KING COUNTY ENVIRONMENTAL LABORATORY
QUALITY ASSURANCE REVIEW

for

ESTUARINE SEDIMENT ANALYTICAL DATA

DUWAMISH/DIAGONAL SEDIMENT REMEDIATION PROJECT
YEAR TWO, CAP SEDIMENT CHARACTERIZATION
MARCH 2006 SAMPLING EVENT

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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 Duwamish Diagonal Sediment Remediation Project, Year 2 Main Cap Monitoring. 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. 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 2003. Other approaches incorporated in the QA review have been established through collaboration between the King County Environmental Laboratory (KC Laboratory) and the Washington State Department of Ecology (Ecology) Sediment Management Unit.

GENERAL COMMENTS

Scope of Samples Submitted

This QA review is associated with marine sediment samples collected on March 7, 2006 as part of the Duwamish Diagonal Sediment Remediation Project, Year 2 Main Cap Monitoring.

Except where noted in the subcontracting sections of this QA 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.

Subcontracted Analyses

Analyses that have been subcontracted and the issues associated with these subcontracted analyses are noted in this narrative.

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 *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.

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. 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*. Some subcontracted laboratory data are available with an MDL only, in accordance with the subcontracting laboratory policies. 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 2003 SAPA. 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 all associated sample results have been qualified with a B flag.

Standard Reference Materials
Standard reference material (SRM) recoveries have been used to evaluate possible low or high analytical bias on a batch-specific basis. SRM analysis is included with metals and selected organic and conventional parameters (see Table 2). SRMs are purchased from outside agencies (NIST or NRCC) and must have a certified analyte value in order for a particular parameter to be evaluated. All associated sample results for the certified analytes are flagged if the SRM recoveries are unacceptable. Associated sample results are flagged with an L whenever recoveries are measured above the acceptance limits and are flagged with a G when recoveries are measured below the acceptance limits.

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 conventionals parameters (see Table 2). Associated sample results are flagged with an L whenever recoveries are measured above the acceptance limits and are flagged with a G when recoveries are measured below the acceptance limits (but at or above 10%). Associated results are flagged with an X whenever recoveries are less than 10%.

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. Associated results are flagged with an E whenever the measured precision is unacceptable (greater than the acceptance limit).

Surrogates
Surrogate recoveries have been used to evaluate possible low or high analytical bias on a sample-specific basis. Surrogates are only analyzed for organic parameters. Individual sample results are flagged with an L whenever recoveries are measured above the acceptance limits and are flagged with a G when recoveries are measured below the acceptance limits (but at or above 10%). Associated results are flagged with an X whenever recoveries are less than 10%.

Data Qualifiers
The data qualification guidelines described above has been summarized in Table 3. This table conforms to the guidelines in the current SAPA and also shows the data qualifiers used for the Sedqual electronic data format.

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 nine saltwater sediment samples on March 7, 2006. All sampling activities were conducted following guidance suggested in the Puget Sound Protocols (PSEP, 1996 and 1998).

Sampling Locations and Station Positioning

Sampling locations (stations) were selected and the prescribed coordinates determined prior to field activities. The prescribed station coordinates are presented in the following table. Also presented in the table are the actual coordinates recorded during sampling activities. All station coordinates are recorded in state plane coordinate system North American Datum 1983 (NAD83).

Duwamish/Diagonal Sediment Sampling
Actual and Prescribed Sample Coordinates, March 2006

Lab Sample #	Locator	# Grabs Accepted	Prescribed Northing	Prescribed Easting	Actual Northing	Actual Easting
L38325-1	DUD_1A		209089	1267047		
	Cast 1	2			209087	1267041
	Cast 2	1			209083	1267045
L38325-2	DUD_2A		208902	1267139		
	Cast 1	2			208902	1267134
	Cast 2	1			208898	1267139
L38325-3	DUD_3A		208973	1266951		
	Cast 1	2			208981	1266952
	Cast 2	1			208987	1266951
L38325-4	DUD_4A		209354	1266888		
	Cast 1	2			209354	1266889
	Cast 2	1			209354	1266886
L38325-5	DUD_5A		209410	1266805		
	Cast 1	2 for AREP			209413	1266800
	Cast 2	1 for AREP			209420	1266804
L38325-6	Cast 2	1 for FREP			209420	1266804
	Cast 3	2 for FREP			209413	1266799
L38325-7	DUD_1B		208484	1267060		
	Cast 1	1			208479	1267068
	Cast 2	2			208482	1267064
L38325-8	DUD_2B		208621	1267079		
	Cast 1	1			208618	1267080
	Cast 2	1			208617	1267083
	Cast 3	1			208623	1267084
	Cast 4	2			208624	1267082
	Cast 5	1			208621	1267076
L38325-9	DUD_3B		208716	1267049		
	Cast 1	1			208719	1267048
	Cast 2	1			208716	1267052
	Cast 3	2			208725	1267047

NOTE: On cast #2 at DUD_5A, sample material from one grab went into the AREP compositing bowl, and material from the other grab went into the FREP bowl.

Sediment grab samples were collected from the King County research vessel *Liberty*, which is equipped with a differential global positioning system (DGPS). Field coordinates were recorded using DGPS for each deployment of the sampler as it contacted the sediment. All field coordinates for individual grabs listed in the above table are within the +/- 3 meter accuracy limits,

as defined in the SAP with the exception of the Northing value for location DUD_3A, Cast 2. This value is 1.3m outside the 3m limit.

Sample Description Table

Lab Sample #	Locator	Sample Collection	Average Sediment Sampling Depth	Sample Usage
L38325-1	DUD_1A	Surface Grabs	9 cm	Chemistry only
L38325-2	DUD_2A	Surface Grabs	10 cm	Chemistry only
L38325-3	DUD_3A	Surface Grabs	8 cm	Chemistry only
L38325-4	DUD_4A	Surface Grabs	10 cm	Chemistry only
L38325-5	DUD_5A	Surface Grabs	7 cm	Chemistry only
L38325-6	DUD_5A	Surface Grabs (field replicate)	6 cm	Chemistry only
L38325-7	DUD_1B	Surface Grabs	8 cm	Chemistry only
L38325-8	DUD_2B	Surface Grabs	4 cm	Chemistry only
L38325-9	DUD_3B	Surface Grabs	6 cm	Chemistry only

Sample Collection

Sediment was collected at each station using two stainless steel, modified, 0.1 m^2 Van Veen grab samplers deployed in tandem via hydrowire. For each acceptable deployment, between 4-10 cm of sediment was recovered, allowing for subsampling of all but the bottom 1 cm of material lying against the jaws. A minimum of two separate sampler deployments was needed to collect sufficient sample volume to perform all chemistry analyses.

Water depth at the eight subtidal cap sample stations ranged between 5-11 meters (not corrected for tide).

Sample Handling

Approximately equal amounts of sediment were subsampled from the three or more separate grabs used for chemistry analysis. For chemistry testing, 4 to 9 cm aliquots, as measured from the sediment surface, were collected using a stainless steel spoon. When necessary, less than the top 10 cm of sediment was taken in an attempt to exclude the sediment that had touched the sides or bottom of the grab sampler. Each of the aliquots was placed into a covered stainless-steel bowl, specific for that locator. After collecting all aliquots from three or more grabs, the sediment was thoroughly homogenized and split out into pre-labeled containers. Sample containers were supplied by the King County Environmental Laboratory and were pre-cleaned according to analytical specifications.

Two samples, L38325-8 & -9 were comprised of mostly gravel with some fine material interspersed in between the rocks. These samples were collected such that the entire contents of the Van Veen sampler was placed into the SS sample bowls. The bowls were brought back to the lab where the samples were run through a 1 cm sieve to remove a majority of the large rocks and gravel from the sample prior to placing the remaining material into the sample containers. The amount of material removed from the sample was equivalent to approximately 30% of the total weight of sample collected.

Decontamination

Individual sets of the subsampling and mixing equipment were dedicated to each station, precluding the need for decontamination of the field gear. The Van Veen grab samplers were decontaminated between stations by scrubbing with a brush and ambient seawater 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 were 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. PSD samples 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. The collect times represent the start times of each sampling sequence upon arrival on station.

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.

List those samples and QC that may not have been analyzed and the rationale.

Subcontracted Analyses
All analyses were conducted at the King County Env Lab.

Methods
PSD analysis was performed in accordance with ASTM and Puget Sound Protocols methodologies (*Recommended Protocols for Measuring Conventional Sediment Variables in Puget Sound* - page 9 - PSEP, 1986). TOC analysis was performed in accordance with SM5310-B and EPA 9060. Total solids analyses were performed in accordance with SM2540-G.

Detection Limits
The detection limits (MDLs) reported for Conventionals parameters are all within the requirements defined in the SAP, except for the following:

Parameter	Sample ID#	SAP MDL	Reported MDL	Reason for higher MDL Value
Total Organic Carbon	L38325-1	1000	1900	Reduced sample size analyzed due to High Organic Background
Total Organic Carbon	L38325-2	1000	1900	Reduced sample size analyzed due to High Organic Background, TS<50%
Total Organic Carbon	L38325-3	1000	1800	Reduced sample size analyzed due to High Organic Background
Total Organic Carbon	L38325-7	1000	1700	TS<50%
Total Organic Carbon	L38325-8	1000	1700	Reduced sample size analyzed due to High Organic Background
Total Organic Carbon	L38325-9	1000	1800	Reduced sample size analyzed due to High Organic Background
PSD (P+10, +5, +6, +7, +8, +9	L38325-all	0.1	0.5	Wrong MDL in SAP

For all samples where the MDL did not meet the SAP MDL, the TOC levels were detectable, thus the project objectives were met. The MDLs for PSD data in the % fines range were 0.5% based on the method currently used in the laboratory. This method was not in use when the SAP was finalized.

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 Comprehensive Report attached, Conventionals parameters are reported in mg/Kg, dry weight basis, for TOC, ammonia, Total Sulfide and Total Phosphorus. 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 QA/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 SAPA (WDOE, 2003). The dates and holding time criteria for the actual storage conditions used for conventional analyses are listed in the table below.

Parameter	Lab ID#	Date Collected	Prep Date	Date Analyzed	Sample Holding Time	Extract Holding Time
Particle Size Distribution	L38325-1 to -3	07-Mar-2006	20-Mar-2006	21-Mar-2006	6 Months at 4°C	NA
	L38325-4 to -9	07-Mar-2006	10-Apr-2006	11-Apr-2006		
Total Organic Carbon	L38325-1 to -7	07-Mar-2006	03-Apr-2006	18-Apr-2006	6 months at -18°C	6 months at -18°C
	L38325-8 to -9	07-Mar-2006	10-Apr-2006	19-Apr-2006		
Total Solids	L38325-1 to -7	07-Mar-2006	03-Apr-2006	03-Apr-2006	6 months at -18°C	NA
	L38325-8 to -9	07-Mar-2006	10-Apr-2006	10-Apr-2006		

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

Method Blanks

Method blanks were analyzed in connection with total solids and total organic carbon analyses. All method blanks results were less than the MDL.

Standard Reference Materials

An SRM (Buffalo River Sediment) was analyzed in connection with TOC analysis. The percent recovery for the SRM analysis was within the 80 to 120% QC limits.

Matrix Spikes

The matrix spike recovery for TOC was within the 75 to 125% acceptance limits.

Laboratory Replicate Samples

A set of laboratory triplicates was analyzed for each of the conventional parameters. The percent relative standard deviation (%RSD) for each triplicate set was less than or equal to the 20% acceptance limit, except for the following: For PSD analysis, the %RSD measured for the triplicate analysis of Sample L38325-6 was 37% for the Clay category, which is greater than the 20% acceptance limit. This category represents 10% or less of the total particle distribution of the QC sample. Higher variability is expected for the clay category whenever it represents 10% or less of the total, therefore no corrective actions were taken except that clay results for all samples are qualified with an "E" flag.

METALS CHEMISTRY

Completeness
Trace metals data are reported for all samples summarized in Table 1. These samples were analyzed for mercury and other metals in association with the complete set of QC samples outlined in Table 2.

Subcontracted Analyses
All analyses were conducted at the King County Env Lab.

Methods
Mercury analysis was performed in accordance with EPA Method 7471A. Analysis for other metals was performed in accordance with EPA method 3050/6010.

Target List
The reported target list includes all metals specified in *Table 1.* Additional metals have been reported as available.

Detection Limits
The detection limits (MDLs) reported for Metals parameters are all within the requirements defined in the SAP, except for the following: (Refer to the SAP MDL table at the back of the document)

All the Iron MDLs were above the SAP level due to the use of a less sensitive analytical wavelength for Iron during analysis of the samples. There were too many matrix interferences present for analysis of Iron at its primary wavelength. All samples had detectable levels of Iron greater than ten times the original and modified MDL so no corrective action was taken.

All other SAP MDL exceedances for metals occurred only for those samples (L38325-2 and -7) where the total solids were less than 50%. For those two samples, all reported metals had measurable levels above the MDL except for Antimony, Selenium and Thallium. Only for these three metals on these two samples were the project goals not met.

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, 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. 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 QA/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 SAPA (WDOE 2003). The dates and holding time criteria for the actual storage conditions used for metals analyses are listed in the table below.

Parameter	Lab ID#	Date Collected	Date Digested/Extracted	Date Analyzed	Sample Holding Time	Digestate/Extract Holding Time
Total Metals	L38325-1 to 9	03/7/06	3/14/06	3/15/06	2 Years at -18°C	6 months
Total Mercury	L38325-1 to 9	03/7/06	3/13/06	3/14/06	28 days at -18°C	NA

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

Method Blanks
Method blanks were analyzed for all metals parameters and all method blank results were less than the MDL.

Standard Reference Materials
The SRM analyzed in association with samples included in this data submission is PACS-2. This SRM is not certified for Silver, Aluminum, Beryllium, Iron or Thallium. Acceptance limits for the certified elements that are above the MDL have been developed using historical lab data since the certified SRM values and limits were determined with different analysis techniques. SRM recoveries outside these lab-defined limits indicate the method has not performed as expected and the sample data have been flagged to indicate the expected bias.

All metals SRM recoveries were within the lab-defined limits. Note: the acceptance limit of <= 120% in the SAP is no longer applicable.

Matrix Spikes
Matrix Spike recoveries were within the acceptance limits of 75% to 125% for all metals parameters, where applicable, except for: The acceptance limits are not applicable for aluminum since the unspiked sample level is 4 times or greater than the spiked concentration. The reported matrix spike recovery of 31% for antimony is less than the 75% QC limit. Antimony results for all samples in this data submission have been qualified with the *G* flag.

