	2.5	%	—	<MDL	U	2.4	4.8	%
p+7.00*	—	<MDL	U	1.3	2.5	%	2.4	<RDL	J	2.4	4.8	%
p+8.00*	1.3	<RDL	J	1.3	2.5	%	—	<MDL	U	2.4	4.8	%
p+9.00*	—	<MDL	U	1.3	2.5	%	—	<MDL	U	2.4	4.8	%
p-1.00*	17.9	—	—	0.3	2.5	%	18.1	—	—	0.5	4.8	%
p-2.00(less than)*	13.1	—	—	0.3	2.5	%	22.2	—	—	0.5	4.8	%
p-2.00*	2.6	—	—	0.3	2.5	%	6	—	—	0.5	4.8	%
<b>CV EPA DEC 1991</b>												
Sulfide, Acid Volatile	24.9	JG	—	2.7	11	mg/Kg	271	JG	—	14	55.2	mg/Kg
<b>CV SM2540-G</b>												
Total Solids*	44.2	—	—	0.005	0.01	%	43.1	—	—	0.005	0.01	%
<b>CV SW846 9045D</b>												
pH*	6.86	—	—	—	—	pH	6.83	—	—	—	—	pH
<b>CV SW846 9060-PSEP96</b>												
Total Organic Carbon	39600	—	—	3800	7510	mg/Kg	67100	—	—	6000	11900	mg/Kg
<b>MT EPA 1991/200.7</b>												
Arsenic, Extractable, SEM	1.8	<RDL	J	1.1	5.48	mg/Kg	—	<MDL	U	1.1	5.52	mg/Kg
Cadmium, Extractable, SEM	—	<MDL	U	0.088	0.437	mg/Kg	—	<MDL	U	0.088	0.443	mg/Kg
Chromium, Extractable, SEM	1.05	—	—	0.13	0.656	mg/Kg	0.35	<RDL	J	0.13	0.664	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

<b>Locator:</b> <b>Descrip:</b> <b>Sample:</b> <b>Matrix:</b> <b>ColDate:</b> <b>TotalSolid:</b> <b>Sample Information:</b>	PT320						Z320					
	COVINGTON CRK NEAR						COVINGTON CREEK BE					
	L56024-24						L56024-25					
	SE FRSHWTRSED						SE FRSHWTRSED					
	8/15/12 12:15						8/15/12 12:45					
	44.2						43.1					
	15 spoons; H2S slight						20 spoons; H2S slight					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Copper, Extractable, SEM	3.05	—	—	0.17	0.876	mg/Kg	2.15	—	—	0.18	0.884	mg/Kg
Lead, Extractable, SEM	6.45	—	—	0.88	4.37	mg/Kg	3.9	<RDL	J	0.88	4.43	mg/Kg
Nickel, Extractable, SEM	0.75	<RDL	J	0.22	1.1	mg/Kg	0.3	<RDL	J	0.22	1.11	mg/Kg
Silver, Extractable, SEM	—	<MDL	U	0.17	0.876	mg/Kg	—	<MDL	U	0.18	0.884	mg/Kg
Zinc, Extractable, SEM	18.8	—	—	0.22	1.1	mg/Kg	18.8	—	—	0.22	1.11	mg/Kg
<b>MT EPA 821 1991/245.1*SW846 7470A</b>												
Mercury, Extractable, SEM	—	<MDL	U	0.0022	0.00656	mg/Kg	—	<MDL	U	0.0022	0.00664	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>												
Arsenic, Total, ICP-MS	19.5	J	J	0.036	0.185	mg/Kg	4.08	—	—	0.021	0.107	mg/Kg
Cadmium, Total, ICP-MS	0.101	—	—	0.019	0.0928	mg/Kg	0.0875	—	—	0.011	0.0534	mg/Kg
Chromium, Total, ICP-MS	30.3	J	J	0.29	1.48	mg/Kg	12.5	—	—	0.17	0.854	mg/Kg
Copper, Total, ICP-MS	13.9	J	J	0.59	2.96	mg/Kg	12.7	—	—	0.35	1.71	mg/Kg
Lead, Total, ICP-MS	10.2	—	—	0.036	0.185	mg/Kg	8.05	—	—	0.021	0.107	mg/Kg
Nickel, Total, ICP-MS	23.3	J	J	0.15	0.742	mg/Kg	14.8	—	—	0.086	0.427	mg/Kg
Silver, Total, ICP-MS	0.043	<RDL	J	0.015	0.0742	mg/Kg	0.032	<RDL	J	0.0086	0.0427	mg/Kg
Zinc, Total, ICP-MS	81	—	—	0.19	0.928	mg/Kg	49.4	—	—	0.11	0.534	mg/Kg
<b>MT SW846 7471B</b>												
Mercury, Total, CVAA	0.021	<RDL	J	0.011	0.112	mg/Kg	0.039	<RDL	J	0.012	0.115	mg/Kg
<b>OR SW846 3550B*SW846 8081B</b>												
4,4'-DDD	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
4,4'-DDE	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
4,4'-DDT	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Aldrin	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Alpha-BHC	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Alpha-Chlordane	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Beta-BHC	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Delta-BHC	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Dieldrin	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Endosulfan I	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Endosulfan II	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Endosulfan Sulfate	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Endrin	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

Locator: Descrip: Sample: Matrix: ColDate: TotalSolid: Sample Information:	PT320	COVINGTON CRK NEAR  L56024-24 SE FRSHWTRSED 8/15/12 12:15 44.2 15 spoons; H2S slight DRY Weight Basis					Z320	COVINGTON CREEK BE  L56024-25 SE FRSHWTRSED 8/15/12 12:45 43.1 20 spoons; H2S slight DRY Weight Basis				
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Endrin Aldehyde	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Heptachlor	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Heptachlor Epoxide	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Methoxychlor	—	<MDL	U	6.1	12.1	ug/Kg	—	<MDL	U	6.3	12.4	ug/Kg
Toxaphene	—	<MDL	U	25	121	ug/Kg	—	<MDL	U	26	124	ug/Kg
trans-Chlordane	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
OR SW846 3550B*SW846 8082A												
Aroclor 1016	—	<MDL	U	2.9	12.1	ug/Kg	—	<MDL	U	3	12.4	ug/Kg
Aroclor 1221	—	<MDL	U	6.1	12.1	ug/Kg	—	<MDL	U	6.3	12.4	ug/Kg
Aroclor 1232	—	<MDL	U	6.1	12.1	ug/Kg	—	<MDL	U	6.3	12.4	ug/Kg
Aroclor 1242	—	<MDL	U	2.9	12.1	ug/Kg	—	<MDL	U	3	12.4	ug/Kg
Aroclor 1248	—	<MDL	U	2.9	12.1	ug/Kg	—	<MDL	U	3	12.4	ug/Kg
Aroclor 1254	3.8	<RDL	J	2.9	12.1	ug/Kg	—	<MDL	U	3	12.4	ug/Kg
Aroclor 1260	—	<MDL	U	2.9	12.1	ug/Kg	—	<MDL	U	3	12.4	ug/Kg
Total Aroclors	3.8	<RDL	—	2.9	12.1	ug/Kg	—	<MDL	—	6.3	12.4	ug/Kg
OR SW846 3550B*SW846 8270D												
1,2,4-Trichlorobenzene	—	<MDL	U	6.1	12.1	ug/Kg	—	<MDL	U	6.3	12.4	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	12.1	12.1	ug/Kg	—	<MDL	U	12.4	12.4	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	18.1	18.1	ug/Kg	—	<MDL	U	18.6	18.6	ug/Kg
2,4-Dimethylphenol		<MDL,JG	UJ	61	121	ug/Kg		<MDL,JG	UJ	63	124	ug/Kg
2-Methylnaphthalene	—	<MDL	U	61	121	ug/Kg	—	<MDL	U	63	124	ug/Kg
2-Methylphenol	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
3-,4-Methylphenol	217	—	—	61	121	ug/Kg	—	<MDL	U	63	124	ug/Kg
Acenaphthene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Acenaphthylene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Anthracene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Benzo(a)anthracene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Benzo(a)pyrene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Benzo(b,j,k)fluoranthene	14	<RDL	J	12	24.2	ug/Kg	15	<RDL	J	12	24.8	ug/Kg
Benzo(g,h,i)perylene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Benzoic Acid	—	<MDL	U	1210	1210	ug/Kg	—	<MDL	U	1240	1240	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	Locator:	PT320					Z320					
	Descrip:	COVINGTON CRK NEAR					COVINGTON CREEK BE					
Sample Information:	Sample:	L56024-24					L56024-25					
	Matrix:	SE FRSHWTRSED					SE FRSHWTRSED					
	ColDate:	8/15/12 12:15					8/15/12 12:45					
	TotalSolid:	44.2					43.1					
		15 spoons; H2S slight					20 spoons; H2S slight					
		DRY Weight Basis					DRY Weight Basis					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Benzyl Alcohol	—	<MDL	U	30.1	30.1	ug/Kg	—	<MDL	U	30.9	30.9	ug/Kg
Benzyl Butyl Phthalate	—	<MDL	U	18.1	18.1	ug/Kg	—	<MDL	U	18.6	18.6	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	410	1930	ug/Kg	—	<MDL	U	420	1980	ug/Kg
Bis(2-Ethylhexyl)Phthalate	50	—	—	25	48.2	ug/Kg	50.8	—	—	26	49.4	ug/Kg
Bisphenol A	—	<MDL	U	410	1930	ug/Kg	—	<MDL	U	420	1980	ug/Kg
Carbazole	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Chrysene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Coprostanol	—	<MDL	U	410	3870	ug/Kg	630	<RDL	J	420	3970	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Dibenzofuran	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Diethyl Phthalate	34	<RDL	J	25	48.2	ug/Kg	—	<MDL	U	26	49.4	ug/Kg
Dimethyl Phthalate	—	<MDL	U	24.2	24.2	ug/Kg	—	<MDL	U	24.8	24.8	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	25	48.2	ug/Kg	—	<MDL	U	26	49.4	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	24.2	24.2	ug/Kg	—	<MDL	U	24.8	24.8	ug/Kg
Fluoranthene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Fluorene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.2	2.42	ug/Kg	—	<MDL	U	1.2	2.48	ug/Kg
Hexachlorobutadiene	—	<MDL	U	29	60.4	ug/Kg	—	<MDL	U	30	61.9	ug/Kg
Indeno(1,2,3-Cd)Pyrene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Naphthalene	—	<MDL	U	61	121	ug/Kg	—	<MDL	U	63	124	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	30.1	30.1	ug/Kg	—	<MDL	U	30.9	30.9	ug/Kg
Pentachlorophenol	—	<MDL	U	181	181	ug/Kg	—	<MDL	U	186	186	ug/Kg
Phenanthrene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Phenol	—	<MDL	U	61	181	ug/Kg	—	<MDL	U	63	186	ug/Kg
Pyrene	—	<MDL	U	12	24.2	ug/Kg	—	<MDL	U	12	24.8	ug/Kg
Total 4-Nonylphenol	—	<MDL	U	180	1930	ug/Kg	—	<MDL	U	190	1980	ug/Kg
Total HPAHS	14	<RDL	—	12	24.2	ug/Kg	15	<RDL	—	12	24.8	ug/Kg
Total LPAHs	—	<MDL	—	61	121	ug/Kg	—	<MDL	—	63	124	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> S320						D320					
	<b>Descrip:</b> COVINGTON CR. ON H						JENKINS CREEK//BRI					
	<b>Sample:</b> L56024-26						L56024-27					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/15/12 14:00						8/15/12 14:50					
	<b>TotalSolid:</b> 30.5						30.4					
	<b>Sample Information:</b> 20 spoons; H2S slight						15 spoons; equal parts sand/silt					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
<b>CV ASTM D422</b>												
Fines*	10.4	—	—	2.1	4.2	%	45.4	—	—	3.2	6.5	%
Gravel*	27.4	—	—	0.4	4.2	%	10	—	—	0.7	6.5	%
Sand*	63.8	—	—	0.4	4.2	%	49.1	—	—	0.7	6.5	%
Silt*	2.1	<RDL	J	2.1	4.2	%	22.7	—	—	3.2	6.5	%
Clay*	8.3	—	—	2.1	4.2	%	22.7	—	—	3.2	6.5	%
p+0.00*	6.5	—	—	0.4	4.2	%	6.4	<RDL	J	0.7	6.5	%
p+1.00*	11	—	—	0.4	4.2	%	9	—	—	0.7	6.5	%
p+10.0(equal/more than)*	8.3	—	—	2.1	4.2	%	19.5	—	—	3.2	6.5	%
p+2.00*	20.1	—	—	0.4	4.2	%	8.4	—	—	0.7	6.5	%
p+3.00*	16.7	—	—	0.4	4.2	%	12.2	—	—	0.7	6.5	%
p+4.00*	9.5	—	—	0.4	4.2	%	13.2	—	—	0.7	6.5	%
p+5.00*	2.1	<RDL	J	2.1	4.2	%	16.2	—	—	3.2	6.5	%
p+6.00*	—	<MDL	U	2.1	4.2	%	3.2	<RDL	J	3.2	6.5	%
p+7.00*	—	<MDL	U	2.1	4.2	%	3.2	<RDL	J	3.2	6.5	%
p+8.00*	—	<MDL	U	2.1	4.2	%	—	<MDL	U	3.2	6.5	%
p+9.00*	—	<MDL	U	2.1	4.2	%	3.2	<RDL	J	3.2	6.5	%
p-1.00*	5	—	—	0.4	4.2	%	9	—	—	0.7	6.5	%
p-2.00(less than)*	20.9	—	—	0.4	4.2	%	—	<MDL	U	0.7	6.5	%
p-2.00*	1.5	<RDL	J	0.4	4.2	%	1	<RDL	J	0.7	6.5	%
<b>CV EPA DEC 1991</b>												
Sulfide, Acid Volatile	11.1	JG	—	0.75	3.03	mg/Kg	9.77	JG	—	0.79	3.12	mg/Kg
<b>CV SM2540-G</b>												
Total Solids*	30.5	—	—	0.005	0.01	%	30.4	—	—	0.005	0.01	%
<b>CV SW846 9045D</b>												
pH*	6.68	—	—	—	—	pH	6.77	—	—	—	—	pH
<b>CV SW846 9060-PSEP96</b>												
Total Organic Carbon	125000	—	—	9200	18200	mg/Kg	112000	—	—	11000	20800	mg/Kg
<b>MT EPA 1991/200.7</b>												
Arsenic, Extractable, SEM	—	<MDL	U	1.5	7.57	mg/Kg	—	<MDL	U	1.5	7.8	mg/Kg
Cadmium, Extractable, SEM	0.18	<RDL	J	0.12	0.607	mg/Kg	0.17	<RDL	J	0.13	0.622	mg/Kg
Chromium, Extractable, SEM	0.39	<RDL	J	0.18	0.908	mg/Kg	0.63	<RDL	J	0.19	0.934	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	S320					D320					
	<b>Descrip:</b>	COVINGTON CR. ON H					JENKINS CREEK//BRI					
	<b>Sample:</b>	L56024-26					L56024-27					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/15/12 14:00					8/15/12 14:50					
	<b>TotalSolid:</b>	30.5					30.4					
	<b>Sample Information:</b>	20 spoons; H2S slight					15 spoons; equal parts sand/silt					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Copper, Extractable, SEM	4.92	—	—	0.24	1.21	mg/Kg	4.61	—	—	0.25	1.25	mg/Kg
Lead, Extractable, SEM	10.4	—	—	1.2	6.07	mg/Kg	9.61	—	—	1.3	6.22	mg/Kg
Nickel, Extractable, SEM	0.66	<RDL	J	0.3	1.51	mg/Kg	1.1	<RDL	J	0.31	1.56	mg/Kg
Silver, Extractable, SEM	—	<MDL	U	0.24	1.21	mg/Kg	—	<MDL	U	0.25	1.25	mg/Kg
Zinc, Extractable, SEM	10.9	—	—	0.3	1.51	mg/Kg	27.5	—	—	0.31	1.56	mg/Kg
<b>MT EPA 821 1991/245.1*SW846 7470A</b>												
Mercury, Extractable, SEM	—	<MDL	U	0.003	0.00908	mg/Kg	0.0036	<RDL	J	0.0031	0.00934	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>												
Arsenic, Total, ICP-MS	2.68	—	—	0.03	0.152	mg/Kg	2.53	—	—	0.032	0.158	mg/Kg
Cadmium, Total, ICP-MS	0.165	—	—	0.015	0.0757	mg/Kg	0.229	—	—	0.016	0.0793	mg/Kg
Chromium, Total, ICP-MS	9.61	—	—	0.062	0.304	mg/Kg	6.91	—	—	0.063	0.316	mg/Kg
Copper, Total, ICP-MS	8.95	—	—	0.12	0.607	mg/Kg	8.59	—	—	0.13	0.632	mg/Kg
Lead, Total, ICP-MS	11.4	—	—	0.03	0.152	mg/Kg	11.5	—	—	0.032	0.158	mg/Kg
Nickel, Total, ICP-MS	6.39	—	—	0.03	0.152	mg/Kg	5.49	—	—	0.032	0.158	mg/Kg
Silver, Total, ICP-MS	0.036	<RDL	J	0.012	0.0607	mg/Kg	0.046	<RDL	J	0.013	0.0632	mg/Kg
Zinc, Total, ICP-MS	21.2	—	—	0.15	0.757	mg/Kg	42.8	—	—	0.16	0.793	mg/Kg
<b>MT SW846 7471B</b>												
Mercury, Total, CVAA	0.062	<RDL	J	0.016	0.156	mg/Kg	0.063	<RDL	J	0.016	0.161	mg/Kg
<b>OR SW846 3550B*SW846 8081B</b>												
4,4'-DDD	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
4,4'-DDE	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
4,4'-DDT	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Aldrin	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Alpha-BHC	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Alpha-Chlordane	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Beta-BHC	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Delta-BHC	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Dieldrin	—	<MDL	U	1.7	3.51	ug/Kg	3.55	—	—	1.7	3.52	ug/Kg
Endosulfan I	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Endosulfan II	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Endosulfan Sulfate	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Endrin	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> S320						D320					
	<b>Descrip:</b> COVINGTON CR. ON H						JENKINS CREEK//BRI					
	<b>Sample:</b> L56024-26						L56024-27					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/15/12 14:00						8/15/12 14:50					
	<b>TotalSolid:</b> 30.5						30.4					
	<b>Sample Information:</b> 20 spoons; H2S slight						15 spoons; equal parts sand/silt					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Endrin Aldehyde	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Heptachlor	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Heptachlor Epoxide	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
Methoxychlor	—	<MDL	U	8.9	17.5	ug/Kg	—	<MDL	U	8.9	17.5	ug/Kg
Toxaphene	—	<MDL	U	36	175	ug/Kg	—	<MDL	U	36	175	ug/Kg
trans-Chlordane	—	<MDL	U	1.7	3.51	ug/Kg	—	<MDL	U	1.7	3.52	ug/Kg
<b>OR SW846 3550B*SW846 8082A</b>												
Aroclor 1016	—	<MDL	U	4.3	17.5	ug/Kg	—	<MDL	U	4.3	17.5	ug/Kg
Aroclor 1221	—	<MDL	U	8.9	17.5	ug/Kg	—	<MDL	U	8.9	17.5	ug/Kg
Aroclor 1232	—	<MDL	U	8.9	17.5	ug/Kg	—	<MDL	U	8.9	17.5	ug/Kg
Aroclor 1242	—	<MDL	U	4.3	17.5	ug/Kg	—	<MDL	U	4.3	17.5	ug/Kg
Aroclor 1248	—	<MDL	U	4.3	17.5	ug/Kg	—	<MDL	U	4.3	17.5	ug/Kg
Aroclor 1254	—	<MDL	U	4.3	17.5	ug/Kg	—	<MDL	U	4.3	17.5	ug/Kg
Aroclor 1260	—	<MDL	U	4.3	17.5	ug/Kg	—	<MDL	U	4.3	17.5	ug/Kg
Total Aroclors	—	<MDL	—	8.9	17.5	ug/Kg	—	<MDL	—	8.9	17.5	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>												
1,2,4-Trichlorobenzene	—	<MDL	U	6.6	12.8	ug/Kg	—	<MDL	U	6.6	12.8	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	12.8	12.8	ug/Kg	—	<MDL	U	12.8	12.8	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	19.2	19.2	ug/Kg	—	<MDL	U	19.2	19.2	ug/Kg
2,4-Dimethylphenol	—	<MDL,JG	UJ	66	128	ug/Kg	—	<MDL,JG	UJ	66	128	ug/Kg
2-Methylnaphthalene	—	<MDL	U	66	128	ug/Kg	—	<MDL	U	66	128	ug/Kg
2-Methylphenol	—	<MDL	U	13	25.6	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
3-,4-Methylphenol	393	—	—	66	128	ug/Kg	305	—	—	66	128	ug/Kg
Acenaphthene	—	<MDL	U	13	25.6	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Acenaphthylene	—	<MDL	U	13	25.6	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Anthracene	—	<MDL	U	13	25.6	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Benzo(a)anthracene	—	<MDL	U	13	25.6	ug/Kg	21	<RDL	J	13	25.7	ug/Kg
Benzo(a)pyrene	—	<MDL	U	13	25.6	ug/Kg	21	<RDL	J	13	25.7	ug/Kg
Benzo(b,j,k)fluoranthene	23	<RDL	J	13	25.6	ug/Kg	78.6	—	—	13	25.7	ug/Kg
Benzo(g,h,i)perylene	—	<MDL	U	13	25.6	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Benzoic Acid	—	<MDL	U	1280	1280	ug/Kg	—	<MDL	U	1280	1280	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> S320						D320					
	<b>Descrip:</b> COVINGTON CR. ON H						JENKINS CREEK//BRI					
	<b>Sample:</b> L56024-26						L56024-27					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/15/12 14:00						8/15/12 14:50					
	<b>TotalSolid:</b> 30.5						30.4					
	<b>Sample Information:</b> 20 spoons; H2S slight						15 spoons; equal parts sand/silt					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Benzyl Alcohol	—	<MDL	U	32	32	ug/Kg	—	<MDL	U	32.1	32.1	ug/Kg
Benzyl Butyl Phthalate	—	<MDL	U	19.2	19.2	ug/Kg	—	<MDL	U	19.2	19.2	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	430	2050	ug/Kg	—	<MDL	U	430	2050	ug/Kg
Bis(2-Ethylhexyl)Phthalate	46	<RDL	J	26	51.1	ug/Kg	71.1	—	—	26	51.3	ug/Kg
Bisphenol A	—	<MDL	U	430	2050	ug/Kg	—	<MDL	U	430	2050	ug/Kg
Carbazole	—	<MDL	U	13	25.6	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Chrysene	—	<MDL	U	13	25.6	ug/Kg	47.4	—	—	13	25.7	ug/Kg
Coprostanol	—	<MDL	U	2100	20500	ug/Kg	—	<MDL	U	2100	20500	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	13	25.6	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Dibenzofuran	—	<MDL	U	13	25.6	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Diethyl Phthalate	—	<MDL	U	26	51.1	ug/Kg	—	<MDL	U	26	51.3	ug/Kg
Dimethyl Phthalate	—	<MDL	U	25.6	25.6	ug/Kg	—	<MDL	U	25.7	25.7	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	26	51.1	ug/Kg	—	<MDL	U	26	51.3	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	25.6	25.6	ug/Kg	—	<MDL	U	25.7	25.7	ug/Kg
Fluoranthene	23	<RDL	J	13	25.6	ug/Kg	74.3	—	—	13	25.7	ug/Kg
Fluorene	—	<MDL	U	13	25.6	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.3	2.56	ug/Kg	—	<MDL	U	1.3	2.57	ug/Kg
Hexachlorobutadiene	—	<MDL	U	32	63.9	ug/Kg	—	<MDL	U	32	64.1	ug/Kg
Indeno(1,2,3-Cd)Pyrene	—	<MDL	U	13	25.6	ug/Kg	—	<MDL	U	13	25.7	ug/Kg
Naphthalene	—	<MDL	U	66	128	ug/Kg	—	<MDL	U	66	128	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	32	32	ug/Kg	—	<MDL	U	32.1	32.1	ug/Kg
Pentachlorophenol	—	<MDL	U	192	192	ug/Kg	—	<MDL	U	192	192	ug/Kg
Phenanthrene	—	<MDL	U	13	25.6	ug/Kg	31	—	—	13	25.7	ug/Kg
Phenol	—	<MDL	U	66	192	ug/Kg	—	<MDL	U	66	192	ug/Kg
Pyrene	17	<RDL	J	13	25.6	ug/Kg	60.5	—	—	13	25.7	ug/Kg
Total 4-Nonylphenol	—	<MDL	U	190	2050	ug/Kg	—	<MDL	U	190	2050	ug/Kg
Total HPAHS	63.6	—	—	13	25.6	ug/Kg	303	—	—	13	25.7	ug/Kg
Total LPAHS	—	<MDL	—	66	128	ug/Kg	31	—	—	13	25.7	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

Locator: Descrip: Sample: Matrix: ColDate: TotalSolid: Sample Information:	WX320 JENKINS CRK AT WAX L56024-28 SE FRSHWTRSED 8/27/12 10:00 13.2 20 spoons; very fine, floc-y material, H2S moderate						JK320 JENKLINS CREEK DOW L56024-29 SE FRSHWTRSED 8/27/12 10:25 15.6 20 spoons; D.S. of bridge					
	DRY Weight Basis						DRY Weight Basis					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
CV ASTM D422												
Fines*	50.2	—	—	4.6	9.1	%	21.9	—	—	2.2	4.4	%
Gravel*	—	<MDL	U	0.9	9.1	%	44.2	—	—	0.4	4.4	%
Sand*	41	—	—	0.9	9.1	%	34.7	—	—	0.4	4.4	%
Silt*	22.8	—	—	4.6	9.1	%	13.2	—	—	2.2	4.4	%
Clay*	27.4	—	—	4.6	9.1	%	8.8	—	—	2.2	4.4	%
p+0.00*	—	<MDL	U	0.9	9.1	%	9.6	—	—	0.4	4.4	%
p+1.00*	4.4	<RDL	J	0.9	9.1	%	6.1	—	—	0.4	4.4	%
p+10.0(equal/more than)*	22.8	—	—	4.6	9.1	%	8.8	—	—	2.2	4.4	%
p+2.00*	6	<RDL	J	0.9	9.1	%	4.1	<RDL	J	0.4	4.4	%
p+3.00*	9.1	RDL	—	0.9	9.1	%	5.6	—	—	0.4	4.4	%
p+4.00*	21.4	—	—	0.9	9.1	%	9.2	—	—	0.4	4.4	%
p+5.00*	18.3	—	—	4.6	9.1	%	8.8	—	—	2.2	4.4	%
p+6.00*	—	<MDL	U	4.6	9.1	%	2.2	<RDL	J	2.2	4.4	%
p+7.00*	4.6	<RDL	J	4.6	9.1	%	2.2	<RDL	J	2.2	4.4	%
p+8.00*	—	<MDL	U	4.6	9.1	%	—	<MDL	U	2.2	4.4	%
p+9.00*	4.6	<RDL	J	4.6	9.1	%	—	<MDL	U	2.2	4.4	%
p-1.00*	—	<MDL	U	0.9	9.1	%	15	—	—	0.4	4.4	%
p-2.00(less than)*	—	<MDL	U	0.9	9.1	%	27.2	—	—	0.4	4.4	%
p-2.00*	—	<MDL	U	0.9	9.1	%	2.1	<RDL	J	0.4	4.4	%
CV EPA DEC 1991												
Sulfide, Acid Volatile	22.6	JG	—	1.9	7.53	mg/Kg	39	JG	—	1.5	6.06	mg/Kg
CV SM2540-G												
Total Solids*	13.2	—	—	0.005	0.01	%	15.6	—	—	0.005	0.01	%
CV SW846 9045D												
pH*	6.8	—	—	—	—	pH	6.52	—	—	—	—	pH
CV SW846 9060-PSEP96												
Total Organic Carbon	133000	—	—	16000	31500	mg/Kg	168000	—	—	17000	34300	mg/Kg
MT EPA 1991/200.7												
Arsenic, Extractable, SEM	—	<MDL	U	3.8	18.9	mg/Kg	—	<MDL	U	3	15.1	mg/Kg
Cadmium, Extractable, SEM	0.53	<RDL	J	0.3	1.51	mg/Kg	0.47	<RDL	J	0.24	1.21	mg/Kg
Chromium, Extractable, SEM	11	—	—	0.45	2.26	mg/Kg	1.2	<RDL	J	0.37	1.82	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

<b>Sample Information:</b>	<b>Locator:</b>	WX320						JK320					
	<b>Descrip:</b>	JENKINS CRK AT WAX						JENKLINS CREEK DOW					
	<b>Sample:</b>	L56024-28						L56024-29					
	<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b>	8/27/12 10:00						8/27/12 10:25					
	<b>TotalSolid:</b>	13.2						15.6					
	20 spoons; very fine, floc-y material, H2S moderate						20 spoons; D.S. of bridge						
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>						
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	
Copper, Extractable, SEM	14.2	—	—	0.61	3.02	mg/Kg	13.6	—	—	0.49	2.42	mg/Kg	
Lead, Extractable, SEM	63	—	—	3	15.1	mg/Kg	16.4	—	—	2.4	12.1	mg/Kg	
Nickel, Extractable, SEM	3.5	<RDL	J	0.75	3.77	mg/Kg	3.51	—	—	0.61	3.03	mg/Kg	
Silver, Extractable, SEM	—	<MDL	U	0.61	3.02	mg/Kg	—	<MDL	U	0.49	2.42	mg/Kg	
Zinc, Extractable, SEM	105	—	—	0.75	3.77	mg/Kg	61.3	—	—	0.61	3.03	mg/Kg	
<b>MT EPA 821 1991/245.1*SW846 7470A</b>													
Mercury, Extractable, SEM	—	<MDL	U	0.0075	0.0226	mg/Kg	—	<MDL	U	0.0061	0.0182	mg/Kg	
<b>MT SW846 3050B*SW846 6020A</b>													
Arsenic, Total, ICP-MS	4.64	—	—	0.072	0.358	mg/Kg	4.55	—	—	0.05	0.251	mg/Kg	
Cadmium, Total, ICP-MS	0.579	—	—	0.036	0.179	mg/Kg	0.497	—	—	0.025	0.125	mg/Kg	
Chromium, Total, ICP-MS	14.9	—	—	0.14	0.717	mg/Kg	11	—	—	0.1	0.501	mg/Kg	
Copper, Total, ICP-MS	18.8	—	—	0.29	1.43	mg/Kg	17.8	—	—	0.2	1	mg/Kg	
Lead, Total, ICP-MS	24.7	—	—	0.072	0.358	mg/Kg	16.3	—	—	0.05	0.251	mg/Kg	
Nickel, Total, ICP-MS	11.1	—	—	0.072	0.358	mg/Kg	9.17	—	—	0.05	0.251	mg/Kg	
Silver, Total, ICP-MS	0.091	<RDL	J	0.029	0.143	mg/Kg	0.071	<RDL	J	0.02	0.1	mg/Kg	
Zinc, Total, ICP-MS	90.9	—	—	0.36	1.79	mg/Kg	80.8	—	—	0.25	1.25	mg/Kg	
<b>MT SW846 7471B</b>													
Mercury, Total, CVAA	0.19	<RDL	J	0.037	0.372	mg/Kg	0.11	<RDL	J	0.032	0.321	mg/Kg	
<b>OR SW846 3550B*SW846 8081B</b>													
4,4'-DDD	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg	
4,4'-DDE	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg	
4,4'-DDT	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg	
Aldrin	—	<MDL	UJ	4	8.11	ug/Kg	—	<MDL	UJ	3.4	6.86	ug/Kg	
Alpha-BHC	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg	
Alpha-Chlordane	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg	
Beta-BHC	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg	
Delta-BHC	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg	
Dieldrin	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg	
Endosulfan I	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg	
Endosulfan II	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg	
Endosulfan Sulfate	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg	
Endrin	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg	

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

<b>Locator:</b> <b>Descrip:</b> <b>Sample:</b> <b>Matrix:</b> <b>ColDate:</b> <b>TotalSolid:</b> <b>Sample Information:</b>	WX320	JENKINS CRK AT WAX					JK320	JENKLINS CREEK DOW				
	L56024-28						L56024-29					
	SE FRSHWTRSED						SE FRSHWTRSED					
	8/27/12 10:00						8/27/12 10:25					
	13.2						15.6					
	20 spoons; very fine, floc-y material, H2S moderate						20 spoons; D.S. of bridge					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Endrin Aldehyde	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg
Heptachlor	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg
Heptachlor Epoxide	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg
Methoxychlor	—	<MDL	U	20	40.4	ug/Kg	—	<MDL	U	17	34.2	ug/Kg
Toxaphene	—	<MDL	U	83	404	ug/Kg	—	<MDL	U	71	342	ug/Kg
trans-Chlordane	—	<MDL	U	4	8.11	ug/Kg	—	<MDL	U	3.4	6.86	ug/Kg
<b>OR SW846 3550B*SW846 8082A</b>												
Aroclor 1016	—	<MDL	U	9.8	40.4	ug/Kg	—	<MDL	U	8.3	34.2	ug/Kg
Aroclor 1221	—	<MDL	U	20	40.4	ug/Kg	—	<MDL	U	17	34.2	ug/Kg
Aroclor 1232	—	<MDL	U	20	40.4	ug/Kg	—	<MDL	U	17	34.2	ug/Kg
Aroclor 1242	—	<MDL	U	9.8	40.4	ug/Kg	—	<MDL	U	8.3	34.2	ug/Kg
Aroclor 1248	—	<MDL	U	9.8	40.4	ug/Kg	—	<MDL	U	8.3	34.2	ug/Kg
Aroclor 1254	—	<MDL	U	9.8	40.4	ug/Kg	—	<MDL	U	8.3	34.2	ug/Kg
Aroclor 1260	—	<MDL	U	9.8	40.4	ug/Kg	—	<MDL	U	8.3	34.2	ug/Kg
Total Aroclors	—	<MDL	—	20	40.4	ug/Kg	—	<MDL	—	17	34.2	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>												
1,2,4-Trichlorobenzene	—	<MDL	U	6.4	12.7	ug/Kg	—	<MDL	U	6	12.1	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	12.7	12.7	ug/Kg	—	<MDL	U	12.1	12.1	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	19.2	19.2	ug/Kg	—	<MDL	U	18.1	18.1	ug/Kg
2,4-Dimethylphenol	—	<MDL	UJ	64	127	ug/Kg	—	<MDL	UJ	60	121	ug/Kg
2-Methylnaphthalene	—	<MDL	U	64	127	ug/Kg	—	<MDL	U	60	121	ug/Kg
2-Methylphenol	—	<MDL	UJ	13	25.5	ug/Kg	—	<MDL	UJ	12	24.1	ug/Kg
3-,4-Methylphenol	1140	—	—	64	127	ug/Kg	176	—	—	60	121	ug/Kg
Acenaphthene	—	<MDL	U	13	25.5	ug/Kg	—	<MDL	U	12	24.1	ug/Kg
Acenaphthylene	—	<MDL	U	13	25.5	ug/Kg	—	<MDL	U	12	24.1	ug/Kg
Anthracene	25.8	—	—	13	25.5	ug/Kg	—	<MDL	U	12	24.1	ug/Kg
Benzo(a)anthracene	—	<MDL	U	13	25.5	ug/Kg	—	<MDL	U	12	24.1	ug/Kg
Benzo(a)pyrene	—	<MDL	U	64	127	ug/Kg	—	<MDL	U	60	121	ug/Kg
Benzo(b,j,k)fluoranthene	138	—	—	64	127	ug/Kg	—	<MDL	U	60	121	ug/Kg
Benzo(g,h,i)perylene	—	<MDL	U	64	127	ug/Kg	—	<MDL	U	60	121	ug/Kg
Benzoic Acid	—	<MDL	U	1270	1270	ug/Kg	—	<MDL	U	1210	1210	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	WX320					JK320					
	<b>Descrip:</b>	JENKINS CRK AT WAX					JENKLINS CREEK DOW					
	<b>Sample:</b>	L56024-28					L56024-29					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/27/12 10:00					8/27/12 10:25					
	<b>TotalSolid:</b>	13.2					15.6					
	<b>Sample Information:</b>	20 spoons; very fine, floc-y material, H2S moderate					20 spoons; D.S. of bridge					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Benzyl Alcohol	—	<MDL	U	31.9	31.9	ug/Kg	—	<MDL	U	30.2	30.2	ug/Kg
Benzyl Butyl Phthalate	—	<MDL	U	19.2	19.2	ug/Kg	34.8	—	—	18.1	18.1	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	420	2040	ug/Kg	—	<MDL	U	400	1930	ug/Kg
Bis(2-Ethylhexyl)Phthalate	151	B2	U	26	51.1	ug/Kg	241	—	—	24	48.3	ug/Kg
Bisphenol A	—	<MDL	U	420	2040	ug/Kg	—	<MDL	U	400	1930	ug/Kg
Carbazole	—	<MDL	U	13	25.5	ug/Kg	—	<MDL	U	12	24.1	ug/Kg
Chrysene	86.4	—	—	13	25.5	ug/Kg	—	<MDL	U	12	24.1	ug/Kg
Coprostanol	—	<MDL	U	2100	20400	ug/Kg	—	<MDL	U	2000	19300	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	64	127	ug/Kg	—	<MDL	U	60	121	ug/Kg
Dibenzofuran	—	<MDL	U	13	25.5	ug/Kg	—	<MDL	U	12	24.1	ug/Kg
Diethyl Phthalate	—	<MDL	U	26	51.1	ug/Kg	328	—	—	24	48.3	ug/Kg
Dimethyl Phthalate	—	<MDL	U	25.5	25.5	ug/Kg	34.9	—	—	24.1	24.1	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	26	51.1	ug/Kg	—	<MDL	U	24	48.3	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	127	127	ug/Kg	—	<MDL	U	121	121	ug/Kg
Fluoranthene	127	—	—	13	25.5	ug/Kg	31	—	—	12	24.1	ug/Kg
Fluorene	—	<MDL	U	13	25.5	ug/Kg	—	<MDL	U	12	24.1	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.3	2.55	ug/Kg	—	<MDL	U	1.2	2.41	ug/Kg
Hexachlorobutadiene	—	<MDL	U	32	63.8	ug/Kg	—	<MDL	U	30	60.3	ug/Kg
Indeno(1,2,3-Cd)Pyrene	—	<MDL	U	64	127	ug/Kg	—	<MDL	U	60	121	ug/Kg
Naphthalene	—	<MDL	U	64	127	ug/Kg	—	<MDL	U	60	121	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	31.9	31.9	ug/Kg	—	<MDL	U	30.2	30.2	ug/Kg
Pentachlorophenol	—	<MDL	U	192	192	ug/Kg	—	<MDL	U	181	181	ug/Kg
Phenanthrene	88.6	—	—	13	25.5	ug/Kg	20	<RDL	J	12	24.1	ug/Kg
Phenol	—	<MDL	UJ	64	192	ug/Kg	—	<MDL	UJ	60	181	ug/Kg
Pyrene	120	—	—	13	25.5	ug/Kg	30	—	—	12	24.1	ug/Kg
Total 4-Nonylphenol		<MDL,J	U	190	2040	ug/Kg		<MDL,J	U	180	1930	ug/Kg
Total HPAHS	471	—	—	13	25.5	ug/Kg	61	—	—	12	24.1	ug/Kg
Total LPAHs	114	—	—	13	25.5	ug/Kg	20	<RDL	—	12	24.1	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