Laboratory Replicate Samples
A laboratory duplicate sample(s) was analyzed for each metals parameter. The relative percent differences (RPDs) for the laboratory duplicate for all metals at or above the RDL were less than or equal to the acceptance 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
BNA analysis was performed in accordance with EPA method 8270. PCB and chlorinated pesticides analysis was performed in accordance with EPA methods 8082 and 8081A.

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.

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

Detection Limits, Units and Significant Figures
The detection limits (MDLs) reported for Organics parameters are all within the requirements defined in the SAP, except for the following: (Refer to the SAL MDL table at the back of the document)

BNAs
1) The reported MDLs for all BNA parameters for Samples L38325-1 and -2 were greater than the SAP MDL levels due to dilutions required to minimize interferences.
2) For all samples, the reported MDLs for 1,4-Dichlorobenzene, Benzoic Acid, Coprostanol, Hexachlorobutadiene and Pentachlorophenol were greater than the SAP MDL values.

PCBs
The reported MDLs for Aroclors 1016, 1232 and 1242 in selected samples were greater than the MDL values listed in the SAP. The reported MDLs for these Aroclors were elevated to compensate for overlap of PCB congeners from other Aroclors detected in the samples.

Chlorinated Pesticides
The reported MDLs for all Chlorinated Pesticides (except for gamma-chlordane) in all samples were greater than the MDL values listed in the SAP. The preparation method was modified for this set of samples such that 20 grams of material was extracted instead of the normal 30 and the final volume of extract was changed from 0.5 ml to 2.5 ml.

The attached SMS OC and Dry Weight Normalization MDL Check tables compare the reported MDL value to the SMS requirement. The exceedances are summarized below:
- L38325-1: 2,4-Dimethylphenol, 2-Methlyphenol and Benzyl Alcohol had reported MDLs above the SMS limit.
- L38325-2: 2,4-Dimethylphenol and Benzyl Alcohol had reported MDLs above the SMS limit.

All the non-ionizable organics compounds met the SAP required OC MDL.

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 Comprehensive Report attached, Organics parameters are reported in ug/Kg, dry weight basis. In this report format, non-ionizable organic parameters have not been converted to mg/Kg TOC. 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 QA/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 SAPA (WDOE, 2003). 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	L38325-1 to 9	07-Mar-06	24-Mar-06	12-Apr-06 26-Apr-06 02-May-06	1 year at -18°C	40 days at 4°C
Chlorinated Pesticides	L38325-1 to 9	07-Mar-06	06-Apr-06	24-Apr-06	1 year at -18°C	40 days at 4°C
PCB	L38325-1 to 9	07-Mar-06	06-Apr-06	12-Apr-06, 13-Apr-06 02-Jun-06*	1 year at -18°C	40 days at 4°C

* Samples analyzed on this day are for confirmation purposes only. All results were taken from the earlier analyses.

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

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 for L38325 had a result above the MDL for Di-N-Butyl Phthalate (8.4 ug/Kg), Benzyl Butyl Phthalate (7.1 ug/Kg) and Bis (2-Ethylhexyl) Phthalate (8.3 ug/Kg). Sample results for Di-N-Butyl Phthalate, Benzyl Butyl Phthalate and Bis (2-Ethylhexyl) Phthalate for that batch (L38325) have been qualified with the B flag. All Di-N-Butyl Phthalate, Benzyl Butyl Phthalate and Bis (2-Ethylhexyl) Phthalate results for these samples must be treated as estimated values.

Surrogate Recoveries

Surrogate recovery acceptance limits for sediment samples have been developed based on historical lab performance using the current analytical methods. The exceptions to this are the TPH methods (NWTPH-Dx, -Gx and -HCID) where method-defined surrogate acceptance limits must be applied. Recoveries measured above the acceptance limits are flagged with an L. Recoveries measured below the acceptance limits (but at or above 10%) are flagged with a G. Recoveries below 10% are flagged with an X. Surrogate recovery summaries for each method are shown below.

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. Only one surrogate compound was outside limits (2,4,6-Tribromophenol on L38325-1) therefore all surrogate recoveries met acceptance limits for the batch.

2. PCBs
Sample data are qualified when individual surrogate recoveries are outside lab-specific acceptance limits. For each set of analyses, 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. For each set of analyses, 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. 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 have been flagged.

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. PCBs and 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 DDT. The sediment SRM analyzed in association with the reported PCB results is HS-2, certified by the National Research Council of Canada. SRM HS-2 contains Aroclor 1254. All measured recoveries for these SRMs were within acceptance limits except as shown in the table below:

	L38325-1 to 9	
Compound	**% Recovery**	**Flag**
DDT	292	L

Matrix Spikes
Matrix Spikes have been analyzed for each method. Recovery acceptance limits for each parameter in sediment have been developed based on historical lab performance using the current analytical methods. The acceptance limits are not applicable when the unspiked sample level was 4 times or greater than the spiked concentration. When applicable, matrix spike recoveries outside these lab-defined limits indicate the method has not performed as expected and the associated sample data have been flagged.

1. BNAs
Each of the reported BNA compounds were included in the matrix spike and measured recoveries for each were within their acceptance limits, except for the parameters listed in the table below:

	L38325-1 to 9	
Compound	**% Recovery**	**Flag**
2,4-Dimethylphenol	2	X

2. PCBs and Chlorinated Pesticides
Each of the 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 their acceptance limits, except for the parameters listed in the table below:

	L38325-1 to 9	
Compound	**% Recovery**	**Flag**
Aroclor 1260	166	L

Laboratory Replicate Samples
A laboratory duplicate sample(s) was analyzed for each Organics parameter. The relative percent differences (RPDs) for laboratory duplicate for all parameters at or above the RDL were less than or equal to the acceptance limit of 35%.

Additional QC Issues:

PCB Analysis:
PCB data reported for this set of samples include numeric values for only those Aroclors that could be positively identified in each sample and were measured above the detection limit. Identification of Aroclors 1016, 1232 and 1242 was not possible for samples listed below due to the overlap of the components from other more prominent Aroclors. For those Aroclors where this overlap has occurred, the result is reported as <MDL with elevated MDL and RDL values. The elevated MDL represents the maximum amount that would have been reported for that aroclor had it been positively identified. The RDL value has also been elevated by the same proportion.

Lab Sample Number	PCB 1016	PCB 1232	PCB 1242
L38325-1	X		
L38325-2	X		
L38325-3	X	X	
L38325-4	X	X	X
L38325-7	X	X	X
L38325-8	X	X	X
L38325-9	X	X	X

Chlorinated Pesticide and PCB Analysis:

The sample jar for sample L38325-9 broke while stored in the freezer. In addition, the teflon liner for the lid was missing. The sample was thawed and moved to a new container. All the pesticide and PCB results for this sample have been flagged with an "H" to indicate sample handling and storage issues.

The Continuing Calibration Verification Std for samples L38325-2 through -9 were unacceptable for DDT and Methoxychlor due to matrix interferences. The results for these parameters for these samples have been qualified with an E flag.

TABLE 1
SEDIMENT SAMPLE INVENTORY

Sample	Locator / Description (see SAP)	PSD	Solids	TOC	Metals[1]	BNAs[2]	Pest/ PCBs	Comments
L38325-1	DUD_1A	X	X	X	X	X	X	
L38325-2	DUD_2A	X	X	X	X	X	X	
L38325-3	DUD_3A	X	X	X	X	X	X	
L38325-4	DUD_4A	X	X	X	X	X	X	
L38325-5	DUD_5A	X	X	X	X	X	X	
L38325-6	DUD_5A	X	X	X	X	X	X	field replicate
L38325-7	DUD_1B	X	X	X	X	X	X	
L38325-8	DUD_2B	X	X	X	X	X	X	
L38325-9	DUD_3B	X	X	X	X	X	X	

1 Metals = Hg, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn, Al, Fe
2 BNAs = includes Chlorobenzenes

TABLE 2
QC SAMPLE FREQUENCY FOR SEDIMENT CHEMICAL AND PHYSICAL PARAMETERS

Parameter	Method Blank	Duplicate	Triplicate	Matrix Spike	SRM	Surrogates
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
Metals	1 per QC batch	5% minimum, 1 per QC batch	No	5% minimum, 1 per QC batch	1 per QC batch	No
BNAs	1 per QC batch	5% minimum, 1 per QC batch	No	5% minimum, 1 per QC batch	1 per QC batch	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

TABLE 3 - SUMMARY OF SEDIMENT DATA QUALIFIERS

Condition to Qualify	King County Data Qualifier	Sedqual Data Qualifier	Organic QC Limits	Metal QC Limits	Conventional QC Limits	Comment
very low matrix spike recovery	X	X	< 10 %	< 10 %	< 10 %	
low matrix spike recovery	G	G	Compound specific	< 75%	< 75% *	
high matrix spike recovery	L	L	Compound specific	>125%	>125% *	
low standard reference material recovery	G	G	Compound and SRM specific	Element and SRM specific	< 80%	
high standard reference material recovery	L	L	Compound and SRM specific	Element and SRM specific	>120%	
high duplicate relative percent difference	E	E	>35 %	>20%	NA	for organics and metals
high triplicate relative standard deviation	E	E	NA	NA	> 20%	for conventionals
less than the reporting detection limit	<RDL**	T	NA	NA	NA	
less than the method detection limit	<MDL	U	NA	NA	NA	
contamination detected in method blank	B	B	>/=MDL	>/=MDL	>/=MDL	
biased data based on very low surrogate recoveries	X	X	any surrogate <10%	NA	NA	
biased data based on low surrogate recoveries	G	G	Surrogate specific	NA	NA	At least 2 surrogates < limit for BNAs
biased data based on high surrogate recoveries	L	L	Surrogate specific	NA	NA	At least 2 surrogates > limit for BNAs
rejected - unusable for all purposes	R	J or Q	NA	NA	NA	
a sample handling criteria has not been met	H	H	NA	NA	NA	container, hold time, preservation
		-				

- 65% to 135% for Total Sulfides.
- ** For Sedqual files, <MDL uses a "U" flag, <RDL is not flagged since the RDL value is not included in the Sedqual templates generated by King County.

King County Environmental Lab Analytical Report

PROJECT: 423062-100-4

Locator:	DUD_1A	DUD_2A	DUD_3A	DUD_4A
Descrip:	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon
Sampled:	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006
Lab ID:	L38325-1	L38325-2	L38325-3	L38325-4
Matrix:	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED
% Solids:	62.3	43.1	50.9	72.6

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis		
COMBINED LABS																				
M=CV ASTM D422(03-02-005-001)																				
Fines *	8.3		0.5	1	%	65.9		0.5	1	%	53.3		0.5	1	%	20.2		0.5	1	%
Clay *	3.3	E	0.5	1	%	15.3	E	0.5	1	%	17.1	E	0.5	1	%	8.1	E	0.5	1	%
Silt *	5		0.5	1	%	50.6		0.5	1	%	36.2		0.5	1	%	12.1		0.5	1	%
Sand *	84.9		0.1	1	%	18.2		0.1	1	%	26.3		0.1	1	%	72.2		0.1	1	%
Gravel *	2.6		0.1	1	%	9.7		0.1	1	%	18.3		0.1	1	%	10.4		0.1	1	%
p+0.00 *	3.1		0.1	1	%	2		0.1	1	%	2.4		0.1	1	%	7.5		0.1	1	%
p+1.00 *	12		0.1	1	%	2.2		0.1	1	%	2.1		0.1	1	%	11		0.1	1	%
p+10.0(equal/more than) *	2.5		0.5	1	%	11.8		0.5	1	%	11.4		0.5	1	%	6.7		0.5	1	%
p+2.00 *	48.6		0.1	1	%	2.5		0.1	1	%	4.9		0.1	1	%	23.9		0.1	1	%
p+3.00 *	18		0.1	1	%	4		0.1	1	%	9.3		0.1	1	%	22.8		0.1	1	%
p+4.00 *	3.3		0.1	1	%	7.5		0.1	1	%	7.6		0.1	1	%	7		0.1	1	%
p+5.00 *	1.7		0.5	1	%	15.3		0.5	1	%	10.5		0.5	1	%	4.7		0.5	1	%
p+6.00 *	0.8	<RDL	0.5	1	%	14.1		0.5	1	%	9.5		0.5	1	%	2		0.5	1	%
p+7.00 *	1.7		0.5	1	%	15.3		0.5	1	%	11.4		0.5	1	%	4		0.5	1	%
p+8.00 *	0.8	<RDL	0.5	1	%	5.9		0.5	1	%	4.8		0.5	1	%	1.4		0.5	1	%
p+9.00 *	0.8	<RDL	0.5	1	%	3.5		0.5	1	%	5.7		0.5	1	%	1.4		0.5	1	%
p-1.00 *	1.6		0.1	1	%	2.9		0.1	1	%	3.6		0.1	1	%	7.1		0.1	1	%
p-2.00 *	0.3	<RDL	0.1	1	%	1.1		0.1	1	%	1.5		0.1	1	%	0.5	<RDL	0.1	1	%
p-2.00(less than) *	0.7	<RDL	0.1	1	%	5.7		0.1	1	%	13.2		0.1	1	%	2.8		0.1	1	%
M=CV EPA9060-PSEP96 (03-04-002-003)																				
Total Organic Carbon	22800		1900	3930	mg/Kg	29900		1900	3900	mg/Kg	18700		1800	3560	mg/Kg	7670		1000	2090	mg/Kg
M=CV SM2540-G (03-01-007-002)																				
Total Solids *	62.3		0.005	0.01	%	43.1		0.005	0.01	%	50.9		0.005	0.01	%	72.6		0.005	0.01	%
M=ES NONE																				
Field Personnel	JB, JD, JDD, PR				none	JB, JD, JDD, PR				none	JB, JD, JDD, PR				none	JB, JD, JDD, PR				none
Sampcoordx1 *	1267041				ft	1267134				ft	1266952				ft	1266889				ft
Sampcoordx2 *	1267045				ft	1267139				ft	1266951				ft	1266886				ft
Sampcoordx3 *																				
Sampcoordx4 *																				
Sampcoordx5 *																				
Sampcoordy1 *	209087				ft	208902				ft	208981				ft	209354				ft
Sampcoordy2 *	209083				ft	208898				ft	208987				ft	209354				ft
Sampcoordy3 *																				
Sampcoordy4 *																				
Sampcoordy5 *																				
Sample Depth *	5				m	7				m	8				m	7				m
Sample Function																				
Sample Start Time *	1315				hr	1340				hr	1403				hr	1430				hr
Sampling Method *	20042				none	20042				none	20042				none	20042				none
Sediment Sampling Depth *	9				cm	10				cm	8				cm	10				cm
Sediment Sampling Range *	0-8 cm				cm	0-9 cm				cm	0-7 cm				cm	0-9 cm				cm
Sediment Type	23P12				none	21P11				none	21N31				none	32N30				none

King County Environmental Lab Analytical Report

PROJECT: 423062-100-4

Locator:	DUD_1A	DUD_2A	DUD_3A	DUD_4A
Descrip:	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon
Sampled:	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006
Lab ID:	L38325-1	L38325-2	L38325-3	L38325-4
Matrix:	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED
% Solids:	62.3	43.1	50.9	72.6

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis		
COMBINED LABS																				
Tidal Condition	E				none	E				none	E				none	E				none
Tide Height *	3.5				ft	3				ft	2.5				ft	2				ft
M=MT EPA 7471A (06-01-004-003)																				
Mercury, Total, CVAA	0.087	<RDL	0.032	0.319	mg/Kg	0.3	<RDL	0.044	0.443	mg/Kg	0.28	<RDL	0.037	0.379	mg/Kg	0.092	<RDL	0.028	0.27	mg/Kg
M=MT EPA3050A/6010B (06-02-004-002)																				
Aluminum, Total, ICP	9090		8	40.1	mg/Kg	19300		12	60.3	mg/Kg	17200		10	50.9	mg/Kg	12100		6.6	33.3	mg/Kg
Antimony, Total, ICP		<MDL,G	2.4	12	mg/Kg		<MDL,G	3.7	18.1	mg/Kg		<MDL,G	3.1	15.3	mg/Kg		<MDL,G	2.1	10	mg/Kg
Arsenic, Total, ICP	5.5	<RDL	4	20.1	mg/Kg	15	<RDL	6	30.2	mg/Kg	14	<RDL	5.1	25.5	mg/Kg	5.2	<RDL	3.3	16.7	mg/Kg
Beryllium, Total, ICP	0.12	<RDL	0.08	0.401	mg/Kg	0.32	<RDL	0.12	0.603	mg/Kg	0.28	<RDL	0.1	0.509	mg/Kg	0.13	<RDL	0.066	0.333	mg/Kg
Cadmium, Total, ICP	0.9	<RDL	0.24	1.2	mg/Kg	0.74	<RDL	0.37	1.81	mg/Kg	0.47	<RDL	0.31	1.53	mg/Kg	0.28	<RDL	0.21	1	mg/Kg
Chromium, Total, ICP	42.4		0.4	2.01	mg/Kg	40.8		0.6	3.02	mg/Kg	33.4		0.51	2.55	mg/Kg	28.4		0.33	1.67	mg/Kg
Copper, Total, ICP	64.5		0.32	1.6	mg/Kg	103		0.49	2.41	mg/Kg	85.3		0.41	2.04	mg/Kg	55.8		0.26	1.33	mg/Kg
Iron, Total, ICP	16700		32	160	mg/Kg	32700		49	241	mg/Kg	29500		41	204	mg/Kg	21300		26	133	mg/Kg
Lead, Total, ICP	46.9		2.4	12	mg/Kg	65		3.7	18.1	mg/Kg	47		3.1	15.3	mg/Kg	23.8		2.1	10	mg/Kg
Manganese, Total, ICP	194		0.16	0.803	mg/Kg	374		0.23	1.21	mg/Kg	354		0.2	1.02	mg/Kg	285		0.13	0.667	mg/Kg
Nickel, Total, ICP	32.1		1.6	8.03	mg/Kg	29		2.3	12.1	mg/Kg	25		2	10.2	mg/Kg	19.7		1.3	6.67	mg/Kg
Selenium, Total, ICP		<MDL	4	20.1	mg/Kg		<MDL	6	30.2	mg/Kg		<MDL	5.1	25.5	mg/Kg		<MDL	3.3	16.7	mg/Kg
Silver, Total, ICP	0.48	<RDL	0.32	1.6	mg/Kg	0.86	<RDL	0.49	2.41	mg/Kg	0.67	<RDL	0.41	2.04	mg/Kg	0.47	<RDL	0.26	1.33	mg/Kg
Thallium, Total, ICP		<MDL	16	80.3	mg/Kg		<MDL	23	121	mg/Kg		<MDL	20	102	mg/Kg		<MDL	13	66.7	mg/Kg
Zinc, Total, ICP	246		0.4	2.01	mg/Kg	209		0.6	3.02	mg/Kg	145		0.51	2.55	mg/Kg	76.9		0.33	1.67	mg/Kg
M=OR EPA 3550B/8270C (7-3-01-004)																				
1,2,4-Trichlorobenzene		<MDL	4.3	8.56	ug/Kg		<MDL	3	6.19	ug/Kg		<MDL	0.53	1.05	ug/Kg		<MDL	0.37	0.734	ug/Kg
1,2-Dichlorobenzene		<MDL	4.3	8.56	ug/Kg		<MDL	3	6.19	ug/Kg		<MDL	0.53	1.05	ug/Kg		<MDL	0.37	0.734	ug/Kg
1,3-Dichlorobenzene		<MDL	4.3	8.56	ug/Kg		<MDL	3	6.19	ug/Kg		<MDL	0.53	1.05	ug/Kg		<MDL	0.37	0.734	ug/Kg
1,4-Dichlorobenzene	37.7		4.3	8.56	ug/Kg		<MDL	3	6.19	ug/Kg		<MDL	0.53	1.05	ug/Kg		<MDL	0.37	0.734	ug/Kg
2,4-Dimethylphenol		<MDL,X	43	85.6	ug/Kg		<MDL,X	30	61.9	ug/Kg		<MDL,X	5.3	10.5	ug/Kg		<MDL,X	3.7	7.34	ug/Kg
2-Methylnaphthalene	56	<RDL	43	85.6	ug/Kg		<MDL	30	61.9	ug/Kg	7.3	<RDL	5.3	10.5	ug/Kg		<MDL	3.7	7.34	ug/Kg
2-Methylphenol		<MDL	85	172	ug/Kg		<MDL	63	124	ug/Kg		<MDL	10	21	ug/Kg		<MDL	7.3	14.7	ug/Kg
4-Methylphenol		<MDL	85	172	ug/Kg		<MDL	63	124	ug/Kg		<MDL	10	21	ug/Kg		<MDL	7.3	14.7	ug/Kg
Acenaphthene		<MDL	43	85.6	ug/Kg	44	<RDL	30	61.9	ug/Kg	11.8		5.3	10.5	ug/Kg	5.9	<RDL	3.7	7.34	ug/Kg
Acenaphthylene		<MDL	43	85.6	ug/Kg		<MDL	30	61.9	ug/Kg	11.6		5.3	10.5	ug/Kg	4.3	<RDL	3.7	7.34	ug/Kg
Anthracene	218		43	85.6	ug/Kg	145		30	61.9	ug/Kg	98.4		5.3	10.5	ug/Kg	40.8		3.7	7.34	ug/Kg
Benzo(a)anthracene	682		43	85.6	ug/Kg	304		30	61.9	ug/Kg	185		5.3	10.5	ug/Kg	105		3.7	7.34	ug/Kg
Benzo(a)pyrene	665		43	85.6	ug/Kg	318		30	61.9	ug/Kg	214		5.3	10.5	ug/Kg	108		3.7	7.34	ug/Kg
Benzo(b)fluoranthene	576		43	85.6	ug/Kg	306		30	61.9	ug/Kg	228		5.3	10.5	ug/Kg	121		3.7	7.34	ug/Kg
Benzo(g,h,i)perylene	395		43	85.6	ug/Kg	220		30	61.9	ug/Kg	133		5.3	10.5	ug/Kg	78.9		3.7	7.34	ug/Kg
Benzo(k)fluoranthene	653		43	85.6	ug/Kg	376		30	61.9	ug/Kg	251		5.3	10.5	ug/Kg	117		3.7	7.34	ug/Kg
Benzoic Acid	790		210	429	ug/Kg		<MDL	160	309	ug/Kg	128		26	52.5	ug/Kg	95.2		18	36.8	ug/Kg
Benzyl Alcohol		<MDL	85	172	ug/Kg		<MDL	63	124	ug/Kg		<MDL	10	21	ug/Kg		<MDL	7.3	14.7	ug/Kg
Benzyl Butyl Phthalate	584	B	85	172	ug/Kg	206	B	63	124	ug/Kg	75.2	B	10	21	ug/Kg	39.4	B	7.3	14.7	ug/Kg
Bis(2-Ethylhexyl)Phthalate	3660	B	85	172	ug/Kg	2210	B	63	124	ug/Kg	835	B	10	21	ug/Kg	709	B	7.3	14.7	ug/Kg
Caffeine		<MDL	85	172	ug/Kg		<MDL	63	124	ug/Kg		<MDL	10	21	ug/Kg		<MDL	7.3	14.7	ug/Kg
Carbazole	124		43	85.6	ug/Kg	60	<RDL	30	61.9	ug/Kg	30.3		5.3	10.5	ug/Kg	19.4		3.7	7.34	ug/Kg

King County Environmental Lab Analytical Report

PROJECT: 423062-100-4

	DUD_1A	DUD_2A	DUD_3A	DUD_4A
Locator:	DUD_1A	DUD_2A	DUD_3A	DUD_4A
Descrip:	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon
Sampled:	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006
Lab ID:	L38325-1	L38325-2	L38325-3	L38325-4
Matrix:	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED
% Solids:	62.3	43.1	50.9	72.6

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis		
COMBINED LABS																				
Chrysene	801		43	85.6	ug/Kg	469		30	61.9	ug/Kg	289		5.3	10.5	ug/Kg	154		3.7	7.34	ug/Kg
Coprostanol		<MDL	850	1720	ug/Kg		<MDL	630	1240	ug/Kg		<MDL	100	210	ug/Kg		<MDL	73	147	ug/Kg
Dibenzo(a,h)anthracene	80	<RDL	43	85.6	ug/Kg	60	<RDL	30	61.9	ug/Kg	41.8		5.3	10.5	ug/Kg	19.4		3.7	7.34	ug/Kg
Dibenzofuran	63	<RDL	43	85.6	ug/Kg		<MDL	30	61.9	ug/Kg	14.5		5.3	10.5	ug/Kg	6.3	<RDL	3.7	7.34	ug/Kg
Diethyl Phthalate		<MDL	85	172	ug/Kg		<MDL	63	124	ug/Kg		<MDL	10	21	ug/Kg		<MDL	7.3	14.7	ug/Kg
Dimethyl Phthalate	130	<RDL	85	172	ug/Kg		<MDL	63	124	ug/Kg		<MDL	10	21	ug/Kg		<MDL	7.3	14.7	ug/Kg
Di-N-Butyl Phthalate		<MDL,B	85	172	ug/Kg	120	<RDL,B	63	124	ug/Kg	41.8	B	10	21	ug/Kg	25.3	B	7.3	14.7	ug/Kg
Di-N-Octyl Phthalate		<MDL	85	172	ug/Kg		<MDL	63	124	ug/Kg		<MDL	10	21	ug/Kg		<MDL	7.3	14.7	ug/Kg
Fluoranthene	1700		43	85.6	ug/Kg	926		30	61.9	ug/Kg	434		5.3	10.5	ug/Kg	271		3.7	7.34	ug/Kg
Fluorene	113		43	85.6	ug/Kg	60	<RDL	30	61.9	ug/Kg	28.1		5.3	10.5	ug/Kg	10.4		3.7	7.34	ug/Kg
Hexachlorobenzene		<MDL	8.5	17.2	ug/Kg		<MDL	6.3	12.4	ug/Kg		<MDL	1	2.1	ug/Kg		<MDL	0.73	1.47	ug/Kg
Hexachlorobutadiene		<MDL	21	42.9	ug/Kg		<MDL	16	30.9	ug/Kg		<MDL	2.6	5.25	ug/Kg		<MDL	1.8	3.68	ug/Kg
Indeno(1,2,3-Cd)Pyrene	347		43	85.6	ug/Kg	182		30	61.9	ug/Kg	120		5.3	10.5	ug/Kg	68		3.7	7.34	ug/Kg
Naphthalene	43	<RDL	43	85.6	ug/Kg		<MDL	30	61.9	ug/Kg	9.6	<RDL	5.3	10.5	ug/Kg	3.9	<RDL	3.7	7.34	ug/Kg
N-Nitrosodiphenylamine		<MDL	85	172	ug/Kg		<MDL	63	124	ug/Kg		<MDL	10	21	ug/Kg		<MDL	7.3	14.7	ug/Kg
Pentachlorophenol		<MDL	210	429	ug/Kg		<MDL	160	309	ug/Kg		<MDL	26	52.5	ug/Kg		<MDL	18	36.8	ug/Kg
Phenanthrene	778		43	85.6	ug/Kg	346		30	61.9	ug/Kg	148		5.3	10.5	ug/Kg	97.7		3.7	7.34	ug/Kg
Phenol		<MDL	85	172	ug/Kg		<MDL	63	124	ug/Kg		<MDL	10	21	ug/Kg		<MDL	7.3	14.7	ug/Kg
Pyrene	1530		43	85.6	ug/Kg	768		30	61.9	ug/Kg	393		5.3	10.5	ug/Kg	223		3.7	7.34	ug/Kg
Total HPAHS	7430		43	85.6	ug/Kg	3920		30	61.9	ug/Kg	2300		5.3	10.5	ug/Kg	1270		3.7	7.34	ug/Kg
Total LPAHs	1220		43	85.6	ug/Kg	594		30	61.9	ug/Kg	314		5.3	10.5	ug/Kg	163		3.7	7.34	ug/Kg
M=OR EPA 8081A/8082 (7-3-03-002)																				
4,4'-DDD		<MDL	1.6	3.21	ug/Kg		<MDL	2.3	4.64	ug/Kg		<MDL	2	3.93	ug/Kg		<MDL	1.4	2.75	ug/Kg
4,4'-DDE		<MDL	1.6	3.21	ug/Kg		<MDL	2.3	4.64	ug/Kg		<MDL	2	3.93	ug/Kg		<MDL	1.4	2.75	ug/Kg
4,4'-DDT		<MDL,L	1.6	3.21	ug/Kg		<MDL,L,E	2.3	4.64	ug/Kg		<MDL,L,E	2	3.93	ug/Kg		<MDL,L,E	1.4	2.75	ug/Kg
Aldrin		<MDL	1.6	3.21	ug/Kg		<MDL	2.3	4.64	ug/Kg		<MDL	2	3.93	ug/Kg		<MDL	1.4	2.75	ug/Kg
Alpha-BHC		<MDL	0.8	1.61	ug/Kg		<MDL	1.2	2.32	ug/Kg		<MDL	0.98	1.96	ug/Kg		<MDL	0.69	1.38	ug/Kg
Alpha-Chlordane		<MDL	0.8	1.61	ug/Kg		<MDL	1.2	2.32	ug/Kg		<MDL	0.98	1.96	ug/Kg		<MDL	0.69	1.38	ug/Kg
Aroclor 1016		<MDL,TA	58	114	ug/Kg		<MDL,TA	46	94.2	ug/Kg		<MDL,TA	45	90.4	ug/Kg		<MDL,TA	11	22.5	ug/Kg
Aroclor 1221		<MDL	4	8.03	ug/Kg		<MDL	5.8	11.6	ug/Kg		<MDL	4.9	9.82	ug/Kg		<MDL	3.4	6.89	ug/Kg
Aroclor 1232		<MDL	4	8.03	ug/Kg		<MDL	5.8	11.6	ug/Kg		<MDL,TA	61	123	ug/Kg		<MDL,TA	33	64.9	ug/Kg
Aroclor 1242		<MDL	2.1	4.01	ug/Kg		<MDL	3	5.8	ug/Kg		<MDL	2.6	4.91	ug/Kg		<MDL,TA	21	42.3	ug/Kg
Aroclor 1248	89.1		2.1	4.01	ug/Kg	97.7		3	5.8	ug/Kg	50.5		2.6	4.91	ug/Kg	21.9		1.8	3.44	ug/Kg
Aroclor 1254	201		2.1	4.01	ug/Kg	126		3	5.8	ug/Kg	90		2.6	4.91	ug/Kg	46.6		1.8	3.44	ug/Kg
Aroclor 1260	132	L	2.1	4.01	ug/Kg	82.1	L	3	5.8	ug/Kg	50.7	L	2.6	4.91	ug/Kg	24.2	L	1.8	3.44	ug/Kg
Beta-BHC		<MDL	0.8	1.61	ug/Kg		<MDL	1.2	2.32	ug/Kg		<MDL	0.98	1.96	ug/Kg		<MDL	0.69	1.38	ug/Kg
Delta-BHC		<MDL	0.8	1.61	ug/Kg		<MDL	1.2	2.32	ug/Kg		<MDL	0.98	1.96	ug/Kg		<MDL	0.69	1.38	ug/Kg
Dieldrin		<MDL	1.6	3.21	ug/Kg		<MDL	2.3	4.64	ug/Kg		<MDL	2	3.93	ug/Kg		<MDL	1.4	2.75	ug/Kg
Endosulfan I		<MDL	1.6	3.21	ug/Kg		<MDL	2.3	4.64	ug/Kg		<MDL	2	3.93	ug/Kg		<MDL	1.4	2.75	ug/Kg
Endosulfan II		<MDL	1.6	3.21	ug/Kg		<MDL	2.3	4.64	ug/Kg		<MDL	2	3.93	ug/Kg		<MDL	1.4	2.75	ug/Kg
Endosulfan Sulfate		<MDL	1.6	3.21	ug/Kg		<MDL	2.3	4.64	ug/Kg		<MDL	2	3.93	ug/Kg		<MDL	1.4	2.75	ug/Kg
Endrin		<MDL	1.6	3.21	ug/Kg		<MDL	2.3	4.64	ug/Kg		<MDL	2	3.93	ug/Kg		<MDL	1.4	2.75	ug/Kg
Endrin Aldehyde		<MDL	3.2	6.42	ug/Kg		<MDL	4.6	9.28	ug/Kg		<MDL	3.9	7.86	ug/Kg		<MDL	2.8	5.51	ug/Kg