Sample Information:	Locator:	FR320					LW320					
	Descrip:	JENKINS CRK AT FRO					JENKINS LK. WILDER					
	Sample:	L56024-30					L56024-33					
	Matrix:	SE FRSHWTRSED					SE FRSHWTRSED					
	ColDate:	8/27/12 12:30					8/27/12 11:45					
	TotalSolid:	14.9					13.5					
	20 spoons; PSD QC						20 spoons; D.S. of road, odd odor					
	DRY Weight Basis					DRY Weight Basis						
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
CV ASTM D422												
Fines*	61.8	—	—	4.4	8.8	%	69.6	—	—	4.1	8.2	%
Gravel*	19.6	—	—	0.9	8.8	%	2.1	<RDL	J	0.8	8.2	%
Sand*	19.8	—	—	0.9	8.8	%	28.2	—	—	0.8	8.2	%
Silt*	30.9	—	—	4.4	8.8	%	41	—	—	4.1	8.2	%
Clay*	30.9	—	—	4.4	8.8	%	28.7	—	—	4.1	8.2	%
p+0.00*	—	<MDL	U	0.9	8.8	%	2.2	<RDL	J	0.8	8.2	%
p+1.00*	1.4	<RDL	J	0.9	8.8	%	2	<RDL	J	0.8	8.2	%
p+10.0(equal/more than)*	26.5	—	—	4.4	8.8	%	24.6	—	—	4.1	8.2	%
p+2.00*	3.4	<RDL	J	0.9	8.8	%	3.1	<RDL	J	0.8	8.2	%
p+3.00*	6.2	<RDL	J	0.9	8.8	%	7	<RDL	J	0.8	8.2	%
p+4.00*	8.8	RDL	—	0.9	8.8	%	13.8	—	—	0.8	8.2	%
p+5.00*	22.1	—	—	4.4	8.8	%	24.6	—	—	4.1	8.2	%
p+6.00*	4.4	<RDL	J	4.4	8.8	%	—	<MDL	U	4.1	8.2	%
p+7.00*	4.4	<RDL	J	4.4	8.8	%	8.2	RDL	—	4.1	8.2	%
p+8.00*	—	<MDL	U	4.4	8.8	%	8.2	RDL	—	4.1	8.2	%
p+9.00*	4.4	<RDL	J	4.4	8.8	%	4.1	<RDL	J	4.1	8.2	%
p-1.00*	—	<MDL	U	0.9	8.8	%	2.1	<RDL	J	0.8	8.2	%
p-2.00(less than)*	19.6	—	—	0.9	8.8	%	—	<MDL	U	0.8	8.2	%
p-2.00*	—	<MDL	U	0.9	8.8	%	—	<MDL	U	0.8	8.2	%
CV EPA DEC 1991												
Sulfide, Acid Volatile	23	JG	—	1.7	6.62	mg/Kg	1210	JG	—	44	179	mg/Kg
CV SM2540-G												
Total Solids*	14.9	—	—	0.005	0.01	%	13.5	—	—	0.005	0.01	%
CV SW846 9045D												
pH*	6.78	—	—	—	—	pH	6.24	—	—	—	—	pH
CV SW846 9060-PSEP96												
Total Organic Carbon	112000	—	—	11000	21300	mg/Kg	146000	—	—	21000	43600	mg/Kg
MT EPA 1991/200.7												
Arsenic, Extractable, SEM	4.2	<RDL	J	3.3	16.6	mg/Kg	—	<MDL	U	3.6	17.9	mg/Kg
Cadmium, Extractable, SEM	0.46	<RDL	J	0.26	1.32	mg/Kg	0.43	<RDL	J	0.28	1.42	mg/Kg
Chromium, Extractable, SEM	0.94	<RDL	J	0.4	1.99	mg/Kg	3.85	—	—	0.43	2.14	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	FR320					LW320					
	<b>Descrip:</b>	JENKINS CRK AT FRO					JENKINS LK. WILDER					
	<b>Sample:</b>	L56024-30					L56024-33					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/27/12 12:30					8/27/12 11:45					
	<b>TotalSolid:</b>	14.9					13.5					
	<b>Sample Information:</b>	20 spoons; PSD QC					20 spoons; D.S. of road, odd odor					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Copper, Extractable, SEM	18.6	—	—	0.53	2.65	mg/Kg	20.8	—	—	0.57	2.85	mg/Kg
Lead, Extractable, SEM	14	—	—	2.6	13.2	mg/Kg	29	—	—	2.8	14.2	mg/Kg
Nickel, Extractable, SEM	4.34	—	—	0.66	3.31	mg/Kg	3.3	<RDL	J	0.71	3.56	mg/Kg
Silver, Extractable, SEM	—	<MDL	U	0.53	2.65	mg/Kg	—	<MDL	U	0.57	2.85	mg/Kg
Zinc, Extractable, SEM	52.3	—	—	0.66	3.31	mg/Kg	94.8	—	—	0.71	3.56	mg/Kg
<b>MT EPA 821 1991/245.1*SW846 7470A</b>												
Mercury, Extractable, SEM	0.0074	<RDL	J	0.0066	0.0199	mg/Kg	—	<MDL	U	0.0071	0.0214	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>												
Arsenic, Total, ICP-MS	6.45	—	—	0.065	0.326	mg/Kg	10.7	—	—	0.074	0.386	mg/Kg
Cadmium, Total, ICP-MS	0.5	—	—	0.033	0.163	mg/Kg	0.353	—	—	0.039	0.193	mg/Kg
Chromium, Total, ICP-MS	12.4	—	—	0.13	0.652	mg/Kg	20.1	—	—	0.16	0.77	mg/Kg
Copper, Total, ICP-MS	20.1	—	—	0.26	1.3	mg/Kg	26.7	—	—	0.31	1.54	mg/Kg
Lead, Total, ICP-MS	13.5	—	—	0.065	0.326	mg/Kg	25.5	—	—	0.074	0.386	mg/Kg
Nickel, Total, ICP-MS	11.3	—	—	0.065	0.326	mg/Kg	12.1	—	—	0.074	0.386	mg/Kg
Silver, Total, ICP-MS	0.074	<RDL	J	0.026	0.13	mg/Kg	0.089	<RDL	J	0.031	0.154	mg/Kg
Zinc, Total, ICP-MS	69.8	—	—	0.33	1.63	mg/Kg	113	—	—	0.39	1.93	mg/Kg
<b>MT SW846 7471B</b>												
Mercury, Total, CVAA	0.15	<RDL	J	0.033	0.329	mg/Kg	0.089	<RDL	J	0.036	0.359	mg/Kg
<b>OR SW846 3550B*SW846 8081B</b>												
4,4'-DDD	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
4,4'-DDE	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
4,4'-DDT	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Aldrin	—	<MDL	UJ	3.6	7.18	ug/Kg	—	<MDL	UJ	3.9	7.93	ug/Kg
Alpha-BHC	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Alpha-Chlordane	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Beta-BHC	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Delta-BHC	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Dieldrin	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Endosulfan I	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Endosulfan II	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Endosulfan Sulfate	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Endrin	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

<b>Sample Information:</b>	<b>Locator:</b>	FR320					LW320					
	<b>Descrip:</b>	JENKINS CRK AT FRO					JENKINS LK. WILDER					
	<b>Sample:</b>	L56024-30					L56024-33					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/27/12 12:30					8/27/12 11:45					
	<b>TotalSolid:</b>	14.9					13.5					
	<b>Sample Information:</b>	20 spoons; PSD QC					20 spoons; D.S. of road, odd odor					
	<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>						
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Endrin Aldehyde	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Heptachlor	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Heptachlor Epoxide	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
Methoxychlor	—	<MDL	U	18	35.8	ug/Kg	—	<MDL	U	20	39.5	ug/Kg
Toxaphene	—	<MDL	U	74	358	ug/Kg	—	<MDL	U	81	395	ug/Kg
trans-Chlordane	—	<MDL	U	3.6	7.18	ug/Kg	—	<MDL	U	3.9	7.93	ug/Kg
<b>OR SW846 3550B*SW846 8082A</b>												
Aroclor 1016	—	<MDL	U	8.7	35.8	ug/Kg	—	<MDL	U	9.6	39.5	ug/Kg
Aroclor 1221	—	<MDL	U	18	35.8	ug/Kg	—	<MDL	U	20	39.5	ug/Kg
Aroclor 1232	—	<MDL	U	18	35.8	ug/Kg	—	<MDL	U	20	39.5	ug/Kg
Aroclor 1242	—	<MDL	U	8.7	35.8	ug/Kg	—	<MDL	U	9.6	39.5	ug/Kg
Aroclor 1248	—	<MDL	U	8.7	35.8	ug/Kg	—	<MDL	U	9.6	39.5	ug/Kg
Aroclor 1254	—	<MDL	U	8.7	35.8	ug/Kg	43.7	—	—	9.6	39.5	ug/Kg
Aroclor 1260	—	<MDL	U	8.7	35.8	ug/Kg	19	<RDL	J	9.6	39.5	ug/Kg
Total Aroclors	—	<MDL	—	18	35.8	ug/Kg	63	—	—	9.6	39.5	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>												
1,2,4-Trichlorobenzene	—	<MDL	U	6.3	12.6	ug/Kg	—	<MDL	U	6.2	12.4	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	12.6	12.6	ug/Kg	—	<MDL	U	12.4	12.4	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	18.9	18.9	ug/Kg	—	<MDL	U	18.7	18.7	ug/Kg
2,4-Dimethylphenol	—	<MDL	UJ	63	126	ug/Kg	—	<MDL	UJ	62	124	ug/Kg
2-Methylnaphthalene	—	<MDL	U	63	126	ug/Kg	—	<MDL	U	62	124	ug/Kg
2-Methylphenol	—	<MDL	UJ	13	25.2	ug/Kg	19	<RDL	J	13	25	ug/Kg
3-,4-Methylphenol	451	—	—	63	126	ug/Kg	—	<MDL	U	62	124	ug/Kg
Acenaphthene	—	<MDL	U	13	25.2	ug/Kg	186	—	—	13	25	ug/Kg
Acenaphthylene	—	<MDL	U	13	25.2	ug/Kg	—	<MDL	U	13	25	ug/Kg
Anthracene	—	<MDL	U	13	25.2	ug/Kg	52.5	—	—	13	25	ug/Kg
Benzo(a)anthracene	—	<MDL	U	13	25.2	ug/Kg	—	<MDL	U	13	25	ug/Kg
Benzo(a)pyrene	—	<MDL	U	63	126	ug/Kg	69	<RDL	J	62	124	ug/Kg
Benzo(b,j,k)fluoranthene	—	<MDL	U	63	126	ug/Kg	174	—	—	62	124	ug/Kg
Benzo(g,h,i)perylene	—	<MDL	U	63	126	ug/Kg	—	<MDL	U	62	124	ug/Kg
Benzoic Acid	—	<MDL	U	1260	1260	ug/Kg	—	<MDL	U	1240	1240	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	FR320					LW320					
	<b>Descrip:</b>	JENKINS CRK AT FRO					JENKINS LK. WILDER					
	<b>Sample:</b>	L56024-30					L56024-33					
<b>Sample Information:</b>	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/27/12 12:30					8/27/12 11:45					
	<b>TotalSolid:</b>	14.9					13.5					
		20 spoons; PSD QC					20 spoons; D.S. of road, odd odor					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Benzyl Alcohol	—	<MDL	U	31.6	31.6	ug/Kg	—	<MDL	U	31.2	31.2	ug/Kg
Benzyl Butyl Phthalate	—	<MDL	U	18.9	18.9	ug/Kg	—	<MDL	U	18.7	18.7	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	420	2020	ug/Kg	—	<MDL	U	410	1990	ug/Kg
Bis(2-Ethylhexyl)Phthalate	109	B	U	26	50.5	ug/Kg	336	—	—	25	49.9	ug/Kg
Bisphenol A	—	<MDL	U	420	2020	ug/Kg	—	<MDL	U	410	1990	ug/Kg
Carbazole	—	<MDL	U	13	25.2	ug/Kg	16	<RDL	—	13	25	ug/Kg
Chrysene	—	<MDL	U	13	25.2	ug/Kg	91.9	—	—	13	25	ug/Kg
Coprostanol	—	<MDL	U	2100	20200	ug/Kg	—	<MDL	U	2100	19900	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	63	126	ug/Kg	—	<MDL	U	62	124	ug/Kg
Dibenzofuran	—	<MDL	U	13	25.2	ug/Kg	89.6	—	—	13	25	ug/Kg
Diethyl Phthalate	64.6	—	—	26	50.5	ug/Kg	—	<MDL	U	25	49.9	ug/Kg
Dimethyl Phthalate	—	<MDL	U	25.2	25.2	ug/Kg	—	<MDL	U	25	25	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	26	50.5	ug/Kg	—	<MDL	U	25	49.9	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	126	126	ug/Kg	—	<MDL	U	124	124	ug/Kg
Fluoranthene	17	<RDL	J	13	25.2	ug/Kg	193	—	—	13	25	ug/Kg
Fluorene	—	<MDL	U	13	25.2	ug/Kg	205	—	—	13	25	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.3	2.52	ug/Kg	—	<MDL	U	1.3	2.5	ug/Kg
Hexachlorobutadiene	—	<MDL	U	32	63.2	ug/Kg	—	<MDL	U	31	62.4	ug/Kg
Indeno(1,2,3-Cd)Pyrene	—	<MDL	U	63	126	ug/Kg	—	<MDL	U	62	124	ug/Kg
Naphthalene	—	<MDL	U	63	126	ug/Kg	—	<MDL	U	62	124	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	31.6	31.6	ug/Kg	—	<MDL	U	31.2	31.2	ug/Kg
Pentachlorophenol	—	<MDL	U	189	189	ug/Kg	—	<MDL	U	187	187	ug/Kg
Phenanthrene	—	<MDL	U	13	25.2	ug/Kg	208	—	—	13	25	ug/Kg
Phenol	—	<MDL	UJ	63	189	ug/Kg	—	<MDL	UJ	62	187	ug/Kg
Pyrene	15	<RDL	J	13	25.2	ug/Kg	168	—	—	13	25	ug/Kg
Total 4-Nonylphenol		<MDL,J	U	190	2020	ug/Kg		<MDL,J	U	190	1990	ug/Kg
Total HPAHS	32.9	—	—	13	25.2	ug/Kg	696	—	—	13	25	ug/Kg
Total LPAHs	—	<MDL	—	63	126	ug/Kg	652	—	—	13	25	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> FL319						10318					
	<b>Descrip:</b> GREEN RIVER, DOWNS						GREEN RIVER/EAST V					
	<b>Sample:</b> L56024-34						L56024-35					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/29/12 10:10						8/29/12 12:40					
	<b>TotalSolid:</b> 74						61.4					
	<b>Sample Information:</b> 3 Ponar casts; all sand						20 spoons; U. S. of bridge, deep and rocky					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
<b>CV ASTM D422</b>												
Fines*	2.4	—	—	0.6	1.2	%	8.8	—	—	0.8	1.6	%
Gravel*	9.4	—	—	0.1	1.2	%	—	<MDL	U	0.2	1.6	%
Sand*	90.2	—	—	0.1	1.2	%	87.1	—	—	0.2	1.6	%
Silt*	—	<MDL	U	0.6	1.2	%	4.8	—	—	0.8	1.6	%
Clay*	2.4	—	—	0.6	1.2	%	4	—	—	0.8	1.6	%
p+0.00*	30.2	—	—	0.1	1.2	%	—	<MDL	U	0.2	1.6	%
p+1.00*	47.2	—	—	0.1	1.2	%	0.4	<RDL	J	0.2	1.6	%
p+10.0(equal/more than)*	2.4	—	—	0.6	1.2	%	4	—	—	0.8	1.6	%
p+2.00*	10.8	—	—	0.1	1.2	%	23.7	—	—	0.2	1.6	%
p+3.00*	1.6	—	—	0.1	1.2	%	49.6	—	—	0.2	1.6	%
p+4.00*	0.4	<RDL	J	0.1	1.2	%	13.4	—	—	0.2	1.6	%
p+5.00*	—	<MDL	U	0.6	1.2	%	3.2	—	—	0.8	1.6	%
p+6.00*	—	<MDL	U	0.6	1.2	%	—	<MDL	U	0.8	1.6	%
p+7.00*	—	<MDL	U	0.6	1.2	%	1.6	RDL	—	0.8	1.6	%
p+8.00*	—	<MDL	U	0.6	1.2	%	—	<MDL	U	0.8	1.6	%
p+9.00*	—	<MDL	U	0.6	1.2	%	—	<MDL	U	0.8	1.6	%
p-1.00*	8.3	—	—	0.1	1.2	%	—	<MDL	U	0.2	1.6	%
p-2.00(less than)*	0.9	<RDL	J	0.1	1.2	%	—	<MDL	U	0.2	1.6	%
p-2.00*	0.2	<RDL	J	0.1	1.2	%	—	<MDL	U	0.2	1.6	%
<b>CV EPA DEC 1991</b>												
Sulfide, Acid Volatile		<MDL,JG	U	0.34	1.35	mg/Kg	0.68	<RDL,JG	J	0.37	1.51	mg/Kg
<b>CV SM2540-G</b>												
Total Solids*	74	—	—	0.005	0.01	%	61.4	—	—	0.005	0.01	%
<b>CV SW846 9045D</b>												
pH*	7.11	—	—	—	—	pH	6.42	—	—	—	—	pH
<b>CV SW846 9060-PSEP96</b>												
Total Organic Carbon	7620	—	—	620	1260	mg/Kg	5130	—	—	720	1450	mg/Kg
<b>MT EPA 1991/200.7</b>												
Arsenic, Extractable, SEM	1.5	<RDL	J	0.68	3.36	mg/Kg	1.6	<RDL	J	0.75	3.78	mg/Kg
Cadmium, Extractable, SEM	—	<MDL	U	0.054	0.27	mg/Kg	—	<MDL	U	0.06	0.303	mg/Kg
Chromium, Extractable, SEM	0.612	—	—	0.081	0.404	mg/Kg	1.78	—	—	0.091	0.454	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

<b>Sample Information:</b>	<b>Locator:</b>	FL319						#0318					
	<b>Descrip:</b>	GREEN RIVER, DOWNS						GREEN RIVER/EAST V					
	<b>Sample:</b>	L56024-34						L56024-35					
	<b>Matrix:</b>	SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b>	8/29/12 10:10						8/29/12 12:40					
<b>Sample Information:</b>	<b>TotalSolid:</b>	74						61.4					
		3 Ponar casts; all sand						20 spoons; U. S. of bridge, deep and rocky					
		<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	
Copper, Extractable, SEM	2.27	—	—	0.11	0.539	mg/Kg	5.91	—	—	0.12	0.606	mg/Kg	
Lead, Extractable, SEM	1.5	<RDL	J	0.54	2.7	mg/Kg	2.1	<RDL	J	0.6	3.03	mg/Kg	
Nickel, Extractable, SEM	0.728	—	—	0.14	0.674	mg/Kg	1.73	—	—	0.15	0.757	mg/Kg	
Silver, Extractable, SEM	—	<MDL	U	0.11	0.539	mg/Kg	—	<MDL	U	0.12	0.606	mg/Kg	
Zinc, Extractable, SEM	8.09	—	—	0.14	0.674	mg/Kg	10.3	—	—	0.15	0.757	mg/Kg	
<b>MT EPA 821 1991/245.1*SW846 7470A</b>													
Mercury, Extractable, SEM	0.0015	<RDL	J	0.0014	0.00404	mg/Kg	—	<MDL	U	0.0015	0.00454	mg/Kg	
<b>MT SW846 3050B*SW846 6020A</b>													
Arsenic, Total, ICP-MS	3.77	—	—	0.023	0.113	mg/Kg	3.22	—	—	0.015	0.0744	mg/Kg	
Cadmium, Total, ICP-MS	0.054	<RDL	J	0.011	0.0565	mg/Kg	0.0588	—	—	0.0075	0.0373	mg/Kg	
Chromium, Total, ICP-MS	9	—	—	0.18	0.904	mg/Kg	13	—	—	0.12	0.596	mg/Kg	
Copper, Total, ICP-MS	10.6	—	—	0.36	1.81	mg/Kg	12.3	—	—	0.24	1.19	mg/Kg	
Lead, Total, ICP-MS	2.3	—	—	0.023	0.113	mg/Kg	3.49	—	—	0.015	0.0744	mg/Kg	
Nickel, Total, ICP-MS	11.8	—	—	0.091	0.451	mg/Kg	13.6	—	—	0.06	0.298	mg/Kg	
Silver, Total, ICP-MS	0.023	<RDL	J	0.0091	0.0451	mg/Kg	0.036	—	—	0.006	0.0298	mg/Kg	
Zinc, Total, ICP-MS	33	—	—	0.11	0.565	mg/Kg	41.9	—	—	0.075	0.373	mg/Kg	
<b>MT SW846 7471B</b>													
Mercury, Total, CVAA	0.011	<RDL	J	0.0065	0.0651	mg/Kg	0.064	<RDL	J	0.0078	0.0788	mg/Kg	
<b>OR SW846 3550B*SW846 8081B</b>													
4,4'-DDD	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg	
4,4'-DDE	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg	
4,4'-DDT	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg	
Aldrin	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	UJ	0.86	1.74	ug/Kg	
Alpha-BHC	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg	
Alpha-Chlordane	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg	
Beta-BHC	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg	
Delta-BHC	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg	
Dieldrin	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg	
Endosulfan I	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg	
Endosulfan II	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg	
Endosulfan Sulfate	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg	
Endrin	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg	

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	FL319										
	<b>Descrip:</b>	GREEN RIVER, DOWNS										
	<b>Sample:</b>	L56024-34										
	<b>Matrix:</b>	SE FRSHWTRSED										
	<b>ColDate:</b>	8/29/12 10:10										
	<b>TotalSolid:</b>	74										
	<b>Sample Information:</b>	3 Ponar casts; all sand										
		<b>DRY Weight Basis</b>										
<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>
Endrin Aldehyde	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg
Heptachlor	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg
Heptachlor Epoxide	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg
Methoxychlor	—	<MDL	U	3.6	7.2	ug/Kg	—	<MDL	U	4.4	8.68	ug/Kg
Toxaphene	—	<MDL	U	15	72	ug/Kg	—	<MDL	U	18	86.8	ug/Kg
trans-Chlordane	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg
<b>OR SW846 3550B*SW846 8082A</b>												
Aroclor 1016	—	<MDL	U	1.8	7.2	ug/Kg	—	<MDL	U	2.1	8.68	ug/Kg
Aroclor 1221	—	<MDL	U	3.6	7.2	ug/Kg	—	<MDL	U	4.4	8.68	ug/Kg
Aroclor 1232	—	<MDL	U	3.6	7.2	ug/Kg	—	<MDL	U	4.4	8.68	ug/Kg
Aroclor 1242	—	<MDL	U	1.8	7.2	ug/Kg	—	<MDL	U	2.1	8.68	ug/Kg
Aroclor 1248	—	<MDL	U	1.8	7.2	ug/Kg	—	<MDL	U	2.1	8.68	ug/Kg
Aroclor 1254	—	<MDL	U	1.8	7.2	ug/Kg	—	<MDL	U	2.1	8.68	ug/Kg
Aroclor 1260	—	<MDL	U	1.8	7.2	ug/Kg	—	<MDL	—	2.1	8.68	ug/Kg
Total Aroclors	—	<MDL	—	3.6	7.2	ug/Kg	—	<MDL	—	4.4	8.68	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>												
1,2,4-Trichlorobenzene	—	<MDL	U	3.6	7.2	ug/Kg	—	<MDL	U	4.4	8.68	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	7.2	7.2	ug/Kg	—	<MDL	U	8.68	8.68	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	10.8	10.8	ug/Kg	—	<MDL	U	13	13	ug/Kg
2,4-Dimethylphenol	—	<MDL,JG	UJ	36	72	ug/Kg	—	<MDL	UJ	44	86.8	ug/Kg
2-Methylnaphthalene	—	<MDL	U	36	72	ug/Kg	—	<MDL	U	44	86.8	ug/Kg
2-Methylphenol	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	UJ	8.6	17.4	ug/Kg
3-,4-Methylphenol	—	<MDL	U	36	72	ug/Kg	—	<MDL	U	44	86.8	ug/Kg
Acenaphthene	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Acenaphthylene	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Anthracene	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Benzo(a)anthracene	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Benzo(a)pyrene	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Benzo(b,j,k)fluoranthene	—	<MDL	U	7.2	14.5	ug/Kg	14	<RDL	J	8.6	17.4	ug/Kg
Benzo(g,h,i)perylene	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Benzoic Acid	—	<MDL	U	720	720	ug/Kg	—	<MDL	U	868	868	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b> FL319						10318					
	<b>Descrip:</b> GREEN RIVER, DOWNS						GREEN RIVER/EAST V					
	<b>Sample:</b> L56024-34						L56024-35					
	<b>Matrix:</b> SE FRSHWTRSED						SE FRSHWTRSED					
	<b>ColDate:</b> 8/29/12 10:10						8/29/12 12:40					
	<b>TotalSolid:</b> 74						61.4					
	<b>Sample Information:</b> 3 Ponar casts; all sand						20 spoons; U. S. of bridge, deep and rocky					
	<b>DRY Weight Basis</b>						<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Benzyl Alcohol	—	<MDL	U	18	18	ug/Kg	—	<MDL	U	21.7	21.7	ug/Kg
Benzyl Butyl Phthalate	—	<MDL	U	10.8	10.8	ug/Kg	—	<MDL	U	13	13	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	240	1150	ug/Kg	—	<MDL	U	290	1390	ug/Kg
Bis(2-Ethylhexyl)Phthalate	20	<RDL	J	15	28.8	ug/Kg	44.5	B	U	18	34.7	ug/Kg
Bisphenol A	—	<MDL	U	240	1150	ug/Kg	—	<MDL	U	290	1390	ug/Kg
Carbazole	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Chrysene	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Coprostanol	—	<MDL	U	240	2310	ug/Kg	330	<RDL,J	J	290	2790	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Dibenzofuran	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Diethyl Phthalate	—	<MDL	U	15	28.8	ug/Kg	—	<MDL	U	18	34.7	ug/Kg
Dimethyl Phthalate	—	<MDL	U	14.5	14.5	ug/Kg	—	<MDL	U	17.4	17.4	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	15	28.8	ug/Kg	—	<MDL	U	18	34.7	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	14.5	14.5	ug/Kg	—	<MDL	U	17.4	17.4	ug/Kg
Fluoranthene	—	<MDL	U	7.2	14.5	ug/Kg	11	<RDL	J	8.6	17.4	ug/Kg
Fluorene	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Hexachlorobenzene	—	<MDL	U	0.72	1.45	ug/Kg	—	<MDL	U	0.86	1.74	ug/Kg
Hexachlorobutadiene	—	<MDL	U	18	36.1	ug/Kg	—	<MDL	U	21	43.5	ug/Kg
Indeno(1,2,3-Cd)Pyrene	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Naphthalene	—	<MDL	U	36	72	ug/Kg	—	<MDL	U	44	86.8	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	18	18	ug/Kg	—	<MDL	U	21.7	21.7	ug/Kg
Pentachlorophenol	—	<MDL	U	108	108	ug/Kg	—	<MDL	U	130	130	ug/Kg
Phenanthrene	—	<MDL	U	7.2	14.5	ug/Kg	—	<MDL	U	8.6	17.4	ug/Kg
Phenol	—	<MDL	U	36	108	ug/Kg	—	<MDL	UJ	44	130	ug/Kg
Pyrene	—	<MDL	U	7.2	14.5	ug/Kg	10	<RDL	J	8.6	17.4	ug/Kg
Total 4-Nonylphenol	—	<MDL	U	110	1150	ug/Kg		<MDL,J	U	130	1390	ug/Kg
Total HPAHS	—	<MDL	—	7.2	14.5	ug/Kg	34.7	—	—	8.6	17.4	ug/Kg
Total LPAHs	—	<MDL	—	36	72	ug/Kg	—	<MDL	—	44	86.8	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	A319					FG319					
	<b>Descrip:</b>	GREEN RIVER/ABOVE					GREEN RIVER, FLAMI					
	<b>Sample:</b>	L56024-36					L56024-37					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/27/12 13:25					8/14/12 12:00					
	<b>TotalSolid:</b>	48.9					63.4					
	<b>Sample Information:</b>	25 spoons					25 spoons; U. S. of bridge					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
<b>CV ASTM D422</b>												
Fines*	21.6	—	—	1.3	2.5	%	6.7	—	—	0.8	1.5	%
Gravel*	12.2	—	—	0.3	2.5	%	0.4	<RDL	J	0.2	1.5	%
Sand*	67.5	—	—	0.3	2.5	%	90.3	—	—	0.2	1.5	%
Silt*	14	—	—	1.3	2.5	%	3	—	—	0.8	1.5	%
Clay*	7.6	—	—	1.3	2.5	%	3.7	—	—	0.8	1.5	%
p+0.00*	5.2	—	—	0.3	2.5	%	0.4	<RDL	J	0.2	1.5	%
p+1.00*	3.7	—	—	0.3	2.5	%	1.1	<RDL	J	0.2	1.5	%
p+10.0(equal/more than)*	6.4	—	—	1.3	2.5	%	3	—	—	0.8	1.5	%
p+2.00*	5.5	—	—	0.3	2.5	%	37	—	—	0.2	1.5	%
p+3.00*	25.7	—	—	0.3	2.5	%	43.9	—	—	0.2	1.5	%
p+4.00*	27.5	—	—	0.3	2.5	%	7.9	—	—	0.2	1.5	%
p+5.00*	11.4	—	—	1.3	2.5	%	2.2	—	—	0.8	1.5	%
p+6.00*	1.3	<RDL	J	1.3	2.5	%	—	<MDL	U	0.8	1.5	%
p+7.00*	1.3	<RDL	J	1.3	2.5	%	—	<MDL	U	0.8	1.5	%
p+8.00*	—	<MDL	U	1.3	2.5	%	0.7	<RDL	J	0.8	1.5	%
p+9.00*	1.3	<RDL	J	1.3	2.5	%	0.7	<RDL	J	0.8	1.5	%
p-1.00*	6.2	—	—	0.3	2.5	%	0.4	<RDL	J	0.2	1.5	%
p-2.00(less than)*	3.4	—	—	0.3	2.5	%	—	<MDL	U	0.2	1.5	%
p-2.00*	2.7	—	—	0.3	2.5	%	—	<MDL	U	0.2	1.5	%
<b>CV EPA DEC 1991</b>												
Sulfide, Acid Volatile	1.3	<RDL,JG	J	0.51	2.01	mg/Kg	—	<MDL,JG	U	0.38	1.51	mg/Kg
<b>CV SM2540-G</b>												
Total Solids*	48.9	—	—	0.005	0.01	%	63.4	—	—	0.005	0.01	%
<b>CV SW846 9045D</b>												
pH*	6.62	—	—	—	—	pH	6.72	—	—	—	—	pH
<b>CV SW846 9060-PSEP96</b>												
Total Organic Carbon	10400	—	—	960	1910	mg/Kg	7350	—	—	650	1300	mg/Kg
<b>MT EPA 1991/200.7</b>												
Arsenic, Extractable, SEM	2.2	<RDL	J	1	5.03	mg/Kg	1.5	<RDL	J	0.76	3.79	mg/Kg
Cadmium, Extractable, SEM	—	<MDL	U	0.08	0.403	mg/Kg	—	<MDL	U	0.06	0.303	mg/Kg
Chromium, Extractable, SEM	1.53	—	—	0.12	0.605	mg/Kg	1.19	—	—	0.091	0.454	mg/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

<b>Locator:</b> <b>Descrip:</b> <b>Sample:</b> <b>Matrix:</b> <b>ColDate:</b> <b>TotalSolid:</b> <b>Sample Information:</b>	A319 GREEN RIVER/ABOVE L56024-36 SE FRSHWTRSED 8/27/12 13:25 48.9 25 spoons <b>DRY Weight Basis</b>						FG319 GREEN RIVER, FLAMI L56024-37 SE FRSHWTRSED 8/14/12 12:00 63.4 25 spoons; U. S. of bridge <b>DRY Weight Basis</b>					
	<b>Parameters</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>	<b>Units</b>	<b>Value</b>	<b>Lab Qual</b>	<b>Validation Qual</b>	<b>MDL</b>	<b>RDL</b>
Copper, Extractable, SEM	7.24	—	—	0.16	0.806	mg/Kg	5.17	—	—	0.12	0.606	mg/Kg
Lead, Extractable, SEM	4.09	<RDL	J	0.8	4.03	mg/Kg	2.4	<RDL	J	0.6	3.03	mg/Kg
Nickel, Extractable, SEM	2.21	—	—	0.2	1.01	mg/Kg	1.28	—	—	0.15	0.757	mg/Kg
Silver, Extractable, SEM	—	<MDL	U	0.16	0.806	mg/Kg	—	<MDL	U	0.12	0.606	mg/Kg
Zinc, Extractable, SEM	13.3	—	—	0.2	1.01	mg/Kg	9.37	—	—	0.15	0.757	mg/Kg
<b>MT EPA 821 1991/245.1*SW846 7470A</b>												
Mercury, Extractable, SEM	—	<MDL	U	0.002	0.00605	mg/Kg	—	<MDL	U	0.0015	0.00454	mg/Kg
<b>MT SW846 3050B*SW846 6020A</b>												
Arsenic, Total, ICP-MS	4.5	—	—	0.019	0.0941	mg/Kg	4.84	—	—	0.022	0.113	mg/Kg
Cadmium, Total, ICP-MS	0.0777	—	—	0.0094	0.047	mg/Kg	0.0757	—	—	0.011	0.0565	mg/Kg
Chromium, Total, ICP-MS	14.9	—	—	0.15	0.753	mg/Kg	9.45	—	—	0.17	0.904	mg/Kg
Copper, Total, ICP-MS	17.2	—	—	0.31	1.5	mg/Kg	15.4	—	—	0.36	1.81	mg/Kg
Lead, Total, ICP-MS	5.28	—	—	0.019	0.0941	mg/Kg	3.66	—	—	0.022	0.113	mg/Kg
Nickel, Total, ICP-MS	20	—	—	0.076	0.376	mg/Kg	10.5	—	—	0.09	0.451	mg/Kg
Silver, Total, ICP-MS	0.045	—	—	0.0076	0.0376	mg/Kg	0.041	<RDL	J	0.009	0.0451	mg/Kg
Zinc, Total, ICP-MS	66.5	—	—	0.094	0.47	mg/Kg	47.5	—	—	0.11	0.565	mg/Kg
<b>MT SW846 7471B</b>												
Mercury, Total, CVAA	0.54	—	—	0.01	0.102	mg/Kg	0.06	<RDL	J	0.0076	0.0759	mg/Kg
<b>OR SW846 3550B*SW846 8081B</b>												
4,4'-DDD	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
4,4'-DDE	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
4,4'-DDT	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Aldrin	—	<MDL	UJ	1.1	2.19	ug/Kg	—	<MDL	UJ	0.84	1.69	ug/Kg
Alpha-BHC	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Alpha-Chlordane	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Beta-BHC	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Delta-BHC	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Dieldrin	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Endosulfan I	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Endosulfan II	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Endosulfan Sulfate	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Endrin	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	A319	FG319									
	<b>Descrip:</b>	GREEN RIVER/ABOVE	GREEN RIVER, FLAMI									
	<b>Sample:</b>	L56024-36	L56024-37									
	<b>Matrix:</b>	SE FRSHWTRSED	SE FRSHWTRSED									
	<b>ColDate:</b>	8/27/12 13:25	8/14/12 12:00									
	<b>TotalSolid:</b>	48.9	63.4									
	<b>Sample Information:</b>	25 spoons	25 spoons; U. S. of bridge									
		<b>DRY Weight Basis</b>	<b>DRY Weight Basis</b>									
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Endrin Aldehyde	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Gamma-BHC (Lindane)	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Heptachlor	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Heptachlor Epoxide	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Methoxychlor	—	<MDL	U	5.5	10.9	ug/Kg	—	<MDL	U	4.3	8.41	ug/Kg
Toxaphene	—	<MDL	U	22	109	ug/Kg	—	<MDL	U	17	84.1	ug/Kg
trans-Chlordane	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
<b>OR SW846 3550B*SW846 8082A</b>												
Aroclor 1016	—	<MDL	U	2.7	10.9	ug/Kg	—	<MDL	U	2.1	8.41	ug/Kg
Aroclor 1221	—	<MDL	U	5.5	10.9	ug/Kg	—	<MDL	U	4.3	8.41	ug/Kg
Aroclor 1232	—	<MDL	U	5.5	10.9	ug/Kg	—	<MDL	U	4.3	8.41	ug/Kg
Aroclor 1242	—	<MDL	U	2.7	10.9	ug/Kg	—	<MDL	U	2.1	8.41	ug/Kg
Aroclor 1248	—	<MDL	U	2.7	10.9	ug/Kg	—	<MDL	U	2.1	8.41	ug/Kg
Aroclor 1254	—	<MDL	U	2.7	10.9	ug/Kg	—	<MDL	U	2.1	8.41	ug/Kg
Aroclor 1260	—	<MDL	—	2.7	10.9	ug/Kg	—	<MDL	—	2.1	8.41	ug/Kg
Total Aroclors	—	<MDL	—	5.5	10.9	ug/Kg	—	<MDL	—	4.3	8.41	ug/Kg
<b>OR SW846 3550B*SW846 8270D</b>												
1,2,4-Trichlorobenzene	—	<MDL	U	5.5	10.9	ug/Kg	—	<MDL	U	4.3	8.41	ug/Kg
1,2-Dichlorobenzene	—	<MDL	U	10.9	10.9	ug/Kg	—	<MDL	U	8.41	8.41	ug/Kg
1,4-Dichlorobenzene	—	<MDL	U	16.4	16.4	ug/Kg	—	<MDL	U	12.6	12.6	ug/Kg
2,4-Dimethylphenol	—	<MDL	UJ	55	109	ug/Kg	—	<MDL	UJ	43	84.1	ug/Kg
2-Methylnaphthalene	—	<MDL	U	55	109	ug/Kg	—	<MDL	U	43	84.1	ug/Kg
2-Methylphenol	—	<MDL	UJ	11	21.9	ug/Kg	—	<MDL	UJ	8.4	16.9	ug/Kg
3-,4-Methylphenol	—	<MDL	U	55	109	ug/Kg	—	<MDL	U	43	84.1	ug/Kg
Acenaphthene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Acenaphthylene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Anthracene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Benzo(a)anthracene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Benzo(a)pyrene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Benzo(b,j,k)fluoranthene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Benzo(g,h,i)perylene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Benzoic Acid	—	<MDL	U	1090	1090	ug/Kg	—	<MDL	U	841	841	ug/Kg

**Table C-4: KCEL Stream Sediment Analytical Data 2012**  
King County Environmental Lab Analytical Report

Lab Project: 423589-330-4

	<b>Locator:</b>	A319					FG319					
	<b>Descrip:</b>	GREEN RIVER/ABOVE					GREEN RIVER, FLAMI					
	<b>Sample:</b>	L56024-36					L56024-37					
	<b>Matrix:</b>	SE FRSHWTRSED					SE FRSHWTRSED					
	<b>ColDate:</b>	8/27/12 13:25					8/14/12 12:00					
	<b>TotalSolid:</b>	48.9					63.4					
	<b>Sample Information:</b>	25 spoons					25 spoons; U. S. of bridge					
		<b>DRY Weight Basis</b>					<b>DRY Weight Basis</b>					
Parameters	Value	Lab Qual	Validation Qual	MDL	RDL	Units	Value	Lab Qual	Validation Qual	MDL	RDL	Units
Benzyl Alcohol	—	<MDL	U	27.2	27.2	ug/Kg	—	<MDL	U	21	21	ug/Kg
Benzyl Butyl Phthalate	—	<MDL	U	16.4	16.4	ug/Kg	—	<MDL	U	12.6	12.6	ug/Kg
Bis(2-ethylhexyl)adipate	—	<MDL	U	370	1740	ug/Kg	—	<MDL	U	280	1350	ug/Kg
Bis(2-Ethylhexyl)Phthalate	53.8	B	U	22	43.6	ug/Kg	24	<RDL,B	U	17	33.6	ug/Kg
Bisphenol A	—	<MDL	U	370	1740	ug/Kg	—	<MDL	U	280	1350	ug/Kg
Carbazole	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Chrysene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Coprostanol	—	<MDL	U	370	3500	ug/Kg	—	<MDL	U	280	2700	ug/Kg
Dibenzo(a,h)anthracene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Dibenzofuran	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Diethyl Phthalate	—	<MDL	UJ	22	43.6	ug/Kg	—	<MDL	U	17	33.6	ug/Kg
Dimethyl Phthalate	—	<MDL	U	21.9	21.9	ug/Kg	—	<MDL	U	16.9	16.9	ug/Kg
Di-N-Butyl Phthalate	—	<MDL	U	22	43.6	ug/Kg	—	<MDL	U	17	33.6	ug/Kg
Di-N-Octyl Phthalate	—	<MDL	U	21.9	21.9	ug/Kg	—	<MDL	U	16.9	16.9	ug/Kg
Fluoranthene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Fluorene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Hexachlorobenzene	—	<MDL	U	1.1	2.19	ug/Kg	—	<MDL	U	0.84	1.69	ug/Kg
Hexachlorobutadiene	—	<MDL	U	27	54.6	ug/Kg	—	<MDL	U	21	42.1	ug/Kg
Indeno(1,2,3-Cd)Pyrene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Naphthalene	—	<MDL	U	55	109	ug/Kg	—	<MDL	U	43	84.1	ug/Kg
N-Nitrosodiphenylamine	—	<MDL	U	27.2	27.2	ug/Kg	—	<MDL	U	21	21	ug/Kg
Pentachlorophenol	—	<MDL	U	164	164	ug/Kg	—	<MDL	U	126	126	ug/Kg
Phenanthrene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Phenol	—	<MDL	UJ	55	164	ug/Kg	—	<MDL	UJ	43	126	ug/Kg
Pyrene	—	<MDL	U	11	21.9	ug/Kg	—	<MDL	U	8.4	16.9	ug/Kg
Total 4-Nonylphenol		<MDL,J	U	160	1740	ug/Kg		<MDL,J	U	130	1350	ug/Kg
Total HPAHS	—	<MDL	—	11	21.9	ug/Kg	—	<MDL	—	8.4	16.9	ug/Kg
Total LPAHS	—	<MDL	—	55	109	ug/Kg	—	<MDL	—	43	84.1	ug/Kg

Table C-5: Dioxin/Furan Congener Results for Stream Sediment 2012

## Analyzed by EPA Method 1613 B by Axys Analytical

LOCATOR	Description	SAMPLE ID	COLLECT DATE	COMPOUND	Reported Conc	DETECTION LIMIT	UNIT	Axys LAB FLAG	Validation Qualifier	
A315	Mill (Hill) Creek in Auburn	L56024-1	8/13/2012	1,2,3,4,6,7,8-HPCDD	51.1	0.192	ng/Kg dw			
				1,2,3,4,6,7,8-HPCDF	7.25	0.0882				
				1,2,3,4,7,8,9-HPCDF	0.594	0.0882		J		
				1,2,3,4,7,8-HXCDD	0.678	0.0695		K J	U	
				1,2,3,4,7,8-HXCDF	0.388	0.0511		J		
				1,2,3,6,7,8-HXCDD	2.17	0.0695				
				1,2,3,6,7,8-HXCDF	0.388	0.0511		J		
				1,2,3,7,8,9-HXCDD	2.13	0.0695				
				1,2,3,7,8,9-HXCDF		0.0511		U		
				1,2,3,7,8-PECDD	0.527	0.0839		J		
				1,2,3,7,8-PECDF	0.214	0.0987		K J	U	
				2,3,4,6,7,8-HXCDF	0.291	0.0511		J		
				2,3,4,7,8-PECDF	0.236	0.0987		J		
				2,3,7,8-TCDD	0.242	0.0579				
				2,3,7,8-TCDF	0.199	0.082				
				OCDD	472	0.0455		B		
				OCDF	18.7	0.0455				
				Total D/F	556.69	Sum of congeners ng/Kg dry				
				Dioxin TEQ Total	2.21	Sum of congeners ng/Kg 2,3,7,8 TCDD equivalents				

Table C-5: Dioxin/Furan Congener Results for Stream Sediment 2012

## Analyzed by EPA Method 1613 B by Axys Analytical

LOCATOR	Description	SAMPLE ID	COLLECT DATE	COMPOUND	Reported Conc	DETECTION LIMIT	UNIT	Axys LAB FLAG	Validation Qualifier					
IT318	Mill Creek in Kent	L56024-11	8/30/2012	1,2,3,4,6,7,8-HPCDD	401	0.422	ng/Kg dw							
				1,2,3,4,6,7,8-HPCDF	78.4	0.21								
				1,2,3,4,7,8,9-HPCDF	5.96	0.21								
				1,2,3,4,7,8-HXCDD	6.02	0.123								
				1,2,3,4,7,8-HXCDF	5.58	0.123								
				1,2,3,6,7,8-HXCDD	18.6	0.123								
				1,2,3,6,7,8-HXCDF	4.24	0.123								
				1,2,3,7,8,9-HXCDD	16.7	0.123								
				1,2,3,7,8,9-HXCDF	0.302	0.123		J						
				1,2,3,7,8-PECDD	3.4	0.0943								
				1,2,3,7,8-PECDF	1.32	0.258								
				2,3,4,6,7,8-HXCDF	3.16	0.123								
				2,3,4,7,8-PECDF	2.12	0.258								
				2,3,7,8-TCDD	0.627	0.149								
				2,3,7,8-TCDF	1.6	0.0886								
				OCDD	3080	0.123		B						
				OCDF	197	0.0556								
				Total D/F				3826.03	Sum of congeners ng/Kg dry					
				Dioxin TEQ Total				16.16	Sum of congeners ng/Kg 2,3,7,8 TCDD equivalents					

Table C-5: Dioxin/Furan Congener Results for Stream Sediment 2012

## Analyzed by EPA Method 1613 B by Alys Analytical

LOCATOR	Description	SAMPLE ID	COLLECT DATE	COMPOUND	Reported Conc	DETECTION LIMIT	UNIT	Axys LAB FLAG	Validation Qualifier	
FL319	Green River at Foster Links	L56024-34	8/29/2012	1,2,3,4,6,7,8-HPCDD	1.07	0.0479	ng/Kg dw			
				1,2,3,4,6,7,8-HPCDF	0.164	0.0479		K J	U	
				1,2,3,4,7,8,9-HPCDF		0.0479		U		
				1,2,3,4,7,8-HXCDD		0.0557		U		
				1,2,3,4,7,8-HXCDF		0.0527		U		
				1,2,3,6,7,8-HXCDD	0.126	0.0557		J		
				1,2,3,6,7,8-HXCDF		0.0527		U		
				1,2,3,7,8,9-HXCDD	0.166	0.0557		K J	U	
				1,2,3,7,8,9-HXCDF		0.0527		U		
				1,2,3,7,8-PECDD		0.0541		U		
				1,2,3,7,8-PECDF		0.0479		U		
				2,3,4,6,7,8-HXCDF		0.0527		U		
				2,3,4,7,8-PECDF		0.0479		U		
				2,3,7,8-TCDD		0.0479		U		
				2,3,7,8-TCDF		0.0479		U		
				OCDD	6.17	0.0479		B		
				OCDF	0.4	0.0646		J		
				Total D/F	8.21	Sum of congeners ng/Kg dry				
				Dioxin TEQ Total	0.12	Sum of congeners ng/Kg 2,3,7,8 TCDD equivalents				

Table C-5: Dioxin/Furan Congener Results for Stream Sediment 2012

## Analyzed by EPA Method 1613 B by Axys Analytical

LOCATOR	Description	SAMPLE ID	COLLECT DATE	COMPOUND	Reported Conc	DETECTION LIMIT	UNIT	Axys LAB FLAG	Validation Qualifier	
FG319	Green River at Flaming Gesyer	L56024-37	8/14/2012	1,2,3,4,6,7,8-HPCDD	1.13	0.0458	ng/Kg dw			
				1,2,3,4,6,7,8-HPCDF	0.216	0.0458		J		
				1,2,3,4,7,8,9-HPCDF		0.0458		U		
				1,2,3,4,7,8-HXCDD		0.121		U		
				1,2,3,4,7,8-HXCDF		0.0458		U		
				1,2,3,6,7,8-HXCDD		0.121		U		
				1,2,3,6,7,8-HXCDF		0.0458		U		
				1,2,3,7,8,9-HXCDD	0.148	0.121		J		
				1,2,3,7,8,9-HXCDF		0.0458		U		
				1,2,3,7,8-PECDD	0.092	0.0491		J		
				1,2,3,7,8-PECDF		0.0537		U		
				2,3,4,6,7,8-HXCDF		0.0458		U		
				2,3,4,7,8-PECDF		0.0537		U		
				2,3,7,8-TCDD		0.0507		U		
				2,3,7,8-TCDF		0.0458		U		
				OCDD	5.46	0.0458		B		
				OCDF	0.262	0.119		K J	U	
				Total D/F	7.51	Sum of congeners ng/Kg dry				
				Dioxin TEQ Total	0.18	Sum of congeners ng/Kg 2,3,7,8 TCDD equivalents				

Table C-5: Dioxin/Furan Congener Results for Stream Sediment 2012

## Analyzed by EPA Method 1613 B by Axys Analytical

LOCATOR	Description	SAMPLE ID	COLLECT DATE	COMPOUND	Reported Conc	DETECTION LIMIT	UNIT	Axys LAB FLAG	Validation Qualifier	
0320	Soos Creek	L56024-38	8/14/2012	1,2,3,4,6,7,8-HPCDD	10.8	0.0422	ng/Kg dw			
				1,2,3,4,6,7,8-HPCDF	1.67	0.0415				
				1,2,3,4,7,8,9-HPCDF	0.106	0.0415		J		
				1,2,3,4,7,8-HXCDD	0.256	0.0415		K J	U	
				1,2,3,4,7,8-HXCDF	0.154	0.0415		J		
				1,2,3,6,7,8-HXCDD	0.572	0.0415		J		
				1,2,3,6,7,8-HXCDF	0.117	0.0415		J		
				1,2,3,7,8,9-HXCDD	0.664	0.0415		J		
				1,2,3,7,8,9-HXCDF		0.0415		U		
				1,2,3,7,8-PECDD	0.149	0.0494		J		
				1,2,3,7,8-PECDF	0.056	0.0415		K J	U	
				2,3,4,6,7,8-HXCDF	0.096	0.0415		K J	U	
				2,3,4,7,8-PECDF	0.115	0.0415		J		
				2,3,7,8-TCDD	0.111	0.0415		K J	U	
				2,3,7,8-TCDF	0.094	0.0415		J		
				OCDD	71.9	0.0477		B		
				OCDF	3.64	0.0415				
				Total D/F	90.26	Sum of congeners ng/Kg dry				
				Dioxin TEQ Total	0.64	Sum of congeners ng/Kg 2,3,7,8 TCDD equivalents				

Table C-5: Dioxin/Furan Congener Results for Stream Sediment 2012

## Analyzed by EPA Method 1613 B by Axys Analytical

LOCATOR	Description	SAMPLE ID	COLLECT DATE	COMPOUND	Reported Conc	DETECTION LIMIT	UNIT	Axys LAB FLAG	Validation Qualifier	
X322	Newaukum Creek	L56024-39	8/14/2012	1,2,3,4,6,7,8-HPCDD	183	0.238	ng/Kg dw			
				1,2,3,4,6,7,8-HPCDF	28.4	0.131				
				1,2,3,4,7,8,9-HPCDF	1.98	0.131		J		
				1,2,3,4,7,8-HXCDD	2.47	0.131		J		
				1,2,3,4,7,8-HXCDF	1.85	0.131		J		
				1,2,3,6,7,8-HXCDD	7.82	0.131				
				1,2,3,6,7,8-HXCDF	1.21	0.131		J		
				1,2,3,7,8,9-HXCDD	7.95	0.131				
				1,2,3,7,8,9-HXCDF	0.231	0.131		J		
				1,2,3,7,8-PECDD	1.09	0.131		J		
				1,2,3,7,8-PECDF	0.462	0.159		J		
				2,3,4,6,7,8-HXCDF	1.03	0.131		J		
				2,3,4,7,8-PECDF	0.66	0.159		K J	U	
				2,3,7,8-TCDD	0.345	0.131		K J	U	
				2,3,7,8-TCDF	0.488	0.131		J		
				OCDD	1310	0.131		B		
				OCDF	73.7	0.131				
				Total D/F	1622.18	Sum of congeners ng/Kg dry				
				Dioxin TEQ Total	6.50	Sum of congeners ng/Kg 2,3,7,8 TCDD equivalents				

Table C-5: Dioxin/Furan Congener Results for Stream Sediment 2012

## Analyzed by EPA Method 1613 B by Axys Analytical

LOCATOR	Description	SAMPLE ID	COLLECT DATE	COMPOUND	Reported Conc	DETECTION LIMIT	UNIT	Axys LAB FLAG	Validation Qualifier				
0317	Springbrook Creek	L56024-40	8/13/2012	1,2,3,4,6,7,8-HPCDD	492	0.498	ng/Kg dw						
				1,2,3,4,6,7,8-HPCDF	105	0.276							
				1,2,3,4,7,8,9-HPCDF	8.13	0.276							
				1,2,3,4,7,8-HXCDD	8.27	0.202							
				1,2,3,4,7,8-HXCDF	6.77	0.265							
				1,2,3,6,7,8-HXCDD	22.6	0.202							
				1,2,3,6,7,8-HXCDF	5.63	0.265							
				1,2,3,7,8,9-HXCDD	22.8	0.202							
				1,2,3,7,8,9-HXCDF	0.49	0.265		J					
				1,2,3,7,8-PECDD	4.59	0.358							
				1,2,3,7,8-PECDF	2.12	0.243							
				2,3,4,6,7,8-HXCDF	4	0.265							
				2,3,4,7,8-PECDF	2.24	0.243							
				2,3,7,8-TCDD	0.718	0.258							
				2,3,7,8-TCDF	1.5	0.074							
				OCDD	3610	0.077		B					
				OCDF	321	0.0691							
				Total D/F	4617.86	Sum of congeners ng/Kg dry							
				Dioxin TEQ Total	20.48	Sum of congeners ng/Kg 2,3,7,8 TCDD equivalents							

## Table notes:

Total D/F = sum of detected dioxin and furan congeners

Dioxin TEQ Total = Dioxin and furan toxic equivalents (TEQs) were calculated using toxic equivalency factor (TEFs) for mammals presented in Van den Berg et al. (2006). Dioxin TEQ totals were calculated for each sample by summing the TEQs for each dioxin and furan congener. Dioxin and furan individual congener TEQs for were calculated as the product of individual congener concentrations and congener-specific TEFs. If an individual congener was not detected, the TEF for that congener was multiplied by one-half the U flagged value (either detection limit or K flagged value) for that congener.

# Appendix D:

## Data Validation Memoranda

## Technical Memorandum

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**Date:** June 19, 2013

**To:** Dean Wilson, King County Toxicology and Contaminant Assessment Group  
Debra Williston, King County Toxicology and Contaminant Assessment Group

**From:** Scott Mickelson, King County Marine and Sediment Assessment Group

**Subject:** Data Validation Review  
Green River Basin 2012 Stream Sediment Sampling Event

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This technical memorandum summarizes a data validation review performed on 35 freshwater sediment samples collected between August 13 and 30, 2012 and assigned sample numbers L56024-1 through -5, - 7 through -9, -11 through -17, -19 through -30, and -33 through -40. These samples were submitted for analysis of particle size distribution (PSD), total organic carbon (TOC), total solids, pH, acid-volatile sulfide/simultaneously extracted metals (AVS/SEM), mercury, other metals, base/neutral/acid semivolatile organic compounds (BNAs), chlorinated pesticides, and polychlorinated biphenyls (PCBs). Note that samples L56024-38 through -40 were only analyzed for PSD, TOC, and total solids. All samples were collected and all analyses performed by the King County Environmental Laboratory.

### 1.0 Introduction

This data validation review has been based, in part, on guidance found in *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (EPA 2008) and *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (EPA 2010), as well as the project SAP (King County 2012). Materials reviewed included Batch Reports and Analytical Quality Control (QC) Reports downloaded from the King County Laboratory Information System (LIMS) database, along with data anomaly forms, all of which are attached to this memorandum (see Attachment A). The QC parameters reviewed during this data validation include; holding time, method blanks, spike blanks, matrix spikes, matrix spike duplicates, laboratory control samples, standard reference materials, check standards, laboratory replicates, and surrogates, which are described below.

#### ***Holding Time***

The analytical holding time is a method-specific timeframe, during which sample preparation and analysis should occur to provide valid data. All samples should be analyzed within this prescribed holding time.

### **1.2 Method Blank**

A method blank is an aliquot of clean reference matrix that is generally processed through the entire analytical procedure. Please see the individual analytical sections for a description of the method blank for each analysis. Analysis of the method blank is used to evaluate the levels of contamination that might be associated with the processing and analysis of samples. All method blank results should be less than the method detection limit (MDL). Method blanks were included with all analyses except PSD and pH.

### **1.3 Spike Blank**

A spike blank is an aliquot of the clean reference matrix used for the method blank, to which a known concentration of target analyte(s) has been added. The spiked aliquot is processed through the entire analytical procedure. Analysis of the spike blank is used as an indicator of method accuracy. Spike blanks were used as part of the QC regimen for TOC, AVS/SEM, mercury, metals, BNA, pesticide, and PCB analyses. Spike blanks are not addressed in the *National Functional Guidelines*, however, King County has method-defined or empirically-derived control limits for spike blank analytes, which are shown on the attached QC reports. Spike blank results should be within these control limits.

### **1.4 Matrix Spike**

A matrix spike is a sample aliquot fortified with a known concentration of a target analyte(s). The spiked sample is processed through the entire analytical procedure. Analysis of the matrix spike is used as an indicator of sample matrix effect on the recovery of target analyte(s). Matrix spikes were used as part of the QC regimen for TOC, AVS/SEM, mercury, metals, BNA, pesticide, and PCB analyses. Control limits for individual organic analytes, AVS, and TOC are not addressed in the *National Functional Guidelines*, however, King County has program-defined (Ecology 2008) or empirically-derived control limits for percent recoveries of these matrix spike analytes, which are shown on the attached QC reports. Matrix spike recoveries should be within these control limits. Matrix spike recoveries for metals are addressed in the *National Functional Guidelines* and should be within 75 to 125% (EPA 2010).

### **1.5 Matrix Spike Duplicate**

A matrix spike duplicate is a second sample aliquot fortified with a known concentration of a target analyte(s). The spiked sample is processed through the entire analytical procedure. Matrix spike duplicates were analyzed as part of the QC regimen for all trace organic analyses as well as mercury analysis. Analysis of the matrix spike duplicate is used as an additional indicator of sample matrix effect on the recovery of target analyte(s) as well as an indicator of method precision. The relative percent difference (RPD) between matrix spike and matrix spike duplicate results for trace organic analytes are not addressed in the *National Functional Guidelines*, however, King County uses program-defined (Ecology 2008) control limits for this QC analysis, which are shown on the attached QC reports. The RPD for matrix spike/matrix spike duplicate results should be less than 20% for mercury analysis (EPA 2010).

### **1.6 Laboratory Control Sample and Standard Reference Material**

A laboratory control sample is a sample of known analyte concentration(s) that is prepared in the laboratory from a separate source of analyte(s) relative to the calibration standards. Since the laboratory control sample analysis should follow the entire analytical process, it should be stored and prepared following the same procedures as a field sample. A standard reference material is a commercially-prepared laboratory control sample. Analysis of an laboratory control sample or standard reference material is used as an indicator of method accuracy and long-term analytical precision. Laboratory control sample and/or standard reference material analysis was used as part of the QC regimen for TOC, mercury, trace metals, and trace organics QC regimen. King County uses laboratory control sample percent recovery control limits of 80 to 120% for TOC analysis. Percent recoveries for laboratory control samples/standard reference materials for trace metals analysis are addressed in *National Functional Guidelines* and results should be within control limits of 80 to 120% (EPA 2010). King County also has empirically-derived control limits for trace metals, as well as trace organic laboratory control samples, which are shown on the attached QC reports. For some methods, a duplicate laboratory control sample or standard reference material was tested to evaluate method precision.

### **1.8 Check Standard**

A check standard is an analyte of known and verified concentration or value, which is measured following the same analytical procedure as test samples. The check standard is used as a measure of analytical accuracy. Check standards were used during analysis of pH. Check standard results for pH should be within 98 to 102% of the verified value.

### **1.9 Laboratory Replicate (Duplicate or Triplicate)**

A laboratory replicate is a second (duplicate) or third (triplicate) aliquot of a sample, processed concurrently and in an identical manner with the original sample. Analysis of a laboratory replicate is used as an indicator of method precision and laboratory subsampling procedures. The laboratory replicate can also be used to provide information regarding the homogeneity of the sample matrix. QC results are reported as either a RPD between the sample and laboratory duplicate results or percent relative standard deviation (%RSD) between the sample and laboratory triplicate results. Laboratory duplicates were used during all metals analyses and the RPD should be below 20% (EPA 2010). Laboratory duplicates were also used during analysis of both all trace organic analyses, however, QC control limits for organics RPDs are not addressed in the *National Functional Guidelines*. King County used RDP control limits of 35% for BNA, chlorinated pesticide, and PCB laboratory duplicate analyses (Ecology 2008). Laboratory triplicates were used during AVS, PSD, TOC, and total solids analyses, however, control limits for conventional analyses are also not addressed under the *National Functional Guidelines*. King County uses %RSD control limits of 20% for all conventional analyses (Ecology 2008). The %RSD for laboratory triplicate results should be below these control limits. During analysis of pH, both laboratory duplicates and laboratory triplicates were used. Laboratory duplicate results for pH are reported as an absolute difference rather than a RPD, with a control limit of 0.2 (unitless). The RSD between pH laboratory triplicates should be less than a QC limit of 5%.

### 1.9 Surrogates

A surrogate is a known concentration of non-target analyte which is added to each sample (both analytical and QC samples) prior to extraction and analysis for BNAs and PCBs. Surrogate recovery is used as a sample-specific indication of method or matrix bias for target analytes. The surrogate is selected to behave in a similar manner to the target analytes. The King County Environmental Laboratory used two surrogates, decachlorobiphenyl and 2,4,5,6-tetrachloro-m-xylene during chlorinated pesticide and PCB analyses. *National Functional Guidelines* provides control limits for percent recoveries of these surrogate compounds and King County has empirically-derived control limits as well, which are shown in Table 1-1. Surrogate recoveries should be within these control limits.

**Table 1-1**  
**Surrogate Recovery QC Limits for PCB Analysis**

Compound	King County Environmental Lab Recovery Limits	National Functional Guidelines Quality Control Recovery Limits
2,4,5,6-Tetrachloro-m-xylene	20 – 115 (PCB) / 20 to 134 (Pest)	30 – 150
Decachlorobiphenyl	55 – 120 (PCB) / 47 – 122 (Pest)	30 – 150

The King County Environmental Laboratory used eight surrogates during analysis of the full suite of BNAs. Four of these compounds are deuterated monitoring compounds (DMCs). Three of the DMCs are recommended in *National Functional Guidelines*. King County has empirically-derived laboratory QC control limits, which are shown in Table 1-2 and compared to the *National Functional Guidelines* recoveries for the three DMCs.

**Table 1-2**  
**Surrogate Recovery QC Limits for BNA Analysis**

Compound	King County Environmental Lab Recovery Limits	National Functional Guidelines Quality Control Recovery Limits
2,4,6-Tribromophenol	45 – 150	--
2-Fluorobiphenyl	22 – 135	--
2-Fluorophenol	20 – 136	--
d4-4-Nonylphenol	20 - 150	--
d14-Terphenyl	25 – 150	--
d4-2-Chlorophenol	20 – 127	13 – 101
d5-Nitrobenzene	22 – 126	16 – 103
d5-Phenol	20 – 142	17 – 103

## 2.0 Conventional Analyses

Conventional analyses included particle size distribution (PSD), total organic carbon (TOC), total solids, pH, and acid volatile sulfide (AVS).

### 2.1 Particle Size Distribution – Work Group WG122689

PSD analysis was performed by a combination of sieve and hydrometer methods following ASTM Method D422 (ASTM 2002). Associated QC samples included laboratory triplicates.

### 2.1.1 Holding Time

All 35 samples were analyzed within the prescribed 6-month holding time.

### 2.1.2 Laboratory Triplicate

The RSD of 66% between results for the silt fraction in one of the two laboratory triplicates associated with work group WG122689 exceeded the 20% QC limit. Results for the parameter “silt” in sample L56024-7 should be qualified with a “J” flag and considered estimated with an unknown bias. If the data user feels it necessary, the individual phi sizes associated with the gravel fraction may also be qualified with a “J” flag. These phi sizes include p+5.00, p+6.00, p+7.00, and p+8.00. Since the fraction “silt” is part of the summed parameter “fines” (along with the parameter “clay,” the parameter “fines” for sample L56024-7 should be qualified with a “J” flag and considered estimated with an unknown bias.

All other RSD values in both laboratory triplicates associated with this work group were below the 20% QC limit, ranging from 0 to 14%.

## **2.2 Total Organic Carbon – Work Groups WG122758, WG122976**

TOC analysis was performed using high-temperature combustion and infrared spectroscopy following EPA Method 9060 – SW846 (EPA 2007). Associated QC samples included method blanks, spike blanks, matrix spikes, laboratory triplicates, laboratory control samples, and standard reference materials.

### 2.2.1 Holding Time

All 35 samples were analyzed within the prescribed 6-month holding time.

### 2.2.2 Method Blank

A TOC method blank consists of a conditioned sample cup containing quartz wool that is submitted to the entire analytical procedure. TOC results in the method blanks were all less than the MDL, indicating that laboratory contamination was not an issue during analysis of the samples included in these three work groups.

### 2.2.3 Spike Blank

All TOC spike blank recoveries were within the 80 to 120% QC limits, ranging from 92 to 112%.

### 2.2.4 Matrix Spike

All TOC matrix spike recoveries were within the 75 to 125% QC limits ranging from 79 to 112%.

### 2.2.5 Laboratory Triplicate

All RSDs between TOC laboratory triplicate results were at or below the 20% QC limit, ranging from 4 to 16%.

### 2.2.6 Standard Reference Material and Laboratory Control Sample

All TOC recoveries in either SRM or LCS samples were within the 80 to 120% QC limits, ranging from 86 to 109%.

### **2.3 Total Solids – Work Groups WG123636, WG123727, WG124317**

Total (percent) solids analysis was performed using a gravimetric determination following Standard Method SM2540-G (APHA 1998). Associated QC samples included method blanks and laboratory triplicates.

#### 2.3.1 Holding Time

All 35 samples were analyzed within the prescribed 6-month holding time.

#### 2.3.2 Method Blank

A total solids method blank consists of a conditioned sample cup that is submitted to the entire analytical procedure. All total solids method blank results were less than the MDL, indicating acceptable balance and method performance.

#### 2.3.3 Laboratory Triplicate

All RSDs between total solids laboratory triplicate results were below the 20% QC limit, ranging from 5 to 12%.

### **2.4 Acid Volatile Sulfide (AVS) – Work Groups WG122678, WG122829**

AVS analysis was performed using a purge-and-trap colorimetric method following *Determination of Acid Volatile Sulfide and Selected Simultaneously Extractable Metals in Sediment* (EPA 1991). Associated QC samples included method blanks, spike blanks, matrix spikes, and laboratory triplicates.

#### 2.4.1 Holding Time

All 32 samples were analyzed within the prescribed 14-day holding time.

#### 2.4.2 Method Blank

An AVS method blank consists of reagent water and distillation reagents that are subjected to the entire distillation process and then analyzed. AVS results in the method blanks were all less than the MDL, indicating that laboratory contamination was not an issue during analysis of the samples included in these two work groups.

#### 2.4.3 Spike Blank

All AVS spike blank recoveries were within the 80 to 120% QC limits, ranging from 107 to 115%.

#### 2.4.4 Matrix Spike

Both AVS matrix spike recoveries were below the 65% lower QC limit at -9% and 38%. AVS results in samples L56024-4 and L56024-19 should be qualified with a “J” flag, with bias considered low.

#### 2.4.5 Laboratory Triplicate

The RSDs between results for the two AVS laboratory triplicates were both below the 20% QC limit, each at 19%.

### **2.5 pH – Work Groups 122562, WG122810**

pH analysis was performed by an electrometric determination following EPA Method SW846 9045D (EPA 2007). Associated QC samples included check standards and laboratory replicates (both duplicates and triplicates).

#### 2.5.1 Holding Time

All 32 samples were analyzed within the prescribed 1-day holding time.

#### 2.5.2 Check Standard

All check standard recoveries in both work groups were within the 98 to 102% QC limits, ranging from 99 to 101%.

#### 2.5.3 Laboratory Replicate

Laboratory duplicates measured the absolute difference in pH between replicated samples. All laboratory duplicate absolute differences were below the 0.2 QC limit, ranging from 0.01 to 0.05. All RSD values between pH laboratory triplicate results were below the 5% QC limit, with all RSD values at 0%.

## **3.0 Trace Metals Analyses**

Trace metals analyses included total and simultaneously extractable (SEM) mercury and total and SEM arsenic, cadmium, chromium, copper, lead, nickel, silver, and zinc.

### **3.1 Total Mercury – Work Groups WG122912, WG123004**

Total mercury analysis was performed by cold-vapor atomic absorption spectroscopy (CVAA) following EPA Method 7471B – SW846 (EPA 2007). Associated QC samples included method blanks, spike blanks, matrix spikes, matrix spike duplicates, laboratory duplicates, and laboratory control samples (analyzed in duplicate).

#### 3.1.1 Holding Time

All 32 samples were digested and analyzed within the prescribed 28-day holding time.

#### 3.1.2 Method Blank

A mercury method blank consists of an aliquot of reagent water that is digested and then analyzed. All mercury method blank results were less than the MDL, indicating that laboratory contamination was not an issue during analysis of the samples included in these work groups.

#### 3.1.3 Spike Blank

Both mercury spike blank recoveries were within 85 to 115% QC limits, at 97 and 100%.

#### 3.1.4 Matrix Spike and Matrix Spike Duplicate

Mercury recoveries in the matrix spikes and matrix spike duplicates associated with both work groups were all within the 75 to 125% QC limits, ranging from 82 to 97%. The RPDs between matrix spike and matrix spike duplicate results were both less than the 20% QC limit, at 4 and 2%.

### 3.1.5 Laboratory Duplicate

The RPDs between mercury results in both laboratory duplicates were below the 20% QC limit, at 11 and 7%.

### 3.1.6 Laboratory Control Samples

Laboratory control samples were analyzed in duplicate. All mercury laboratory control sample recoveries were within the 80 to 120% QC limits, ranging from 93 to 99%. RPDs between mercury laboratory control sample results were both below the 20% QC limit, at 6 and 5%.

## **3.2 ICPMS Metals – Work Groups WG125138, WG125139**

Total metals analysis was performed by inductively-coupled plasma mass spectroscopy (ICPMS) following EPA Method 3050B/6020A – SW846 (EPA 2007). Target analytes included arsenic, cadmium, chromium, copper, lead, nickel, silver, and zinc. Associated QC samples included method blanks, spike blanks, matrix spikes, laboratory duplicates, and laboratory control samples (in duplicate).

### 3.3.1 Holding Time

All 32 samples were digested and analyzed within the prescribed 6-month holding time.

### 3.2.2 Method Blank

An ICPMS metals method blank consists of an aliquot of reagent water that is digested and then analyzed. Results for all target metals in the method blanks associated with both work groups were less than the MDL, indicating that laboratory contamination was not an issue during analysis of the samples included in these work groups.

### 3.2.3 Spike Blank

Spike blank recoveries for all target metals in both work group were within the 85 to 115% laboratory QC limits, ranging from 86 to 99%.

### 3.2.4 Matrix Spike

The arsenic recovery of 68% in the matrix spike associated with work group WG125138 was below the lower 75% QC limit. The arsenic result in sample L56024-7 should be qualified with a “J” flag and considered estimated with a low bias. The lead recovery of 323% in the matrix spike associated with work group WG125138 exceeded the upper QC limit of 125%. The lead RPD in the laboratory duplicate, which was performed on the same sample, also exceeded the QC limit (see section 3.2.5). Due to these multiple QC failures, the lead result in sample L56024-7 should be qualified with a “J” flag and considered estimated with an unknown bias. Recoveries of cadmium and silver in this matrix spike were within the 75 to 125% QC limits at 92 and 90%, respectively. The matrix spike recoveries for chromium, copper, nickel, and zinc could not be properly assessed from a QC standpoint due to the low spike-to-sample concentration ratio, which did not meet the “4X” rule for evaluating matrix spike recoveries (EPA 2010).

The recoveries of arsenic (53%), copper (6%), and nickel (65%) in the matrix spike associated with work group WG125139 were all below the lower 75% QC limit. Arsenic, copper, and nickel

results in sample L56024-24 should all be qualified with a “J” flag and considered estimated with a low bias. Recoveries of cadmium, lead, and silver in this matrix spike were all within the 75 to 125% QC limits, ranging from 92 to 98%. The matrix spike recoveries for chromium and zinc could not be properly assessed from a QC standpoint due to the low spike-to-sample concentration ratio, which did not meet the “4X” rule for evaluating matrix spike recoveries.

#### 3.2.5 Laboratory Duplicate

The 64% RPD between lead results in the laboratory duplicate associated with work group WG125138 exceeded the 20% QC limit. The lead result in sample L56024-7 should be qualified with a “J” flag and considered estimated with an unknown bias.

The RPDs between results for arsenic (26%) and chromium (22%) in the laboratory duplicate associated with work group WG125139 exceeded the 20% QC limit. The result for arsenic has already been qualified based on matrix spike recovery. The chromium result in sample L56024-24 should be qualified with a “J” flag and considered estimated with an unknown bias.

RPDs between all other laboratory duplicate results were below the 20% QC limit, ranging from 0 to 18%.

#### 3.2.6 Laboratory Control Sample and Standard Reference Material

Two laboratory control samples were analyzed with each work group, with each laboratory control sample analyzed in duplicate. Recoveries for all target metals in each laboratory control sample were within the empirically-derived laboratory QC limits shown on the attached QC report. RPDs between all duplicate laboratory control sample results were less than the 20% QC limit, ranging from 0 to 4%.

### **3.3 SEM Mercury – Work Groups WG122754, WG122942**

Simultaneously extractable metals (SEM) mercury analysis was performed by cold-vapor atomic absorption spectroscopy (CVAA) following EPA Method 7470A – SW846 (EPA 2007). The SEM extraction was performed in association with AVS analysis (see section 2.4). Associated QC samples included method blanks, spike blanks, matrix spikes, and laboratory duplicates.