King County Environmental Lab Analytical Report

PROJECT: 423062-100-4

	DUD_1A	DUD_2A	DUD_3A	DUD_4A
Locator:	DUD_1A	DUD_2A	DUD_3A	DUD_4A
Descrip:	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon
Sampled:	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006
Lab ID:	L38325-1	L38325-2	L38325-3	L38325-4
Matrix:	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED
% Solids:	62.3	43.1	50.9	72.6

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
		- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis			
COMBINED LABS																				
Gamma-BHC (Lindane)		<MDL	0.8	1.61	ug/Kg		<MDL	1.2	2.32	ug/Kg		<MDL	0.98	1.96	ug/Kg		<MDL	0.69	1.38	ug/Kg
Gamma-Chlordane		<MDL	0.8	1.61	ug/Kg		<MDL	1.2	2.32	ug/Kg	6.6		0.98	1.96	ug/Kg	2.18		0.69	1.38	ug/Kg
Heptachlor		<MDL	0.8	1.61	ug/Kg		<MDL	1.2	2.32	ug/Kg		<MDL	0.98	1.96	ug/Kg		<MDL	0.69	1.38	ug/Kg
Heptachlor Epoxide		<MDL	0.8	1.61	ug/Kg		<MDL	1.2	2.32	ug/Kg		<MDL	0.98	1.96	ug/Kg		<MDL	0.69	1.38	ug/Kg
Methoxychlor		<MDL	8	16.1	ug/Kg		<MDL,E	12	23.2	ug/Kg		<MDL,E	9.8	19.6	ug/Kg		<MDL,E	6.9	13.8	ug/Kg
Toxaphene		<MDL	16	32.1	ug/Kg		<MDL	23	46.4	ug/Kg		<MDL	20	39.3	ug/Kg		<MDL	14	27.5	ug/Kg

* Not converted to dry weight basis for this parameter

King County Environmental Lab Analytical Report

PROJECT: 423062-100-4

Locator:	DUD_5A					DUD_5A					DUD_1B					DUD_2B				
Descrip:	Cleanup Area A Mon					Cleanup Area A Mon					Cleanup Area A Mon					Cleanup Area A Mon				
Sampled:	Mar 07, 2006					Mar 07, 2006					Mar 07, 2006					Mar 07, 2006				
Lab ID:	L38325-5					L38325-6					L38325-7					L38325-8				
Matrix:	SALTWTRSED					SALTWTRSED					SALTWTRSED					SALTWTRSED				
% Solids:	82.2					82					46.6					70.5				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis		
COMBINED LABS																				
M=CV ASTM D422(03-02-005-001)																				
Fines *	4.1		0.5	1	%	5.7		0.5	1	%	63.2		0.5	1	%	27.6		0.5	1	%
Clay *	3.5	E	0.5	1	%	4	E	0.5	1	%	15.3	E	0.5	1	%	7.6	E	0.5	1	%
Silt *	0.6	<RDL	0.5	1	%	1.7		0.5	1	%	47.9		0.5	1	%	20		0.5	1	%
Sand *	74.6		0.1	1	%	76.8		0.1	1	%	33.4		0.1	1	%	14.1		0.1	1	%
Gravel *	22.6		0.1	1	%	19.5		0.1	1	%	1.1		0.1	1	%	58.8		0.1	1	%
p+0.00 *	12.4		0.1	1	%	12.2		0.1	1	%	0.3	<RDL	0.1	1	%	4.5		0.1	1	%
p+1.00 *	17.1		0.1	1	%	17.1		0.1	1	%	0.7	<RDL	0.1	1	%	2.1		0.1	1	%
p+10.0(equal/more than) *	2.3		0.5	1	%	3.4		0.5	1	%	10.2		0.5	1	%	6.9		0.5	1	%
p+2.00 *	27.8		0.1	1	%	28.3		0.1	1	%	7.2		0.1	1	%	2.1		0.1	1	%
p+3.00 *	15.2		0.1	1	%	16.7		0.1	1	%	16.3		0.1	1	%	2.7		0.1	1	%
p+4.00 *	2.2		0.1	1	%	2.5		0.1	1	%	8.9		0.1	1	%	2.8		0.1	1	%
p+5.00 *	0.6	<RDL	0.5	1	%	0.6	<RDL	0.5	1	%	17.3		0.5	1	%	6.9		0.5	1	%
p+6.00 *		<MDL	0.5	1	%	0.6	<RDL	0.5	1	%	11.2		0.5	1	%	4.1		0.5	1	%
p+7.00 *		<MDL	0.5	1	%		<MDL	0.5	1	%	13.3		0.5	1	%	6.2		0.5	1	%
p+8.00 *		<MDL	0.5	1	%	0.6	<RDL	0.5	1	%	6.1		0.5	1	%	2.8		0.5	1	%
p+9.00 *	1.2		0.5	1	%	0.6	<RDL	0.5	1	%	5.1		0.5	1	%	0.7	<RDL	0.5	1	%
p-1.00 *	12.3		0.1	1	%	11.5		0.1	1	%	0.6	<RDL	0.1	1	%	10.8		0.1	1	%
p-2.00 *	3.3		0.1	1	%	2.6		0.1	1	%		<MDL	0.1	1	%	7.2		0.1	1	%
p-2.00(less than) *	6.9		0.1	1	%	5.4		0.1	1	%	0.5	<RDL	0.1	1	%	40.7		0.1	1	%
M=CV EPA9060-PSEP96 (03-04-002-003)																				
Total Organic Carbon		<MDL	490	962	mg/Kg	560	<RDL	510	1010	mg/Kg	17600		1700	3370	mg/Kg	15300		1700	3460	mg/Kg
M=CV SM2540-G (03-01-007-002)																				
Total Solids *	82.2		0.005	0.01	%	82		0.005	0.01	%	46.6		0.005	0.01	%	70.5		0.005	0.01	%
M=ES NONE																				
Field Personnel	JB, JD, JDD, PR				none	JB, JD, JDD, PR				none	JB, JD, JDD, PR				none	JB, JD, JDD, PR				none
Sampcoordx1 *	1266800				ft	1266804				ft	1267068				ft	1267080				ft
Sampcoordx2 *	1266804				ft	1266799				ft	1267064				ft	1267083				ft
Sampcoordx3 *																1267084				ft
Sampcoordx4 *																1267082				ft
Sampcoordx5 *																1267076				ft
Sampcoordy1 *	209413				ft	209420				ft	208479				ft	208618				ft
Sampcoordy2 *	209420				ft	209413				ft	208482				ft	208617				ft
Sampcoordy3 *																208623				ft
Sampcoordy4 *																208624				ft
Sampcoordy5 *																208621				ft
Sample Depth *	9				m	9				m	11				m	8				m
Sample Function						FREP @ L38325-5				none										
Sample Start Time *	1448				hr	1448				hr	1028				hr	1105				hr
Sampling Method *	20042				none	20042				none	20042				none	20042				none
Sediment Sampling Depth *	7				cm	6				cm	8				cm	4				cm
Sediment Sampling Range *	0-6 cm				cm	0-5 cm				cm	0-7 cm				cm	0-4 cm				cm
Sediment Type	30N20				none	30N20				none	23N20				none	54N20				none

King County Environmental Lab Analytical Report

PROJECT: 423062-100-4

Locator:	DUD_5A	DUD_5A	DUD_1B	DUD_2B
Descrip:	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon
Sampled:	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006
Lab ID:	L38325-5	L38325-6	L38325-7	L38325-8
Matrix:	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED
% Solids:	82.2	82	46.6	70.5