#### 3.3.1 Holding Time

All 32 samples were digested and analyzed within the prescribed 14-day holding time.

#### 3.3.2 Method Blank

All SEM mercury method blank results were less than the MDL, indicating that laboratory contamination was not an issue during analysis of the samples included in these work groups.

#### 3.3.3 Spike Blank

Both mercury spike blank recoveries were within 85 to 115% QC limits, at 86 and 92%.

#### 3.3.4 Matrix Spike

Mercury recoveries in the matrix spikes associated with both work groups were within the 75 to 125% QC limits, at 92 and 101%.

### 3.3.5 Laboratory Duplicate

The RPDs between mercury results in both laboratory duplicates were below the 20% QC limit (mercury was not detected in one pair of laboratory duplicates).

### **3.4 SEM Metals – Work Groups WG122775, WG122929**

SEM metals analysis was performed by inductively-coupled plasma atomic emission spectrometry (ICP) following EPA Method 200.7 (EPA 2001). The SEM extraction was performed in association with AVS analysis (see section 2.4). Target analytes included arsenic, cadmium, chromium, copper, lead, nickel, silver, and zinc. Associated QC samples included method blanks, spike blanks, matrix spikes, and laboratory duplicates.

#### 3.4.1 Holding Time

All 32 samples were digested and analyzed within the prescribed 14-day holding time.

#### 3.4.2 Method Blank

Results for all target metals in the method blanks associated with both work groups were less than the MDL, indicating that laboratory contamination was not an issue during analysis of the samples included in these work groups.

#### 3.4.3 Spike Blank

Spike blank recoveries for all target metals in both work groups were within the 85 to 115% laboratory QC limits, ranging from 90 to 97%.

#### 3.4.4 Matrix Spike

Matrix spike recoveries for all target metals in both work groups were within the 75 to 125% laboratory QC limits, ranging from 76 to 101%.

#### 3.4.5 Laboratory Duplicate

RPDs between all laboratory duplicate results were below the 20% QC limit, ranging from 0 to 13%.

## **4.0 Trace Organics Analyses**

Trace organics analyses included base/neutral/acid semivolatile organic compounds (BNAs), chlorinated pesticides, and polychlorinated biphenyls (PCBs).

### **4.1 BNAs – Work Groups WG124929, WG125090, WG124930, WG125091**

BNA analysis was performed by gas chromatography/mass spectroscopy (GC/MS) following EPA Methods 3550B/8270D – SW846 (EPA 2007). Target analytes included 41 BNA compounds, shown on the attached LIMS analytical QC report. Associated QC samples in each work group included a method blank, two spike blanks (low and high concentrations), a matrix spike and matrix spike duplicate, standard reference material run in duplicate, a laboratory duplicate, and surrogates.

#### 4.1.1 Holding Time

All 32 samples were extracted and analyzed within the prescribed frozen holding time of 1 year until extraction and, then, 40 days to analysis.

#### 4.1.2 Method Blank

A BNA method blank consists of an aliquot of anhydrous sodium sulfate/hydro matrix to which surrogates are added. The method blank is then extracted and analyzed following the same protocols as sample analysis.

Bis(2-ethylhexyl) phthalate was detected in the method blank associated with work group WG125090 and a concentration of 3.5 µg/Kg. Bis(2-ethylhexyl) phthalate results in samples L56024-21, -22, -28, -30, -35, -36, and -37 should be qualified with a “U” flag and the sample value reported as the sample-specific, dry-weight reporting detection limit (RDL). Results for all other BNA compounds in both method blanks were all less than the MDL.

#### 4.1.3 Spike Blank

Both lower- and higher-concentration spike blanks were analyzed with each work group. Spike blank recoveries of 0% were reported for benzoic acid in both the lower- and higher-concentration spike blanks associated with both work groups. Benzoic acid, however, is a known poor performer in spike blanks and this compound returned acceptable recoveries in both the matrix spikes and matrix spike duplicates associated with both work groups. As a result, associated benzoic acid sample data will not be qualified based on spike blank recoveries.

Recoveries of 2 and 5% were reported for 2,4-dimethylphenol in, respectively, the lower- and higher-concentration method blanks associated with work group WG124929, both of which were below the 20% lower QC limit. A recovery of 0% was reported for 2,4-dimethylphenol in the lower-concentration spike blank associated with work group WG125090. The recovery of 23% in the higher-concentration spike blank, however, was within the 20 to 121% QC limits. Since 2,4-dimethylphenol was not detected in any of the associated samples, all sample data should be qualified with a “UJ” flag with bias considered low.

The recovery of 19% for 2-methylphenol in the lower-concentration spike blank associated with work group WG125090 was below the 20% lower QC limit. Results for 2-methylphenol in samples L56024-12, -15, -16, 21, -22, -28, -29, -30, -33, -35, -36, and -37 should all be qualified with a “UJ” flag with bias considered low.

The recovery of 12% for phenol in the lower-concentration spike blank associated with work group WG125090 was below the 26% lower QC limit. Results for phenol in samples L56024-12, -15, -16, 21, -22, -28, -29, -30, -33, -35, -36, and -37 should all be qualified with a “UJ” flag with bias considered low.

Bis(2-ethylhexyl)adipate recoveries exceeded the upper 150% QC limit in both the lower- and higher-concentration spike blanks in both work groups, ranging from 186 to 206%. Since this compound was not detected in any of the 32 samples, no bis(2-ethylhexyl)adipate data will be qualified based on spike blank recoveries.

Coprostanol recoveries exceeded the upper 150% QC limit in three of the four spike blanks, ranging from 180 to 192%. The coprostanol recovery in the fourth spike blank was 129%. Non-detect results for coprostanol in all samples may be used as reported without qualification. Positive results for coprostanol in all samples should be qualified with a “J” flag and considered estimated with a high bias.

Total 4-nonylphenol recoveries in both the lower- and higher-concentration spike blanks associated with work group WG125091 exceeded the upper 150% QC limit, at 156 and 160%. The total 4-nonylphenol results in samples L56024-12 and -15 should be qualified with a “J” flag and considered an estimate with a high bias.

All other spike blank recoveries in all four work groups were within their respective empirically-derived QC limits.

#### 4.1.4 Matrix Spike and Matrix Spike Duplicate

Recoveries of 10 and 5% were reported for 2,4-dimethylphenol, respectively, in the matrix spike and matrix spike duplicate associated with work group WG124929, which were both below the lower 27% QC limit. Associated sample data have already been qualified based on spike blank recoveries (see section 4.1.3).

The RPDs of 42% between matrix spike and matrix spike duplicate recoveries for 1,4-dichlorobenzene and 1,2-dichlorobenzene in work group WG125090-5 exceeded the 35% QC limit. Neither of these compounds were detected in the sample on which the matrix spike and matrix spike duplicate were performed so associated sample data will not be qualified based on these QC results.

Recoveries of bis(2-ethylhexyl)adipate, coprostanol, and total 4-nonylphenol were either at or exceeded the upper 150% QC limit in the matrix spikes and matrix spike duplicates associated with work groups WG124930 and WG125091, ranging from 150 to 201%. These compounds were not detected in the samples on which the matrix spike analyses were performed, however, so associated sample data will not be qualified based on these matrix spike recoveries.

#### 4.1.5 Standard Reference Material and Standard Reference Material Duplicate

The standard reference material analyzed in association with BNA analysis includes a partial list of target analytes – a total of 10 compounds – all of which are polycyclic aromatic hydrocarbons (PAHs). Standard reference materials were analyzed in duplicate for two of the four work groups. All standard reference material recoveries were within their respective empirically-derived QC limits. RPDs between duplicate results were all below the 35% QC limit, ranging from 3 to 23%.

#### 4.1.6 Laboratory Duplicate

RPDs between results for all BNA compounds in the laboratory duplicates associated with all four work groups were less than the 35% QC limit, ranging from 0 to 18%.

#### 4.1.7 Surrogates

The surrogate recoveries of d4-terphenyl in samples L56024-14, -15, and -16 exceeded the 150% upper QC limit, ranging from 154 to 194%. This surrogate is one of three used to measure sample-specific performance of the base/neutral fraction of the BNA analysis. The other two surrogate recoveries, 2-fluorobiphenyl and d5-nitrobenzene, were within their respective QC limits in all three samples, so sample data for L56024-14, -15, and -16 will not be qualified based on these surrogate recovery QC exceedences.

The surrogate recoveries of 2,4,6-tribromophenol in the method blank and standard reference material duplicate associated with work group WG12429-8 and the standard reference material duplicate associated with work group WG125090 were all below the 45% lower QC limit, ranging from 34 to 43%. This surrogate is one of four used to measure sample-specific performance of the acid fraction of the BNA analysis. The other three surrogates, d5-phenol, 2-fluorophenol, and d4-2-chlorophenol, were within their respective QC limits in all three QC samples.

The surrogate d4-4-nonylphenol is associated with the target analytes bisphenol A, bis(2-ethylhexyl)adipate, coprostanol, and total 4-nonylphenol. This surrogate exceeded the upper 150% QC limit in 29 of 32 analytical samples and 6 of 12 QC samples, with recoveries ranging from 151 to 205%. Based on these typically high surrogate recoveries, as well as high spike blank and matrix spike recoveries, all positive results for coprostanol and total-4-nonylphenol in these 32 samples should be qualified with a “J” flag and considered estimated with a high bias. Non-detected results may be used as reported, without qualification. Bisphenol A and bis(2-ethylhexyl)adipate were not detected in any of the 32 samples.

#### **4.2 PCBs – Work Groups WG124870, WG125089**

PCB Aroclors were analyzed by gas chromatography with electron capture detector (GC/ECD), following EPA Method 3550B/8082A – SW846 (EPA 2007). Associated QC samples included method blanks, spike blanks, matrix spikes and matrix spike duplicates, standard reference material (analyzed in duplicate), laboratory duplicates, and surrogates.

##### 4.2.1 Holding Time

All 32 samples were extracted analyzed within the prescribed frozen holding time of 1 year until extraction and, then, 40 days to analysis.

##### 4.2.2 Method Blanks

Results for all seven Aroclors in both method blanks were less than the MDL, indicating that laboratory contamination was not an issue during analysis of the samples included in these work groups.

##### 4.2.3 Spike Blank

Two Aroclors, 1242 and 1260, were used in both spike blanks as well as matrix spikes (see Section 4.2.4). Recoveries for both Aroclors were within the empirically-derived QC limits

shown on the attached LIMS analytical QC report for the spike blanks associated with both work groups.

#### 4.2.4 Matrix Spikes and Matrix Spike Duplicates

Matrix spike recoveries for both Aroclors in both the matrix spike and matrix spike duplicate were within the empirically-derived laboratory QC limits in both work groups. The RPDs for both Aroclor results between the matrix spikes and matrix spike duplicates were less than the laboratory QC limit of 35%, ranging from 0 to 6%.

#### 4.2.5 Standard Reference Material and Standard Reference Material Duplicate

Aroclor 1254 is used as the target PCB analyte during standard reference material analysis. Recoveries of Aroclor 1254 in both the standard reference material and standard reference material duplicate were within the empirically-derived laboratory QC limits in both work groups. The RPDs between standard reference material and standard reference material duplicate results were at or below the 35% laboratory QC limit in all five work groups, ranging from 7 to 19%.

#### 4.2.6 Laboratory Duplicate

PCB results for all seven Aroclors in both samples upon with laboratory duplicate analysis was performed were less than the MDL.

#### 4.2.7 Surrogates

Recoveries for both surrogates in all 32 analytical samples and all 12 of 14 QC samples were within the empirically-derived laboratory QC limits. Surrogate recoveries were also within the control limits recommended in *National Functional Guidelines* QC limits for the 32 analytical samples and 11 of 14 QC samples. The 19% recovery of 2,4,5,6-tetrachloro-m-xylene in the method blank associated with work group WG124870 was below the empirically-derived lower QC limit of 20% as well as the *National Functional Guidelines* lower QC limit of 30%. Recovery of the other surrogate compound, decachlorobiphenyl, was within both the empirically-derived and *National Functional Guidelines* QC limits for this QC sample. The 18% recovery of 2,4,5,6-tetrachloro-m-xylene in the spike blank associated with work group WG125089 was below the empirically-derived lower QC limit of 20% as well as the *National Functional Guidelines* lower QC limit of 30%. Recovery of the other surrogate compound, decachlorobiphenyl, was within both the empirically-derived and *National Functional Guidelines* QC limits for this QC sample. Data will not be qualified based on these surrogate recovery QC exceedences.

### **4.3 Chlorinated Pesticides – Work Groups WG124869, WG125088**

Chlorinated pesticides were analyzed by GC/ECD, following EPA Method 3550B/8081B – SW846 (EPA 2007). Associated QC samples included method blanks, spike blanks, matrix spikes and matrix spike duplicates, standard reference material (analyzed in duplicate), laboratory duplicates, and surrogates.

#### 4.3.1 Holding Time

All 32 samples were extracted analyzed within the prescribed frozen holding time of 1 year until extraction and, then, 40 days to analysis.

#### 4.3.2 Method Blanks

Results for all chlorinated pesticides in both method blanks were less than the MDL, indicating that laboratory contamination was not an issue during analysis of the samples included in these work groups.

#### 4.3.3 Spike Blank

Nineteen of the 20 target chlorinated pesticides (no toxaphene) were used in the spiking solution used for both spike blanks and matrix spikes (see section 4.3.4). The aldrin recovery of 48% in the spike blank associated with work group WG125088 was below the 51% lower QC limit. This compound was not detected in any of the samples associated with this work group. Aldrin results for samples L56024-12, -15, -16, -21, -22, -28, -29, -30, -33, -35, -36, and -37 should all be qualified with a "UJ" flag.

Spike blank recoveries for all remaining chlorinated pesticides in work group WG125089 as well as all chlorinated pesticides in the spike blank associated with work group WG124869 were within the empirically-derived QC limits shown on the attached LIMS analytical QC report.

#### 4.2.4 Matrix Spikes and Matrix Spike Duplicates

The matrix spike recovery of 56% for alpha-BHC in the matrix spike associated with work group WG124869 was below the lower 65% QC limit. The 75% recovery of alpha-BHC in the matrix spike duplicate, however, was within the 65 to 90% QC limits and the 28% RPD between matrix spike and matrix spike duplicate results was below the 35% QC limit. Associated sample data for alpha-BHC data will not be qualified based on the matrix spike recovery.

The matrix spike recovery of 61% for gamma-BHC in the matrix spike associated with work group WG124869 was below the lower 67% QC limit. The 78% recovery of gamma-BHC in the matrix spike duplicate, however, was within the 67 to 91% QC limits and the 25% RPD between matrix spike and matrix spike duplicate results was below the 35% QC limit. Associated sample data for gamma-BHC data will not be qualified based on the matrix spike recovery.

The matrix spike recovery of 95% for gamma-BHC in the matrix spike associated with work group WG125088 exceeded the upper 91% QC limit. The 89% recovery of gamma-BHC in the matrix spike duplicate, however, was within the 67 to 91% QC limits and the 7% RPD between matrix spike and matrix spike duplicate results was below the 35% QC limit. Associated sample data for gamma-BHC data will not be qualified based on the matrix spike recovery.

The matrix spike recovery of 110% for methoxychlor in the matrix spike associated with work group WG125088 exceeded the upper 107% QC limit. The 106% recovery of methoxychlor in the matrix spike duplicate, however, was within the 63 to 107% QC limits and the 3% RPD between matrix spike and matrix spike duplicate results was below the 35% QC limit. Associated sample data for methoxychlor data will not be qualified based on the matrix spike recovery.

Matrix spike and matrix spike duplicate recoveries for the remaining target chlorinated pesticides in both work groups were all within their empirically-derived QC limits, shown on the attached QC reports.

#### 4.2.5 Standard Reference Material and Standard Reference Material Duplicate

The standard reference material analyzed in connection with chlorinated pesticide analysis contains a single compound, alpha-chlordane. The alpha-chlordane recoveries in the two standard reference materials analyzed in duplicate were all within the empirically-derived 69 to 136% QC limits, ranging from 111 to 131%. RPDs between standard reference material duplicate results were both below the 35% QC limit, at 3 and 11%.

#### 4.2.6 Laboratory Duplicate

The 21% RPD between 4,4'-DDD results in the laboratory duplicate associated with work group WG124869 was below the 35% QC limit. No other chlorinated pesticides were detected in this sample. No chlorinated pesticides were detected in the laboratory duplicate sample associated with work group WG125088.

#### 4.2.7 Surrogates

Recoveries for both surrogates in all 32 analytical samples and all 14 QC samples were within the empirically-derived laboratory QC limits. Surrogate recoveries were also within the control limits recommended in *National Functional Guidelines* QC limits for the 32 analytical samples and 12 of 14 QC samples. The 2,4,5,6-tetrachloro-m-xylene recovery of 20% in the method blank associated with work group WG124869 and 21% in the spike blank associated with work group WG125088 were both below the 30% lower QC limit recommended in *National Functional Guidelines*. Sample data, however, will not be qualified based on these two surrogate recoveries.

## **5.0 Data Usability**

As a general data reporting format, sample results that are reported as "<MDL" by King County should be assigned a "U" flag in all cases. Sample results that are reported as "less than the reporting detection limit" (<RDL) should be assigned a "J" flag and considered estimated in all cases. Analytical data for samples L56024-1 through -5, - 7 through -9, -11 through -17, -19 through -30, and -33 through -40 may be used as reported, with the following exceptions:

- Results for the parameter "silt" in sample L56024-7 should be qualified with a "J" flag and considered estimated with an unknown bias. If the data user feels it necessary, the individual phi sizes associated with the gravel fraction may also be qualified with a "J" flag. These phi sizes include p+5.00, p+6.00, p+7.00, and p+8.00. Since the parameter "silt" is a sub-fraction of the summed parameter "fines," the parameter "fines" should also be qualified with a "J" flag and considered estimated with an unknown bias.
- AVS results in samples L56024-4 and L56024-19 should be qualified with a "J" flag, with bias considered low.
- The arsenic result in sample L56024-7 should be qualified with a "J" flag and considered estimated with a low bias.

- The lead result in sample L56024-7 should be qualified with a “J” flag and considered estimated with an unknown bias.
- Copper and nickel results in sample L56024-24 should both be qualified with a “J” flag and considered estimated with a low bias.
- The chromium result in sample L56024-24 should be qualified with a “J” flag and considered estimated with an unknown bias.
- Bis(2-ethylhexyl) phthalate results in samples L56024-21, -22, -28, -30, -35, -36, and -37 should be qualified with a “U” flag and the sample value reported as the sample-specific, dry-weight reporting detection limit (RDL).
- All 2,4-dimethylphenol results should be qualified with a “UJ” flag with bias considered low.
- Results for phenol and 2-methylphenol in samples L56024-12, -15, -16, 21, -22, -28, -29, -30, -33, -35, -36, and -37 should all be qualified with a “UJ” flag with bias considered low.
- All positive results for coprostanol and total-4-nonylphenol should be qualified with a “J” flag and considered estimated with a high bias.
- Aldrin results for samples L56024-12, -15, -16, -21, -22, -28, -29, -30, -33, -35, -36, and -37 should all be qualified with a “UJ” flag.

## 6.0 References

APHA 1998. *Standard Methods for the Examination of Water and Wastewater*, 20<sup>th</sup> Edition. American Public Health Association. Washington, D.C.

ASTM 2002. *Standard Test Method for Particle-Size Analysis of Soils D422-63(2002)*. American Society for Testing and Materials. West Conshohocken, Pennsylvania.

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EPA 1991. *Determination of Acid Volatile Sulfide and Selected Simultaneously Extractable Metals in Sediment*. USEPA, Office of Water Programs. Washington, D.C.

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EPA 2008. *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*. OSWER 9240.1-48, USEPA-540-R-08-01. USEPA. Washington, D.C. June 2001.

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**ATTACHMENT A**

**LIMS BATCH AND QC REPORTS**

## LIMSView Batch Report for Stream Sediments - Data Validation for 2012 Sampling Event

### WG122678

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/13/12	08/16/12	08/16/12	
L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/13/12	08/16/12	08/16/12	
L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/13/12	08/16/12	08/16/12	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/13/12	08/16/12	08/16/12	
L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/14/12	08/16/12	08/16/12	
L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/14/12	08/16/12	08/16/12	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/14/12	08/16/12	08/16/12	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/14/12	08/16/12	08/16/12	
L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/14/12	08/21/12	08/21/12	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/14/12	08/21/12	08/21/12	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/15/12	08/21/12	08/21/12	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/15/12	08/21/12	08/21/12	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/15/12	08/21/12	08/21/12	
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/15/12	08/21/12	08/21/12	
L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/15/12	08/21/12	08/21/12	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/14/12	08/21/12	08/21/12	
WG122678-1	MB		CVAVS	OTHR SOLID		08/16/12	08/16/12	MB1 08/16/12
WG122678-2	SB		CVAVS	OTHR SOLID		08/16/12	08/16/12	WG122678-1
WG122678-3	LD		CVAVS	FRSHWTRSED		08/16/12	08/16/12	L56024-4
WG122678-4	LT		CVAVS	FRSHWTRSED		08/16/12	08/16/12	WG122678-3 L56024-4
WG122678-5	MS		CVAVS	FRSHWTRSED		08/16/12	08/16/12	L56024-4
WG122678-6	MB		CVAVS	OTHR SOLID		08/21/12	08/21/12	MB1 08/21/12
WG122678-7	SB		CVAVS	OTHR SOLID		08/21/12	08/21/12	WG122678-6

### WG122829

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/29/12	09/04/12	09/04/12	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/30/12	09/04/12	09/04/12	
L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/27/12	08/29/12	08/29/12	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/28/12	08/29/12	08/29/12	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/28/12	09/04/12	09/04/12	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/28/12	09/04/12	09/04/12	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/28/12	09/04/12	09/04/12	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/28/12	09/04/12	09/04/12	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/28/12	08/29/12	08/29/12	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/27/12	08/29/12	08/29/12	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/27/12	08/29/12	08/29/12	

## LIMSView Batch Report for Stream Sediments - Data Validation for 2012 Sampling Event

L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/27/12	08/29/12	08/29/12	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/27/12	08/29/12	08/29/12	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/29/12	09/04/12	09/04/12	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/29/12	09/04/12	09/04/12	
L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	CVAVS	FRSHWTRSED	08/27/12	08/29/12	08/29/12	
WG122829-1	MB		CVAVS	OTHR SOLID		08/29/12	08/29/12	MB1 08/29/12
WG122829-2	SB		CVAVS	OTHR SOLID		08/29/12	08/29/12	WG122829-1
WG122829-3	LD		CVAVS	FRSHWTRSED		08/29/12	08/29/12	L56024-19
WG122829-4	LT		CVAVS	FRSHWTRSED		08/29/12	08/29/12	WG122829-3 L56024-19
WG122829-5	MS		CVAVS	FRSHWTRSED		08/29/12	08/29/12	L56024-19
WG122829-6	MB		CVAVS	OTHR SOLID		09/04/12	09/04/12	MB1 09/04/12
WG122829-7	SB		CVAVS	OTHR SOLID		09/04/12	09/04/12	WG122829-6

### WG122562

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/13/12	08/14/12	08/14/12	
L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/13/12	08/14/12	08/14/12	
L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/13/12	08/14/12	08/14/12	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/13/12	08/14/12	08/14/12	
L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/14/12	08/15/12	08/15/12	
L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/14/12	08/15/12	08/15/12	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/14/12	08/15/12	08/15/12	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/14/12	08/15/12	08/15/12	
L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/14/12	08/15/12	08/15/12	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/14/12	08/15/12	08/15/12	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/15/12	08/16/12	08/16/12	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/15/12	08/16/12	08/16/12	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/15/12	08/16/12	08/16/12	
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/15/12	08/16/12	08/16/12	
L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/15/12	08/16/12	08/16/12	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/14/12	08/15/12	08/15/12	
WG122562-1	LD		CVPH	FRSHWTRSED		08/14/12	08/14/12	L56024-2
WG122562-2	LT		CVPH	FRSHWTRSED		08/14/12	08/14/12	WG122562-1 L56024-2
WG122562-3	CS		CVPH	OTHR SOLID		08/14/12	08/14/12	LEVEL1
WG122562-4	CS		CVPH	OTHR SOLID		08/15/12	08/15/12	LEVEL1
WG122562-5	CS		CVPH	OTHR SOLID		08/15/12	08/15/12	LEVEL2
WG122562-6	CS		CVPH	OTHR SOLID		08/16/12	08/16/12	LEVEL1

## LIMSView Batch Report for Stream Sediments - Data Validation for 2012 Sampling Event

### WG122810

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/29/12	08/30/12	08/30/12	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/30/12	08/30/12	08/30/12	
L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/27/12	08/28/12	08/28/12	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/28/12	08/29/12	08/29/12	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/28/12	08/29/12	08/29/12	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/28/12	08/29/12	08/29/12	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/28/12	08/29/12	08/29/12	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/28/12	08/29/12	08/29/12	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/28/12	08/29/12	08/29/12	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/27/12	08/28/12	08/28/12	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/27/12	08/28/12	08/28/12	
L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/27/12	08/28/12	08/28/12	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/27/12	08/28/12	08/28/12	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/29/12	08/30/12	08/30/12	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/29/12	08/30/12	08/30/12	
L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	CVPH	FRSHWTRSED	08/27/12	08/28/12	08/28/12	
L56158-1	421184-130	OCS-Karcher Creek SD	CVPH	SLUDGE	08/28/12	08/29/12	08/29/12	
L56387-2	423258-500-1	Brightwater Reclaimed Water	CVPH	FRSHWTRSED	08/28/12	08/29/12	08/29/12	
WG122810-1	LD		CVPH	FRSHWTRSED		08/28/12	08/28/12	L56024-12
WG122810-2	LCS		CVPH	OTHR SOLID		08/28/12	08/28/12	LEVEL1
WG122810-3	LD		CVPH	FRSHWTRSED		08/29/12	08/29/12	L56024-13
WG122810-4	LT		CVPH	FRSHWTRSED		08/29/12	08/29/12	WG122810-3 L56024-13
WG122810-5	LD		CVPH	FRSHWTRSED		08/29/12	08/29/12	L56387-2
WG122810-6	CS		CVPH	OTHR SOLID		08/29/12	08/29/12	LEVEL1
WG122810-7	CS		CVPH	OTHR SOLID		08/29/12	08/29/12	LEVEL2
WG122810-8	LD		CVPH	SLUDGE		08/29/12	08/29/12	L56158-1
WG122810-9	LT		CVPH	SLUDGE		08/29/12	08/29/12	WG122810-8 L56158-1
WG122810-10	CS		CVPH	OTHR SOLID		08/29/12	08/29/12	LEVEL2
WG122810-11	CS		CVPH	OTHR SOLID		08/30/12	08/30/12	LEVEL1
WG122810-12	CS		CVPH	OTHR SOLID		08/30/12	08/30/12	LEVEL2
WG122810-13	CS		CVPH	OTHR SOLID		08/30/12	08/30/12	LEVEL2

### WG122689

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/13/12	09/18/12	09/20/12	
L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/13/12	09/18/12	09/20/12	
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/29/12	09/18/12	09/20/12	

## LIMSView Batch Report for Stream Sediments - Data Validation for 2012 Sampling Event

L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/13/12	09/18/12	09/20/12	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/13/12	09/18/12	09/20/12	
L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/14/12	09/18/12	09/20/12	
L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/14/12	09/18/12	09/20/12	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/14/12	09/18/12	09/20/12	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/30/12	09/26/12	09/27/12	
L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/27/12	09/26/12	09/27/12	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/28/12	09/26/12	09/27/12	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/28/12	09/26/12	09/27/12	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/28/12	09/26/12	09/27/12	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/28/12	09/26/12	09/27/12	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/28/12	09/26/12	09/27/12	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/28/12	09/26/12	09/27/12	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/14/12	09/26/12	09/27/12	
L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/14/12	10/03/12	10/04/12	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/14/12	10/03/12	10/04/12	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/15/12	10/03/12	10/04/12	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/15/12	10/03/12	10/04/12	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/15/12	10/03/12	10/04/12	
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/15/12	10/03/12	10/04/12	
L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/15/12	10/03/12	10/04/12	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/27/12	10/03/12	10/04/12	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/27/12	10/03/12	10/04/12	
L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/27/12	10/03/12	10/04/12	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/27/12	10/10/12	10/11/12	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/29/12	10/10/12	10/11/12	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/29/12	10/10/12	10/11/12	
L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/27/12	10/10/12	10/11/12	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/14/12	10/10/12	10/11/12	
L56024-38	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/14/12	10/10/12	10/11/12	
L56024-39	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/14/12	10/10/12	10/11/12	
L56024-40	423589-330-4	Green Rvr PCB/PAH Loading	CVPSD	FRSHWTRSED	08/13/12	10/23/12	10/25/12	
WG122689-1	LD		CVPSD	FRSHWTRSED		09/18/12	09/20/12	L56024-7
WG122689-2	LT		CVPSD	FRSHWTRSED		09/18/12	09/20/12	WG122689-1 L56024-7
WG122689-3	LD		CVPSD	FRSHWTRSED		10/10/12	10/11/12	L56024-34
WG122689-4	LT		CVPSD	FRSHWTRSED		10/10/12	10/11/12	WG122689-3 L56024-34

**WG122758**

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/13/12	08/22/12	08/29/12	

# LIMSView Batch Report for Stream Sediments - Data Validation for 2012 Sampling Event

L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/13/12	08/22/12	08/29/12	
L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/13/12	08/22/12	08/29/12	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/13/12	08/22/12	08/30/12	
L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/14/12	08/22/12	08/30/12	
L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/14/12	08/22/12	08/30/12	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/14/12	08/22/12	08/30/12	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/14/12	08/22/12	08/30/12	
L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/14/12	08/22/12	08/30/12	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/14/12	08/22/12	08/30/12	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/15/12	08/22/12	08/31/12	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/15/12	08/22/12	08/31/12	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/15/12	08/22/12	08/31/12	
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/15/12	08/22/12	08/31/12	
L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/15/12	08/22/12	08/31/12	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/14/12	08/22/12	08/31/12	
L56024-38	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/14/12	08/22/12	08/31/12	
L56024-39	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/14/12	08/22/12	09/05/12	
L56024-40	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/13/12	08/22/12	09/05/12	
L56387-2	423258-500-1	Brightwater Reclaimed Water	CVTOC	FRSHWTRSED	08/28/12	08/29/12	09/05/12	
L56387-3	423258-500-1	Brightwater Reclaimed Water	CVTOC	SOIL	08/28/12	08/29/12	09/05/12	
L56387-4	423258-500-1	Brightwater Reclaimed Water	CVTOC	SOIL	08/28/12	08/29/12	09/05/12	
L56387-5	423258-500-1	Brightwater Reclaimed Water	CVTOC	SOIL	08/28/12	08/29/12	09/06/12	
L56387-6	423258-500-1	Brightwater Reclaimed Water	CVTOC	SOIL	08/28/12	08/29/12	09/06/12	
L56387-7	423258-500-1	Brightwater Reclaimed Water	CVTOC	SOIL	08/28/12	08/29/12	09/06/12	
L56387-8	423258-500-1	Brightwater Reclaimed Water	CVTOC	SOIL	08/28/12	08/29/12	09/06/12	
WG122758-1	MB		CVTOC	OTHR SOLID		08/22/12	08/29/12	MB1 120829
WG122758-2	SRM		CVTOC	OTHR SOLID		08/22/12	08/29/12	HICONC
WG122758-3	SB		CVTOC	OTHR SOLID		08/22/12	08/29/12	WG122758-1
WG122758-4	LD		CVTOC	FRSHWTRSED		08/22/12	08/29/12	L56024-2
WG122758-5	LT		CVTOC	FRSHWTRSED		08/22/12	08/29/12	WG122758-4 L56024-2
WG122758-6	MS		CVTOC	FRSHWTRSED		08/22/12	08/29/12	L56024-2
WG122758-7	MB		CVTOC	OTHR SOLID		08/22/12	08/30/12	MB1 120830
WG122758-8	SRM		CVTOC	OTHR SOLID		08/22/12	08/30/12	HICONC
WG122758-9	MB		CVTOC	OTHR SOLID		08/22/12	08/31/12	MB1 120831
WG122758-10	SRM		CVTOC	OTHR SOLID		08/22/12	08/31/12	HICONC
WG122758-11	MB		CVTOC	OTHR SOLID		08/22/12	09/05/12	MB1 120905
WG122758-12	SRM		CVTOC	OTHR SOLID		08/22/12	09/05/12	HICONC
WG122758-13	MB		CVTOC	OTHR SOLID		08/29/12	09/06/12	MB1 120906
WG122758-14	LCS		CVTOC	OTHR SOLID		08/29/12	09/06/12	LEVEL1
WG122758-15	SB		CVTOC	OTHR SOLID		08/29/12	09/06/12	WG122758-13
WG122758-16	LD		CVTOC	SOIL		08/29/12	09/06/12	L56387-7

## LIMSView Batch Report for Stream Sediments - Data Validation for 2012 Sampling Event

WG122758-17 LT	CVTOC	SOIL	08/29/12	09/06/12	WG122758-16 L56387-7
WG122758-18 MS	CVTOC	SOIL	08/29/12	09/06/12	L56387-7

### WG122976

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/29/12	09/04/12	09/20/12	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/30/12	09/04/12	09/20/12	
L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/27/12	09/04/12	09/20/12	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/28/12	09/04/12	09/20/12	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/28/12	09/04/12	09/20/12	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/28/12	09/04/12	09/20/12	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/28/12	09/04/12	09/20/12	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/28/12	09/04/12	09/26/12	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/28/12	09/04/12	09/26/12	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/27/12	09/04/12	09/26/12	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/27/12	09/04/12	09/26/12	
L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/27/12	09/04/12	09/26/12	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/27/12	09/04/12	09/26/12	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/29/12	09/04/12	09/27/12	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/29/12	09/04/12	09/27/12	
L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	CVTOC	FRSHWTRSED	08/27/12	09/04/12	09/27/12	
WG122976-1	MB		CVTOC	OTHR SOLID		09/04/12	09/20/12	MB1 120920
WG122976-2	LCS		CVTOC	OTHR SOLID		09/04/12	09/20/12	LEVEL1
WG122976-3	MB		CVTOC	OTHR SOLID		09/04/12	09/26/12	MB1 120926
WG122976-4	LCS		CVTOC	OTHR SOLID		09/04/12	09/26/12	LEVEL1
WG122976-5	MB		CVTOC	OTHR SOLID		09/04/12	09/27/12	MB1 120927
WG122976-6	LCS		CVTOC	OTHR SOLID		09/04/12	09/27/12	LEVEL1
WG122976-7	SB		CVTOC	OTHR SOLID		09/04/12	09/27/12	WG122976-5
WG122976-8	LD		CVTOC	FRSHWTRSED		09/04/12	09/27/12	L56024-35
WG122976-9	LT		CVTOC	FRSHWTRSED		09/04/12	09/27/12	WG122976-8 L56024-35
WG122976-10	MS		CVTOC	FRSHWTRSED		09/04/12	09/27/12	L56024-35

### WG123636

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/13/12	10/16/12	11/01/12	
L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/13/12	10/16/12	11/01/12	
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/29/12	10/16/12	11/01/12	
L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/13/12	10/16/12	11/01/12	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/13/12	10/16/12	11/01/12	

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L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/14/12	10/16/12	11/01/12	
L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/14/12	10/16/12	11/01/12	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/14/12	10/16/12	11/01/12	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/30/12	10/16/12	11/01/12	
L56693-7	421298A	BIOSOLIDS CHARACTERIZATION	CVTOTS	SLUDGE	10/16/12	10/16/12	11/01/12	
WG123636-1	MB		CVTOTS	OTHR SOLID		10/16/12	11/01/12	MB1 121016
WG123636-2	LD		CVTOTS	FRSHWTRSED		10/16/12	11/01/12	L56024-5
WG123636-3	LT		CVTOTS	FRSHWTRSED		10/16/12	11/01/12	WG123636-2 L56024-5
WG123636-4	LD		CVTOTS	SLUDGE		10/16/12	11/01/12	L56693-7

### WG123727

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/27/12	11/09/12	11/13/12	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/28/12	11/09/12	11/13/12	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/28/12	11/09/12	11/13/12	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/28/12	11/09/12	11/13/12	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/28/12	11/09/12	11/13/12	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/28/12	11/09/12	11/13/12	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/28/12	11/09/12	11/13/12	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/14/12	11/09/12	11/13/12	
L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/14/12	11/09/12	11/13/12	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/14/12	11/09/12	11/13/12	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/15/12	11/09/12	11/13/12	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/15/12	11/09/12	11/13/12	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/15/12	11/09/12	11/13/12	
WG123727-1	MB		CVTOTS	OTHR SOLID		11/09/12	11/13/12	MB1 121024
WG123727-2	LD		CVTOTS	FRSHWTRSED		11/09/12	11/13/12	L56024-22
WG123727-3	LT		CVTOTS	FRSHWTRSED		11/09/12	11/13/12	WG123727-2 L56024-22

### WG124317

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/15/12	11/27/12	11/28/12	
L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/15/12	11/27/12	11/28/12	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/27/12	11/27/12	11/28/12	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/27/12	11/27/12	11/28/12	
L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/27/12	11/27/12	11/28/12	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/27/12	11/27/12	11/28/12	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/29/12	11/27/12	11/28/12	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/29/12	11/27/12	11/28/12	

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L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/27/12	11/27/12	11/28/12	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/14/12	11/27/12	11/28/12	
L56024-38	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/14/12	11/27/12	11/28/12	
L56024-39	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/14/12	11/27/12	11/28/12	
L56024-40	423589-330-4	Green Rvr PCB/PAH Loading	CVTOTS	FRSHWTRSED	08/13/12	11/27/12	11/28/12	
WG124317-1	MB		CVTOTS	OTHR SOLID		11/27/12	11/28/12	MB1 121127
WG124317-2	LD		CVTOTS	FRSHWTRSED		11/27/12	11/28/12	L56024-26
WG124317-3	LT		CVTOTS	FRSHWTRSED		11/27/12	11/28/12	WG124317-2 L56024-26

### WG122912

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/13/12	09/05/12	09/06/12	
L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/13/12	09/05/12	09/06/12	
L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/13/12	09/05/12	09/06/12	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/13/12	09/05/12	09/06/12	
L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/14/12	09/05/12	09/06/12	
L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/14/12	09/05/12	09/06/12	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/14/12	09/05/12	09/06/12	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/14/12	09/05/12	09/06/12	
L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/14/12	09/05/12	09/06/12	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/14/12	09/05/12	09/06/12	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/15/12	09/05/12	09/06/12	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/15/12	09/05/12	09/06/12	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/15/12	09/05/12	09/06/12	
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/15/12	09/05/12	09/06/12	
L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/15/12	09/05/12	09/06/12	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/14/12	09/05/12	09/06/12	
WG122912-1	LCS		MTHG-MIDS	FRSHWTRSED		09/05/12	09/06/12	WQB1
WG122912-2	LCSD		MTHG-MIDS	FRSHWTRSED		09/05/12	09/06/12	WG122912-1 WQB1
WG122912-3	MB		MTHG-MIDS	SOLIDBLANK		09/05/12	09/06/12	METHOD BLANK
WG122912-4	SB		MTHG-MIDS	SOLIDBLANK		09/05/12	09/06/12	WG122912-3 HG-SMID
WG122912-5	MS		MTHG-MIDS	FRSHWTRSED		09/05/12	09/06/12	L56024-7 HG-SMID
WG122912-6	MSD		MTHG-MIDS	FRSHWTRSED		09/05/12	09/06/12	L56024-7 HG-SMID-MSD
WG122912-7	LD		MTHG-MIDS	FRSHWTRSED		09/05/12	09/06/12	L56024-7 RPD-SOL

### WG123004

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/29/12	09/11/12	09/14/12	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/30/12	09/11/12	09/14/12	

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L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/27/12	09/11/12	09/14/12	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/28/12	09/11/12	09/14/12	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/28/12	09/11/12	09/14/12	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/28/12	09/11/12	09/14/12	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/28/12	09/11/12	09/14/12	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/28/12	09/11/12	09/14/12	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/28/12	09/11/12	09/14/12	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/27/12	09/11/12	09/14/12	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/27/12	09/11/12	09/14/12	
L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/27/12	09/11/12	09/14/12	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/27/12	09/11/12	09/14/12	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/29/12	09/11/12	09/14/12	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/29/12	09/11/12	09/14/12	
L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-MIDS	FRSHWTRSED	08/27/12	09/11/12	09/14/12	
WG123004-1	LCS		MTHG-MIDS	FRSHWTRSED		09/11/12	09/14/12	WQB1
WG123004-2	LCSD		MTHG-MIDS	FRSHWTRSED		09/11/12	09/14/12	WG123004-1 WQB1
WG123004-3	MB		MTHG-MIDS	SOLIDBLANK		09/11/12	09/14/12	METHOD BLANK
WG123004-4	SB		MTHG-MIDS	SOLIDBLANK		09/11/12	09/14/12	WG123004-3 HG-SMID
WG123004-5	MS		MTHG-MIDS	FRSHWTRSED		09/11/12	09/14/12	L56024-17 HG-SMID
WG123004-6	MSD		MTHG-MIDS	FRSHWTRSED		09/11/12	09/14/12	L56024-17 HG-SMID-MSD
WG123004-7	LD		MTHG-MIDS	FRSHWTRSED		09/11/12	09/14/12	L56024-17 RPD-SOL

### WG122754

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/13/12	08/24/12	08/27/12	
L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/13/12	08/24/12	08/27/12	
L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/13/12	08/24/12	08/27/12	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/13/12	08/24/12	08/27/12	
L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/14/12	08/24/12	08/27/12	
L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/14/12	08/24/12	08/27/12	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/14/12	08/24/12	08/27/12	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/14/12	08/24/12	08/27/12	
L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/14/12	08/24/12	08/27/12	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/14/12	08/24/12	08/27/12	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/15/12	08/24/12	08/27/12	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/15/12	08/24/12	08/27/12	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/15/12	08/24/12	08/27/12	
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/15/12	08/24/12	08/27/12	
L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/15/12	08/24/12	08/27/12	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/14/12	08/24/12	08/27/12	

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WG122754-1	MB	MTHG-SEM	SOLIDBLANK	08/24/12	08/27/12	METHOD BLANK
WG122754-2	SB	MTHG-SEM	SOLIDBLANK	08/24/12	08/27/12	WG122754-1 HG-SMID
WG122754-3	LD	MTHG-SEM	FRSHWTRSED	08/24/12	08/27/12	L56024-4 RPD-SOL
WG122754-4	MS	MTHG-SEM	FRSHWTRSED	08/24/12	08/27/12	L56024-4 HG-SMID
WG122754-5	MB	MTHG-SEM	SOLIDBLANK	08/24/12	08/27/12	EXTRACTION BLANK 081612
WG122754-6	MB	MTHG-SEM	SOLIDBLANK	08/24/12	08/27/12	EXTRACTION BLANK 082112

### WG122942

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/29/12	09/06/12	09/07/12	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/30/12	09/06/12	09/07/12	
L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/27/12	09/06/12	09/07/12	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/28/12	09/06/12	09/07/12	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/28/12	09/06/12	09/07/12	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/28/12	09/06/12	09/07/12	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/28/12	09/06/12	09/07/12	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/28/12	09/06/12	09/07/12	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/28/12	09/06/12	09/07/12	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/27/12	09/06/12	09/07/12	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/27/12	09/06/12	09/07/12	
L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/27/12	09/06/12	09/07/12	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/27/12	09/06/12	09/07/12	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/29/12	09/06/12	09/07/12	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/29/12	09/06/12	09/07/12	
L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	MTHG-SEM	FRSHWTRSED	08/27/12	09/06/12	09/07/12	
WG122942-1	MB		MTHG-SEM	SOLIDBLANK		09/06/12	09/07/12	METHOD BLANK
WG122942-2	SB		MTHG-SEM	SOLIDBLANK		09/06/12	09/07/12	WG122942-1 HG-SMID
WG122942-3	LD		MTHG-SEM	FRSHWTRSED		09/06/12	09/07/12	L56024-19 RPD-SOL
WG122942-4	MS		MTHG-SEM	FRSHWTRSED		09/06/12	09/07/12	L56024-19 HG-SMID
WG122942-5	MB		MTHG-SEM	SOLIDBLANK		09/06/12	09/07/12	EXTRACTION BLANK 082912
WG122942-6	MB		MTHG-SEM	SOLIDBLANK		09/06/12	09/07/12	EXTRACTION BLANK 090412

### WG122775

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/13/12	08/27/12	08/27/12	
L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/13/12	08/27/12	08/27/12	
L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/13/12	08/27/12	08/27/12	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/13/12	08/27/12	08/27/12	
L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/14/12	08/27/12	08/27/12	

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L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/14/12	08/27/12	08/27/12	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/14/12	08/27/12	08/27/12	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/14/12	08/27/12	08/27/12	
L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/14/12	08/27/12	08/27/12	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/14/12	08/27/12	08/27/12	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/15/12	08/27/12	08/27/12	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/15/12	08/27/12	08/27/12	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/15/12	08/27/12	08/27/12	
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/15/12	08/27/12	08/27/12	
L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/15/12	08/27/12	08/27/12	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/14/12	08/27/12	08/27/12	
WG122775-1	SB		MTICP-SEM	SOLIDBLANK		08/27/12	08/27/12	WG122775-2 ICPH
WG122775-2	MB		MTICP-SEM	SOLIDBLANK		08/27/12	08/27/12	METHOD BLANK
WG122775-3	LD		MTICP-SEM	FRSHWTRSED		08/27/12	08/27/12	L56024-4 RPD-SOL
WG122775-4	MS		MTICP-SEM	FRSHWTRSED		08/27/12	08/27/12	L56024-4 ICPH
WG122775-5	MB		MTICP-SEM	SOLIDBLANK		08/27/12	08/30/12	EXTRACTION BLANK 8/16/12
WG122775-6	MB		MTICP-SEM	SOLIDBLANK		08/27/12	08/30/12	EXTRACTION BLANK 8/21/12

### WG122929

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/29/12	09/12/12	09/12/12	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/30/12	09/12/12	09/12/12	
L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/27/12	09/12/12	09/12/12	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/28/12	09/12/12	09/12/12	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/28/12	09/12/12	09/12/12	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/28/12	09/12/12	09/12/12	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/28/12	09/12/12	09/12/12	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/28/12	09/12/12	09/12/12	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/28/12	09/12/12	09/12/12	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/27/12	09/12/12	09/12/12	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/27/12	09/12/12	09/12/12	
L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/27/12	09/12/12	09/12/12	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/27/12	09/12/12	09/12/12	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/29/12	09/12/12	09/12/12	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/29/12	09/12/12	09/12/12	
L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	MTICP-SEM	FRSHWTRSED	08/27/12	09/12/12	09/12/12	
WG122929-1	SB		MTICP-SEM	SOLIDBLANK		09/12/12	09/12/12	WG122929-2 ICPH
WG122929-2	MB		MTICP-SEM	SOLIDBLANK		09/12/12	09/12/12	METHOD BLANK
WG122929-3	LD		MTICP-SEM	FRSHWTRSED		09/12/12	09/12/12	L56024-19 RPD-SOL
WG122929-4	MS		MTICP-SEM	FRSHWTRSED		09/12/12	09/12/12	L56024-19 ICPH

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WG122929-5	MB	MTICP-SEM	SOLIDBLANK	09/12/12	09/12/12	EXTRACTION BLANK 082912
WG122929-6	MB	MTICP-SEM	SOLIDBLANK	09/12/12	09/12/12	EXTRACTION BLANK 090412

### WG125138

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/13/12	01/28/13	01/30/13	
L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/13/12	01/28/13	01/30/13	
L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/13/12	01/28/13	01/30/13	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/13/12	01/28/13	01/30/13	
L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/14/12	01/28/13	01/30/13	
L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/14/12	01/28/13	01/30/13	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/14/12	01/28/13	01/30/13	
L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/27/12	01/28/13	01/30/13	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/28/12	01/28/13	01/30/13	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/28/12	01/28/13	01/30/13	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/28/12	01/28/13	01/30/13	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/28/12	01/28/13	01/30/13	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/28/12	01/28/13	01/30/13	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/28/12	01/28/13	01/30/13	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/14/12	01/28/13	01/30/13	
WG125138-1	MB		MTICPMS-SED	SOLIDBLANK		01/28/13	01/30/13	METHOD BLANK
WG125138-2	SB		MTICPMS-SED	SOLIDBLANK		01/28/13	01/30/13	WG125138-1 MS-100 SPIKE BLANK
WG125138-3	LCS		MTICPMS-SED	FRSHWTRSED		01/28/13	01/30/13	BUFFSED
WG125138-4	LCSD		MTICPMS-SED	FRSHWTRSED		01/28/13	01/30/13	WG125138-3 BUFFSED RPD-SOL
WG125138-5	LCS		MTICPMS-SED	SOIL		01/28/13	01/30/13	ERASOIL
WG125138-6	LCSD		MTICPMS-SED	SOIL		01/28/13	01/30/13	WG125138-5 ERASOIL RPD-SOL
WG125138-7	LD		MTICPMS-SED	FRSHWTRSED		01/28/13	01/30/13	L56024-7 RPD-SOL LAB DUPLICATE
WG125138-8	MS		MTICPMS-SED	FRSHWTRSED		01/28/13	01/30/13	L56024-7 MS-100 MATRIX SPIKE

### WG125139

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/29/12	01/28/13	01/30/13	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/30/12	01/28/13	01/30/13	
L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/14/12	01/28/13	01/30/13	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/14/12	01/28/13	01/30/13	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/15/12	01/28/13	01/30/13	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/15/12	01/28/13	01/30/13	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/15/12	01/28/13	01/30/13	
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/15/12	01/28/13	01/30/13	

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L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/15/12	01/28/13	01/30/13	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/27/12	01/28/13	01/30/13	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/27/12	01/28/13	01/30/13	
L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/27/12	01/28/13	01/30/13	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/27/12	01/28/13	01/30/13	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/29/12	01/28/13	01/30/13	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/29/12	01/28/13	01/30/13	
L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/27/12	01/28/13	01/30/13	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	MTICPMS-SED	FRSHWTRSED	08/14/12	01/28/13	01/30/13	
WG125139-1	MB		MTICPMS-SED	SOLIDBLANK		01/28/13	01/30/13	METHOD BLANK
WG125139-2	SB		MTICPMS-SED	SOLIDBLANK		01/28/13	01/30/13	WG125139-1 MS-100 SPIKE BLANK
WG125139-3	LCS		MTICPMS-SED	FRSHWTRSED		01/28/13	01/30/13	BUFFSED
WG125139-4	LCSD		MTICPMS-SED	FRSHWTRSED		01/28/13	01/30/13	WG125139-3 BUFFSED RPD-SOL
WG125139-5	LCS		MTICPMS-SED	SOIL		01/28/13	01/30/13	ERASOIL
WG125139-6	LCSD		MTICPMS-SED	SOIL		01/28/13	01/30/13	WG125139-5 ERASOIL RPD-SOL
WG125139-7	LD		MTICPMS-SED	FRSHWTRSED		01/28/13	01/30/13	L56024-24 RPD-SOL LAB DUPLICATE
WG125139-8	MS		MTICPMS-SED	FRSHWTRSED		01/28/13	01/30/13	L56024-24 MS-100 MATRIX SPIKE

### WG124929

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/13/12	01/10/13	02/17/13	
L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/13/12	01/10/13	02/17/13	
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/29/12	01/10/13	02/17/13	
L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/13/12	01/10/13	02/17/13	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/13/12	01/10/13	02/17/13	
L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/14/12	01/10/13	02/17/13	
L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/14/12	01/10/13	02/17/13	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/14/12	01/10/13	02/17/13	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/30/12	01/10/13	02/17/13	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/28/12	01/10/13	02/17/13	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/28/12	01/10/13	02/17/13	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/28/12	01/10/13	02/19/13	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/28/12	01/10/13	02/19/13	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/14/12	01/10/13	02/19/13	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/15/12	01/10/13	02/19/13	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/15/12	01/10/13	02/19/13	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/15/12	01/10/13	02/19/13	
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/15/12	01/10/13	02/19/13	
L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/15/12	01/10/13	02/19/13	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/29/12	01/10/13	02/19/13	

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WG124929-1	MB	ORBNASMS	OTHR SOLID	01/10/13	02/17/13	MB130110
WG124929-2	SB	ORBNASMS	OTHR SOLID	01/10/13	02/17/13	WG124929-1
WG124929-3	SB	ORBNASMS	OTHR SOLID	01/10/13	02/15/13	WG124929-1
WG124929-4	MS	ORBNASMS	FRSHWTRSED	01/10/13	02/15/13	L56024-8
WG124929-5	MSD	ORBNASMS	FRSHWTRSED	01/10/13	02/15/13	WG124929-4 L56024-8
WG124929-6	SRM	ORBNASMS	FRSHWTRSED	01/10/13	02/15/13	
WG124929-7	SRMD	ORBNASMS	FRSHWTRSED	01/10/13	02/15/13	WG124929-6
WG124929-8	LD	ORBNASMS	FRSHWTRSED	01/10/13	02/17/13	L56024-9

### WG125090

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/27/12	01/24/13	02/20/13	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/28/12	01/24/13	02/20/13	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/28/12	01/24/13	02/20/13	
L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/14/12	01/24/13	02/20/13	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/14/12	01/24/13	02/20/13	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/27/12	01/24/13	02/20/13	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/27/12	01/24/13	02/20/13	
L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/27/12	01/24/13	02/20/13	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/27/12	01/24/13	02/20/13	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/29/12	01/24/13	02/20/13	
L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/27/12	01/24/13	02/20/13	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	ORBNASMS	FRSHWTRSED	08/14/12	01/24/13	02/20/13	
WG125090-1	MB		ORBNASMS	OTHR SOLID		01/24/13	02/20/13	MB130124
WG125090-2	SB		ORBNASMS	OTHR SOLID		01/24/13	02/20/13	WG125090-1
WG125090-3	SB		ORBNASMS	OTHR SOLID		01/24/13	02/16/13	WG125090-1
WG125090-4	MS		ORBNASMS	FRSHWTRSED		01/24/13	02/16/13	L56024-21
WG125090-5	MSD		ORBNASMS	FRSHWTRSED		01/24/13	02/16/13	WG125090-4 L56024-21
WG125090-6	SRM		ORBNASMS	FRSHWTRSED		01/24/13	02/16/13	
WG125090-7	SRMD		ORBNASMS	FRSHWTRSED		01/24/13	02/16/13	WG125090-6
WG125090-8	LD		ORBNASMS	FRSHWTRSED		01/24/13	02/20/13	L56024-36

### WG124869

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/13/12	01/04/13	01/16/13	
L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/13/12	01/04/13	01/16/13	
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/29/12	01/04/13	01/16/13	
L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/13/12	01/04/13	01/16/13	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/13/12	01/04/13	01/16/13	

## LIMSView Batch Report for Stream Sediments - Data Validation for 2012 Sampling Event

L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/14/12	01/04/13	01/16/13	
L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/14/12	01/04/13	01/16/13	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/14/12	01/04/13	01/16/13	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/30/12	01/04/13	01/16/13	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/28/12	01/04/13	01/17/13	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/28/12	01/04/13	01/17/13	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/28/12	01/04/13	01/17/13	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/28/12	01/04/13	01/16/13	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/14/12	01/04/13	01/16/13	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/15/12	01/04/13	01/16/13	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/15/12	01/04/13	01/16/13	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/15/12	01/04/13	01/16/13	
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/15/12	01/04/13	01/16/13	
L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/15/12	01/04/13	01/16/13	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/29/12	01/04/13	01/16/13	
WG124869-1	MB		ORCLPEST	OTHR SOLID		01/04/13	01/16/13	MB130104
WG124869-2	SB		ORCLPEST	OTHR SOLID		01/04/13	01/16/13	WG124869-1
WG124869-3	MS		ORCLPEST	FRSHWTRSED		01/04/13	01/16/13	L56024-34
WG124869-4	MSD		ORCLPEST	FRSHWTRSED		01/04/13	01/16/13	WG124869-3 L56024-34
WG124869-5	SRM		ORCLPEST	FRSHWTRSED		01/04/13	01/16/13	
WG124869-6	SRMD		ORCLPEST	FRSHWTRSED		01/04/13	01/16/13	WG124869-5
WG124869-7	LD		ORCLPEST	FRSHWTRSED		01/04/13	01/16/13	L56024-1

### WG125088

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/27/12	01/24/13	02/05/13	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/28/12	01/24/13	02/05/13	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/28/12	01/24/13	02/05/13	
L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/14/12	01/24/13	02/05/13	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/14/12	01/24/13	02/05/13	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/27/12	01/24/13	02/05/13	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/27/12	01/24/13	02/05/13	
L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/27/12	01/24/13	02/05/13	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/27/12	01/24/13	02/05/13	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/29/12	01/24/13	02/05/13	
L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/27/12	01/24/13	02/05/13	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	ORCLPEST	FRSHWTRSED	08/14/12	01/24/13	02/05/13	
WG125088-1	MB		ORCLPEST	OTHR SOLID		01/24/13	02/05/13	MB130124
WG125088-2	SB		ORCLPEST	OTHR SOLID		01/24/13	02/05/13	WG125088-1
WG125088-3	MS		ORCLPEST	FRSHWTRSED		01/24/13	02/05/13	L56024-35

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WG125088-4	MSD	ORCLPEST	FRSHWTRSED	01/24/13	02/05/13	WG125088-3 L56024-35
WG125088-5	SRM	ORCLPEST	FRSHWTRSED	01/24/13	02/05/13	
WG125088-6	SRMD	ORCLPEST	FRSHWTRSED	01/24/13	02/05/13	WG125088-5
WG125088-7	LD	ORCLPEST	FRSHWTRSED	01/24/13	02/05/13	L56024-21

## WG124930

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/13/12	01/10/13	02/17/13	
L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/13/12	01/10/13	02/17/13	
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/29/12	01/10/13	02/17/13	
L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/13/12	01/10/13	02/17/13	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/13/12	01/10/13	02/17/13	
L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/14/12	01/10/13	02/17/13	
L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/14/12	01/10/13	02/17/13	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/14/12	01/10/13	02/17/13	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/30/12	01/10/13	02/17/13	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/28/12	01/10/13	02/17/13	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/28/12	01/10/13	02/17/13	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/28/12	01/10/13	02/19/13	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/28/12	01/10/13	02/19/13	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/14/12	01/10/13	02/19/13	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/15/12	01/10/13	02/19/13	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/15/12	01/10/13	02/19/13	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/15/12	01/10/13	02/19/13	
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/15/12	01/10/13	02/19/13	
L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/15/12	01/10/13	02/19/13	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/29/12	01/10/13	02/19/13	
WG124930-1	MB		OREDC	OTHR SOLID		01/10/13	02/17/13	MB130110
WG124930-2	SB		OREDC	OTHR SOLID		01/10/13	02/17/13	WG124930-1
WG124930-3	SB		OREDC	OTHR SOLID		01/10/13	02/15/13	WG124930-1
WG124930-4	MS		OREDC	FRSHWTRSED		01/10/13	02/15/13	L56024-8
WG124930-5	MSD		OREDC	FRSHWTRSED		01/10/13	02/15/13	WG124930-4 L56024-8
WG124930-8	LD		OREDC	FRSHWTRSED		01/10/13	02/17/13	L56024-9

## WG125091

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/27/12	01/24/13	02/20/13	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/28/12	01/24/13	02/20/13	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/28/12	01/24/13	02/20/13	

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L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/14/12	01/24/13	02/20/13	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/14/12	01/24/13	02/20/13	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/27/12	01/24/13	02/20/13	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/27/12	01/24/13	02/20/13	
L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/27/12	01/24/13	02/20/13	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/27/12	01/24/13	02/20/13	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/29/12	01/24/13	02/20/13	
L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/27/12	01/24/13	02/20/13	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	OREDC	FRSHWTRSED	08/14/12	01/24/13	02/20/13	
WG125091-1	MB		OREDC	OTHR SOLID		01/24/13	02/20/13	MB140124
WG125091-2	SB		OREDC	OTHR SOLID		01/24/13	02/20/13	WG125091-1
WG125091-3	SB		OREDC	OTHR SOLID		01/24/13	02/16/13	WG125091-1
WG125091-4	MS		OREDC	FRSHWTRSED		01/24/13	02/16/13	L56024-21
WG125091-5	MSD		OREDC	FRSHWTRSED		01/24/13	02/16/13	WG125091-4 L56024-21
WG125091-8	LD		OREDC	FRSHWTRSED		01/24/13	02/20/13	L56024-36

### WG124870

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-1	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/13/12	01/04/13	01/11/13	
L56024-2	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/13/12	01/04/13	01/11/13	
L56024-3	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/29/12	01/04/13	01/11/13	
L56024-4	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/13/12	01/04/13	01/11/13	
L56024-5	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/13/12	01/04/13	01/11/13	
L56024-7	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/14/12	01/04/13	01/11/13	
L56024-8	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/14/12	01/04/13	01/11/13	
L56024-9	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/14/12	01/04/13	01/11/13	
L56024-11	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/30/12	01/04/13	01/11/13	
L56024-13	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/28/12	01/04/13	01/11/13	
L56024-14	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/28/12	01/04/13	01/11/13	
L56024-17	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/28/12	01/04/13	01/11/13	
L56024-19	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/28/12	01/04/13	01/11/13	
L56024-20	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/14/12	01/04/13	01/11/13	
L56024-23	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/15/12	01/04/13	01/11/13	
L56024-24	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/15/12	01/04/13	01/11/13	
L56024-25	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/15/12	01/04/13	01/11/13	
L56024-26	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/15/12	01/04/13	01/11/13	
L56024-27	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/15/12	01/04/13	01/11/13	
L56024-34	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/29/12	01/04/13	01/11/13	
WG124870-1	MB		ORPCB	OTHR SOLID		01/04/13	01/11/13	MB130104
WG124870-2	SB		ORPCB	OTHR SOLID		01/04/13	01/11/13	WG124870-1

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WG124870-3	MS	ORPCB	FRSHWTRSED	01/04/13	01/11/13	L56024-7
WG124870-4	MSD	ORPCB	FRSHWTRSED	01/04/13	01/11/13	WG124870-3 L56024-7
WG124870-5	SRM	ORPCB	FRSHWTRSED	01/04/13	01/11/13	
WG124870-6	SRMD	ORPCB	FRSHWTRSED	01/04/13	01/11/13	WG124870-5
WG124870-7	LD	ORPCB	FRSHWTRSED	01/04/13	01/11/13	L56024-1

### WG125089

Sample	Project	Project Description	List Type	Matrix	Collect Date	Prep Date	Analysis Date	Comments
L56024-12	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/27/12	01/24/13	02/01/13	
L56024-15	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/28/12	01/24/13	02/01/13	
L56024-16	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/28/12	01/24/13	02/01/13	
L56024-21	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/14/12	01/24/13	02/01/13	
L56024-22	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/14/12	01/24/13	02/01/13	
L56024-28	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/27/12	01/24/13	02/01/13	
L56024-29	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/27/12	01/24/13	02/01/13	
L56024-30	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/27/12	01/24/13	02/01/13	
L56024-33	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/27/12	01/24/13	02/01/13	
L56024-35	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/29/12	01/24/13	02/01/13	
L56024-36	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/27/12	01/24/13	02/01/13	
L56024-37	423589-330-4	Green Rvr PCB/PAH Loading	ORPCB	FRSHWTRSED	08/14/12	01/24/13	02/01/13	
WG125089-1	MB		ORPCB	OTHR SOLID		01/24/13	02/01/13	MB130124
WG125089-2	SB		ORPCB	OTHR SOLID		01/24/13	02/01/13	WG125089-1
WG125089-3	MS		ORPCB	FRSHWTRSED		01/24/13	02/01/13	L56024-35
WG125089-4	MSD		ORPCB	FRSHWTRSED		01/24/13	02/01/13	WG125089-3 L56024-35
WG125089-5	SRM		ORPCB	FRSHWTRSED		01/24/13	02/01/13	
WG125089-6	SRMD		ORPCB	FRSHWTRSED		01/24/13	02/01/13	WG125089-5
WG125089-7	LD		ORPCB	FRSHWTRSED		01/24/13	02/01/13	L56024-21

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

### WG122678

MB:WG122678-1 Matrix: OTHR SOLID Listtype:CVAVS Method:EPA DEC 1991 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	

SB:WG122678-2 MB:WG122678-1 Matrix: OTHR SOLID Listtype:CVAVS Method:EPA DEC 1991 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	26.985	29.7	110		80--120

LT:WG122678-4 LD:WG122678-3 L56024-4 Matrix: FRSHWTRSED Listtype:CVAVS Method:EPA DEC 1991 Project:423589-330-4 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
Sulfide, Acid Volatile	1.2	4.88	mg/Kg	24.5	18.8	17.1	19		0--20

MS:WG122678-5 L56024-4 Matrix: FRSHWTRSED Listtype:CVAVS Method:EPA DEC 1991 Project:423589-330-4 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit
Sulfide, Acid Volatile	1.2	4.86	mg/Kg	24.5	25.7175	22.1	-9	*	65--135

MB:WG122678-6 Matrix: OTHR SOLID Listtype:CVAVS Method:EPA DEC 1991 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	

SB:WG122678-7 MB:WG122678-6 Matrix: OTHR SOLID Listtype:CVAVS Method:EPA DEC 1991 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	25.16	27.5	109		80--120

### WG122829

MB:WG122829-1 Matrix: OTHR SOLID Listtype:CVAVS Method:EPA DEC 1991 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

SB:WG122829-2 MB:WG122829-1 Matrix: OTHR SOLID Listtype:CVAVS Method:EPA DEC 1991 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	25.615	29.6	115		80--120

LT:WG122829-4 LD:WG122829-3 L56024-19 Matrix: FRSHWTRSED Listtype:CVAVS Method:EPA DEC 1991 Project:423589-330-4 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
Sulfide, Acid Volatile	0.24	0.966	mg/Kg	1.24	1.16	1.64	19		0--20

MS:WG122829-5 L56024-19 Matrix: FRSHWTRSED Listtype:CVAVS Method:EPA DEC 1991 Project:423589-330-4 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit
Sulfide, Acid Volatile	0.23	0.913	mg/Kg	1.24	24.9513	10.4	38	*	65--135

MB:WG122829-6 Matrix: OTHR SOLID Listtype:CVAVS Method:EPA DEC 1991 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	

SB:WG122829-7 MB:WG122829-6 Matrix: OTHR SOLID Listtype:CVAVS Method:EPA DEC 1991 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Sulfide, Acid Volatile	0.25	1	mg/Kg	<MDL	26.51	28.3	107		80--120

### WG122562

LT:WG122562-2 LD:WG122562-1 L56024-2 Matrix: FRSHWTRSED Listtype:CVPH Method:SW846 9045D Project:423589-330-4 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
pH			pH	6.84	6.94	6.91	1		0--5

CS:WG122562-3 Matrix: OTHR SOLID Listtype:CVPH Method:SW846 9045D Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	TrueValue	CS Value	% Rec.	Qual	LabLimit
pH			pH	6.86	6.82	99		98--102

CS:WG122562-4 Matrix: OTHR SOLID Listtype:CVPH Method:SW846 9045D Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	TrueValue	CS Value	% Rec.	Qual	LabLimit
pH			pH	6.86	6.86	100		98--102

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

CS:WG122562-5 Matrix: OTHR SOLID Listtype:CVPH Method:SW846 9045D Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	TrueValue	CS Value	% Rec.	Qual	LabLimit
pH			pH	9.18	9.21	100		99--101

CS:WG122562-6 Matrix: OTHR SOLID Listtype:CVPH Method:SW846 9045D Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	TrueValue	CS Value	% Rec.	Qual	LabLimit
pH			pH	6.86	6.93	101		98--102

### WG122810

LD:WG122810-1 L56024-12 Matrix: FRSHWTRSED Listtype:CVPH Method:SW846 9045D Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	Abs. Diff	Qual	LabLimit
pH			pH	6.44	6.49	0.05		0--.2

LCS:WG122810-2 Matrix: OTHR SOLID Listtype:CVPH Method:SW846 9045D Project: Pkey:STD  
(Lab Control Sample)

Parameter	MDL	RDL	Units	TrueValue	LCS Value	% Rec.	Qual	LabLimit
pH			pH	6.86	6.9	101		98--102

LT:WG122810-4 LD:WG122810-3 L56024-13 Matrix: FRSHWTRSED Listtype:CVPH Method:SW846 9045D Project:423589-330-4 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
pH			pH	6.56	6.58	6.58	0		0--5

LD:WG122810-5 L56387-2 Matrix: FRSHWTRSED Listtype:CVPH Method:SW846 9045D Project:423258-500-1 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	Abs. Diff	Qual	LabLimit
pH			pH	6.86	6.85	0.01		0--.2

CS:WG122810-6 Matrix: OTHR SOLID Listtype:CVPH Method:SW846 9045D Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	TrueValue	CS Value	% Rec.	Qual	LabLimit
pH			pH	6.86	6.89	100		98--102

CS:WG122810-7 Matrix: OTHR SOLID Listtype:CVPH Method:SW846 9045D Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	TrueValue	CS Value	% Rec.	Qual	LabLimit
pH			pH	9.18	9.2	100		99--101

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

LT:WG122810-9 LD:WG122810-8 L56158-1 Matrix: SLUDGE Listtype:CVPH Method:SW846 9045D Project:421184-130 Pkey:STD  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
pH			pH	8.13	8.09	8.14	0		0--5

CS:WG122810-10 Matrix: OTHR SOLID Listtype:CVPH Method:SW846 9045D Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	TrueValue	CS Value	% Rec.	Qual	LabLimit
pH			pH	9.18	9.2	100		99--101

CS:WG122810-11 Matrix: OTHR SOLID Listtype:CVPH Method:SW846 9045D Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	TrueValue	CS Value	% Rec.	Qual	LabLimit
pH			pH	6.86	6.91	101		98--102

CS:WG122810-12 Matrix: OTHR SOLID Listtype:CVPH Method:SW846 9045D Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	TrueValue	CS Value	% Rec.	Qual	LabLimit
pH			pH	9.18	9.2	100		99--101

CS:WG122810-13 Matrix: OTHR SOLID Listtype:CVPH Method:SW846 9045D Project: Pkey:STD  
(Check Standard)

Parameter	MDL	RDL	Units	TrueValue	CS Value	% Rec.	Qual	LabLimit
pH			pH	9.18	9.19	100		99--101

### WG122689

LT:WG122689-2 LD:WG122689-1 L56024-7 Matrix: FRSHWTRSED Listtype:CVPSD Method:ASTM D422 Project:423589-330-4 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
Gravel	0.1	1.3	%	6.8	6.1	6.2	6		0--20
Sand	0.1	1.3	%	92.6	86.9	89.4	3		0--20
Silt	0.7	1.3	%	0.7	0.7	2	66	*	0--20
Clay	0.7	1.3	%	2.6	3.3	2.6	14		0--20

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

LT:WG122689-4 LD:WG122689-3 L56024-34 Matrix: FRSHWTRSED Listtype:CVPSD Method:ASTM D422 Project:423589-330-4 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
Gravel	0.1	1.2	%	9.4	10.2	8.9	7		0--20
Sand	0.1	1.2	%	90.2	88.9	90	1		0--20
Silt	0.6	1.2	%	<MDL	<MDL	<MDL			0--20
Clay	0.6	1.2	%	2.4	2.5	2.4	2		0--20

### WG122758

MB:WG122758-1 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	500	1000	mg/Kg	<MDL	

SRM:WG122758-2 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Std Reference Material)

Parameter	MDL	RDL	Units	TrueValue	SRM Value	% Rec.	Qual	LabLimit
Total Organic Carbon	2800	5530	mg/Kg	36900	31700	86		80--120

SB:WG122758-3 MB:WG122758-1 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Total Organic Carbon	500	1000	mg/Kg	<MDL	2500	2790	112		80--120

LT:WG122758-5 LD:WG122758-4 L56024-2 Matrix: FRSHWTRSED Listtype:CVTOC Method:SW846 9060-PSEP96 Project:423589-330-4 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
Total Organic Carbon	1300	2660	mg/Kg	7750	7910	7260	4		0--20

MS:WG122758-6 L56024-2 Matrix: FRSHWTRSED Listtype:CVTOC Method:SW846 9060-PSEP96 Project:423589-330-4 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit
Total Organic Carbon	950	1900	mg/Kg	7750	2500	12800	79		75--125

MB:WG122758-7 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	500	1000	mg/Kg	<MDL	

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

SRM:WG122758-8 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Std Reference Material)

Parameter	MDL	RDL	Units	TrueValue	SRM Value	% Rec.	Qual	LabLimit
Total Organic Carbon	3100	6280	mg/Kg	36900	32400	88		80--120

MB:WG122758-9 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	500	1000	mg/Kg	<MDL	

SRM:WG122758-10 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Std Reference Material)

Parameter	MDL	RDL	Units	TrueValue	SRM Value	% Rec.	Qual	LabLimit
Total Organic Carbon	3300	6560	mg/Kg	36900	33500	91		80--120

MB:WG122758-11 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	500	1000	mg/Kg	<MDL	

SRM:WG122758-12 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Std Reference Material)

Parameter	MDL	RDL	Units	TrueValue	SRM Value	% Rec.	Qual	LabLimit
Total Organic Carbon	2500	4930	mg/Kg	36900	33300	90		80--120

MB:WG122758-13 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	500	1000	mg/Kg	<MDL	

LCS:WG122758-14 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Lab Control Sample)

Parameter	MDL	RDL	Units	TrueValue	LCS Value	% Rec.	Qual	LabLimit
Total Organic Carbon	2600	5150	mg/Kg	33510	36600	109		80--120

SB:WG122758-15 MB:WG122758-13 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Total Organic Carbon	500	1000	mg/Kg	<MDL	2500	2430	97		80--120

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

LT:WG122758-17 LD:WG122758-16 L56387-7 Matrix: SOIL Listtype:CVTOC Method:SW846 9060-PSEP96 Project:423258-500-1 Pkey:STD  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
Total Organic Carbon	490	977	mg/Kg	1290	1240	950	16		0--20

MS:WG122758-18 L56387-7 Matrix: SOIL Listtype:CVTOC Method:SW846 9060-PSEP96 Project:423258-500-1 Pkey:STD  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit
Total Organic Carbon	490	988	mg/Kg	1290	2500	3990	112		75--125

### WG122976

MB:WG122976-1 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	500	1000	mg/Kg	<MDL	

LCS:WG122976-2 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Lab Control Sample)

Parameter	MDL	RDL	Units	TrueValue	LCS Value	% Rec.	Qual	LabLimit
Total Organic Carbon	3300	6510	mg/Kg	33510	32000	95		80--120

MB:WG122976-3 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	500	1000	mg/Kg	<MDL	

LCS:WG122976-4 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Lab Control Sample)

Parameter	MDL	RDL	Units	TrueValue	LCS Value	% Rec.	Qual	LabLimit
Total Organic Carbon	2500	4980	mg/Kg	21900	20600	94		80--120

MB:WG122976-5 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Organic Carbon	500	1000	mg/Kg	<MDL	

LCS:WG122976-6 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Lab Control Sample)

Parameter	MDL	RDL	Units	TrueValue	LCS Value	% Rec.	Qual	LabLimit
Total Organic Carbon	2800	5590	mg/Kg	33510	32000	96		80--120

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

SB:WG122976-7 MB:WG122976-5 Matrix: OTHR SOLID Listtype:CVTOC Method:SW846 9060-PSEP96 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Total Organic Carbon	500	1000	mg/Kg	<MDL	2500	2300	92		80--120

LT:WG122976-9 LD:WG122976-8 L56024-35 Matrix: FRSHWTRSED Listtype:CVTOC Method:SW846 9060-PSEP96 Project:423589-330-4 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
Total Organic Carbon	470	931	mg/Kg	3150	3530	3400	6		0--20

MS:WG122976-10 L56024-35 Matrix: FRSHWTRSED Listtype:CVTOC Method:SW846 9060-PSEP96 Project:423589-330-4 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit
Total Organic Carbon	440	889	mg/Kg	3150	2500	5150	84		75--125