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis		
COMBINED LABS																				
Tidal Condition	E				none	E				none	E				none	E				none
Tide Height *	1.8				ft	1.8				ft	6.5				ft	6				ft
M=MT EPA 7471A (06-01-004-003)																				
Mercury, Total, CVAA		<MDL	0.024	0.238	mg/Kg		<MDL	0.023	0.235	mg/Kg	0.2	<RDL	0.043	0.425	mg/Kg	0.2	<RDL	0.028	0.281	mg/Kg
M=MT EPA3050A/6010B (06-02-004-002)																				
Aluminum, Total, ICP	9790		5.8	29.1	mg/Kg	10600		6.2	31	mg/Kg	17100		10	51.1	mg/Kg	11600		7.2	36.2	mg/Kg
Antimony, Total, ICP		<MDL,G	1.7	8.71	mg/Kg		<MDL,G	1.8	9.28	mg/Kg		<MDL,G	3	15.3	mg/Kg		<MDL,G	2.1	10.9	mg/Kg
Arsenic, Total, ICP		<MDL	2.9	14.5	mg/Kg		<MDL	3	15.5	mg/Kg	12	<RDL	5.2	25.5	mg/Kg	7.2	<RDL	3.7	18.2	mg/Kg
Beryllium, Total, ICP	0.082	<RDL	0.058	0.291	mg/Kg	0.09	<RDL	0.062	0.31	mg/Kg	0.3	<RDL	0.1	0.511	mg/Kg	0.17	<RDL	0.072	0.362	mg/Kg
Cadmium, Total, ICP		<MDL	0.17	0.871	mg/Kg		<MDL	0.18	0.928	mg/Kg	0.32	<RDL	0.3	1.53	mg/Kg	0.27	<RDL	0.21	1.09	mg/Kg
Chromium, Total, ICP	14.5		0.29	1.45	mg/Kg	16.2		0.3	1.55	mg/Kg	28.8		0.52	2.55	mg/Kg	21.8		0.37	1.82	mg/Kg
Copper, Total, ICP	47.9		0.23	1.16	mg/Kg	46.5		0.24	1.23	mg/Kg	60.5		0.41	2.05	mg/Kg	55		0.28	1.45	mg/Kg
Iron, Total, ICP	16900		23	116	mg/Kg	18800		24	123	mg/Kg	28300		41	205	mg/Kg	20300		28	145	mg/Kg
Lead, Total, ICP	1.9	<RDL	1.7	8.71	mg/Kg	2.4	<RDL	1.8	9.28	mg/Kg	29.2		3	15.3	mg/Kg	26		2.1	10.9	mg/Kg
Manganese, Total, ICP	283		0.12	0.58	mg/Kg	338		0.12	0.618	mg/Kg	348		0.2	1.02	mg/Kg	257		0.14	0.723	mg/Kg
Nickel, Total, ICP	15.5		1.2	5.8	mg/Kg	17		1.2	6.18	mg/Kg	23.4		2	10.2	mg/Kg	15.9		1.4	7.23	mg/Kg
Selenium, Total, ICP		<MDL	2.9	14.5	mg/Kg		<MDL	3	15.5	mg/Kg		<MDL	5.2	25.5	mg/Kg		<MDL	3.7	18.2	mg/Kg
Silver, Total, ICP	0.34	<RDL	0.23	1.16	mg/Kg	0.33	<RDL	0.24	1.23	mg/Kg	0.67	<RDL	0.41	2.05	mg/Kg	0.45	<RDL	0.28	1.45	mg/Kg
Thallium, Total, ICP		<MDL	12	58	mg/Kg		<MDL	12	61.8	mg/Kg		<MDL	20	102	mg/Kg		<MDL	14	72.3	mg/Kg
Zinc, Total, ICP	27.6		0.29	1.45	mg/Kg	32.2		0.3	1.55	mg/Kg	101		0.52	2.55	mg/Kg	83.4		0.37	1.82	mg/Kg
M=OR EPA 3550B/8270C (7-3-01-004)																				
1,2,4-Trichlorobenzene		<MDL	0.33	0.648	ug/Kg		<MDL	0.33	0.65	ug/Kg		<MDL	0.58	1.14	ug/Kg		<MDL	0.38	0.756	ug/Kg
1,2-Dichlorobenzene		<MDL	0.33	0.648	ug/Kg		<MDL	0.33	0.65	ug/Kg		<MDL	0.58	1.14	ug/Kg		<MDL	0.38	0.756	ug/Kg
1,3-Dichlorobenzene		<MDL	0.33	0.648	ug/Kg		<MDL	0.33	0.65	ug/Kg		<MDL	0.58	1.14	ug/Kg		<MDL	0.38	0.756	ug/Kg
1,4-Dichlorobenzene		<MDL	0.33	0.648	ug/Kg		<MDL	0.33	0.65	ug/Kg		<MDL	0.58	1.14	ug/Kg		<MDL	0.38	0.756	ug/Kg
2,4-Dimethylphenol		<MDL,X	3.3	6.48	ug/Kg		<MDL,X	3.3	6.5	ug/Kg		<MDL,X	5.8	11.4	ug/Kg		<MDL,X	3.8	7.56	ug/Kg
2-Methylnaphthalene		<MDL	3.3	6.48	ug/Kg		<MDL	3.3	6.5	ug/Kg		<MDL	5.8	11.4	ug/Kg	4.5	<RDL	3.8	7.56	ug/Kg
2-Methylphenol		<MDL	6.4	13	ug/Kg		<MDL	6.5	13	ug/Kg		<MDL	11	23	ug/Kg		<MDL	7.5	15.2	ug/Kg
4-Methylphenol		<MDL	6.4	13	ug/Kg		<MDL	6.5	13	ug/Kg		<MDL	11	23	ug/Kg		<MDL	7.5	15.2	ug/Kg
Acenaphthene		<MDL	3.3	6.48	ug/Kg		<MDL	3.3	6.5	ug/Kg	13.9		5.8	11.4	ug/Kg	7.8		3.8	7.56	ug/Kg
Acenaphthylene		<MDL	3.3	6.48	ug/Kg		<MDL	3.3	6.5	ug/Kg		<MDL	5.8	11.4	ug/Kg		<MDL	3.8	7.56	ug/Kg
Anthracene		<MDL	3.3	6.48	ug/Kg		<MDL	3.3	6.5	ug/Kg	75.1		5.8	11.4	ug/Kg	44.5		3.8	7.56	ug/Kg
Benzo(a)anthracene	3.5	<RDL	3.3	6.48	ug/Kg	6.57		3.3	6.5	ug/Kg	173		5.8	11.4	ug/Kg	187		3.8	7.56	ug/Kg
Benzo(a)pyrene	6.98		3.3	6.48	ug/Kg	10.7		3.3	6.5	ug/Kg	185		5.8	11.4	ug/Kg	134		3.8	7.56	ug/Kg
Benzo(b)fluoranthene	7.19		3.3	6.48	ug/Kg	11.9		3.3	6.5	ug/Kg	194		5.8	11.4	ug/Kg	140		3.8	7.56	ug/Kg
Benzo(g,h,i)perylene	4.9	<RDL	3.3	6.48	ug/Kg	6.8		3.3	6.5	ug/Kg	117		5.8	11.4	ug/Kg	61		3.8	7.56	ug/Kg
Benzo(k)fluoranthene	6.3	<RDL	3.3	6.48	ug/Kg	10.3		3.3	6.5	ug/Kg	227		5.8	11.4	ug/Kg	119		3.8	7.56	ug/Kg
Benzoic Acid	60.6		16	32.5	ug/Kg	55.7		16	32.6	ug/Kg	149		28	57.3	ug/Kg	101		18	37.9	ug/Kg
Benzyl Alcohol		<MDL	6.4	13	ug/Kg		<MDL	6.5	13	ug/Kg		<MDL	11	23	ug/Kg		<MDL	7.5	15.2	ug/Kg
Benzyl Butyl Phthalate	9.6	<RDL,B	6.4	13	ug/Kg	10	<RDL,B	6.5	13	ug/Kg	66.1	B	11	23	ug/Kg	38.3	B	7.5	15.2	ug/Kg
Bis(2-Ethylhexyl)Phthalate	17.5	B	6.4	13	ug/Kg	45.5	B	6.5	13	ug/Kg	567	B	11	23	ug/Kg	498	B	7.5	15.2	ug/Kg
Caffeine		<MDL	6.4	13	ug/Kg		<MDL	6.5	13	ug/Kg		<MDL	11	23	ug/Kg		<MDL	7.5	15.2	ug/Kg
Carbazole		<MDL	3.3	6.48	ug/Kg		<MDL	3.3	6.5	ug/Kg	24.2		5.8	11.4	ug/Kg		<MDL	3.8	7.56	ug/Kg

King County Environmental Lab Analytical Report

PROJECT: 423062-100-4

Locator:	DUD_5A					DUD_5A					DUD_1B					DUD_2B				
Descrip:	Cleanup Area A Mon					Cleanup Area A Mon					Cleanup Area A Mon					Cleanup Area A Mon				
Sampled:	Mar 07, 2006					Mar 07, 2006					Mar 07, 2006					Mar 07, 2006				
Lab ID:	L38325-5					L38325-6					L38325-7					L38325-8				
Matrix:	SALTWTRSED					SALTWTRSED					SALTWTRSED					SALTWTRSED				
% Solids:	82.2					82					46.6					70.5				
Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
			- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis		
COMBINED LABS																				
Chrysene	6.2	<RDL	3.3	6.48	ug/Kg	10.2		3.3	6.5	ug/Kg	266		5.8	11.4	ug/Kg	179		3.8	7.56	ug/Kg
Coprostanol		<MDL	64	130	ug/Kg		<MDL	65	130	ug/Kg		<MDL	110	230	ug/Kg		<MDL	75	152	ug/Kg
Dibenzo(a,h)anthracene		<MDL	3.3	6.48	ug/Kg		<MDL	3.3	6.5	ug/Kg	33.5		5.8	11.4	ug/Kg	26		3.8	7.56	ug/Kg
Dibenzofuran		<MDL	3.3	6.48	ug/Kg		<MDL	3.3	6.5	ug/Kg	12.3		5.8	11.4	ug/Kg	7.8		3.8	7.56	ug/Kg
Diethyl Phthalate		<MDL	6.4	13	ug/Kg		<MDL	6.5	13	ug/Kg		<MDL	11	23	ug/Kg		<MDL	7.5	15.2	ug/Kg
Dimethyl Phthalate		<MDL	6.4	13	ug/Kg		<MDL	6.5	13	ug/Kg		<MDL	11	23	ug/Kg		<MDL	7.5	15.2	ug/Kg
Di-N-Butyl Phthalate	7.2	<RDL,B	6.4	13	ug/Kg	11	<RDL,B	6.5	13	ug/Kg	40.3	B	11	23	ug/Kg	41.1	B	7.5	15.2	ug/Kg
Di-N-Octyl Phthalate		<MDL	6.4	13	ug/Kg		<MDL	6.5	13	ug/Kg		<MDL	11	23	ug/Kg		<MDL	7.5	15.2	ug/Kg
Fluoranthene	6.63		3.3	6.48	ug/Kg	12.2		3.3	6.5	ug/Kg	421		5.8	11.4	ug/Kg	231		3.8	7.56	ug/Kg
Fluorene		<MDL	3.3	6.48	ug/Kg		<MDL	3.3	6.5	ug/Kg	24.5		5.8	11.4	ug/Kg	17		3.8	7.56	ug/Kg
Hexachlorobenzene		<MDL	0.64	1.3	ug/Kg		<MDL	0.65	1.3	ug/Kg		<MDL	1.1	2.3	ug/Kg	5.55		0.75	1.52	ug/Kg
Hexachlorobutadiene		<MDL	1.6	3.25	ug/Kg		<MDL	1.6	3.26	ug/Kg		<MDL	2.8	5.73	ug/Kg		<MDL	1.8	3.79	ug/Kg
Indeno(1,2,3-Cd)Pyrene	3.9	<RDL	3.3	6.48	ug/Kg	5.9	<RDL	3.3	6.5	ug/Kg	104		5.8	11.4	ug/Kg	65.1		3.8	7.56	ug/Kg
Naphthalene		<MDL	3.3	6.48	ug/Kg		<MDL	3.3	6.5	ug/Kg		<MDL	5.8	11.4	ug/Kg	4.3	<RDL	3.8	7.56	ug/Kg
N-Nitrosodiphenylamine		<MDL	6.4	13	ug/Kg		<MDL	6.5	13	ug/Kg		<MDL	11	23	ug/Kg		<MDL	7.5	15.2	ug/Kg
Pentachlorophenol		<MDL	16	32.5	ug/Kg		<MDL	16	32.6	ug/Kg		<MDL	28	57.3	ug/Kg		<MDL	18	37.9	ug/Kg
Phenanthrene		<MDL	3.3	6.48	ug/Kg	4.9	<RDL	3.3	6.5	ug/Kg	165		5.8	11.4	ug/Kg	107		3.8	7.56	ug/Kg
Phenol		<MDL	6.4	13	ug/Kg		<MDL	6.5	13	ug/Kg		<MDL	11	23	ug/Kg		<MDL	7.5	15.2	ug/Kg
Pyrene	6.1	<RDL	3.3	6.48	ug/Kg	12.4		3.3	6.5	ug/Kg	358		5.8	11.4	ug/Kg	196		3.8	7.56	ug/Kg
Total HPAHS	53.5		3.3	6.48	ug/Kg	89.4		3.3	6.5	ug/Kg	2080		5.8	11.4	ug/Kg	1340		3.8	7.56	ug/Kg
Total LPAHs	3.9	<RDL	3.3	6.48	ug/Kg	6.5	<RDL	3.3	6.5	ug/Kg	283		5.8	11.4	ug/Kg	186		3.8	7.56	ug/Kg
M=OR EPA 8081A/8082 (7-3-03-002)																				
4,4'-DDD		<MDL	1.2	2.43	ug/Kg		<MDL	1.2	2.44	ug/Kg		<MDL	2.1	4.29	ug/Kg		<MDL	1.4	2.84	ug/Kg
4,4'-DDE		<MDL	1.2	2.43	ug/Kg		<MDL	1.2	2.44	ug/Kg		<MDL	2.1	4.29	ug/Kg		<MDL	1.4	2.84	ug/Kg
4,4'-DDT		<MDL,L,E	1.2	2.43	ug/Kg		<MDL,L,E	1.2	2.44	ug/Kg		<MDL,L,E	2.1	4.29	ug/Kg		<MDL,L,E	1.4	2.84	ug/Kg
Aldrin		<MDL	1.2	2.43	ug/Kg		<MDL	1.2	2.44	ug/Kg		<MDL	2.1	4.29	ug/Kg		<MDL	1.4	2.84	ug/Kg
Alpha-BHC		<MDL	0.61	1.22	ug/Kg		<MDL	0.61	1.22	ug/Kg		<MDL	1.1	2.15	ug/Kg		<MDL	0.71	1.42	ug/Kg
Alpha-Chlordane		<MDL	0.61	1.22	ug/Kg		<MDL	0.61	1.22	ug/Kg		<MDL	1.1	2.15	ug/Kg		<MDL	0.71	1.42	ug/Kg
Aroclor 1016		<MDL	1.6	3.04	ug/Kg		<MDL	1.6	3.05	ug/Kg		<MDL,TA	14	28.8	ug/Kg		<MDL,TA	8.7	17.2	ug/Kg
Aroclor 1221		<MDL	3	6.08	ug/Kg		<MDL	3	6.1	ug/Kg		<MDL	5.4	10.7	ug/Kg		<MDL	3.5	7.09	ug/Kg
Aroclor 1232		<MDL	3	6.08	ug/Kg		<MDL	3	6.1	ug/Kg		<MDL,TA	24	48.1	ug/Kg		<MDL,TA	14	28.8	ug/Kg
Aroclor 1242		<MDL	1.6	3.04	ug/Kg		<MDL	1.6	3.05	ug/Kg		<MDL,TA	28	56.7	ug/Kg		<MDL,TA	17	34	ug/Kg
Aroclor 1248		<MDL	1.6	3.04	ug/Kg		<MDL	1.6	3.05	ug/Kg	29		2.8	5.36	ug/Kg	16.3		1.8	3.55	ug/Kg
Aroclor 1254		<MDL	1.6	3.04	ug/Kg	2.4	<RDL	1.6	3.05	ug/Kg	52.6		2.8	5.36	ug/Kg	30.1		1.8	3.55	ug/Kg
Aroclor 1260		<MDL,L	1.6	3.04	ug/Kg	2.6	<RDL,L	1.6	3.05	ug/Kg	36.1	L	2.8	5.36	ug/Kg	23.3	L	1.8	3.55	ug/Kg
Beta-BHC		<MDL	0.61	1.22	ug/Kg		<MDL	0.61	1.22	ug/Kg		<MDL	1.1	2.15	ug/Kg		<MDL	0.71	1.42	ug/Kg
Delta-BHC		<MDL	0.61	1.22	ug/Kg		<MDL	0.61	1.22	ug/Kg		<MDL	1.1	2.15	ug/Kg		<MDL	0.71	1.42	ug/Kg
Dieldrin		<MDL	1.2	2.43	ug/Kg		<MDL	1.2	2.44	ug/Kg		<MDL	2.1	4.29	ug/Kg		<MDL	1.4	2.84	ug/Kg
Endosulfan I		<MDL	1.2	2.43	ug/Kg		<MDL	1.2	2.44	ug/Kg		<MDL	2.1	4.29	ug/Kg		<MDL	1.4	2.84	ug/Kg
Endosulfan II		<MDL	1.2	2.43	ug/Kg		<MDL	1.2	2.44	ug/Kg		<MDL	2.1	4.29	ug/Kg		<MDL	1.4	2.84	ug/Kg
Endosulfan Sulfate		<MDL	1.2	2.43	ug/Kg		<MDL	1.2	2.44	ug/Kg		<MDL	2.1	4.29	ug/Kg		<MDL	1.4	2.84	ug/Kg
Endrin		<MDL	1.2	2.43	ug/Kg		<MDL	1.2	2.44	ug/Kg		<MDL	2.1	4.29	ug/Kg		<MDL	1.4	2.84	ug/Kg
Endrin Aldehyde		<MDL	2.4	4.87	ug/Kg		<MDL	2.4	4.88	ug/Kg		<MDL	4.3	8.58	ug/Kg		<MDL	2.8	5.67	ug/Kg