### WG123636

MB:WG123636-1 Matrix: OTHR SOLID Listtype:CVTOTS Method:SM2540-G Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Solids	0.005	0.01	%	<MDL	

LT:WG123636-3 LD:WG123636-2 L56024-5 Matrix: FRSHWTRSED Listtype:CVTOTS Method:SM2540-G Project:423589-330-4 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
Total Solids	0.005	0.01	%	35.4	43.6	44.8	12		0--20

LD:WG123636-4 L56693-7 Matrix: SLUDGE Listtype:CVTOTS Method:SM2540-G Project:421298A Pkey:STD  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Total Solids	0.005	0.01	%	27	25.3	7		0--20

### WG123727

MB:WG123727-1 Matrix: OTHR SOLID Listtype:CVTOTS Method:SM2540-G Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Solids	0.005	0.01	%	<MDL	

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

LT:WG123727-3 LD:WG123727-2 L56024-22 Matrix: FRSHWTRSED Listtype:CVTOTS Method:SM2540-G Project:423589-330-4 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
Total Solids	0.005	0.01	%	42.9	47.6	46.1	5		0--20

### WG124317

MB:WG124317-1 Matrix: OTHR SOLID Listtype:CVTOTS Method:SM2540-G Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total Solids	0.005	0.01	%	<MDL	

LT:WG124317-3 LD:WG124317-2 L56024-26 Matrix: FRSHWTRSED Listtype:CVTOTS Method:SM2540-G Project:423589-330-4 Pkey:SED  
(Lab Triplicate, Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	LT Value	RSD	Qual	LabLimit
Total Solids	0.005	0.01	%	30.5	32.9	34.8	7		0--20

### WG122912

LCSD:WG122912-2 LCS:WG122912-1 Matrix: FRSHWTRSED Listtype:MTHG-MIDS Method:SW846 7471B Project: Pkey:SED  
(Lab Control Sample Duplicate, Lab Control Sample)

Parameter	MDL	RDL	Units	TrueValue	LCS Value	% Rec.	Qual	LabLimit	TrueValue	LCSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Mercury, Total, CVAA	0.025	0.253	mg/Kg	1.09	1.01	93		80--120	1.09	1.07	99		6		0--20

MB:WG122912-3 Matrix: SOLIDBLANK Listtype:MTHG-MIDS Method:SW846 7471B Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Total, CVAA	0.005	0.048	mg/Kg	<MDL	

SB:WG122912-4 MB:WG122912-3 Matrix: SOLIDBLANK Listtype:MTHG-MIDS Method:SW846 7471B Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Mercury, Total, CVAA	0.005	0.048	mg/Kg	<MDL	0.0952	0.0956	100		85--115

MSD:WG122912-6 MS:WG122912-5 L56024-7 Matrix: FRSHWTRSED Listtype:MTHG-MIDS Method:SW846 7471B Project:423589-330-4 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit	TrueValue	MSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Mercury, Total, CVAA	0.005	0.048	mg/Kg	0.019	0.0966	0.102	86		75--125	0.0973	0.0983	82		4		0--20

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

LD:WG122912-7 L56024-7 Matrix: FRSHWTRSED Listtype:MTHG-MIDS Method:SW846 7471B Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Mercury, Total, CVAA	0.005	0.048	mg/Kg	0.019	0.017			0--20

### WG123004

LCSD:WG123004-2 LCS:WG123004-1 Matrix: FRSHWTRSED Listtype:MTHG-MIDS Method:SW846 7471B Project: Pkey:SED  
(Lab Control Sample Duplicate, Lab Control Sample)

Parameter	MDL	RDL	Units	TrueValue	LCS Value	% Rec.	Qual	LabLimit	TrueValue	LCSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Mercury, Total, CVAA	0.025	0.25	mg/Kg	1.09	1.07	98		80--120	1.09	1.02	94		5		0--20

MB:WG123004-3 Matrix: SOLIDBLANK Listtype:MTHG-MIDS Method:SW846 7471B Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Total, CVAA	0.005	0.048	mg/Kg	<MDL	

SB:WG123004-4 MB:WG123004-3 Matrix: SOLIDBLANK Listtype:MTHG-MIDS Method:SW846 7471B Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Mercury, Total, CVAA	0.005	0.048	mg/Kg	<MDL	0.0952	0.0922	97		85--115

MSD:WG123004-6 MS:WG123004-5 L56024-17 Matrix: FRSHWTRSED Listtype:MTHG-MIDS Method:SW846 7471B Project:423589-330-4 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit	TrueValue	MSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Mercury, Total, CVAA	0.005	0.049	mg/Kg	0.03	0.0978	0.123	96		75--125	0.0984	0.125	97		2		0--20

LD:WG123004-7 L56024-17 Matrix: FRSHWTRSED Listtype:MTHG-MIDS Method:SW846 7471B Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Mercury, Total, CVAA	0.005	0.048	mg/Kg	0.03	0.028			0--20

### WG122754

MB:WG122754-1 Matrix: SOLIDBLANK Listtype:MTHG-SEM Method:EPA 821 1991/245.1\*SW846 7470A Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

SB:WG122754-2 MB:WG122754-1 Matrix: SOLIDBLANK Listtype:MTHG-SEM Method:EPA 821 1991/245.1\*SW846 7470A Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	0.02	0.0172	86		85--115

LD:WG122754-3 L56024-4 Matrix: FRSHWTRSED Listtype:MTHG-SEM Method:EPA 821 1991/245.1\*SW846 7470A Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Mercury, Extractable, SEM	1E-03	0.003	mg/Kg	<MDL	<MDL			0--20

MS:WG122754-4 L56024-4 Matrix: FRSHWTRSED Listtype:MTHG-SEM Method:EPA 821 1991/245.1\*SW846 7470A Project:423589-330-4 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit
Mercury, Extractable, SEM	1E-03	0.003	mg/Kg	<MDL	0.0194	0.0196	101		75--125

MB:WG122754-5 Matrix: SOLIDBLANK Listtype:MTHG-SEM Method:EPA 821 1991/245.1\*SW846 7470A Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	

MB:WG122754-6 Matrix: SOLIDBLANK Listtype:MTHG-SEM Method:EPA 821 1991/245.1\*SW846 7470A Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	

### WG122942

MB:WG122942-1 Matrix: SOLIDBLANK Listtype:MTHG-SEM Method:EPA 821 1991/245.1\*SW846 7470A Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	

SB:WG122942-2 MB:WG122942-1 Matrix: SOLIDBLANK Listtype:MTHG-SEM Method:EPA 821 1991/245.1\*SW846 7470A Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	0.02	0.0184	92		85--115

LD:WG122942-3 L56024-19 Matrix: FRSHWTRSED Listtype:MTHG-SEM Method:EPA 821 1991/245.1\*SW846 7470A Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Mercury, Extractable, SEM	9E-04	0.003	mg/Kg	0.0013	0.0013			0--20

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MS:WG122942-4 L56024-19 Matrix: FRSHWTRSED Listtype:MTHG-SEM Method:EPA 821 1991/245.1\*SW846 7470A Project:423589-330-4 Pkey:SED (Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit
Mercury, Extractable, SEM	9E-04	0.003	mg/Kg	0.0013	0.0183	0.0181	92		75--125

MB:WG122942-5 Matrix: SOLIDBLANK Listtype:MTHG-SEM Method:EPA 821 1991/245.1\*SW846 7470A Project: Pkey:STD (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	

MB:WG122942-6 Matrix: SOLIDBLANK Listtype:MTHG-SEM Method:EPA 821 1991/245.1\*SW846 7470A Project: Pkey:STD (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Mercury, Extractable, SEM	0.001	0.003	mg/Kg	<MDL	

### WG122775

SB:WG122775-1 MB:WG122775-2 Matrix: SOLIDBLANK Listtype:MTICP-SEM Method:EPA 1991/200.7 Project: Pkey:STD (Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	20	19.3	97		85--115
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	20	18.4	92		85--115
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	20	17.9	90		85--115
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	20	18.1	91		85--115
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	20	18.3	92		85--115
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	20	18	90		85--115
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	20	18.5	92		85--115
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	20	17.9	90		85--115

MB:WG122775-2 Matrix: SOLIDBLANK Listtype:MTICP-SEM Method:EPA 1991/200.7 Project: Pkey:STD (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	

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LD:WG122775-3 L56024-4 Matrix: FRSHWTRSED Listtype:MTICP-SEM Method:EPA 1991/200.7 Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Silver, Extractable, SEM	0.078	0.389	mg/Kg	<MDL	<MDL			0--20
Arsenic, Extractable, SEM	0.49	2.43	mg/Kg	4.03	4.03	0		0--20
Cadmium, Extractable, SEM	0.039	0.194	mg/Kg	0.092	0.083			0--20
Chromium, Extractable, SEM	0.058	0.292	mg/Kg	1.07	0.949	12		0--20
Copper, Extractable, SEM	0.078	0.389	mg/Kg	3.51	3.23	8		0--20
Nickel, Extractable, SEM	0.097	0.486	mg/Kg	1.44	1.3	10		0--20
Lead, Extractable, SEM	0.39	1.94	mg/Kg	3.17	2.8	13		0--20
Zinc, Extractable, SEM	0.097	0.486	mg/Kg	25.3	23.8	6		0--20

MS:WG122775-4 L56024-4 Matrix: FRSHWTRSED Listtype:MTICP-SEM Method:EPA 1991/200.7 Project:423589-330-4 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit
Silver, Extractable, SEM	0.078	0.389	mg/Kg	<MDL	19.4	19.6	101		75--125
Arsenic, Extractable, SEM	0.49	2.43	mg/Kg	4.03	19.4	21.5	90		75--125
Cadmium, Extractable, SEM	0.039	0.194	mg/Kg	0.092	19.4	17.1	87		75--125
Chromium, Extractable, SEM	0.058	0.292	mg/Kg	1.07	19.4	19	92		75--125
Copper, Extractable, SEM	0.078	0.389	mg/Kg	3.51	19.4	21.7	94		75--125
Nickel, Extractable, SEM	0.097	0.486	mg/Kg	1.44	19.4	19.5	93		75--125
Lead, Extractable, SEM	0.39	1.94	mg/Kg	3.17	19.4	21.1	92		75--125
Zinc, Extractable, SEM	0.097	0.486	mg/Kg	25.3	19.4	40.6	79		75--125

MB:WG122775-5 Matrix: SOLIDBLANK Listtype:MTICP-SEM Method:EPA 1991/200.7 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	

MB:WG122775-6 Matrix: SOLIDBLANK Listtype:MTICP-SEM Method:EPA 1991/200.7 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	

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Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL
Chromium, Extractable, SE	0.06	0.3	mg/Kg	<MDL
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL

### WG122929

SB:WG122929-1 MB:WG122929-2 Matrix: SOLIDBLANK Listtype:MTICP-SEM Method:EPA 1991/200.7 Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	20	19.4	97		85--115
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	20	18.8	94		85--115
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	20	18.7	93		85--115
Chromium, Extractable, SE	0.06	0.3	mg/Kg	<MDL	20	19.3	96		85--115
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	20	19.5	97		85--115
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	20	18.9	95		85--115
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	20	19.1	96		85--115
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	20	18.6	93		85--115

MB:WG122929-2 Matrix: SOLIDBLANK Listtype:MTICP-SEM Method:EPA 1991/200.7 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	
Chromium, Extractable, SE	0.06	0.3	mg/Kg	<MDL	
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	

LD:WG122929-3 L56024-19 Matrix: FRSHWTRSED Listtype:MTICP-SEM Method:EPA 1991/200.7 Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Silver, Extractable, SEM	0.073	0.365	mg/Kg	<MDL	<MDL			0--20
Arsenic, Extractable, SEM	0.46	2.28	mg/Kg	0.79	0.74			0--20
Cadmium, Extractable, SEM	0.037	0.183	mg/Kg	0.067	0.066			0--20
Chromium, Extractable, SE	0.055	0.274	mg/Kg	0.932	0.866	7		0--20
Copper, Extractable, SEM	0.073	0.365	mg/Kg	3.02	3.09	2		0--20

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Nickel, Extractable, SEM	0.091	0.457	mg/Kg	0.794	0.786	1	0--20
Lead, Extractable, SEM	0.37	1.83	mg/Kg	6.63	6.5	2	0--20
Zinc, Extractable, SEM	0.091	0.457	mg/Kg	47.6	47.3	1	0--20

MS:WG122929-4 L56024-19 Matrix: FRSHWTRSED Listtype:MTICP-SEM Method:EPA 1991/200.7 Project:423589-330-4 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit
Silver, Extractable, SEM	0.073	0.365	mg/Kg	<MDL	18.3	17.9	98		75--125
Arsenic, Extractable, SEM	0.46	2.28	mg/Kg	0.79	18.3	17.6	92		75--125
Cadmium, Extractable, SEM	0.037	0.183	mg/Kg	0.067	18.3	16.9	92		75--125
Chromium, Extractable, SEM	0.055	0.274	mg/Kg	0.932	18.3	18.8	98		75--125
Copper, Extractable, SEM	0.073	0.365	mg/Kg	3.02	18.3	21.3	100		75--125
Nickel, Extractable, SEM	0.091	0.457	mg/Kg	0.794	18.3	18.3	96		75--125
Lead, Extractable, SEM	0.37	1.83	mg/Kg	6.63	18.3	23.9	95		75--125
Zinc, Extractable, SEM	0.091	0.457	mg/Kg	47.6	18.3	61.6	76		75--125

MB:WG122929-5 Matrix: SOLIDBLANK Listtype:MTICP-SEM Method:EPA 1991/200.7 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	

MB:WG122929-6 Matrix: SOLIDBLANK Listtype:MTICP-SEM Method:EPA 1991/200.7 Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Silver, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Arsenic, Extractable, SEM	0.5	2.5	mg/Kg	<MDL	
Cadmium, Extractable, SEM	0.04	0.2	mg/Kg	<MDL	
Chromium, Extractable, SEM	0.06	0.3	mg/Kg	<MDL	
Copper, Extractable, SEM	0.08	0.4	mg/Kg	<MDL	
Nickel, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	
Lead, Extractable, SEM	0.4	2	mg/Kg	<MDL	
Zinc, Extractable, SEM	0.1	0.5	mg/Kg	<MDL	

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### WG125138

MB:WG125138-1 Matrix: SOLIDBLANK Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project: Pkey:STD

(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Chromium, Total, ICP-MS	0.016	0.082	mg/Kg	<MDL	
Nickel, Total, ICP-MS	0.008	0.041	mg/Kg	<MDL	
Copper, Total, ICP-MS	0.033	0.164	mg/Kg	<MDL	
Zinc, Total, ICP-MS	0.041	0.205	mg/Kg	<MDL	
Arsenic, Total, ICP-MS	0.008	0.041	mg/Kg	<MDL	
Silver, Total, ICP-MS	0.003	0.016	mg/Kg	<MDL	
Cadmium, Total, ICP-MS	0.004	0.021	mg/Kg	<MDL	
Lead, Total, ICP-MS	0.008	0.041	mg/Kg	<MDL	

SB:WG125138-2 MB:WG125138-1 Matrix: SOLIDBLANK Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project: Pkey:STD

(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Chromium, Total, ICP-MS	0.016	0.082	mg/Kg	<MDL	1.64	1.51	92		85--115
Nickel, Total, ICP-MS	0.008	0.041	mg/Kg	<MDL	1.64	1.55	95		85--115
Copper, Total, ICP-MS	0.033	0.164	mg/Kg	<MDL	1.64	1.55	94		85--115
Zinc, Total, ICP-MS	0.041	0.205	mg/Kg	<MDL	1.64	1.53	93		85--115
Arsenic, Total, ICP-MS	0.008	0.041	mg/Kg	<MDL	1.64	1.4	86		85--115
Silver, Total, ICP-MS	0.003	0.016	mg/Kg	<MDL	1.64	1.55	95		85--115
Cadmium, Total, ICP-MS	0.004	0.021	mg/Kg	<MDL	1.64	1.5	92		85--115
Lead, Total, ICP-MS	0.008	0.041	mg/Kg	<MDL	1.64	1.57	96		85--115

LCSD:WG125138-4 LCS:WG125138-3 Matrix: FRSHWTRSED Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project: Pkey:SED

(Lab Control Sample Duplicate, Lab Control Sample)

Parameter	MDL	RDL	Units	TrueValue	LCS Value	% Rec.	Qual	LabLimit	TrueValue	LCSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Chromium, Total, ICP-MS	0.2	0.977	mg/Kg	121.9	59.7	49		40--80	121.9	59.6	49		0		0--20
Nickel, Total, ICP-MS	0.098	0.488	mg/Kg	42.9	31.2	73		70--105	42.9	31.5	73		1		0--20
Zinc, Total, ICP-MS	0.49	2.44	mg/Kg	408	361	88		69--109	408	359	88		0		0--20
Arsenic, Total, ICP-MS	0.098	0.488	mg/Kg	17	12.7	75		66--144	17	12.8	75		0		0--20
Cadmium, Total, ICP-MS	0.049	0.244	mg/Kg	2.94	2.76	94		76--116	2.94	2.73	93		1		0--20
Lead, Total, ICP-MS	0.098	0.488	mg/Kg	150	141	94		71--111	150	137	91		3		0--20

LCSD:WG125138-6 LCS:WG125138-5 Matrix: SOIL Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project: Pkey:STD

(Lab Control Sample Duplicate, Lab Control Sample)

Parameter	MDL	RDL	Units	TrueValue	LCS Value	% Rec.	Qual	LabLimit	TrueValue	LCSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Chromium, Total, ICP-MS	0.2	0.977	mg/Kg	119	103	87		80--120	119	103	86		1		0--20
Nickel, Total, ICP-MS	0.098	0.488	mg/Kg	70	61.9	88		80--120	70	61.2	87		1		0--20

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Copper, Total, ICP-MS	0.39	1.95	mg/Kg	118	102	86	80--120	118	100	85	1	0--20
Zinc, Total, ICP-MS	0.49	2.44	mg/Kg	276	271	98	80--121	276	271	98	0	0--20
Arsenic, Total, ICP-MS	0.098	0.488	mg/Kg	168	152	90	80--120	168	150	90	1	0--20
Silver, Total, ICP-MS	0.039	0.195	mg/Kg	42.3	40.1	95	66--134	42.3	41.1	97	3	0--20
Cadmium, Total, ICP-MS	0.049	0.244	mg/Kg	103	95.9	93	80--120	103	95.3	93	1	0--20
Lead, Total, ICP-MS	0.098	0.488	mg/Kg	76.9	76.4	99	80--120	76.9	74.9	97	2	0--20

LD:WG125138-7 L56024-7 Matrix: FRSHWTRSED Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Chromium, Total, ICP-MS	0.13	0.632	mg/Kg	22.3	20.5	9		0--20
Nickel, Total, ICP-MS	0.063	0.316	mg/Kg	19.6	16.9	15		0--20
Copper, Total, ICP-MS	0.25	1.26	mg/Kg	24.9	27.5	10		0--20
Zinc, Total, ICP-MS	0.32	1.58	mg/Kg	113	124	9		0--20
Arsenic, Total, ICP-MS	0.016	0.079	mg/Kg	2.8	2.5	11		0--20
Silver, Total, ICP-MS	0.006	0.032	mg/Kg	0.0372	0.034	9		0--20
Cadmium, Total, ICP-MS	0.008	0.04	mg/Kg	0.182	0.186	2		0--20
Lead, Total, ICP-MS	0.016	0.079	mg/Kg	9.42	18.2	64	*	0--20

MS:WG125138-8 L56024-7 Matrix: FRSHWTRSED Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project:423589-330-4 Pkey:SED  
(Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit
Chromium, Total, ICP-MS	0.13	0.632	mg/Kg	22.3	3.14	23.8		4xRule	75--125
Nickel, Total, ICP-MS	0.063	0.316	mg/Kg	19.6	3.14	19.2		4xRule	75--125
Copper, Total, ICP-MS	0.25	1.26	mg/Kg	24.9	3.14	33.4		4xRule	75--125
Zinc, Total, ICP-MS	0.32	1.58	mg/Kg	113	3.14	141		4xRule	75--125
Arsenic, Total, ICP-MS	0.016	0.079	mg/Kg	2.8	3.14	4.95	68	*	75--125
Silver, Total, ICP-MS	0.006	0.032	mg/Kg	0.0372	3.14	2.87	90		75--125
Cadmium, Total, ICP-MS	0.008	0.04	mg/Kg	0.182	3.14	3.08	92		75--125
Lead, Total, ICP-MS	0.016	0.079	mg/Kg	9.42	3.14	19.6	323	*	75--125

### WG125139

MB:WG125139-1 Matrix: SOLIDBLANK Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Chromium, Total, ICP-MS	0.015	0.077	mg/Kg	<MDL	
Nickel, Total, ICP-MS	0.008	0.039	mg/Kg	<MDL	
Copper, Total, ICP-MS	0.031	0.154	mg/Kg	<MDL	
Zinc, Total, ICP-MS	0.038	0.192	mg/Kg	<MDL	
Arsenic, Total, ICP-MS	0.008	0.039	mg/Kg	<MDL	

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Silver, Total, ICP-MS	0.003	0.015	mg/Kg	<MDL
Cadmium, Total, ICP-MS	0.004	0.019	mg/Kg	<MDL
Lead, Total, ICP-MS	0.008	0.039	mg/Kg	<MDL

SB:WG125139-2 MB:WG125139-1 Matrix: SOLIDBLANK Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Chromium, Total, ICP-MS	0.015	0.077	mg/Kg	<MDL	1.54	1.47	95		85--115
Nickel, Total, ICP-MS	0.008	0.039	mg/Kg	<MDL	1.54	1.52	99		85--115
Copper, Total, ICP-MS	0.031	0.154	mg/Kg	<MDL	1.54	1.52	99		85--115
Zinc, Total, ICP-MS	0.038	0.192	mg/Kg	<MDL	1.54	1.53	99		85--115
Arsenic, Total, ICP-MS	0.008	0.039	mg/Kg	<MDL	1.54	1.4	91		85--115
Silver, Total, ICP-MS	0.003	0.015	mg/Kg	<MDL	1.54	1.47	95		85--115
Cadmium, Total, ICP-MS	0.004	0.019	mg/Kg	<MDL	1.54	1.49	97		85--115
Lead, Total, ICP-MS	0.008	0.039	mg/Kg	<MDL	1.54	1.48	96		85--115

LCSD:WG125139-4 LCS:WG125139-3 Matrix: FRSHWTRSED Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project: Pkey:SED  
(Lab Control Sample Duplicate, Lab Control Sample)

Parameter	MDL	RDL	Units	TrueValue	LCS Value	% Rec.	Qual	LabLimit	TrueValue	LCSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Chromium, Total, ICP-MS	0.2	0.996	mg/Kg	121.9	62.1	51		40--80	121.9	62	51		0		0--20
Nickel, Total, ICP-MS	0.1	0.498	mg/Kg	42.9	32.3	75		70--105	42.9	32.9	77		2		0--20
Zinc, Total, ICP-MS	0.5	2.49	mg/Kg	408	369	90		69--109	408	366	90		1		0--20
Arsenic, Total, ICP-MS	0.1	0.498	mg/Kg	17	13.3	78		66--144	17	13.2	78		1		0--20
Cadmium, Total, ICP-MS	0.05	0.249	mg/Kg	2.94	2.83	96		76--116	2.94	2.92	99		3		0--20
Lead, Total, ICP-MS	0.1	0.498	mg/Kg	150	138	92		71--111	150	137	91		1		0--20

LCSD:WG125139-6 LCS:WG125139-5 Matrix: SOIL Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project: Pkey:STD  
(Lab Control Sample Duplicate, Lab Control Sample)

Parameter	MDL	RDL	Units	TrueValue	LCS Value	% Rec.	Qual	LabLimit	TrueValue	LCSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Chromium, Total, ICP-MS	0.22	1.11	mg/Kg	119	105	88		80--120	119	106	89		1		0--20
Nickel, Total, ICP-MS	0.11	0.556	mg/Kg	70	64.4	92		80--120	70	66	94		2		0--20
Copper, Total, ICP-MS	0.44	2.22	mg/Kg	118	107	91		80--120	118	107	90		0		0--20
Zinc, Total, ICP-MS	0.56	2.78	mg/Kg	276	275	100		80--121	276	282	102		3		0--20
Arsenic, Total, ICP-MS	0.11	0.556	mg/Kg	168	154	91		80--120	168	156	93		2		0--20
Silver, Total, ICP-MS	0.044	0.222	mg/Kg	42.3	38.8	92		66--134	42.3	38.9	92		0		0--20
Cadmium, Total, ICP-MS	0.056	0.278	mg/Kg	103	95.8	93		80--120	103	99.3	96		4		0--20
Lead, Total, ICP-MS	0.11	0.556	mg/Kg	76.9	72.6	94		80--120	76.9	73	95		1		0--20

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

LD:WG125139-7 L56024-24 Matrix: FRSHWTRSED Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project:423589-330-4 Pkey:SED (Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Chromium, Total, ICP-MS	0.13	0.655	mg/Kg	13.4	10.8	22	*	0--20
Nickel, Total, ICP-MS	0.066	0.328	mg/Kg	10.3	10.3	0		0--20
Copper, Total, ICP-MS	0.26	1.31	mg/Kg	6.13	7.37	18		0--20
Zinc, Total, ICP-MS	0.082	0.41	mg/Kg	35.8	33.2	8		0--20
Arsenic, Total, ICP-MS	0.016	0.082	mg/Kg	8.62	6.63	26	*	0--20
Silver, Total, ICP-MS	0.007	0.033	mg/Kg	0.019	0.027			0--20
Cadmium, Total, ICP-MS	0.008	0.041	mg/Kg	0.0448	0.04	10		0--20
Lead, Total, ICP-MS	0.016	0.082	mg/Kg	4.53	4.01	12		0--20

MS:WG125139-8 L56024-24 Matrix: FRSHWTRSED Listtype:MTICPMS-SED Method:SW846 3050B\*SW846 6020A Project:423589-330-4 Pkey:SED (Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit
Chromium, Total, ICP-MS	0.13	0.655	mg/Kg	13.4	3.28	12.5		4xRule	75--125
Nickel, Total, ICP-MS	0.066	0.328	mg/Kg	10.3	3.28	10.5	6	*	75--125
Copper, Total, ICP-MS	0.26	1.31	mg/Kg	6.13	3.28	8.26	65	*	75--125
Zinc, Total, ICP-MS	0.082	0.41	mg/Kg	35.8	3.28	31.9		4xRule	75--125
Arsenic, Total, ICP-MS	0.016	0.082	mg/Kg	8.62	3.28	10.4	53	*	75--125
Silver, Total, ICP-MS	0.007	0.033	mg/Kg	0.019	3.28	3.08	93		75--125
Cadmium, Total, ICP-MS	0.008	0.041	mg/Kg	0.0448	3.28	3.27	98		75--125
Lead, Total, ICP-MS	0.016	0.082	mg/Kg	4.53	3.28	7.55	92		75--125

### WG124929

MB:WG124929-1 Matrix: OTHR SOLID Listtype:ORBNASMS Method:SW846 3550B\*SW846 8270D Project: Pkey:STD (Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Phenol	8.9	26.7	ug/Kg	<MDL	
1,4-Dichlorobenzene	2.67	2.67	ug/Kg	<MDL	
Benzyl Alcohol	4.44	4.44	ug/Kg	<MDL	
1,2-Dichlorobenzene	1.78	1.78	ug/Kg	<MDL	
2-Methylphenol	1.8	3.56	ug/Kg	<MDL	
3-,4-Methylphenol	8.9	17.8	ug/Kg	<MDL	
2,4-Dimethylphenol	1.8	3.56	ug/Kg	<MDL	
Benzoic Acid	35.6	35.6	ug/Kg	<MDL	
1,2,4-Trichlorobenzene	0.18	0.356	ug/Kg	<MDL	
Naphthalene	1.8	3.56	ug/Kg	<MDL	
Hexachlorobutadiene	0.89	1.78	ug/Kg	<MDL	
2-Methylnaphthalene	1.8	3.56	ug/Kg	<MDL	

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

Dimethyl Phthalate	3.56	3.56	ug/Kg	<MDL
Acenaphthylene	1.8	3.56	ug/Kg	<MDL
Acenaphthene	1.8	3.56	ug/Kg	<MDL
Dibenzofuran	1.8	3.56	ug/Kg	<MDL
Diethyl Phthalate	3.6	7.11	ug/Kg	<MDL
Fluorene	1.8	3.56	ug/Kg	<MDL
N-Nitrosodiphenylamine	4.44	4.44	ug/Kg	<MDL
Hexachlorobenzene	0.18	0.356	ug/Kg	<MDL
Pentachlorophenol	26.7	26.7	ug/Kg	<MDL
Phenanthrene	1.8	3.56	ug/Kg	<MDL
Anthracene	1.8	3.56	ug/Kg	<MDL
Carbazole	1.8	3.56	ug/Kg	<MDL
Di-N-Butyl Phthalate	3.6	7.11	ug/Kg	<MDL
Fluoranthene	1.8	3.56	ug/Kg	<MDL
Pyrene	1.8	3.56	ug/Kg	<MDL
Benzyl Butyl Phthalate	2.67	2.67	ug/Kg	<MDL
Benzo(a)anthracene	1.8	3.56	ug/Kg	<MDL
Chrysene	1.8	3.56	ug/Kg	<MDL
Bis(2-Ethylhexyl)Phthalate	3.6	7.11	ug/Kg	<MDL
Di-N-Octyl Phthalate	3.56	3.56	ug/Kg	<MDL
Benzo(b,j,k)fluoranthene	1.8	3.56	ug/Kg	<MDL
Benzo(a)pyrene	1.8	3.56	ug/Kg	<MDL
Indeno(1,2,3-Cd)Pyrene	1.8	3.56	ug/Kg	<MDL
Dibenzo(a,h)anthracene	1.8	3.56	ug/Kg	<MDL
Benzo(g,h,i)perylene	1.8	3.56	ug/Kg	<MDL
Total LPAHs	1.8	3.56	ug/Kg	<MDL
Total HPAHS	1.8	3.56	ug/Kg	<MDL

SB:WG124929-2 MB:WG124929-1 Matrix: OTHR SOLID Listtype:ORBNASMS Method:SW846 3550B\*SW846 8270D Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Phenol	8.9	26.7	ug/Kg	<MDL	267	104	39		26--136
1,4-Dichlorobenzene	2.67	2.67	ug/Kg	<MDL	267	187	70		40--103
Benzyl Alcohol	4.44	4.44	ug/Kg	<MDL	267	132	49		26--111
1,2-Dichlorobenzene	1.78	1.78	ug/Kg	<MDL	267	200	75		44--105
2-Methylphenol	1.8	3.56	ug/Kg	<MDL	267	60.7	23		20--123
3-,4-Methylphenol	8.9	17.8	ug/Kg	<MDL	267	88.1	33		22--119
2,4-Dimethylphenol	1.8	3.56	ug/Kg	<MDL	267	6.4	2	*	20--121
Benzoic Acid	35.6	35.6	ug/Kg	<MDL	267	<MDL	0	*	20--92
1,2,4-Trichlorobenzene	0.18	0.356	ug/Kg	<MDL	267	235	88		39--94
Naphthalene	1.8	3.56	ug/Kg	<MDL	267	243	91		28--109

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

Hexachlorobutadiene	0.89	1.78	ug/Kg	<MDL	267	258	97	20--135
2-Methylnaphthalene	1.8	3.56	ug/Kg	<MDL	267	256	96	20--128
Dimethyl Phthalate	3.56	3.56	ug/Kg	<MDL	267	243	91	70--129
Acenaphthylene	1.8	3.56	ug/Kg	<MDL	267	217	81	45--132
Acenaphthene	1.8	3.56	ug/Kg	<MDL	267	217	81	43--126
Dibenzofuran	1.8	3.56	ug/Kg	<MDL	267	226	85	52--133
Diethyl Phthalate	3.6	7.11	ug/Kg	<MDL	267	238	89	75--131
Fluorene	1.8	3.56	ug/Kg	<MDL	267	222	83	57--150
N-Nitrosodiphenylamine	4.44	4.44	ug/Kg	<MDL	267	216	81	57--136
Hexachlorobenzene	0.18	0.356	ug/Kg	<MDL	267	233	87	53--150
Pentachlorophenol	26.7	26.7	ug/Kg	<MDL	267	236	88	25--135
Phenanthrene	1.8	3.56	ug/Kg	<MDL	267	238	89	47--141
Anthracene	1.8	3.56	ug/Kg	<MDL	267	222	83	48--149
Carbazole	1.8	3.56	ug/Kg	<MDL	267	246	92	48--149
Di-N-Butyl Phthalate	3.6	7.11	ug/Kg	<MDL	267	266	100	71--142
Fluoranthene	1.8	3.56	ug/Kg	<MDL	267	248	93	56--143
Pyrene	1.8	3.56	ug/Kg	<MDL	267	270	101	60--144
Benzyl Butyl Phthalate	2.67	2.67	ug/Kg	<MDL	267	328	123	36--150
Benzo(a)anthracene	1.8	3.56	ug/Kg	<MDL	267	263	99	51--150
Chrysene	1.8	3.56	ug/Kg	<MDL	267	266	100	45--150
Bis(2-Ethylhexyl)Phthalate	3.6	7.11	ug/Kg	<MDL	267	270	101	61--150
Di-N-Octyl Phthalate	3.56	3.56	ug/Kg	<MDL	267	288	108	43--150
Benzo(b,j,k)fluoranthene	1.8	3.56	ug/Kg	<MDL	800	608	76	45--143
Benzo(a)pyrene	1.8	3.56	ug/Kg	<MDL	267	273	102	61--140
Indeno(1,2,3-Cd)Pyrene	1.8	3.56	ug/Kg	<MDL	267	269	101	42--150
Dibenzo(a,h)anthracene	1.8	3.56	ug/Kg	<MDL	267	268	101	41--150
Benzo(g,h,i)perylene	1.8	3.56	ug/Kg	<MDL	267	219	82	28--150

SB:WG124929-3 MB:WG124929-1 Matrix: OTHR SOLID Listtype:ORBNASMS Method:SW846 3550B\*SW846 8270D Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Phenol	8.9	26.7	ug/Kg	<MDL	1070	764	72		26--136
1,4-Dichlorobenzene	2.67	2.67	ug/Kg	<MDL	1070	718	67		40--103
Benzyl Alcohol	4.44	4.44	ug/Kg	<MDL	1070	762	71		26--111
1,2-Dichlorobenzene	1.78	1.78	ug/Kg	<MDL	1070	770	72		44--105
2-Methylphenol	1.8	3.56	ug/Kg	<MDL	1070	562	53		20--123
3-,4-Methylphenol	8.9	17.8	ug/Kg	<MDL	1070	563	53		22--119
2,4-Dimethylphenol	1.8	3.56	ug/Kg	<MDL	1070	56.1	5	*	20--121
Benzoic Acid	35.6	35.6	ug/Kg	<MDL	1070	<MDL	0	*	20--92
1,2,4-Trichlorobenzene	0.18	0.356	ug/Kg	<MDL	1070	820	77		39--94
Naphthalene	1.8	3.56	ug/Kg	<MDL	1070	931	87		28--109

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

Hexachlorobutadiene	0.89	1.78	ug/Kg	<MDL	1070	905	85	20--135
2-Methylnaphthalene	1.8	3.56	ug/Kg	<MDL	1070	749	70	20--128
Dimethyl Phthalate	3.56	3.56	ug/Kg	<MDL	1070	985	92	70--129
Acenaphthylene	1.8	3.56	ug/Kg	<MDL	1070	890	83	45--132
Acenaphthene	1.8	3.56	ug/Kg	<MDL	1070	870	82	43--126
Dibenzofuran	1.8	3.56	ug/Kg	<MDL	1070	916	86	52--133
Diethyl Phthalate	3.6	7.11	ug/Kg	<MDL	1070	948	89	75--131
Fluorene	1.8	3.56	ug/Kg	<MDL	1070	909	85	57--150
N-Nitrosodiphenylamine	4.44	4.44	ug/Kg	<MDL	1070	907	85	57--136
Hexachlorobenzene	0.18	0.356	ug/Kg	<MDL	1070	936	88	53--150
Pentachlorophenol	26.7	26.7	ug/Kg	<MDL	1070	935	88	25--135
Phenanthrene	1.8	3.56	ug/Kg	<MDL	1070	944	88	47--141
Anthracene	1.8	3.56	ug/Kg	<MDL	1070	896	84	48--149
Carbazole	1.8	3.56	ug/Kg	<MDL	1070	962	90	48--149
Di-N-Butyl Phthalate	3.6	7.11	ug/Kg	<MDL	1070	1000	94	71--142
Fluoranthene	1.8	3.56	ug/Kg	<MDL	1070	956	90	56--143
Pyrene	1.8	3.56	ug/Kg	<MDL	1070	1020	96	60--144
Benzyl Butyl Phthalate	2.67	2.67	ug/Kg	<MDL	1070	1210	113	36--150
Benzo(a)anthracene	1.8	3.56	ug/Kg	<MDL	1070	1020	95	51--150
Chrysene	1.8	3.56	ug/Kg	<MDL	1070	1000	94	45--150
Bis(2-Ethylhexyl)Phthalate	3.6	7.11	ug/Kg	<MDL	1070	989	93	61--150
Di-N-Octyl Phthalate	3.56	3.56	ug/Kg	<MDL	1070	1010	95	43--150
Benzo(b,j,k)fluoranthene	1.8	3.56	ug/Kg	<MDL	3200	2250	70	45--143
Benzo(a)pyrene	1.8	3.56	ug/Kg	<MDL	1070	1050	99	61--140
Indeno(1,2,3-Cd)Pyrene	1.8	3.56	ug/Kg	<MDL	1070	1050	98	42--150
Dibenzo(a,h)anthracene	1.8	3.56	ug/Kg	<MDL	1070	1060	99	41--150
Benzo(g,h,i)perylene	1.8	3.56	ug/Kg	<MDL	1070	883	83	28--150

MSD:WG124929-5 MS:WG124929-4 L56024-8 Matrix:FRSHWTRSED Listtype:ORBNASMS Method:SW846 3550B\*SW846 8270D Project:423589-330-4 Pkey:SED