King County Environmental Lab Analytical Report

PROJECT: 423062-100-4

	Locator: DUD_5A Descrip: Cleanup Area A Mon Sampled: Mar 07, 2006 Lab ID: L38325-5 Matrix: SALTWTRSED % Solids: 82.2					Locator: DUD_5A Descrip: Cleanup Area A Mon Sampled: Mar 07, 2006 Lab ID: L38325-6 Matrix: SALTWTRSED % Solids: 82					Locator: DUD_1B Descrip: Cleanup Area A Mon Sampled: Mar 07, 2006 Lab ID: L38325-7 Matrix: SALTWTRSED % Solids: 46.6					Locator: DUD_2B Descrip: Cleanup Area A Mon Sampled: Mar 07, 2006 Lab ID: L38325-8 Matrix: SALTWTRSED % Solids: 70.5				
Parameters	Value	Qual	MDL - Dry Weight Basis	RDL	Units	Value	Qual	MDL - Dry Weight Basis	RDL	Units	Value	Qual	MDL - Dry Weight Basis	RDL	Units	Value	Qual	MDL - Dry Weight Basis	RDL	Units
COMBINED LABS																				
Gamma-BHC (Lindane)		<MDL	0.61	1.22	ug/Kg		<MDL	0.61	1.22	ug/Kg		<MDL	1.1	2.15	ug/Kg		<MDL	0.71	1.42	ug/Kg
Gamma-Chlordane		<MDL	0.61	1.22	ug/Kg		<MDL	0.61	1.22	ug/Kg		<MDL	1.1	2.15	ug/Kg		<MDL	0.71	1.42	ug/Kg
Heptachlor		<MDL	0.61	1.22	ug/Kg		<MDL	0.61	1.22	ug/Kg		<MDL	1.1	2.15	ug/Kg		<MDL	0.71	1.42	ug/Kg
Heptachlor Epoxide		<MDL	0.61	1.22	ug/Kg		<MDL	0.61	1.22	ug/Kg		<MDL	1.1	2.15	ug/Kg		<MDL	0.71	1.42	ug/Kg
Methoxychlor		<MDL,E	6.1	12.2	ug/Kg		<MDL,E	6.1	12.2	ug/Kg		<MDL,E	11	21.5	ug/Kg		<MDL,E	7.1	14.2	ug/Kg
Toxaphene		<MDL	12	24.3	ug/Kg		<MDL	12	24.4	ug/Kg		<MDL	21	42.9	ug/Kg		<MDL	14	28.4	ug/Kg

* Not converted to dry weight basis for this parameter

King County Environmental Lab Analytical Report

PROJECT: 423062-100-4

Locator: DUD_3B
Descrip: Cleanup Area A Mon
Sampled: Mar 07, 2006
Lab ID: L38325-9
Matrix: SALTWTRSED
% Solids: 66.7

Parameters	Value	Qual	MDL	RDL	Units
			- Dry Weight Basis		
COMBINED LABS					
M=CV ASTM D422(03-02-005-001)					
Fines *	26.3		0.5	1	%
Clay *	6.7	E	0.5	1	%
Silt *	19.5		0.5	1	%
Sand *	11.4		0.1	1	%
Gravel *	65.8		0.1	1	%
p+0.00 *	5		0.1	1	%
p+1.00 *	1.9		0.1	1	%
p+10.0(equal/more than) *	6.1		0.5	1	%
p+2.00 *	1	<RDL	0.1	1	%
p+3.00 *	1.7		0.1	1	%
p+4.00 *	2		0.1	1	%
p+5.00 *	6.1		0.5	1	%
p+6.00 *	6.1		0.5	1	%
p+7.00 *	4.7		0.5	1	%
p+8.00 *	2.7		0.5	1	%
p+9.00 *	0.7	<RDL	0.5	1	%
p-1.00 *	12.5		0.1	1	%
p-2.00 *	5.4		0.1	1	%
p-2.00(less than) *	48		0.1	1	%
M=CV EPA9060-PSEP96 (03-04-002-003)					
Total Organic Carbon	18600		1800	3580	mg/Kg
M=CV SM2540-G (03-01-007-002)					
Total Solids *	66.7		0.005	0.01	%
M=ES NONE					
Field Personnel	JB, JD, JDD, PR				none
Sampcoordx1 *	1267048				ft
Sampcoordx2 *	1267052				ft
Sampcoordx3 *	1267047				ft
Sampcoordx4 *					
Sampcoordx5 *					
Sampcoordy1 *	208719				ft
Sampcoordy2 *	208716				ft
Sampcoordy3 *	208725				ft
Sampcoordy4 *					
Sampcoordy5 *					
Sample Depth *	8				m
Sample Function					
Sample Start Time *	1238				hr
Sampling Method *	20042				none
Sediment Sampling Depth *	6				cm
Sediment Sampling Range *	0-5 cm				cm
Sediment Type	54N20				none

King County Environmental Lab Analytical Report

PROJECT: 423062-100-4

Locator: DUD_3B
Descrip: Cleanup Area A Mon
Sampled: Mar 07, 2006
Lab ID: L38325-9
Matrix: SALTWTRSED
% Solids: 66.7

Parameters	Value	Qual	MDL	RDL	Units
			- Dry Weight Basis		
COMBINED LABS					
Tidal Condition	E				none
Tide Height *	4.5				ft
M=MT EPA 7471A (06-01-004-003)					
Mercury, Total, CVAA	0.16	<RDL	0.03	0.294	mg/Kg
M=MT EPA3050A/6010B (06-02-004-002)					
Aluminum, Total, ICP	13800		7.3	36.4	mg/Kg
Antimony, Total, ICP		<MDL,G	2.2	10.9	mg/Kg
Arsenic, Total, ICP	7.3	<RDL	3.6	18.1	mg/Kg
Beryllium, Total, ICP	0.18	<RDL	0.073	0.364	mg/Kg
Cadmium, Total, ICP	0.24	<RDL	0.22	1.09	mg/Kg
Chromium, Total, ICP	25.6		0.36	1.81	mg/Kg
Copper, Total, ICP	48.4		0.28	1.46	mg/Kg
Iron, Total, ICP	23200		28	146	mg/Kg
Lead, Total, ICP	20.2		2.2	10.9	mg/Kg
Manganese, Total, ICP	306		0.15	0.729	mg/Kg
Nickel, Total, ICP	20.8		1.5	7.29	mg/Kg
Selenium, Total, ICP		<MDL	3.6	18.1	mg/Kg
Silver, Total, ICP	0.51	<RDL	0.28	1.46	mg/Kg
Thallium, Total, ICP		<MDL	15	72.9	mg/Kg
Zinc, Total, ICP	79.9		0.36	1.81	mg/Kg
M=OR EPA 3550B/8270C (7-3-01-004)					
1,2,4-Trichlorobenzene		<MDL	0.4	0.799	ug/Kg
1,2-Dichlorobenzene		<MDL	0.4	0.799	ug/Kg
1,3-Dichlorobenzene		<MDL	0.4	0.799	ug/Kg
1,4-Dichlorobenzene		<MDL	0.4	0.799	ug/Kg
2,4-Dimethylphenol		<MDL,X	4	7.99	ug/Kg
2-Methylnaphthalene		<MDL	4	7.99	ug/Kg
2-Methylphenol		<MDL	7.9	16	ug/Kg
4-Methylphenol		<MDL	7.9	16	ug/Kg
Acenaphthene	6.9	<RDL	4	7.99	ug/Kg
Acenaphthylene	6	<RDL	4	7.99	ug/Kg
Anthracene	64.6		4	7.99	ug/Kg
Benzo(a)anthracene	85.8		4	7.99	ug/Kg
Benzo(a)pyrene	86.8		4	7.99	ug/Kg
Benzo(b)fluoranthene	107		4	7.99	ug/Kg
Benzo(g,h,i)perylene	57.3		4	7.99	ug/Kg
Benzo(k)fluoranthene	94.9		4	7.99	ug/Kg
Benzoic Acid	111		19	40	ug/Kg
Benzyl Alcohol		<MDL	7.9	16	ug/Kg
Benzyl Butyl Phthalate	35.2	B	7.9	16	ug/Kg
Bis(2-Ethylhexyl)Phthalate	460	B	7.9	16	ug/Kg
Caffeine		<MDL	7.9	16	ug/Kg
Carbazole	18.1		4	7.99	ug/Kg

King County Environmental Lab Analytical Report

PROJECT: 423062-100-4

Locator: DUD_3B
Descrip: Cleanup Area A Mon
Sampled: Mar 07, 2006
Lab ID: L38325-9
Matrix: SALTWTRSED
% Solids: 66.7

Parameters	Value	Qual	MDL	RDL	Units
			- Dry Weight Basis		
COMBINED LABS					
Chrysene	140		4	7.99	ug/Kg
Coprostanol		<MDL	79	160	ug/Kg
Dibenzo(a,h)anthracene	17.7		4	7.99	ug/Kg
Dibenzofuran	7.5	<RDL	4	7.99	ug/Kg
Diethyl Phthalate		<MDL	7.9	16	ug/Kg
Dimethyl Phthalate		<MDL	7.9	16	ug/Kg
Di-N-Butyl Phthalate	18.3	B	7.9	16	ug/Kg
Di-N-Octyl Phthalate	41.7		7.9	16	ug/Kg
Fluoranthene	202		4	7.99	ug/Kg
Fluorene	14.2		4	7.99	ug/Kg
Hexachlorobenzene		<MDL	0.79	1.6	ug/Kg
Hexachlorobutadiene		<MDL	1.9	4	ug/Kg
Indeno(1,2,3-Cd)Pyrene	49.8		4	7.99	ug/Kg
Naphthalene	4	<RDL	4	7.99	ug/Kg
N-Nitrosodiphenylamine		<MDL	7.9	16	ug/Kg
Pentachlorophenol		<MDL	19	40	ug/Kg
Phenanthrene	95.4		4	7.99	ug/Kg
Phenol	27.6		7.9	16	ug/Kg
Pyrene	163		4	7.99	ug/Kg
Total HPAHS	1000		4	7.99	ug/Kg
Total LPAHs	190		4	7.99	ug/Kg
M=OR EPA 8081A/8082 (7-3-03-002)					
4,4'-DDD		<MDL,H	1.5	3	ug/Kg
4,4'-DDE		<MDL,H	1.5	3	ug/Kg
4,4'-DDT		<MDL,L,H,E	1.5	3	ug/Kg
Aldrin		<MDL,H	1.5	3	ug/Kg
Alpha-BHC		<MDL,H	0.75	1.5	ug/Kg
Alpha-Chlordane		<MDL,H	0.75	1.5	ug/Kg
Aroclor 1016		<MDL,TA,H	6.4	12.7	ug/Kg
Aroclor 1221		<MDL,H	3.7	7.5	ug/Kg
Aroclor 1232		<MDL,TA,H	13	25.6	ug/Kg
Aroclor 1242		<MDL,TA,H	12	24.9	ug/Kg
Aroclor 1248	12.2	H	1.9	3.75	ug/Kg
Aroclor 1254	20.5	H	1.9	3.75	ug/Kg
Aroclor 1260	16.5	L,H	1.9	3.75	ug/Kg
Beta-BHC		<MDL,H	0.75	1.5	ug/Kg
Delta-BHC		<MDL,H	0.75	1.5	ug/Kg
Dieldrin		<MDL,H	1.5	3	ug/Kg
Endosulfan I		<MDL,H	1.5	3	ug/Kg
Endosulfan II		<MDL,H	1.5	3	ug/Kg
Endosulfan Sulfate		<MDL,H	1.5	3	ug/Kg
Endrin		<MDL,H	1.5	3	ug/Kg
Endrin Aldehyde		<MDL,H	3	6	ug/Kg

King County Environmental Lab Analytical Report

PROJECT: 423062-100-4

Locator: DUD_3B
Descrip: Cleanup Area A Mon
Sampled: Mar 07, 2006
Lab ID: L38325-9
Matrix: SALTWTRSED
% Solids: 66.7

Parameters	Value	Qual	MDL	RDL	Units
			- Dry Weight Basis		
COMBINED LABS					
Gamma-BHC (Lindane)		<MDL,H	0.75	1.5	ug/Kg
Gamma-Chlordane		<MDL,H	0.75	1.5	ug/Kg
Heptachlor		<MDL,H	0.75	1.5	ug/Kg
Heptachlor Epoxide		<MDL,H	0.75	1.5	ug/Kg
Methoxychlor		<MDL,H,E	7.5	15	ug/Kg
Toxaphene		<MDL,H	15	30	ug/Kg

* Not converted to dry weight basis for this parameter

PROJECT: 423062-100-4

King County Environmental Lab Matrix Report

COMBINED LABS-Solid

Locator	Sample Depth	Lab ID	Clay * %	Fines * %	Gravel * %	p+0.00 * %	p+1.00 * %	p+10.0(equal/more than) * %	p+2.00 * %	p+3.00 * %	p+4.00 * %	p+5.00 * %	p+6.00 * %	p+7.00 * %	p+8.00 * %	p+9.00 * %	p-1.00 * %	p-2.00 * %	p-2.00(less than) * %	Sand * %	Silt * %	Total Organic Carbon mg/Kg	Total Solids * %	Aluminum, Total, ICP mg/Kg	Arsenic, Total, ICP mg/Kg	Beryllium, Total, ICP mg/Kg
DUD_1A	5	L38325-1	3.3	8.3	2.6	3.1	12	2.5	48.6	18	3.3	1.7	0.8	1.7	0.8	0.8	1.6	0.3	0.7	84.9	5	22800	62.3	9090	5.5	0.12
DUD_2A	7	L38325-2	15.3	65.9	9.7	2	2.2	11.8	2.5	4	7.5	15.3	14.1	15.3	5.9	3.5	2.9	1.1	5.7	18.2	50.6	29900	43.1	19300	15	0.32
DUD_3A	8	L38325-3	17.1	53.3	18.3	2.4	2.1	11.4	4.9	9.3	7.6	10.5	9.5	11.4	4.8	5.7	3.6	1.5	13.2	26.3	36.2	18700	50.9	17200	14	0.28
DUD_4A	7	L38325-4	8.1	20.2	10.4	7.5	11	6.7	23.9	22.8	7	4.7	2	4	1.4	1.4	7.1	0.5	2.8	72.2	12.1	7670	72.6	12100	5.2	0.13
DUD_5A	9	L38325-5	3.5	4.1	22.6	12.4	17.1	2.3	27.8	15.2	2.2	0.6				1.2	12.3	3.3	6.9	74.6	0.6		82.2	9790		0.082
DUD_5A	9	L38325-6	4	5.7	19.5	12.2	17.1	3.4	28.3	16.7	2.5	0.6	0.6		0.6	0.6	11.5	2.6	5.4	76.8	1.7	560	82	10600		0.09
DUD_1B	11	L38325-7	15.3	63.2	1.1	0.3	0.7	10.2	7.2	16.3	8.9	17.3	11.2	13.3	6.1	5.1	0.6		0.5	33.4	47.9	17600	46.6	17100	12	0.3
DUD_2B	8	L38325-8	7.6	27.6	58.8	4.5	2.1	6.9	2.1	2.7	2.8	6.9	4.1	6.2	2.8	0.7	10.8	7.2	40.7	14.1	20	15300	70.5	11600	7.2	0.17
DUD_3B	8	L38325-9	6.7	26.3	65.8	5	1.9	6.1	1	1.7	2	6.1	6.1	4.7	2.7	0.7	12.5	5.4	48	11.4	19.5	18600	66.7	13800	7.3	0.18

PROJECT: 423062-100-4

King County Environmental Lab Matrix Report

COMBINED LABS-Solid

Locator	Sample Depth	Lab ID	Cadmium, Total, ICP mg/Kg	Chromium, Total, ICP mg/Kg	Copper, Total, ICP mg/Kg	Iron, Total, ICP mg/Kg	Lead, Total, ICP mg/Kg	Manganese, Total, ICP mg/Kg	Mercury, Total, CVAA mg/Kg	Nickel, Total, ICP mg/Kg	Silver, Total, ICP mg/Kg	Zinc, Total, ICP mg/Kg	1,4-Dichlorobenzene ug/Kg	2-Methylnaphthalene ug/Kg	Acenaphthene ug/Kg	Acenaphthylene ug/Kg	Anthracene ug/Kg	Aroclor 1248 ug/Kg	Aroclor 1254 ug/Kg	Aroclor 1260 ug/Kg	Benzo(a)anthracene ug/Kg	Benzo(a)pyrene ug/Kg	Benzo(b)fluoranthene ug/Kg
DUD_1A	5	L38325-1	0.9	42.4	64.5	16700	46.9	194	0.087	32.1	0.48	246	37.7	56			218	89.1	201	132	682	665	576
DUD_2A	7	L38325-2	0.74	40.8	103	32700	65	374	0.3	29	0.86	209			44		145	97.7	126	82.1	304	318	306
DUD_3A	8	L38325-3	0.47	33.4	85.3	29500	47	354	0.28	25	0.67	145		7.3	11.8	11.6	98.4	50.5	90	50.7	185	214	228
DUD_4A	7	L38325-4	0.28	28.4	55.8	21300	23.8	285	0.092	19.7	0.47	76.9			5.9	4.3	40.8	21.9	46.6	24.2	105	108	121
DUD_5A	9	L38325-5		14.5	47.9	16900	1.9	283		15.5	0.34	27.6									3.5	6.98	7.19
DUD_5A	9	L38325-6		16.2	46.5	18800	2.4	338		17	0.33	32.2							2.4	2.6	6.57	10.7	11.9
DUD_1B	11	L38325-7	0.32	28.8	60.5	28300	29.2	348	0.2	23.4	0.67	101			13.9		75.1	29	52.6	36.1	173	185	194
DUD_2B	8	L38325-8	0.27	21.8	55	20300	26	257	0.2	15.9	0.45	83.4		4.5	7.8		44.5	16.3	30.1	23.3	187	134	140
DUD_3B	8	L38325-9	0.24	25.6	48.4	23200	20.2	306	0.16	20.8	0.51	79.9			6.9	6	64.6	12.2	20.5	16.5	85.8	86.8	107

PROJECT: 423062-100-4

King County Environmental Lab Matrix Report

COMBINED LABS-Solid

Locator	Sample Depth	Lab ID	Benzo(g,h,i)perylene ug/Kg	Benzo(k)fluoranthene ug/Kg	Benzoic Acid ug/Kg	Benzyl Butyl Phthalate ug/Kg	Bis(2-Ethylhexyl)Phthalate ug/Kg	Carbazole ug/Kg	Chrysene ug/Kg	Di-N-Butyl Phthalate ug/Kg	Di-N-Octyl Phthalate ug/Kg	Dibenzo(a,h)anthracene ug/Kg	Dibenzofuran ug/Kg	Dimethyl Phthalate ug/Kg	Fluoranthene ug/Kg	Fluorene ug/Kg	Gamma-Chlordane ug/Kg	Hexachlorobenzene ug/Kg	Indeno(1,2,3-Cd)Pyrene ug/Kg	Naphthalene ug/Kg	Phenanthrene ug/Kg	Phenol ug/Kg	Pyrene ug/Kg	Total HPAHS ug/Kg
DUD_1A	5	L38325-1	395	653	790	584	3660	124	801			80	63	130	1700	113			347	43	778		1530	7430
DUD_2A	7	L38325-2	220	376		206	2210	60	469	120		60			926	60			182		346		768	3920
DUD_3A	8	L38325-3	133	251	128	75.2	835	30.3	289	41.8		41.8	14.5		434	28.1	6.6		120	9.6	148		393	2300
DUD_4A	7	L38325-4	78.9	117	95.2	39.4	709	19.4	154	25.3		19.4	6.3		271	10.4	2.18		68	3.9	97.7		223	1270
DUD_5A	9	L38325-5	4.9	6.3	60.6	9.6	17.5		6.2	7.2					6.63				3.9				6.1	53.5
DUD_5A	9	L38325-6	6.8	10.3	55.7	10	45.5		10.2	11					12.2				5.9		4.9		12.4	89.4
DUD_1B	11	L38325-7	117	227	149	66.1	567	24.2	266	40.3		33.5	12.3		421	24.5			104		165		358	2080
DUD_2B	8	L38325-8	61	119	101	38.3	498		179	41.1		26	7.8		231	17		5.55	65.1	4.3	107		196	1340
DUD_3B	8	L38325-9	57.3	94.9	111	35.2	460	18.1	140	18.3	41.7	17.7	7.5		202	14.2			49.8	4	95.4	27.6	163	1000

PROJECT: 423062-100-4

King County Environmental Lab Matrix Report

COMBINED LABS-Solid

Locator	Sample Depth	Lab ID	Total LPAHs	Sampcoordx1 *	Sampcoordx2 *	Sampcoordx3 *	Sampcoordx4 *	Sampcoordx5 *	Sampcoordy1 *	Sampcoordy2 *	Sampcoordy3 *	Sampcoordy4 *	Sampcoordy5 *	Sample Depth *	Sample Start Time *	Sampling Method *	Sediment Sampling Depth *	Tide Height *
			ug/Kg	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	m	hr	none	cm	ft
DUD_1A	5	L38325-1	1220	1267041	1267045				209087	209083				5	1315	20042	9	3.5
DUD_2A	7	L38325-2	594	1267134	1267139				208902	208898				7	1340	20042	10	3
DUD_3A	8	L38325-3	314	1266952	1266951				208981	208987				8	1403	20042	8	2.5
DUD_4A	7	L38325-4	163	1266889	1266886				209354	209354				7	1430	20042	10	2
DUD_5A	9	L38325-5	3.9	1266800	1266804				209413	209420				9	1448	20042	7	1.8
DUD_5A	9	L38325-6	6.5	1266804	1266799				209420	209413				9	1448	20042	6	1.8
DUD_1B	11	L38325-7	283	1267068	1267064				208479	208482				11	1028	20042	8	6.5
DUD_2B	8	L38325-8	186	1267080	1267083	1267084	1267082	1267076	208618	208617	208623	208624	208621	8	1105	20042	4	6
DUD_3B	8	L38325-9	190	1267048	1267052	1267047			208719	208716	208725			8	1238	20042	6	4.5

King County Environmental Lab Analytical Report
SAP MDL Comparison

PROJECT: 423062-100-4

Exceeds SAP MDL

Locator:		DUD_1A	DUD_2A	DUD_3A	DUD_4A	DUD_5A	DUD_5A FREP	DUD_1B
Descrip:		Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon
Sampled:		Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006
Lab ID:		L38325-1	L38325-2	L38325-3	L38325-4	L38325-5	L38325-6	L38325-7
Matrix:		SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED
% Solids:		62.3	43.1	50.9	72.6	82.2	82	46.6
Parameters	Units	SAP MDL	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis
COMBINED LABS									
M=CV ASTM D422(03-02-005-001)									
Fines *	%	NA	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Clay *	%	NA	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Silt *	%	NA	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sand *	%	NA	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Gravel *	%	NA	0.1	0.1	0.1	0.1	0.1	0.1	0.1
p+0.00 *	%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
p+1.00 *	%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
p+10.0(equal/more than) *	%	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
p+2.00 *	%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
p+3.00 *	%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
p+4.00 *	%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
p+5.00 *	%	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
p+6.00 *	%	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
p+7.00 *	%	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
p+8.00 *	%	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
p+9.00 *	%	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
p-1.00 *	%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
p-2.00 *	%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
p-2.00(less than) *	%	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
M=CV EPA9060-PSEP96 (03-04-002-003)									
Total Organic Carbon	mg/Kg	1000	1900	1900	1800	1000	490	510	1700
M=CV SM2540-G (03-01-007-002)									
Total Solids *	%	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
M=MT EPA 7471A (06-01-004-003)									
Mercury, Total, CVAA	mg/Kg	0.04	0.032	0.044	0.037	0.028	0.024	0.023	0.043
M=MT EPA3050A/6010B (06-02-004-002)									
Aluminum, Total, ICP	mg/Kg	10	8	12	10	6.6	5.8	6.2	10
Antimony, Total, ICP	mg/Kg	3	2.4	3.7	3.1	2.1	1.7	1.8	3
Arsenic, Total, ICP	mg/Kg	5	4	6	5.1	3.3	2.9	3	5.2
Beryllium, Total, ICP	mg/Kg	0.1	0.08	0.12	0.1	0.066	0.058	0.062	0.1
Cadmium, Total, ICP	mg/Kg	0.3	0.24	0.37	0.31	0.21	0.17	0.18	0.3
Chromium, Total, ICP	mg/Kg	0.5	0.4	0.6	0.51	0.33	0.29	0.3	0.52
Copper, Total, ICP	mg/Kg	0.4	0.32	0.49	0.41	0.26	0.23	0.24	0.41
Iron, Total, ICP	mg/Kg	5	32	49	41	26	23	24	41
Lead, Total, ICP	mg/Kg	3	2.4	3.7	3.1	2.1	1.7	1.8	3
Manganese, Total, ICP	mg/Kg	0.2	0.16	0.23	0.2	0.13	0.12	0.12	0.2
Nickel, Total, ICP	mg/Kg	2	1.6	2.3	2	1.3	1.2	1.2	2
Selenium, Total, ICP	mg/Kg	5	4	6	5.1	3.3	2.9	3	5.2
Silver, Total, ICP	mg/Kg	0.4	0.32	0.49	0.41	0.26	0.23	0.24	0.41
Thallium, Total, ICP	mg/Kg	20	16	23	20	13	12	12	20

King County Environmental Lab Analytical Report
SAP MDL Comparison

PROJECT: 423062-100-4

Exceeds SAP MDL

Locator:		DUD_1A	DUD_2A	DUD_3A	DUD_4A	DUD_5A	DUD_5A FREP	DUD_1B
Descrip:		Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon
Sampled:		Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006
Lab ID:		L38325-1	L38325-2	L38325-3	L38325-4	L38325-5	L38325-6	L38325-7
Matrix:		SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED
% Solids:		62.3	43.1	50.9	72.6	82.2	82	46.6
Parameters	Units	SAP MDL	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis
COMBINED LABS									
Zinc, Total, ICP	mg/Kg	0.5	0.4	0.6	0.51	0.33	0.29	0.3	0.52
M=OR EPA 3550B/8270C (7-3-01-004)									
1,2,4-Trichlorobenzene	ug/Kg	0.52	4.3	3	0.53	0.37	0.33	0.33	0.58
1,2-Dichlorobenzene	ug/Kg	0.52	4.3	3	0.53	0.37	0.33	0.33	0.58
1,3-Dichlorobenzene	ug/Kg	0.52	4.3	3	0.53	0.37	0.33	0.33	0.58
1,4-Dichlorobenzene	ug/Kg	0.26	4.3	3	0.53	0.37	0.33	0.33	0.58
2,4-Dimethylphenol	ug/Kg	14	43	30	5.3	3.7	3.3	3.3	5.8
2-Methylnaphthalene	ug/Kg	28	43	30	5.3	3.7	3.3	3.3	5.8
2-Methylphenol	ug/Kg	38	85	63	10	7.3	6.4	6.5	11
4-Methylphenol	ug/Kg	32	85	63	10	7.3	6.4	6.5	11
Acenaphthene	ug/Kg	14	43	30	5.3	3.7	3.3	3.3	5.8
Acenaphthylene	ug/Kg	29	43	30	5.3	3.7	3.3	3.3	5.8
Anthracene	ug/Kg	7.9	43	30	5.3	3.7	3.3	3.3	5.8
Benzo(a)anthracene	ug/Kg	4	43	30	5.3	3.7	3.3	3.3	5.8
Benzo(a)pyrene	ug/Kg	6	43	30	5.3	3.7	3.3	3.3	5.8
Benzo(b)fluoranthene	ug/Kg	6	43	30	5.3	3.7	3.3	3.3	5.8
Benzo(g,h,i)perylene	ug/Kg	16	43	30	5.3	3.7	3.3	3.3	5.8
Benzo(k)fluoranthene	ug/Kg	6	43	30	5.3	3.7	3.3	3.3	5.8
Benzoic Acid	ug/Kg	12	210	160	26	18	16	16	28
Benzyl Alcohol	ug/Kg	12	85	63	10	7.3	6.4	6.5	11
Benzyl Butyl Phthalate	ug/Kg	12	85	63	10	7.3	6.4	6.5	11
Bis(2-Ethylhexyl)Phthalate	ug/Kg	13	85	63	10	7.3	6.4	6.5	11
Carbazole	ug/Kg	14	43	30	5.3	3.7	3.3	3.3	5.8
Chrysene	ug/Kg	7.9	43	30	5.3	3.7	3.3	3.3	5.8
Coprostanol	ug/Kg	28	850	630	100	73	64	65	110
Dibenzo(a,h)anthracene	ug/Kg	14	43	30	5.3	3.7	3.3	3.3	5.8
Dibenzofuran	ug/Kg	28	43	30	5.3	3.7	3.3	3.3	5.8
Diethyl Phthalate	ug/Kg	12	85	63	10	7.3	6.4	6.5	11
Dimethyl Phthalate	ug/Kg	22	85	63	10	7.3	6.4	6.5	11
Di-N-Butyl Phthalate	ug/Kg	10	85	63	10	7.3	6.4	6.5	11
Di-N-Octyl Phthalate	ug/Kg	16	85	63	10	7.3	6.4	6.5	11
Fluoranthene	ug/Kg	16	43	30	5.3	3.7	3.3	3.3	5.8
Fluorene	ug/Kg	26	43	30	5.3	3.7	3.3	3.3	5.8
Hexachlorobenzene	ug/Kg	1.3	8.5	6.3	1	0.73	0.64	0.65	1.1
Hexachlorobutadiene	ug/Kg	1.5	21	16	2.6	1.8	1.6	1.6	2.8
Indeno(1,2,3-Cd)Pyrene	ug/Kg	18	43	30	5.3	3.7	3.3	3.3	5.8
Naphthalene	ug/Kg	28	43	30	5.3	3.7	3.3	3.3	5.8
N-Nitrosodiphenylamine	ug/Kg	40	85	63	10	7.3	6.4	6.5	11
Pentachlorophenol	ug/Kg	10	210	160	26	18	16	16	28
Phenanthrene	ug/Kg	7.9	43	30	5.3	3.7	3.3	3.3	5.8
Phenol	ug/Kg	18	85	63	10	7.3	6.4	6.5	11