(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit	TrueValue	MSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Phenol	130	400	ug/Kg	<MDL	3200	2010	63		21--142	3200	2170	68		8		0--35
1,4-Dichlorobenzene	40	40	ug/Kg	<MDL	3200	1810	57		20--105	3200	1780	56		1		0--35
Benzyl Alcohol	66.7	66.7	ug/Kg	<MDL	3200	2130	66		28--111	3200	2300	72		8		0--35
1,2-Dichlorobenzene	26.7	26.7	ug/Kg	<MDL	3200	1950	61		20--110	3200	1970	62		1		0--35
2-Methylphenol	27	53.3	ug/Kg	<MDL	3200	1780	56		21--126	3200	1640	51		8		0--35
3-,4-Methylphenol	130	267	ug/Kg	<MDL	3200	1880	59		24--129	3200	1770	55		6		0--35
2,4-Dimethylphenol	27	53.3	ug/Kg	<MDL	3200	334	10	*	27--126	3200	151	5	*	75	*	0--35
Benzoic Acid	533	533	ug/Kg	<MDL	3200	1950	61		20--150	3200	2160	67		10		0--35
1,2,4-Trichlorobenzene	2.7	5.33	ug/Kg	<MDL	3200	2250	70		22--95	3200	2350	73		4		0--35
Naphthalene	27	53.3	ug/Kg	<MDL	3200	2580	80		20--112	3200	2680	84		4		0--35

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

Hexachlorobutadiene	13	26.7	ug/Kg	<MDL	3200	2430	76	20--133	3200	2530	79	4	0--35
2-Methylnaphthalene	27	53.3	ug/Kg	<MDL	3200	2420	76	22--109	3200	2450	76	1	0--35
Dimethyl Phthalate	53.3	53.3	ug/Kg	<MDL	3200	3110	97	66--128	3200	3100	97	0	0--35
Acenaphthylene	27	53.3	ug/Kg	<MDL	3200	2800	87	44--134	3200	2820	88	1	0--35
Acenaphthene	27	53.3	ug/Kg	<MDL	3200	2840	89	37--129	3200	2820	88	1	0--35
Dibenzofuran	27	53.3	ug/Kg	<MDL	3200	2970	93	49--135	3200	2960	92	0	0--35
Diethyl Phthalate	53	107	ug/Kg	<MDL	3200	3050	95	71--130	3200	3020	94	1	0--35
Fluorene	27	53.3	ug/Kg	<MDL	3200	2890	90	52--150	3200	2930	92	1	0--35
N-Nitrosodiphenylamine	66.7	66.7	ug/Kg	<MDL	3200	2890	90	58--140	3200	2880	90	0	0--35
Hexachlorobenzene	2.7	5.33	ug/Kg	<MDL	3200	3010	94	51--149	3200	3130	98	4	0--35
Pentachlorophenol	400	400	ug/Kg	<MDL	3200	3510	110	35--134	3200	3490	109	1	0--35
Phenanthrene	27	53.3	ug/Kg	<MDL	3200	3030	95	51--136	3200	3060	96	1	0--35
Anthracene	27	53.3	ug/Kg	<MDL	3200	2350	73	37--150	3200	2340	73	1	0--35
Carbazole	27	53.3	ug/Kg	<MDL	3200	3050	95	37--150	3200	3080	96	1	0--35
Di-N-Butyl Phthalate	53	107	ug/Kg	<MDL	3200	3270	102	64--150	3200	3310	103	1	0--35
Fluoranthene	27	53.3	ug/Kg	11.7	3200	3050	95	53--144	3200	3160	98	3	0--35
Pyrene	27	53.3	ug/Kg	11.9	3200	3250	101	59--143	3200	3240	101	0	0--35
Benzyl Butyl Phthalate	40	40	ug/Kg	<MDL	3200	3940	123	27--150	3200	3940	123	0	0--35
Benzo(a)anthracene	27	53.3	ug/Kg	<MDL	3200	3200	100	52--149	3200	3190	100	0	0--35
Chrysene	27	53.3	ug/Kg	6.9	3200	3230	101	47--141	3200	3230	101	0	0--35
Bis(2-Ethylhexyl)Phthalate	53	107	ug/Kg	29.6	3200	3240	100	54--150	3200	3240	100	0	0--35
Di-N-Octyl Phthalate	53.3	53.3	ug/Kg	<MDL	3200	3320	104	43--150	3200	3380	106	2	0--35
Benzo(b,j,k)fluoranthene	27	53.3	ug/Kg	17.5	9600	7260	75	48--135	9600	7390	77	2	0--35
Benzo(a)pyrene	27	53.3	ug/Kg	7.2	3200	3280	102	62--136	3200	3320	104	1	0--35
Indeno(1,2,3-Cd)Pyrene	27	53.3	ug/Kg	<MDL	3200	3260	102	41--150	3200	3210	100	1	0--35
Dibenzo(a,h)anthracene	27	53.3	ug/Kg	<MDL	3200	3220	101	39--150	3200	3210	100	0	0--35
Benzo(g,h,i)perylene	27	53.3	ug/Kg	<MDL	3200	2740	86	27--150	3200	2710	85	1	0--35

SRMD:WG124929-7 SRM:WG124929-6 Matrix: FRSHWTRSED Listtype:ORBNASMS Method:SW846 3550B\*SW846 8270D Project: Pkey:SED

(Std Reference Material Duplicate, Std Reference Material)

Parameter	MDL	RDL	Units	TrueValue	SRM Value	% Rec.	Qual	LabLimit	TrueValue	SRMD Value	% Rec.	Qual	RPD	Qual	LabLimit
Phenanthrene	270	533	ug/Kg	5200	3930	76		49--124	5200	4430	85		12		0--35
Fluoranthene	270	533	ug/Kg	8800	7030	80		56--137	8800	7960	90		12		0--35
Pyrene	270	533	ug/Kg	9570	7580	79		58--123	9570	8280	87		9		0--35
Benzo(a)anthracene	270	533	ug/Kg	4660	3470	74		48--127	4660	3910	84		12		0--35
Chrysene	270	533	ug/Kg	4800	4830	101		64--150	4800	5530	115		13		0--35
Benzo(b,j,k)fluoranthene	270	533	ug/Kg	8150	7630	94		50--126	8150	8380	103		9		0--35
Benzo(a)pyrene	270	533	ug/Kg	4240	2560	60		48--119	4240	2920	69		13		0--35
Indeno(1,2,3-Cd)Pyrene	270	533	ug/Kg	2740	2150	78		40--130	2740	2290	84		6		0--35
Dibenzo(a,h)anthracene	270	533	ug/Kg	419	776	185		54--200	419	613	146		23		0--35
Benzo(g,h,i)perylene	270	533	ug/Kg	2800	2240	80		42--141	2800	2350	84		5		0--35

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

LD:WG124929-8 L56024-9 Matrix:FRSHWTRSED Listtype:ORBNASMS Method:SW846 3550B\*SW846 8270D Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Phenol	8.9	26.7	ug/Kg	<MDL	<MDL			0--35
1,4-Dichlorobenzene	2.67	2.67	ug/Kg	<MDL	<MDL			0--35
Benzyl Alcohol	4.44	4.44	ug/Kg	<MDL	<MDL			0--35
1,2-Dichlorobenzene	1.78	1.78	ug/Kg	<MDL	<MDL			0--35
2-Methylphenol	1.8	3.56	ug/Kg	<MDL	<MDL			0--35
3-,4-Methylphenol	44	88.9	ug/Kg	131	110	18		0--35
2,4-Dimethylphenol	8.9	17.8	ug/Kg	<MDL	<MDL			0--35
Benzoic Acid	178	178	ug/Kg	<MDL	<MDL			0--35
1,2,4-Trichlorobenzene	0.89	1.78	ug/Kg	<MDL	<MDL			0--35
Naphthalene	8.9	17.8	ug/Kg	<MDL	<MDL			0--35
Hexachlorobutadiene	4.4	8.89	ug/Kg	<MDL	<MDL			0--35
2-Methylnaphthalene	8.9	17.8	ug/Kg	<MDL	<MDL			0--35
Dimethyl Phthalate	3.56	3.56	ug/Kg	<MDL	<MDL			0--35
Acenaphthylene	1.8	3.56	ug/Kg	<MDL	<MDL			0--35
Acenaphthene	1.8	3.56	ug/Kg	<MDL	<MDL			0--35
Dibenzofuran	1.8	3.56	ug/Kg	<MDL	<MDL			0--35
Diethyl Phthalate	3.6	7.11	ug/Kg	<MDL	<MDL			0--35
Fluorene	1.8	3.56	ug/Kg	<MDL	<MDL			0--35
N-Nitrosodiphenylamine	4.44	4.44	ug/Kg	<MDL	<MDL			0--35
Hexachlorobenzene	0.18	0.356	ug/Kg	<MDL	<MDL			0--35
Pentachlorophenol	26.7	26.7	ug/Kg	<MDL	<MDL			0--35
Phenanthrene	1.8	3.56	ug/Kg	8.68	8.81	1		0--35
Anthracene	1.8	3.56	ug/Kg	<MDL	<MDL			0--35
Carbazole	1.8	3.56	ug/Kg	1.9	2.1			0--35
Di-N-Butyl Phthalate	3.6	7.11	ug/Kg	<MDL	<MDL			0--35
Fluoranthene	1.8	3.56	ug/Kg	26.6	26.9	1		0--35
Pyrene	1.8	3.56	ug/Kg	25.5	25	2		0--35
Benzyl Butyl Phthalate	2.67	2.67	ug/Kg	<MDL	<MDL			0--35
Benzo(a)anthracene	1.8	3.56	ug/Kg	8.61	8.58	0		0--35
Chrysene	1.8	3.56	ug/Kg	16	14.9	7		0--35
Bis(2-Ethylhexyl)Phthalate	3.6	7.11	ug/Kg	50.9	52.7	4		0--35
Di-N-Octyl Phthalate	17.8	17.8	ug/Kg	<MDL	<MDL			0--35
Benzo(b,j,k)fluoranthene	8.9	17.8	ug/Kg	31.7	29.6	7		0--35
Benzo(a)pyrene	8.9	17.8	ug/Kg	10	11			0--35
Indeno(1,2,3-Cd)Pyrene	8.9	17.8	ug/Kg	<MDL	<MDL			0--35
Dibenzo(a,h)anthracene	8.9	17.8	ug/Kg	<MDL	<MDL			0--35
Benzo(g,h,i)perylene	8.9	17.8	ug/Kg	<MDL	<MDL			0--35
Total LPAHs	1.8	3.56	ug/Kg	8.68	8.81	1		0--35

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

Total HPAHS	1.8	3.56	ug/Kg	118.41	115.98	2	0--35			
Surrogate:	2,4,6-Tribromophenol			2-Fluorobiphenyl		2-Fluorophenol	d14-Terphenyl	d4-2-Chlorophenol	d5-Nitrobenzene	d5-Phenol
(Lab Limits)	45--150			22--135		20--136	25--150	20--127	22--126	20--142
L56024-1	82			75		55	96	38	87	33
L56024-2	94			59		62	88	61	74	72
L56024-3	105			71		71	102	67	82	79
L56024-4	111			69		73	99	70	80	88
L56024-5	96			67		70	108	67	79	85
L56024-7	89			64		66	123	65	83	79
L56024-8	116			78		65	98	61	74	76
L56024-9	100			65		65	97	65	72	75
L56024-11	107			71		68	117	66	73	81
L56024-13	107			69		68	118	66	74	79
L56024-14	99			76		62	154 *	62	69	73
L56024-17	97			63		57	101	56	65	71
L56024-19	109			74		68	108	65	76	76
L56024-20	100			68		66	94	62	70	69
L56024-23	121			73		76	98	72	82	87
L56024-24	108			74		78	96	70	90	77
L56024-25	117			66		51	101	49	60	56
L56024-26	103			75		68	91	62	77	73
L56024-27	109			77		71	96	69	77	80
L56024-34	106			71		74	99	71	80	82
WG124929-1	42 *			77		52	93	50	109	47
WG124929-2	78			73		68	94	54	90	46
WG124929-3	82			66		73	86	69	84	81
WG124929-4	95			78		65	92	61	73	70
WG124929-5	96			77		67	93	67	77	77
WG124929-6	48			83		36	96	47	73	58
WG124929-7	34 *			90		26	99	47	78	57
WG124929-8	90			64		63	92	60	70	70

## WG125090

MB:WG125090-1 Matrix: OTHR SOLID Listtype:ORBNASMS Method:SW846 3550B\*SW846 8270D Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Phenol	8.4	25.3	ug/Kg	<MDL	
1,4-Dichlorobenzene	2.53	2.53	ug/Kg	<MDL	
Benzyl Alcohol	4.21	4.21	ug/Kg	<MDL	

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

1,2-Dichlorobenzene	1.68	1.68	ug/Kg	<MDL
2-Methylphenol	1.7	3.37	ug/Kg	<MDL
3-,4-Methylphenol	8.4	16.8	ug/Kg	<MDL
2,4-Dimethylphenol	8.4	16.8	ug/Kg	<MDL
Benzoic Acid	168	168	ug/Kg	<MDL
1,2,4-Trichlorobenzene	0.84	1.68	ug/Kg	<MDL
Naphthalene	8.4	16.8	ug/Kg	<MDL
Hexachlorobutadiene	4.2	8.42	ug/Kg	<MDL
2-Methylnaphthalene	8.4	16.8	ug/Kg	<MDL
Dimethyl Phthalate	3.37	3.37	ug/Kg	<MDL
Acenaphthylene	1.7	3.37	ug/Kg	<MDL
Acenaphthene	1.7	3.37	ug/Kg	<MDL
Dibenzofuran	1.7	3.37	ug/Kg	<MDL
Diethyl Phthalate	3.4	6.74	ug/Kg	<MDL
Fluorene	1.7	3.37	ug/Kg	<MDL
N-Nitrosodiphenylamine	4.21	4.21	ug/Kg	<MDL
Hexachlorobenzene	0.17	0.337	ug/Kg	<MDL
Pentachlorophenol	25.3	25.3	ug/Kg	<MDL
Phenanthrene	1.7	3.37	ug/Kg	<MDL
Anthracene	1.7	3.37	ug/Kg	<MDL
Carbazole	1.7	3.37	ug/Kg	<MDL
Di-N-Butyl Phthalate	3.4	6.74	ug/Kg	<MDL
Fluoranthene	1.7	3.37	ug/Kg	<MDL
Pyrene	1.7	3.37	ug/Kg	<MDL
Benzyl Butyl Phthalate	2.53	2.53	ug/Kg	<MDL
Benzo(a)anthracene	1.7	3.37	ug/Kg	<MDL
Chrysene	1.7	3.37	ug/Kg	<MDL
Bis(2-Ethylhexyl)Phthalate	3.4	6.74	ug/Kg	3.5
Di-N-Octyl Phthalate	3.37	3.37	ug/Kg	<MDL
Benzo(b,j,k)fluoranthene	1.7	3.37	ug/Kg	<MDL
Benzo(a)pyrene	1.7	3.37	ug/Kg	<MDL
Indeno(1,2,3-Cd)Pyrene	1.7	3.37	ug/Kg	<MDL
Dibenzo(a,h)anthracene	1.7	3.37	ug/Kg	<MDL
Benzo(g,h,i)perylene	1.7	3.37	ug/Kg	<MDL
Total LPAHs	8.4	16.8	ug/Kg	<MDL
Total HPAHS	1.7	3.37	ug/Kg	<MDL

B

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

SB:WG125090-2 MB:WG125090-1 Matrix: OTHR SOLID Listtype:ORBNASMS Method:SW846 3550B\*SW846 8270D Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Phenol	8.4	25.3	ug/Kg	<MDL	253	29.1	12	*	26--136
1,4-Dichlorobenzene	2.53	2.53	ug/Kg	<MDL	253	168	67		40--103
Benzyl Alcohol	4.21	4.21	ug/Kg	<MDL	253	68.8	27		26--111
1,2-Dichlorobenzene	1.68	1.68	ug/Kg	<MDL	253	159	63		44--105
2-Methylphenol	1.7	3.37	ug/Kg	<MDL	253	48.4	19	*	20--123
3-,4-Methylphenol	8.4	16.8	ug/Kg	<MDL	253	107	42		22--119
2,4-Dimethylphenol	8.4	16.8	ug/Kg	<MDL	253	<MDL	0	*	20--121
Benzoic Acid	168	168	ug/Kg	<MDL	253	<MDL	0	*	20--92
1,2,4-Trichlorobenzene	0.84	1.68	ug/Kg	<MDL	253	207	82		39--94
Naphthalene	8.4	16.8	ug/Kg	<MDL	253	232	92		28--109
Hexachlorobutadiene	4.2	8.42	ug/Kg	<MDL	253	225	89		20--135
2-Methylnaphthalene	8.4	16.8	ug/Kg	<MDL	253	185	73		20--128
Dimethyl Phthalate	3.37	3.37	ug/Kg	<MDL	253	227	90		70--129
Acenaphthylene	1.7	3.37	ug/Kg	<MDL	253	206	82		45--132
Acenaphthene	1.7	3.37	ug/Kg	<MDL	253	203	80		43--126
Dibenzofuran	1.7	3.37	ug/Kg	<MDL	253	212	84		52--133
Diethyl Phthalate	3.4	6.74	ug/Kg	<MDL	253	231	91		75--131
Fluorene	1.7	3.37	ug/Kg	<MDL	253	210	83		57--150
N-Nitrosodiphenylamine	4.21	4.21	ug/Kg	<MDL	253	228	90		57--136
Hexachlorobenzene	0.17	0.337	ug/Kg	<MDL	253	223	88		53--150
Pentachlorophenol	25.3	25.3	ug/Kg	<MDL	253	236	94		25--135
Phenanthrene	1.7	3.37	ug/Kg	<MDL	253	229	91		47--141
Anthracene	1.7	3.37	ug/Kg	<MDL	253	223	88		48--149
Carbazole	1.7	3.37	ug/Kg	<MDL	253	245	97		48--149
Di-N-Butyl Phthalate	3.4	6.74	ug/Kg	<MDL	253	253	100		71--142
Fluoranthene	1.7	3.37	ug/Kg	<MDL	253	239	95		56--143
Pyrene	1.7	3.37	ug/Kg	<MDL	253	255	101		60--144
Benzyl Butyl Phthalate	2.53	2.53	ug/Kg	<MDL	253	305	121		36--150
Benzo(a)anthracene	1.7	3.37	ug/Kg	<MDL	253	254	100		51--150
Chrysene	1.7	3.37	ug/Kg	<MDL	253	254	101		45--150
Bis(2-Ethylhexyl)Phthalate	3.4	6.74	ug/Kg	3.5	253	252	98		61--150
Di-N-Octyl Phthalate	3.37	3.37	ug/Kg	<MDL	253	259	103		43--150
Benzo(b,j,k)fluoranthene	1.7	3.37	ug/Kg	<MDL	758	564	74		45--143
Benzo(a)pyrene	1.7	3.37	ug/Kg	<MDL	253	261	103		61--140
Indeno(1,2,3-Cd)Pyrene	1.7	3.37	ug/Kg	<MDL	253	274	108		42--150
Dibenzo(a,h)anthracene	1.7	3.37	ug/Kg	<MDL	253	273	108		41--150
Benzo(g,h,i)perylene	1.7	3.37	ug/Kg	<MDL	253	239	95		28--150

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

SB:WG125090-3 MB:WG125090-1 Matrix: OTHR SOLID Listtype:ORBNASMS Method:SW846 3550B\*SW846 8270D Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Phenol	8.4	25.3	ug/Kg	<MDL	1010	773	76		26--136
1,4-Dichlorobenzene	2.53	2.53	ug/Kg	<MDL	1010	672	67		40--103
Benzyl Alcohol	4.21	4.21	ug/Kg	<MDL	1010	783	77		26--111
1,2-Dichlorobenzene	1.68	1.68	ug/Kg	<MDL	1010	723	72		44--105
2-Methylphenol	1.7	3.37	ug/Kg	<MDL	1010	687	68		20--123
3-,4-Methylphenol	8.4	16.8	ug/Kg	<MDL	1010	642	64		22--119
2,4-Dimethylphenol	8.4	16.8	ug/Kg	<MDL	1010	230	23		20--121
Benzoic Acid	168	168	ug/Kg	<MDL	1010	<MDL	0	*	20--92
1,2,4-Trichlorobenzene	0.84	1.68	ug/Kg	<MDL	1010	787	78		39--94
Naphthalene	8.4	16.8	ug/Kg	<MDL	1010	899	89		28--109
Hexachlorobutadiene	4.2	8.42	ug/Kg	<MDL	1010	842	83		20--135
2-Methylnaphthalene	8.4	16.8	ug/Kg	<MDL	1010	735	73		20--128
Dimethyl Phthalate	3.37	3.37	ug/Kg	<MDL	1010	1010	100		70--129
Acenaphthylene	1.7	3.37	ug/Kg	<MDL	1010	900	89		45--132
Acenaphthene	1.7	3.37	ug/Kg	<MDL	1010	881	87		43--126
Dibenzofuran	1.7	3.37	ug/Kg	<MDL	1010	944	93		52--133
Diethyl Phthalate	3.4	6.74	ug/Kg	<MDL	1010	982	97		75--131
Fluorene	1.7	3.37	ug/Kg	<MDL	1010	932	92		57--150
N-Nitrosodiphenylamine	4.21	4.21	ug/Kg	<MDL	1010	968	96		57--136
Hexachlorobenzene	0.17	0.337	ug/Kg	<MDL	1010	955	95		53--150
Pentachlorophenol	25.3	25.3	ug/Kg	<MDL	1010	945	94		25--135
Phenanthrene	1.7	3.37	ug/Kg	<MDL	1010	969	96		47--141
Anthracene	1.7	3.37	ug/Kg	<MDL	1010	952	94		48--149
Carbazole	1.7	3.37	ug/Kg	<MDL	1010	1010	100		48--149
Di-N-Butyl Phthalate	3.4	6.74	ug/Kg	<MDL	1010	1040	103		71--142
Fluoranthene	1.7	3.37	ug/Kg	<MDL	1010	992	98		56--143
Pyrene	1.7	3.37	ug/Kg	<MDL	1010	1070	106		60--144
Benzyl Butyl Phthalate	2.53	2.53	ug/Kg	<MDL	1010	1250	124		36--150
Benzo(a)anthracene	1.7	3.37	ug/Kg	<MDL	1010	1040	103		51--150
Chrysene	1.7	3.37	ug/Kg	<MDL	1010	1040	103		45--150
Bis(2-Ethylhexyl)Phthalate	3.4	6.74	ug/Kg	3.5	1010	999	99		61--150
Di-N-Octyl Phthalate	3.37	3.37	ug/Kg	<MDL	1010	1030	102		43--150
Benzo(b,j,k)fluoranthene	1.7	3.37	ug/Kg	<MDL	3030	2250	74		45--143
Benzo(a)pyrene	1.7	3.37	ug/Kg	<MDL	1010	1080	107		61--140
Indeno(1,2,3-Cd)Pyrene	1.7	3.37	ug/Kg	<MDL	1010	1120	111		42--150
Dibenzo(a,h)anthracene	1.7	3.37	ug/Kg	<MDL	1010	1120	111		41--150
Benzo(g,h,i)perylene	1.7	3.37	ug/Kg	<MDL	1010	962	95		28--150

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

MSD:WG125090-5 MS:WG125090-4 L56024-21 Matrix: FRSHWTRSED Listtype:ORBNASMS Method:SW846 3550B\*SW846 8270D Project:423589-330-4 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit	TrueValue	MSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Phenol	130	400	ug/Kg	<MDL	3200	2160	67		21--142	3200	1970	62		9		0--35
1,4-Dichlorobenzene	40	40	ug/Kg	<MDL	3200	2030	63		20--105	3200	1330	41		42	*	0--35
Benzyl Alcohol	66.7	66.7	ug/Kg	<MDL	3200	2180	68		28--111	3200	2030	63		7		0--35
1,2-Dichlorobenzene	26.7	26.7	ug/Kg	<MDL	3200	2210	69		20--110	3200	1450	45		42	*	0--35
2-Methylphenol	27	53.3	ug/Kg	<MDL	3200	2030	63		21--126	3200	2030	63		0		0--35
3-,4-Methylphenol	130	267	ug/Kg	<MDL	3200	1970	62		24--129	3200	1970	62		0		0--35
2,4-Dimethylphenol	27	53.3	ug/Kg	<MDL	3200	1630	51		27--126	3200	1380	43		17		0--35
Benzoic Acid	533	533	ug/Kg	<MDL	3200	2240	70		20--150	3200	1930	60		15		0--35
1,2,4-Trichlorobenzene	2.7	5.33	ug/Kg	<MDL	3200	2580	81		22--95	3200	1890	59		31		0--35
Naphthalene	27	53.3	ug/Kg	<MDL	3200	2850	89		20--112	3200	2210	69		26		0--35
Hexachlorobutadiene	13	26.7	ug/Kg	<MDL	3200	2810	88		20--133	3200	1990	62		34		0--35
2-Methylnaphthalene	27	53.3	ug/Kg	<MDL	3200	2550	80		22--109	3200	2020	63		23		0--35
Dimethyl Phthalate	53.3	53.3	ug/Kg	<MDL	3200	3150	99		66--128	3200	3030	95		4		0--35
Acenaphthylene	27	53.3	ug/Kg	<MDL	3200	2890	90		44--134	3200	2610	82		10		0--35
Acenaphthene	27	53.3	ug/Kg	<MDL	3200	2840	89		37--129	3200	2590	81		9		0--35
Dibenzofuran	27	53.3	ug/Kg	<MDL	3200	2960	92		49--135	3200	2810	88		5		0--35
Diethyl Phthalate	53	107	ug/Kg	<MDL	3200	3080	96		71--130	3200	3040	95		1		0--35
Fluorene	27	53.3	ug/Kg	<MDL	3200	2950	92		52--150	3200	2820	88		4		0--35
N-Nitrosodiphenylamine	66.7	66.7	ug/Kg	<MDL	3200	3140	98		58--140	3200	3020	94		4		0--35
Hexachlorobenzene	2.7	5.33	ug/Kg	<MDL	3200	3100	97		51--149	3200	2990	93		3		0--35
Pentachlorophenol	400	400	ug/Kg	<MDL	3200	3510	110		35--134	3200	2990	94		16		0--35
Phenanthrene	27	53.3	ug/Kg	<MDL	3200	3100	97		51--136	3200	3030	95		2		0--35
Anthracene	27	53.3	ug/Kg	<MDL	3200	2750	86		37--150	3200	2700	84		2		0--35
Carbazole	27	53.3	ug/Kg	<MDL	3200	3190	100		37--150	3200	3110	97		3		0--35
Di-N-Butyl Phthalate	53	107	ug/Kg	<MDL	3200	3330	104		64--150	3200	3260	102		2		0--35
Fluoranthene	27	53.3	ug/Kg	13.1	3200	3230	100		53--144	3200	3390	106		5		0--35
Pyrene	27	53.3	ug/Kg	12.2	3200	3340	104		59--143	3200	3560	111		6		0--35
Benzyl Butyl Phthalate	40	40	ug/Kg	<MDL	3200	4000	125		27--150	3200	3950	123		1		0--35
Benzo(a)anthracene	27	53.3	ug/Kg	6.3	3200	3310	103		52--149	3200	3400	106		3		0--35
Chrysene	27	53.3	ug/Kg	13.7	3200	3300	103		47--141	3200	3340	104		1		0--35
Bis(2-Ethylhexyl)Phthalate	53	107	ug/Kg	15	3200	3340	104		54--150	3200	3260	101		3		0--35
Di-N-Octyl Phthalate	53.3	53.3	ug/Kg	<MDL	3200	3250	102		43--150	3200	3240	101		0		0--35
Benzo(b,j,k)fluoranthene	27	53.3	ug/Kg	15.3	9600	7230	75		48--135	9600	7190	75		1		0--35
Benzo(a)pyrene	27	53.3	ug/Kg	<MDL	3200	3440	107		62--136	3200	3410	107		1		0--35
Indeno(1,2,3-Cd)Pyrene	27	53.3	ug/Kg	<MDL	3200	3480	109		41--150	3200	3410	107		2		0--35
Dibenzo(a,h)anthracene	27	53.3	ug/Kg	<MDL	3200	3480	109		39--150	3200	3400	106		2		0--35
Benzo(g,h,i)perylene	27	53.3	ug/Kg	<MDL	3200	2960	93		27--150	3200	2940	92		1		0--35

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

SRMD:WG125090-7 SRM:WG125090-6 Matrix: FRSHWTRSED Listtype:ORBNASMS Method:SW846 3550B\*SW846 8270D Project: Pkey:SED  
(Std Reference Material Duplicate, Std Reference Material)

Parameter	MDL	RDL	Units	TrueValue	SRM Value	% Rec.	Qual	LabLimit	TrueValue	SRMD Value	% Rec.	Qual	RPD	Qual	LabLimit
Phenanthrene	270	533	ug/Kg	5200	3570	69		49--124	5200	3830	74		7		0--35
Fluoranthene	270	533	ug/Kg	8800	6250	71		56--137	8800	7130	81		13		0--35
Pyrene	270	533	ug/Kg	9570	6770	71		58--123	9570	7660	80		12		0--35
Benzo(a)anthracene	270	533	ug/Kg	4660	3130	67		48--127	4660	3520	76		12		0--35
Chrysene	270	533	ug/Kg	4800	4460	93		64--150	4800	4910	102		10		0--35
Benzo(b,j,k)fluoranthene	270	533	ug/Kg	8150	6320	77		50--126	8150	7020	86		11		0--35
Benzo(a)pyrene	270	533	ug/Kg	4240	2420	57		48--119	4240	2860	67		17		0--35
Indeno(1,2,3-Cd)Pyrene	270	533	ug/Kg	2740	1880	69		40--130	2740	2010	73		7		0--35
Dibenzo(a,h)anthracene	270	533	ug/Kg	419	665	159		54--200	419	683	163		3		0--35
Benzo(g,h,i)perylene	270	533	ug/Kg	2800	1960	70		42--141	2800	2070	74		5		0--35

LD:WG125090-8 L56024-36 Matrix: FRSHWTRSED Listtype:ORBNASMS Method:SW846 3550B\*SW846 8270D Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Phenol	27	80	ug/Kg	<MDL	<MDL			0--35
1,4-Dichlorobenzene	8	8	ug/Kg	<MDL	<MDL			0--35
Benzyl Alcohol	13.3	13.3	ug/Kg	<MDL	<MDL			0--35
1,2-Dichlorobenzene	5.33	5.33	ug/Kg	<MDL	<MDL			0--35
2-Methylphenol	5.3	10.7	ug/Kg	<MDL	<MDL			0--35
3-,4-Methylphenol	27	53.3	ug/Kg	<MDL	<MDL			0--35
2,4-Dimethylphenol	27	53.3	ug/Kg	<MDL	<MDL			0--35
Benzoic Acid	533	533	ug/Kg	<MDL	<MDL			0--35
1,2,4-Trichlorobenzene	2.7	5.33	ug/Kg	<MDL	<MDL			0--35
Naphthalene	27	53.3	ug/Kg	<MDL	<MDL			0--35
Hexachlorobutadiene	13	26.7	ug/Kg	<MDL	<MDL			0--35
2-Methylnaphthalene	27	53.3	ug/Kg	<MDL	<MDL			0--35
Dimethyl Phthalate	10.7	10.7	ug/Kg	<MDL	<MDL			0--35
Acenaphthylene	5.3	10.7	ug/Kg	<MDL	<MDL			0--35
Acenaphthene	5.3	10.7	ug/Kg	<MDL	<MDL			0--35
Dibenzofuran	5.3	10.7	ug/Kg	<MDL	<MDL			0--35
Diethyl Phthalate	11	21.3	ug/Kg	<MDL	16			0--35
Fluorene	5.3	10.7	ug/Kg	<MDL	<MDL			0--35
N-Nitrosodiphenylamine	13.3	13.3	ug/Kg	<MDL	<MDL			0--35
Hexachlorobenzene	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Pentachlorophenol	80	80	ug/Kg	<MDL	<MDL			0--35
Phenanthrene	5.3	10.7	ug/Kg	<MDL	<MDL			0--35
Anthracene	5.3	10.7	ug/Kg	<MDL	<MDL			0--35
Carbazole	5.3	10.7	ug/Kg	<MDL	<MDL			0--35

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

Di-N-Butyl Phthalate	11	21.3	ug/Kg	<MDL	<MDL	0--35
Fluoranthene	5.3	10.7	ug/Kg	<MDL	<MDL	0--35
Pyrene	5.3	10.7	ug/Kg	<MDL	<MDL	0--35
Benzyl Butyl Phthalate	8	8	ug/Kg	<MDL	<MDL	0--35
Benzo(a)anthracene	5.3	10.7	ug/Kg	<MDL	<MDL	0--35
Chrysene	5.3	10.7	ug/Kg	<MDL	<MDL	0--35
Bis(2-Ethylhexyl)Phthalate	11	21.3	ug/Kg	26.3	27.7	0--35
Di-N-Octyl Phthalate	10.7	10.7	ug/Kg	<MDL	<MDL	0--35
Benzo(b,j,k)fluoranthene	5.3	10.7	ug/Kg	<MDL	<MDL	0--35
Benzo(a)pyrene	5.3	10.7	ug/Kg	<MDL	<MDL	0--35
Indeno(1,2,3-Cd)Pyrene	5.3	10.7	ug/Kg	<MDL	<MDL	0--35
Dibenzo(a,h)anthracene	5.3	10.7	ug/Kg	<MDL	<MDL	0--35
Benzo(g,h,i)perylene	5.3	10.7	ug/Kg	<MDL	<MDL	0--35
Total LPAHs	27	53.3	ug/Kg	<MDL	<MDL	0--35
Total HPAHS	5.3	10.7	ug/Kg	<MDL	<MDL	0--35

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Surrogate: (Lab Limits)	2,4,6-Tribromophenol 45--150	2-Fluorobiphenyl 22--135	2-Fluorophenol 20--136	d14-Terphenyl 25--150	d4-2-Chlorophenol 20--127	d5-Nitrobenzene 22--126	d5-Phenol 20--142
L56024-12	109	62	78	114	76	85	95
L56024-15	123	80	82	194 *	77	89	94
L56024-16	136	77	64	154 *	65	71	89
L56024-21	124	65	74	96	70	81	85
L56024-22	114	72	77	99	71	86	78
L56024-28	141	85	70	123	70	73	94
L56024-29	112	69	68	98	66	70	84
L56024-30	108	66	76	91	70	82	86
L56024-33	100	68	66	94	66	71	81
L56024-35	120	68	76	96	70	80	78
L56024-36	107	71	81	95	76	88	91
L56024-37	95	61	60	98	56	63	64
WG125090-1	50	66	64	95	65	75	78
WG125090-2	91	77	79	98	75	88	88
WG125090-3	97	73	78	98	74	87	87
WG125090-4	105	76	76	99	69	87	76
WG125090-5	103	69	58	102	58	69	74
WG125090-6	52	74	38	89	48	66	58
WG125090-7	43 *	80	26	99	41	58	53
WG125090-8	110	72	86	94	76	96	87

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

## WG124869

MB:WG124869-1 Matrix: OTHR SOLID Listtype:ORCLPEST Method:SW846 3550B\*SW846 8081B Project: Pkey:STD

(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Alpha-BHC	0.53	1.07	ug/Kg	<MDL	
Beta-BHC	0.53	1.07	ug/Kg	<MDL	
Delta-BHC	0.53	1.07	ug/Kg	<MDL	
Gamma-BHC (Lindane)	0.53	1.07	ug/Kg	<MDL	
Heptachlor	0.53	1.07	ug/Kg	<MDL	
Aldrin	0.53	1.07	ug/Kg	<MDL	
Heptachlor Epoxide	0.53	1.07	ug/Kg	<MDL	
Endosulfan I	0.53	1.07	ug/Kg	<MDL	
Dieldrin	0.53	1.07	ug/Kg	<MDL	
4,4'-DDE	0.53	1.07	ug/Kg	<MDL	
Endrin	0.53	1.07	ug/Kg	<MDL	
Endosulfan II	0.53	1.07	ug/Kg	<MDL	
4,4'-DDD	0.53	1.07	ug/Kg	<MDL	
Endrin Aldehyde	0.53	1.07	ug/Kg	<MDL	
Endosulfan Sulfate	0.53	1.07	ug/Kg	<MDL	
4,4'-DDT	0.53	1.07	ug/Kg	<MDL	
Methoxychlor	2.7	5.33	ug/Kg	<MDL	
trans-Chlordane	0.53	1.07	ug/Kg	<MDL	
Alpha-Chlordane	0.53	1.07	ug/Kg	<MDL	
Toxaphene	11	53.3	ug/Kg	<MDL	

SB:WG124869-2 MB:WG124869-1 Matrix: OTHR SOLID Listtype:ORCLPEST Method:SW846 3550B\*SW846 8081B Project: Pkey:STD

(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Alpha-BHC	0.53	1.07	ug/Kg	<MDL	10.7	4.62	43		35--77
Beta-BHC	0.53	1.07	ug/Kg	<MDL	10.7	6.9	65		54--90
Delta-BHC	0.53	1.07	ug/Kg	<MDL	10.7	8.07	76		53--98
Gamma-BHC (Lindane)	0.53	1.07	ug/Kg	<MDL	10.7	5.37	50		39--82
Heptachlor	0.53	1.07	ug/Kg	<MDL	10.7	5	47		40--81
Aldrin	0.53	1.07	ug/Kg	<MDL	10.7	5.44	51		51--71
Heptachlor Epoxide	0.53	1.07	ug/Kg	<MDL	10.7	7.29	68		54--94
Endosulfan I	0.53	1.07	ug/Kg	<MDL	10.7	6.6	62		27--104
Dieldrin	0.53	1.07	ug/Kg	<MDL	10.7	8.54	80		60--102
4,4'-DDE	0.53	1.07	ug/Kg	<MDL	10.7	8.81	83		62--99
Endrin	0.53	1.07	ug/Kg	<MDL	10.7	8.69	81		63--106
Endosulfan II	0.53	1.07	ug/Kg	<MDL	10.7	7.81	73		40--105

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

4,4'-DDD	0.53	1.07	ug/Kg	<MDL	10.7	8.97	84	57--107
Endrin Aldehyde	0.53	1.07	ug/Kg	<MDL	10.7	4.6	43	36--63
Endosulfan Sulfate	0.53	1.07	ug/Kg	<MDL	10.7	7.83	73	55--95
4,4'-DDT	0.53	1.07	ug/Kg	<MDL	10.7	8.89	83	47--131
Methoxychlor	2.7	5.33	ug/Kg	<MDL	10.7	9.17	86	60--107
trans-Chlordane	0.53	1.07	ug/Kg	<MDL	10.7	7.83	73	52--105
Alpha-Chlordane	0.53	1.07	ug/Kg	<MDL	10.7	7.99	75	69--98

MSD:WG124869-4 MS:WG124869-3 L56024-34 Matrix: FRSHWTRSED Listtype:ORCLPEST Method:SW846 3550B\*SW846 8081B Project:423589-330-4 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit	TrueValue	MSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Alpha-BHC	0.53	1.07	ug/Kg	<MDL	10.7	6.03	56	*	65--90	10.7	8	75		28		0--35
Beta-BHC	0.53	1.07	ug/Kg	<MDL	10.7	7.75	73		62--101	10.7	8.79	82		13		0--35
Delta-BHC	0.53	1.07	ug/Kg	<MDL	10.7	8.25	77		63--105	10.7	8.89	83		7		0--35
Gamma-BHC (Lindane)	0.53	1.07	ug/Kg	<MDL	10.7	6.48	61	*	67--91	10.7	8.3	78		25		0--35
Heptachlor	0.53	1.07	ug/Kg	<MDL	10.7	8.68	81		60--102	10.7	8.13	76		6		0--35
Aldrin	0.53	1.07	ug/Kg	<MDL	10.7	6.75	63		63--92	10.7	8.44	79		22		0--35
Heptachlor Epoxide	0.53	1.07	ug/Kg	<MDL	10.7	7.64	72		62--97	10.7	8.48	80		10		0--35
Endosulfan I	0.53	1.07	ug/Kg	<MDL	10.7	6.67	63		20--113	10.7	7.33	69		9		0--35
Dieldrin	0.53	1.07	ug/Kg	<MDL	10.7	8.27	78		62--104	10.7	8.86	83		7		0--35
4,4'-DDE	0.53	1.07	ug/Kg	<MDL	10.7	8.76	82		59--106	10.7	9.16	86		5		0--35
Endrin	0.53	1.07	ug/Kg	<MDL	10.7	8.98	84		66--112	10.7	9.38	88		4		0--35
Endosulfan II	0.53	1.07	ug/Kg	<MDL	10.7	7.62	71		33--99	10.7	7.53	71		1		0--35
4,4'-DDD	0.53	1.07	ug/Kg	<MDL	10.7	8.73	82		53--108	10.7	8.78	82		1		0--35
Endrin Aldehyde	0.53	1.07	ug/Kg	<MDL	10.7	5.01	47		30--68	10.7	4.45	42		12		0--35
Endosulfan Sulfate	0.53	1.07	ug/Kg	<MDL	10.7	7.54	71		47--99	10.7	7.52	71		0		0--35
4,4'-DDT	0.53	1.07	ug/Kg	<MDL	10.7	8.94	84		50--110	10.7	8.64	81		3		0--35
Methoxychlor	2.7	5.33	ug/Kg	<MDL	10.7	9.05	85		63--107	10.7	8.83	83		2		0--35
trans-Chlordane	0.53	1.07	ug/Kg	<MDL	10.7	8.08	76		40--131	10.7	8.53	80		5		0--35
Alpha-Chlordane	0.53	1.07	ug/Kg	<MDL	10.7	7.97	75		59--113	10.7	8.59	81		7		0--35

SRMD:WG124869-6 SRM:WG124869-5 Matrix: FRSHWTRSED Listtype:ORCLPEST Method:SW846 3550B\*SW846 8081B Project: Pkey:SED  
(Std Reference Material Duplicate, Std Reference Material)

Parameter	MDL	RDL	Units	TrueValue	SRM Value	% Rec.	Qual	LabLimit	TrueValue	SRMD Value	% Rec.	Qual	RPD	Qual	LabLimit
Alpha-Chlordane	5.3	10.7	ug/Kg	16.5	18.3	111		69--136	16.5	20.6	125		11		0--35

LD:WG124869-7 L56024-1 Matrix: FRSHWTRSED Listtype:ORCLPEST Method:SW846 3550B\*SW846 8081B Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Alpha-BHC	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Beta-BHC	0.53	1.07	ug/Kg	<MDL	<MDL			0--35

# LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

Delta-BHC	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
Gamma-BHC (Lindane)	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
Heptachlor	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
Aldrin	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
Heptachlor Epoxide	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
Endosulfan I	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
Dieldrin	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
4,4'-DDE	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
Endrin	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
Endosulfan II	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
4,4'-DDD	0.53	1.07	ug/Kg	1	0.81	0--35
Endrin Aldehyde	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
Endosulfan Sulfate	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
4,4'-DDT	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
Methoxychlor	2.7	5.33	ug/Kg	<MDL	<MDL	0--35
trans-Chlordane	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
Alpha-Chlordane	0.53	1.07	ug/Kg	<MDL	<MDL	0--35
Toxaphene	11	53.3	ug/Kg	<MDL	<MDL	0--35

Surrogate: (Lab Limits)	2,4,5,6-Tetrachloro-m-xylene 20--134	Decachlorobiphenyl 47--122
L56024-1	53	78
L56024-2	63	78
L56024-3	70	77
L56024-4	69	75
L56024-5	64	76
L56024-7	65	71
L56024-8	61	73
L56024-9	66	75
L56024-11	60	75
L56024-13	65	70
L56024-14	62	71
L56024-17	68	69
L56024-19	69	80
L56024-20	64	75
L56024-23	58	72
L56024-24	43	68
L56024-25	58	72
L56024-26	65	72
L56024-27	57	74
L56024-34	55	78

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

WG124869-1	20	75
WG124869-2	34	82
WG124869-3	41	77
WG124869-4	63	73
WG124869-5	66	81
WG124869-6	65	92
WG124869-7	64	78

### WG125088

MB:WG125088-1 Matrix: OTHR SOLID Listtype:ORCLPEST Method:SW846 3550B\*SW846 8081B Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Alpha-BHC	0.53	1.07	ug/Kg	<MDL	
Beta-BHC	0.53	1.07	ug/Kg	<MDL	
Delta-BHC	0.53	1.07	ug/Kg	<MDL	
Gamma-BHC (Lindane)	0.53	1.07	ug/Kg	<MDL	
Heptachlor	0.53	1.07	ug/Kg	<MDL	
Aldrin	0.53	1.07	ug/Kg	<MDL	
Heptachlor Epoxide	0.53	1.07	ug/Kg	<MDL	
Endosulfan I	0.53	1.07	ug/Kg	<MDL	
Dieldrin	0.53	1.07	ug/Kg	<MDL	
4,4'-DDE	0.53	1.07	ug/Kg	<MDL	
Endrin	0.53	1.07	ug/Kg	<MDL	
Endosulfan II	0.53	1.07	ug/Kg	<MDL	
4,4'-DDD	0.53	1.07	ug/Kg	<MDL	
Endrin Aldehyde	0.53	1.07	ug/Kg	<MDL	
Endosulfan Sulfate	0.53	1.07	ug/Kg	<MDL	
4,4'-DDT	0.53	1.07	ug/Kg	<MDL	
Methoxychlor	2.7	5.33	ug/Kg	<MDL	
trans-Chlordane	0.53	1.07	ug/Kg	<MDL	
Alpha-Chlordane	0.53	1.07	ug/Kg	<MDL	
Toxaphene	11	53.3	ug/Kg	<MDL	

SB:WG125088-2 MB:WG125088-1 Matrix: OTHR SOLID Listtype:ORCLPEST Method:SW846 3550B\*SW846 8081B Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Alpha-BHC	0.53	1.07	ug/Kg	<MDL	10.7	4.14	39		35--77
Beta-BHC	0.53	1.07	ug/Kg	<MDL	10.7	7.01	66		54--90
Delta-BHC	0.53	1.07	ug/Kg	<MDL	10.7	7.7	72		53--98
Gamma-BHC (Lindane)	0.53	1.07	ug/Kg	<MDL	10.7	5.23	49		39--82

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Heptachlor	0.53	1.07	ug/Kg	<MDL	10.7	5.49	51		40--81
Aldrin	0.53	1.07	ug/Kg	<MDL	10.7	5.15	48	*	51--71
Heptachlor Epoxide	0.53	1.07	ug/Kg	<MDL	10.7	7.22	68		54--94
Endosulfan I	0.53	1.07	ug/Kg	<MDL	10.7	6.3	59		27--104
Dieldrin	0.53	1.07	ug/Kg	<MDL	10.7	8.27	78		60--102
4,4'-DDE	0.53	1.07	ug/Kg	<MDL	10.7	8.14	76		62--99
Endrin	0.53	1.07	ug/Kg	<MDL	10.7	8.95	84		63--106
Endosulfan II	0.53	1.07	ug/Kg	<MDL	10.7	7.48	70		40--105
4,4'-DDD	0.53	1.07	ug/Kg	<MDL	10.7	8.19	77		57--107
Endrin Aldehyde	0.53	1.07	ug/Kg	<MDL	10.7	3.8	36		36--63
Endosulfan Sulfate	0.53	1.07	ug/Kg	<MDL	10.7	7.64	72		55--95
4,4'-DDT	0.53	1.07	ug/Kg	<MDL	10.7	9.45	89		47--131
Methoxychlor	2.7	5.33	ug/Kg	<MDL	10.7	10.2	96		60--107
trans-Chlordane	0.53	1.07	ug/Kg	<MDL	10.7	7.53	71		52--105
Alpha-Chlordane	0.53	1.07	ug/Kg	<MDL	10.7	7.69	72		69--98

MSD:WG125088-4 MS:WG125088-3 L56024-35 Matrix: FRSHWTRSED Listtype:ORCLPEST Method:SW846 3550B\*SW846 8081B Project:423589-330-4 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit	TrueValue	MSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Alpha-BHC	0.53	1.07	ug/Kg	<MDL	10.7	9.64	90		65--90	10.7	8.91	84		8		0--35
Beta-BHC	0.53	1.07	ug/Kg	<MDL	10.7	10.4	98		62--101	10.7	10.1	95		3		0--35
Delta-BHC	0.53	1.07	ug/Kg	<MDL	10.7	10.6	100		63--105	10.7	10.4	98		2		0--35
Gamma-BHC (Lindane)	0.53	1.07	ug/Kg	<MDL	10.7	10.2	95	*	67--91	10.7	9.44	89		7		0--35
Heptachlor	0.53	1.07	ug/Kg	<MDL	10.7	10.7	100		60--102	10.7	9.88	93		8		0--35
Aldrin	0.53	1.07	ug/Kg	<MDL	10.7	9.83	92		63--92	10.7	8.95	84		9		0--35
Heptachlor Epoxide	0.53	1.07	ug/Kg	<MDL	10.7	10	94		62--97	10.7	9.91	93		1		0--35
Endosulfan I	0.53	1.07	ug/Kg	<MDL	10.7	8.45	79		20--113	10.7	8.44	79		0		0--35
Dieldrin	0.53	1.07	ug/Kg	<MDL	10.7	10.1	95		62--104	10.7	10.2	96		1		0--35
4,4'-DDE	0.53	1.07	ug/Kg	<MDL	10.7	10.5	99		59--106	10.7	10.5	98		1		0--35
Endrin	0.53	1.07	ug/Kg	<MDL	10.7	11.2	105		66--112	10.7	10.8	101		4		0--35
Endosulfan II	0.53	1.07	ug/Kg	<MDL	10.7	8.32	78		33--99	10.7	8.4	79		1		0--35
4,4'-DDD	0.53	1.07	ug/Kg	<MDL	10.7	9.72	91		53--108	10.7	9.56	90		2		0--35
Endrin Aldehyde	0.53	1.07	ug/Kg	<MDL	10.7	4.1	38		30--68	10.7	3.4	32		19		0--35
Endosulfan Sulfate	0.53	1.07	ug/Kg	<MDL	10.7	8.46	79		47--99	10.7	8.26	77		2		0--35
4,4'-DDT	0.53	1.07	ug/Kg	<MDL	10.7	11.2	105		50--110	10.7	10.9	102		3		0--35
Methoxychlor	2.7	5.33	ug/Kg	<MDL	10.7	11.7	110	*	63--107	10.7	11.3	106		3		0--35
trans-Chlordane	0.53	1.07	ug/Kg	<MDL	10.7	10.1	95		40--131	10.7	9.9	93		2		0--35
Alpha-Chlordane	0.53	1.07	ug/Kg	<MDL	10.7	10	94		59--113	10.7	10.1	95		1		0--35

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SRMD:WG125088-6 SRM:WG125088-5 Matrix: FRSHWTRSED Listtype:ORCLPEST Method:SW846 3550B\*SW846 8081B Project: Pkey:SED  
(Std Reference Material Duplicate, Std Reference Material)

Parameter	MDL	RDL	Units	TrueValue	SRM Value	% Rec.	Qual	LabLimit	TrueValue	SRMD Value	% Rec.	Qual	RPD	Qual	LabLimit
Alpha-Chlordane	5.3	10.7	ug/Kg	16.5	21.7	131		69--136	16.5	21	127		3		0--35

LD:WG125088-7 L56024-21 Matrix: FRSHWTRSED Listtype:ORCLPEST Method:SW846 3550B\*SW846 8081B Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Alpha-BHC	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Beta-BHC	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Delta-BHC	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Gamma-BHC (Lindane)	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Heptachlor	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Aldrin	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Heptachlor Epoxide	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Endosulfan I	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Dieldrin	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
4,4'-DDE	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Endrin	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Endosulfan II	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
4,4'-DDD	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Endrin Aldehyde	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Endosulfan Sulfate	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
4,4'-DDT	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Methoxychlor	2.7	5.33	ug/Kg	<MDL	<MDL			0--35
trans-Chlordane	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Alpha-Chlordane	0.53	1.07	ug/Kg	<MDL	<MDL			0--35
Toxaphene	11	53.3	ug/Kg	<MDL	<MDL			0--35

Surrogate: (Lab Limits)	2,4,5,6-Tetrachloro-m-xylene 20--134	Decachlorobiphenyl 47--122
L56024-12	86	73
L56024-15	87	74
L56024-16	87	75
L56024-21	62	88
L56024-22	78	81
L56024-28	79	84
L56024-29	69	78
L56024-30	63	82
L56024-33	80	78
L56024-35	69	86

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L56024-36	53	76
L56024-37	65	86
WG125088-1	30	86
WG125088-2	21	79
WG125088-3	78	83
WG125088-4	69	84
WG125088-5	87	82
WG125088-6	92	86
WG125088-7	63	85

### WG124930

MB:WG124930-1 Matrix: OTHR SOLID Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total 4-Nonylphenol	27	284	ug/Kg	<MDL	
Bisphenol A	59	284	ug/Kg	<MDL	
Bis(2-ethylhexyl)adipate	59	284	ug/Kg	<MDL	
Coprostanol	59	569	ug/Kg	<MDL	

SB:WG124930-2 MB:WG124930-1 Matrix: OTHR SOLID Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Total 4-Nonylphenol	27	284	ug/Kg	<MDL	178	230	129		20--150
Bisphenol A	59	284	ug/Kg	<MDL	178	150	84		20--150
Bis(2-ethylhexyl)adipate	59	284	ug/Kg	<MDL	444	912	205	*	20--150
Coprostanol	59	569	ug/Kg	<MDL	222	430	192	*	20--150

SB:WG124930-3 MB:WG124930-1 Matrix: OTHR SOLID Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Total 4-Nonylphenol	27	284	ug/Kg	<MDL	178	210	119		20--150
Bisphenol A	59	284	ug/Kg	<MDL	178	130	71		20--150
Bis(2-ethylhexyl)adipate	59	284	ug/Kg	<MDL	1240	2320	186	*	20--150
Coprostanol	59	569	ug/Kg	<MDL	222	290	129		20--150

MSD:WG124930-5 MS:WG124930-4 L56024-8 Matrix: FRSHWTRSED Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project:423589-330-4 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit	TrueValue	MSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Total 4-Nonylphenol	400	4270	ug/Kg	<MDL	533	800	150		20--150	533	830	155	*	4		0--35
Bisphenol A	270	4270	ug/Kg	<MDL	533	600	113		20--150	533	530	100		12		0--35

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Bis(2-ethylhexyl)adipate	880	4270	ug/Kg	<MDL	3730	7380	198	*	20--150	3730	7470	200	*	1	0--35
Coprostanol	880	8530	ug/Kg	<MDL	667	1200	173	*	20--150	667	1200	187	*	8	0--35

LD:WG124930-8 L56024-9 Matrix: FRSHWTRSED Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project:423589-330-4 Pkey:SED

(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Total 4-Nonylphenol	27	284	ug/Kg	<MDL	<MDL			0--35
Bisphenol A	59	284	ug/Kg	<MDL	<MDL			0--35
Bis(2-ethylhexyl)adipate	59	284	ug/Kg	<MDL	<MDL			0--35
Coprostanol	290	2840	ug/Kg	<MDL	<MDL			0--35

Surrogate: D4-4-NONYLPHENOL

(Lab Limits) 20--150

L56024-1	94
L56024-2	130
L56024-3	177 *
L56024-4	183 *
L56024-5	187 *
L56024-7	116
L56024-8	163 *
L56024-9	159 *
L56024-11	183 *
L56024-13	190 *
L56024-14	186 *
L56024-17	167 *
L56024-19	186 *
L56024-20	164 *
L56024-23	179 *
L56024-24	179 *
L56024-25	197 *
L56024-26	162 *
L56024-27	177 *
L56024-34	189 *
WG124930-1	23
WG124930-2	127
WG124930-3	130
WG124930-4	160 *
WG124930-5	142
WG124930-8	149

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

### WG125091

MB:WG125091-1 Matrix: OTHR SOLID Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project: Pkey:STD

(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Total 4-Nonylphenol	25	269	ug/Kg	<MDL	
Bisphenol A	56	269	ug/Kg	<MDL	
Bis(2-ethylhexyl)adipate	56	269	ug/Kg	<MDL	
Coprostanol	56	539	ug/Kg	<MDL	

SB:WG125091-2 MB:WG125091-1 Matrix: OTHR SOLID Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project: Pkey:STD

(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Total 4-Nonylphenol	25	269	ug/Kg	<MDL	168	260	156	*	20--150
Bisphenol A	56	269	ug/Kg	<MDL	168	200	117		20--150
Bis(2-ethylhexyl)adipate	56	269	ug/Kg	<MDL	421	856	203	*	20--150
Coprostanol	56	539	ug/Kg	<MDL	211	400	189	*	20--150

SB:WG125091-3 MB:WG125091-1 Matrix: OTHR SOLID Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project: Pkey:STD

(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Total 4-Nonylphenol	25	269	ug/Kg	<MDL	168	270	160	*	20--150
Bisphenol A	56	269	ug/Kg	<MDL	168	200	116		20--150
Bis(2-ethylhexyl)adipate	56	269	ug/Kg	<MDL	1180	2430	206	*	20--150
Coprostanol	56	539	ug/Kg	<MDL	211	380	180	*	20--150

MSD:WG125091-5 MS:WG125091-4 L56024-21 Matrix: FRSHWTRSED Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project:423589-330-4 Pkey:SED

(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit	TrueValue	MSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Total 4-Nonylphenol	400	4270	ug/Kg	<MDL	533	980	184	*	20--150	533	920	173	*	7		0--35
Bisphenol A	530	4270	ug/Kg	<MDL	533	760	143		20--150	533	730	137		4		0--35
Bis(2-ethylhexyl)adipate	880	4270	ug/Kg	<MDL	3730	7460	200	*	20--150	3730	7510	201	*	1		0--35
Coprostanol	880	8530	ug/Kg	<MDL	667	1300	189	*	20--150	667	1300	188	*	1		0--35

LD:WG125091-8 L56024-36 Matrix: FRSHWTRSED Listtype:OREDC Method:SW846 3550B\*SW846 8270D Project:423589-330-4 Pkey:SED

(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Total 4-Nonylphenol	80	853	ug/Kg	<MDL	<MDL			0--35
Bisphenol A	180	853	ug/Kg	<MDL	<MDL			0--35
Bis(2-ethylhexyl)adipate	180	853	ug/Kg	<MDL	<MDL			0--35
Coprostanol	180	1710	ug/Kg	<MDL	<MDL			0--35

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Surrogate:	D4-4-NONYLPHENOL
(Lab Limits)	20--150
L56024-12	159 *
L56024-15	189 *
L56024-16	188 *
L56024-21	167 *
L56024-22	158 *
L56024-28	205 *
L56024-29	155 *
L56024-30	151 *
L56024-33	156 *
L56024-35	164 *
L56024-36	165 *
L56024-37	168 *
WG125091-1	23
WG125091-2	151 *
WG125091-3	157 *
WG125091-4	176 *
WG125091-5	172 *
WG125091-8	160 *

### WG124870

MB:WG124870-1 Matrix: OTHR SOLID Listtype:ORPCB Method:SW846 3550B\*SW846 8082A Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Aroclor 1016	1.3	5.33	ug/Kg	<MDL	
Aroclor 1221	2.7	5.33	ug/Kg	<MDL	
Aroclor 1232	2.7	5.33	ug/Kg	<MDL	
Aroclor 1242	1.3	5.33	ug/Kg	<MDL	
Aroclor 1248	1.3	5.33	ug/Kg	<MDL	
Aroclor 1254	1.3	5.33	ug/Kg	<MDL	
Aroclor 1260	1.3	5.33	ug/Kg	<MDL	
Total Aroclors	2.7	5.33	ug/Kg	<MDL	

SB:WG124870-2 MB:WG124870-1 Matrix: OTHR SOLID Listtype:ORPCB Method:SW846 3550B\*SW846 8082A Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Aroclor 1242	1.3	5.33	ug/Kg	<MDL	107	45.2	42		23--92
Aroclor 1260	1.3	5.33	ug/Kg	<MDL	107	82.2	77		52--103

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

MSD:WG124870-4 MS:WG124870-3 L56024-7 Matrix: FRSHWTRSED Listtype:ORPCB Method:SW846 3550B\*SW846 8082A Project:423589-330-4 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit	TrueValue	MSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Aroclor 1242	1.3	5.33	ug/Kg	3.2	107	74.6	67		57--111	107	70	63		6		0--35
Aroclor 1260	1.3	5.33	ug/Kg	<MDL	107	73.1	69		33--105	107	72.2	68		1		0--35

SRMD:WG124870-6 SRM:WG124870-5 Matrix: FRSHWTRSED Listtype:ORPCB Method:SW846 3550B\*SW846 8082A Project: Pkey:SED  
(Std Reference Material Duplicate, Std Reference Material)

Parameter	MDL	RDL	Units	TrueValue	SRM Value	% Rec.	Qual	LabLimit	TrueValue	SRMD Value	% Rec.	Qual	RPD	Qual	LabLimit
Aroclor 1260	13	53.3	ug/Kg	108	78.5	73		38--167	108	84.3	78		7		0--35

LD:WG124870-7 L56024-1 Matrix: FRSHWTRSED Listtype:ORPCB Method:SW846 3550B\*SW846 8082A Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Aroclor 1016	1.3	5.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1221	2.7	5.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1232	2.7	5.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1242	1.3	5.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1248	1.3	5.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1254	1.3	5.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1260	1.3	5.33	ug/Kg	<MDL	<MDL			0--35
Total Aroclors	2.7	5.33	ug/Kg	<MDL	<MDL			0--35

Surrogate: (Lab Limits)	2,4,5,6-Tetrachloro-m-xylene 20--115	Decachlorobiphenyl 55--120
L56024-1	50	73
L56024-2	68	74
L56024-2	68	74
L56024-3	75	78
L56024-4	69	78
L56024-5	69	79
L56024-7	72	74
L56024-8	65	79
L56024-9	72	83
L56024-11	77	84
L56024-13	74	77
L56024-14	75	77
L56024-17	74	71
L56024-19	75	79
L56024-20	63	72
L56024-23	72	79

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L56024-24	53	80
L56024-25	76	84
L56024-26	75	81
L56024-27	70	82
L56024-34	56	82
WG124870-1	19 *	84
WG124870-2	30	82
WG124870-3	70	68
WG124870-4	68	69
WG124870-5	40	66
WG124870-6	48	73
WG124870-7	60	75

### WG125089

MB:WG125089-1 Matrix: OTHR SOLID Listtype:ORPCB Method:SW846 3550B\*SW846 8082A Project: Pkey:STD  
(Method Blank)

Parameter	MDL	RDL	Units	MB Value	Qual
Aroclor 1016	1.3	5.33	ug/Kg	<MDL	
Aroclor 1221	2.7	5.33	ug/Kg	<MDL	
Aroclor 1232	2.7	5.33	ug/Kg	<MDL	
Aroclor 1242	1.3	5.33	ug/Kg	<MDL	
Aroclor 1248	1.3	5.33	ug/Kg	<MDL	
Aroclor 1254	1.3	5.33	ug/Kg	<MDL	
Aroclor 1260	1.3	5.33	ug/Kg	<MDL	
Total Aroclors	2.7	5.33	ug/Kg	<MDL	

SB:WG125089-2 MB:WG125089-1 Matrix: OTHR SOLID Listtype:ORPCB Method:SW846 3550B\*SW846 8082A Project: Pkey:STD  
(Spike Blank, Method Blank)

Parameter	MDL	RDL	Units	MB Value	TrueValue	SB Value	% Rec.	Qual	LabLimit
Aroclor 1242	1.3	5.33	ug/Kg	<MDL	107	43.7	41		23--92
Aroclor 1260	1.3	5.33	ug/Kg	<MDL	107	77.6	73		52--103

MSD:WG125089-4 MS:WG125089-3 L56024-35 Matrix: FRSHWTRSED Listtype:ORPCB Method:SW846 3550B\*SW846 8082A Project:423589-330-4 Pkey:SED  
(Matrix Spike Duplicate, Matrix Spike)

Parameter	MDL	RDL	Units	SAMP Value	TrueValue	MS Value	% Rec.	Qual	LabLimit	TrueValue	MSD Value	% Rec.	Qual	RPD	Qual	LabLimit
Aroclor 1242	1.3	5.33	ug/Kg	<MDL	107	66.1	62		57--111	107	68.7	64		4		0--35
Aroclor 1260	1.3	5.33	ug/Kg	<MDL	107	81.2	76		33--105	107	81	76		0		0--35

## LIMSView QC Report for Stream Sediments - Data Validation for 2012 Sampling Event

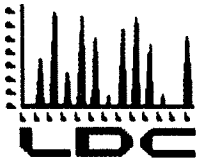
SRMD:WG125089-6 SRM:WG125089-5 Matrix: FRSHWTRSED Listtype:ORPCB Method:SW846 3550B\*SW846 8082A Project: Pkey:SED  
(Std Reference Material Duplicate, Std Reference Material)

Parameter	MDL	RDL	Units	TrueValue	SRM Value	% Rec.	Qual	LabLimit	TrueValue	SRMD Value	% Rec.	Qual	RPD	Qual	LabLimit
Aroclor 1260	13	53.3	ug/Kg	108	106	98		38--167	108	88	81		19		0--35

LD:WG125089-7 L56024-21 Matrix: FRSHWTRSED Listtype:ORPCB Method:SW846 3550B\*SW846 8082A Project:423589-330-4 Pkey:SED  
(Lab Duplicate)

Parameter	MDL	RDL	Units	SAMP Value	LD Value	RPD	Qual	LabLimit
Aroclor 1016	1.3	5.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1221	2.7	5.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1232	2.7	5.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1242	1.3	5.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1248	1.3	5.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1254	1.3	5.33	ug/Kg	<MDL	<MDL			0--35
Aroclor 1260	1.3	5.33	ug/Kg	<MDL	<MDL			0--35
Total Aroclors	2.7	5.33	ug/Kg	<MDL	<MDL			0--35

Surrogate: (Lab Limits)	2,4,5,6-Tetrachloro-m-xylene 20--115	Decachlorobiphenyl 55--120
L56024-12	71	80
L56024-15	64	75
L56024-16	64	73
L56024-21	51	84
L56024-22	58	73
L56024-28	53	67
L56024-29	59	71
L56024-30	50	71
L56024-33	59	71
L56024-35	51	78
L56024-36	45	75
L56024-37	45	74
WG125089-1	24	82
WG125089-2	18 *	76
WG125089-3	47	82
WG125089-4	47	78
WG125089-5	54	83
WG125089-6	52	79
WG125089-7	55	89



## Laboratory Data Consultants, Inc.

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King County Environmental Laboratory  
322 W. Ewing Street  
Seattle WA 98119  
ATTN: Mr. Fritz Grothkopp

April 16, 2013

SUBJECT: Lower Duwamish Waterway, Green River Basin, Data Validation

Dear Mr. Grothkopp,

Enclosed is the final validation report for the fraction listed below. This SDG was received on March 28, 2013. Attachment 1 is a summary of the samples that were reviewed for each analysis.

**LDC Project # 29424:**

<b><u>SDG #</u></b>	<b><u>Fraction</u></b>
DPWG43052	Dioxins/Dibenzofurans

The data validation was performed under EPA Level III guidelines. The analyses were validated using the following documents, as applicable to each method:

- Stream Sediment Monitoring, Sampling and Analysis Plan, Green River Basin, August 2012
- EPA Region 10 SOP for the Validation of Polychlorinated Polychlorinated Dibenzodioxin, PCDD, and Polychlorinated Dibenzofuran, PCDF, Data, Revision 2.0, January 31, 1996

Please feel free to contact us if you have any questions.

Sincerely,

Stella S. Cuenco  
Operations Manager/Senior Chemist

[illegible]

**Laboratory Data Consultants, Inc.**  
**Data Validation Report**

**Project/Site Name:** Lower Duwamish Waterway, Green River Basin

**Collection Date:** August 13 through August 30, 2012

**LDC Report Date:** April 16, 2013

**Matrix:** Sediment

**Parameters:** Dioxins/Dibenzofurans

**Validation Level:** EPA Level III

**Laboratory:** AXYS Analytical Services Ltd.

**Sample Delivery Group (SDG):** DPWG43052

**Sample Identification**

L56024-1  
L56024-11  
L56024-34  
L56024-37  
L56024-38  
L56024-39  
L56024-40  
L56024-34DUP

## **Introduction**

This data review covers 8 sediment samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 1613B for Polychlorinated Dioxins/Dibenzofurans.

This review follows the Stream Sediment Monitoring, Sampling and Analysis Plan, Green River Basin (August 2012) and EPA Region 10 SOP for the Validation of Polychlorinated Dibenzodioxin (PCDD) and Polychlorinated Dibenzofuran (PCDF) Data (Revision 2.0, January 31, 1996).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
  - J1 Blank Contamination: Indicates possible high bias and/or false positives.
  - J2 Calibration Range exceeded: Indicates possible low bias.
  - J3 Holding times not met: Indicates low bias for most analytes.
  - J4 Other QC parameters outside control limits: bias not readily determined.
  - J5 Other QC parameters outside control limits. The reported results appear to be biased high. The actual value of target compound in the sample may be lower than the value reported by the laboratory.
  - J6 Other QC parameters outside control limits. The reported results appear to be biased low. The actual value of target compound in the sample may be higher than the value reported by the laboratory.
- R Quality control indicates the data is not usable.
- NJ Presumptive evidence of presence of the compound at an estimated quantity.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## **I. Technical Holding Times**

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## **II. HRGC/HRMS Instrument Performance Check**

Instrument performance was checked at the required daily frequency.

Retention time windows were established for all homologues. The chromatographic resolution between  $^{13}\text{C}$ -2,3,7,8-TCDD and  $^{13}\text{C}$ -1,2,3,4-TCDD was less than or equal to 25%.

## **III. Initial Calibration**

A five point initial calibration was performed as required by the method.

Percent relative standard deviations (%RSD) were less than or equal to 20.0% for unlabeled compounds and less than or equal to 35.0% for labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within validation criteria.

## **IV. Routine Calibration (Continuing)**

Routine calibration was performed at the required frequencies.

All of the routine calibration results were within the QC limits for unlabeled compounds and labeled compounds.

The ion abundance ratios for all PCDDs and PCDFs were within method criteria.

## **V. Blanks**

Method blanks were reviewed for each matrix as applicable. No polychlorinated dioxin/dibenzofuran contaminants were found in the method.

Method blank results flagged "U" by the laboratory as estimated maximum possible concentration (EMPC) were considered not detected.

## **VI. Matrix Spike/Matrix Spike Duplicates**

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

## **VII. Ongoing Precision & Recovery Samples (OPR)**

Ongoing precision and recovery (OPR) samples were reviewed for each matrix as applicable. The percent recoveries (%R) were within the QC limits.

## **VIII. Regional Quality Assurance and Quality Control**

Not applicable.

## **IX. Internal Standards**

All internal standard recoveries were within QC limits.

## **X. Target Compound Identifications**

Raw data were not reviewed for this SDG.

## **XI. Compound Quantitation**

All compound quantitation were within validation criteria with the following exceptions:

Sample	Compound	Flag	A or P
All samples in SDGDPWG43052	All TCL compounds flagged "K" by the laboratory as estimated maximum possible concentration.	U	A

Raw data were not reviewed for this SDG.

## **XII. System Performance**

Raw data were not reviewed for this SDG.

## **XIII. Overall Assessment of Data**

The overall assessment of data was acceptable. In the case where more than one result was reported for an individual sample, the least technically acceptable results were rejected as follows:

Sample	Compound	Flag	A or P
L56024-1 L56024-11 L56024-37 L56024-38 L56024-39 L56024-40	2,3,7,8-TCDF (from DB-5)	R	A

Data flags are summarized at the end of this report if data has been qualified.

#### **XIV. Field Duplicates**

No field duplicates were identified in this SDG.

#### **XV. Field Blanks**

No field blanks were identified in this SDG.

**Lower Duwamish Waterway, Green River Basin**  
**Dioxins/Dibenzofurans - Data Qualification Summary - SDG DPWG43052**

SDG	Sample	Compound	Flag	A or P	Reason
DPWG43052	L56024-1 L56024-11 L56024-34 L56024-37 L56024-38 L56024-39 L56024-40 L56024-34DUP	All TCL compounds flagged "K" by the laboratory as estimated maximum possible concentration.	U	A	Compound quantitation (EMPC)
DPWG43052	L56024-1 L56024-11 L56024-37 L56024-38 L56024-39 L56024-40	2,3,7,8-TCDF (from DB-5)	R	A	Overall assessment of data

**Lower Duwamish Waterway, Green River Basin**  
**Dioxins/Dibenzofurans - Laboratory Blank Data Qualification Summary - SDG DPWG43052**

No Sample Data Qualified in this SDG

LDC #: 29424A21

## VALIDATION COMPLETENESS WORKSHEET

SDG #: DPWG43052

Level III

Laboratory: AXYS Analytical Services Ltd.

Date: 4-16-13

Page: 1 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 8/13/12 → 8/30/12
II.	HRGC/HRMS Instrument performance check	A	
III.	Initial calibration	A	≤ 20/35
IV.	Routine calibration/ <del>ICV</del>	A	QC limits
V.	Blanks	A	EMPC - U
VI.	Matrix spike/Matrix spike duplicates /DUP	N / SW	client / ≤ 50 (← 50 ←)
VII.	Laboratory control samples	A	OPR
VIII.	Regional quality assurance and quality control	N	
IX.	Internal standards	A	
X.	Target compound identifications	SW	
XI.	Compound quantitation/ <del>RL/LOQ/LODs</del>	SW	
XII.	System performance	N	
XIII.	Overall assessment of data	SW	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

Validated Samples: sediment

1	L56024-1	11	WG 42490-101	21		31	
2	L56024-11	12		22		32	
3	L56024-34	13		23		33	
4	L56024-37	14		24		34	
5	L56024-38	15		25		35	
6	L56024-39	16		26		36	
7	L56024-40	17		27		37	
8	#3-DUP	18		28		38	
9		19		29		39	
10		20		30		40	

Notes: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## VALIDATION FINDINGS WORKSHEET

**METHOD:** HRGC/HRMS Dioxins/Dibenzofurans (EPA Method 1613B)

A. 2,3,7,8-TCDD	F. 1,2,3,4,6,7,8-HpCDD	K. 1,2,3,4,7,8-HxCDF	P. 1,2,3,4,7,8,9-HpCDF	U. Total HpCDD
B. 1,2,3,7,8-PeCDD	G. OCDD	L. 1,2,3,6,7,8-HxCDF	Q. OCDF	V. Total TCDF
C. 1,2,3,4,7,8-HxCDD	H. 2,3,7,8-TCDF	M. 2,3,4,6,7,8-HxCDF	R. Total TCDD	W. Total PeCDF
D. 1,2,3,6,7,8-HxCDD	I. 1,2,3,7,8-PeCDF	N. 1,2,3,7,8,9-HxCDF	S. Total PeCDD	X. Total HxCDF
E. 1,2,3,7,8,9-HxCDD	J. 2,3,4,7,8-PeCDF	O. 1,2,3,4,6,7,8-HpCDF	T. Total HxCDD	Y. Total HpCDF

Notes: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**VALIDATION FINDINGS WORKSHEET**  
**Compound Quantitation and Reported RLs****METHOD:** GC/MS Dioxins/Dibenzofurans (Method 1613)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

☒ N N/A Were the correct internal standard (IS), quantitation ions and relative response factors (RRF) used to quantitate the compound?  
☒ N N/A Compound quantitation and RLs were adjusted to reflect all sample dilutions and dry weight factors (if necessary).

#	Date	Compound	Finding	Associated Samples	Qualifications
			All EMPC qualified "K"	All	U/A
			<del>Percent moisture exceeds limits at 68.7</del>	2 3 4	J/UJ/A
			Percent moisture exceeds limits at 87.4		J/UJ/A
			<del>Percent moisture exceeds limits at 76.7</del>		J/UJ/A

Comments: See sample calculation verification worksheet for recalculations

## VALIDATION FINDINGS WORKSHEET

### Overall Assessment of Data

**METHOD:** GC/MS Dioxins/Dibenzofurans (Method 1613B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

Y N N/A Was the overall quality and usability of the data acceptable?

[illegible]

Comments: \_\_\_\_\_