King County Environmental Lab Analytical Report
SAP MDL Comparison

PROJECT: 423062-100-4

Exceeds SAP MDL

Locator:		DUD_1A	DUD_2A	DUD_3A	DUD_4A	DUD_5A	DUD_5A FREP	DUD_1B
Descrip:		Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon	Cleanup Area A Mon
Sampled:		Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006	Mar 07, 2006
Lab ID:		L38325-1	L38325-2	L38325-3	L38325-4	L38325-5	L38325-6	L38325-7
Matrix:		SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED
% Solids:		62.3	43.1	50.9	72.6	82.2	82	46.6
Parameters	Units	SAP MDL	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis	MDL - Dry Weight Basis
COMBINED LABS									
Pyrene	ug/Kg	7.9	43	30	5.3	3.7	3.3	3.3	5.8
Total HPAHS	ug/Kg	NA	43	30	5.3	3.7	3.3	3.3	5.8
Total LPAHs	ug/Kg	NA	43	30	5.3	3.7	3.3	3.3	5.8
M=OR EPA 8081A/8082 (7-3-03-002)									
4,4'-DDD	ug/Kg	0.67	1.6	2.3	2	1.4	1.2	1.2	2.1
4,4'-DDE	ug/Kg	0.67	1.6	2.3	2	1.4	1.2	1.2	2.1
4,4'-DDT	ug/Kg	0.67	1.6	2.3	2	1.4	1.2	1.2	2.1
Aldrin	ug/Kg	0.67	1.6	2.3	2	1.4	1.2	1.2	2.1
Alpha-BHC	ug/Kg	0.67	0.8	1.2	0.98	0.69	0.61	0.61	1.1
Alpha-Chlordane	ug/Kg	0.67	0.8	1.2	0.98	0.69	0.61	0.61	1.1
Aroclor 1016	ug/Kg	4	58	46	45	11	1.6	1.6	14
Aroclor 1221	ug/Kg	8	4	5.8	4.9	3.4	3	3	5.4
Aroclor 1232	ug/Kg	8	4	5.8	61	33	3	3	24
Aroclor 1242	ug/Kg	4	2.1	3	2.6	21	1.6	1.6	28
Aroclor 1248	ug/Kg	4	2.1	3	2.6	1.8	1.6	1.6	2.8
Aroclor 1254	ug/Kg	4	2.1	3	2.6	1.8	1.6	1.6	2.8
Aroclor 1260	ug/Kg	4	2.1	3	2.6	1.8	1.6	1.6	2.8
Beta-BHC	ug/Kg	0.67	0.8	1.2	0.98	0.69	0.61	0.61	1.1
Delta-BHC	ug/Kg	0.67	0.8	1.2	0.98	0.69	0.61	0.61	1.1
Dieldrin	ug/Kg	0.67	1.6	2.3	2	1.4	1.2	1.2	2.1
Endosulfan I	ug/Kg	0.67	1.6	2.3	2	1.4	1.2	1.2	2.1
Endosulfan II	ug/Kg	0.67	1.6	2.3	2	1.4	1.2	1.2	2.1
Endosulfan Sulfate	ug/Kg	0.67	1.6	2.3	2	1.4	1.2	1.2	2.1
Endrin	ug/Kg	0.67	1.6	2.3	2	1.4	1.2	1.2	2.1
Endrin Aldehyde	ug/Kg	0.67	3.2	4.6	3.9	2.8	2.4	2.4	4.3
Gamma-BHC (Lindane)	ug/Kg	0.67	0.8	1.2	0.98	0.69	0.61	0.61	1.1
Gamma-Chlordane	ug/Kg	2.7	0.8	1.2	0.98	0.69	0.61	0.61	1.1
Heptachlor	ug/Kg	0.67	0.8	1.2	0.98	0.69	0.61	0.61	1.1
Heptachlor Epoxide	ug/Kg	0.67	0.8	1.2	0.98	0.69	0.61	0.61	1.1
Methoxychlor	ug/Kg	3.3	8	12	9.8	6.9	6.1	6.1	11
Toxaphene	ug/Kg	6.7	16	23	20	14	12	12	21

* Not converted to dry weight basis for this parameter

King County Environmental Lab Analytical Report
SAP MDL Comparison

PROJECT: 423062-100-4

	Locator:	DUD_2B	DUD_3B
	Descrip:	Cleanup Area A Mon	Cleanup Area A Mon
	Sampled:	Mar 07, 2006	Mar 07, 2006
	Lab ID:	L38325-8	L38325-9
	Matrix:	SALTWTRSED	SALTWTRSED
Exceeds SAP MDL	% Solids:	70.5	66.7

Parameters	Units	SAP MDL	MDL - Dry Weight Basis	MDL - Dry Weight Basis
COMBINED LABS				
M=CV ASTM D422(03-02-005-001)				
Fines *	%	NA	0.5	0.5
Clay *	%	NA	0.5	0.5
Silt *	%	NA	0.5	0.5
Sand *	%	NA	0.1	0.1
Gravel *	%	NA	0.1	0.1
p+0.00 *	%	0.1	0.1	0.1
p+1.00 *	%	0.1	0.1	0.1
p+10.0(equal/more than) *	%	0.1	0.5	0.5
p+2.00 *	%	0.1	0.1	0.1
p+3.00 *	%	0.1	0.1	0.1
p+4.00 *	%	0.1	0.1	0.1
p+5.00 *	%	0.1	0.5	0.5
p+6.00 *	%	0.1	0.5	0.5
p+7.00 *	%	0.1	0.5	0.5
p+8.00 *	%	0.1	0.5	0.5
p+9.00 *	%	0.1	0.5	0.5
p-1.00 *	%	0.1	0.1	0.1
p-2.00 *	%	0.1	0.1	0.1
p-2.00(less than) *	%	0.1	0.1	0.1
M=CV EPA9060-PSEP96 (03-04-002-003)				
Total Organic Carbon	mg/Kg	1000	1700	1800
M=CV SM2540-G (03-01-007-002)				
Total Solids *	%	0.005	0.005	0.005
M=MT EPA 7471A (06-01-004-003)				
Mercury, Total, CVAA	mg/Kg	0.04	0.028	0.03
M=MT EPA3050A/6010B (06-02-004-002)				
Aluminum, Total, ICP	mg/Kg	10	7.2	7.3
Antimony, Total, ICP	mg/Kg	3	2.1	2.2
Arsenic, Total, ICP	mg/Kg	5	3.7	3.6
Beryllium, Total, ICP	mg/Kg	0.1	0.072	0.073
Cadmium, Total, ICP	mg/Kg	0.3	0.21	0.22
Chromium, Total, ICP	mg/Kg	0.5	0.37	0.36
Copper, Total, ICP	mg/Kg	0.4	0.28	0.28
Iron, Total, ICP	mg/Kg	5	28	28
Lead, Total, ICP	mg/Kg	3	2.1	2.2
Manganese, Total, ICP	mg/Kg	0.2	0.14	0.15
Nickel, Total, ICP	mg/Kg	2	1.4	1.5
Selenium, Total, ICP	mg/Kg	5	3.7	3.6
Silver, Total, ICP	mg/Kg	0.4	0.28	0.28
Thallium, Total, ICP	mg/Kg	20	14	15

King County Environmental Lab Analytical Report
SAP MDL Comparison

PROJECT: 423062-100-4

Exceeds SAP MDL

Locator:	DUD_2B	DUD_3B
Descrip:	Cleanup Area A Mon	Cleanup Area A Mon
Sampled:	Mar 07, 2006	Mar 07, 2006
Lab ID:	L38325-8	L38325-9
Matrix:	SALTWTRSED	SALTWTRSED
% Solids:	70.5	66.7

Parameters	Units	SAP MDL	MDL - Dry Weight Basis	MDL - Dry Weight Basis
COMBINED LABS				
Zinc, Total, ICP	mg/Kg	0.5	0.37	0.36
M=OR EPA 3550B/8270C (7-3-01-004)				
1,2,4-Trichlorobenzene	ug/Kg	0.52	0.38	0.4
1,2-Dichlorobenzene	ug/Kg	0.52	0.38	0.4
1,3-Dichlorobenzene	ug/Kg	0.52	0.38	0.4
1,4-Dichlorobenzene	ug/Kg	0.26	0.38	0.4
2,4-Dimethylphenol	ug/Kg	14	3.8	4
2-Methylnaphthalene	ug/Kg	28	3.8	4
2-Methylphenol	ug/Kg	38	7.5	7.9
4-Methylphenol	ug/Kg	32	7.5	7.9
Acenaphthene	ug/Kg	14	3.8	4
Acenaphthylene	ug/Kg	29	3.8	4
Anthracene	ug/Kg	7.9	3.8	4
Benzo(a)anthracene	ug/Kg	4	3.8	4
Benzo(a)pyrene	ug/Kg	6	3.8	4
Benzo(b)fluoranthene	ug/Kg	6	3.8	4
Benzo(g,h,i)perylene	ug/Kg	16	3.8	4
Benzo(k)fluoranthene	ug/Kg	6	3.8	4
Benzoic Acid	ug/Kg	12	18	19
Benzyl Alcohol	ug/Kg	12	7.5	7.9
Benzyl Butyl Phthalate	ug/Kg	12	7.5	7.9
Bis(2-Ethylhexyl)Phthalate	ug/Kg	13	7.5	7.9
Carbazole	ug/Kg	14	3.8	4
Chrysene	ug/Kg	7.9	3.8	4
Coprostanol	ug/Kg	28	75	79
Dibenzo(a,h)anthracene	ug/Kg	14	3.8	4
Dibenzofuran	ug/Kg	28	3.8	4
Diethyl Phthalate	ug/Kg	12	7.5	7.9
Dimethyl Phthalate	ug/Kg	22	7.5	7.9
Di-N-Butyl Phthalate	ug/Kg	10	7.5	7.9
Di-N-Octyl Phthalate	ug/Kg	16	7.5	7.9
Fluoranthene	ug/Kg	16	3.8	4
Fluorene	ug/Kg	26	3.8	4
Hexachlorobenzene	ug/Kg	1.3	0.75	0.79
Hexachlorobutadiene	ug/Kg	1.5	1.8	1.9
Indeno(1,2,3-Cd)Pyrene	ug/Kg	18	3.8	4
Naphthalene	ug/Kg	28	3.8	4
N-Nitrosodiphenylamine	ug/Kg	40	7.5	7.9
Pentachlorophenol	ug/Kg	10	18	19
Phenanthrene	ug/Kg	7.9	3.8	4
Phenol	ug/Kg	18	7.5	7.9

King County Environmental Lab Analytical Report
SAP MDL Comparison

PROJECT: 423062-100-4

Exceeds SAP MDL

	Locator:	DUD_2B	DUD_3B
	Descrip:	Cleanup Area A Mon	Cleanup Area A Mon
	Sampled:	Mar 07, 2006	Mar 07, 2006
	Lab ID:	L38325-8	L38325-9
	Matrix:	SALTWTRSED	SALTWTRSED
	% Solids:	70.5	66.7
Parameters	Units	SAP MDL	MDL - Dry Weight Basis	MDL - Dry Weight Basis
COMBINED LABS				
Pyrene	ug/Kg	7.9	3.8	4
Total HPAHS	ug/Kg	NA	3.8	4
Total LPAHs	ug/Kg	NA	3.8	4
M=OR EPA 8081A/8082 (7-3-03-002)				
4,4'-DDD	ug/Kg	0.67	1.4	1.5
4,4'-DDE	ug/Kg	0.67	1.4	1.5
4,4'-DDT	ug/Kg	0.67	1.4	1.5
Aldrin	ug/Kg	0.67	1.4	1.5
Alpha-BHC	ug/Kg	0.67	0.71	0.75
Alpha-Chlordane	ug/Kg	0.67	0.71	0.75
Aroclor 1016	ug/Kg	4	8.7	6.4
Aroclor 1221	ug/Kg	8	3.5	3.7
Aroclor 1232	ug/Kg	8	14	13
Aroclor 1242	ug/Kg	4	17	12
Aroclor 1248	ug/Kg	4	1.8	1.9
Aroclor 1254	ug/Kg	4	1.8	1.9
Aroclor 1260	ug/Kg	4	1.8	1.9
Beta-BHC	ug/Kg	0.67	0.71	0.75
Delta-BHC	ug/Kg	0.67	0.71	0.75
Dieldrin	ug/Kg	0.67	1.4	1.5
Endosulfan I	ug/Kg	0.67	1.4	1.5
Endosulfan II	ug/Kg	0.67	1.4	1.5
Endosulfan Sulfate	ug/Kg	0.67	1.4	1.5
Endrin	ug/Kg	0.67	1.4	1.5
Endrin Aldehyde	ug/Kg	0.67	2.8	3
Gamma-BHC (Lindane)	ug/Kg	0.67	0.71	0.75
Gamma-Chlordane	ug/Kg	2.7	0.71	0.75
Heptachlor	ug/Kg	0.67	0.71	0.75
Heptachlor Epoxide	ug/Kg	0.67	0.71	0.75
Methoxychlor	ug/Kg	3.3	7.1	7.5
Toxaphene	ug/Kg	6.7	14	15

* Not converted to dry weight basis for this parameter

SMS OC and Dry Weight Normalization Detection Limit Check

	MDL (ug/Kg, ww)	MDL (mg/Kg, dw, oc)	SMS (mg/Kg, dw,oc)	Delta (SMS-MDL)
1,2,4-Trichlorobenzene	2.7	0.19	0.81	0.62
1,2-Dichlorobenzene	2.7	0.19	2.3	2.1
1,4-Dichlorobenzene	2.7	0.19	3.1	2.9
2-Methylnaphthalene	27	1.90	38	36
2,4-Dimethylphenol	27	43.34	29	-14
2-Methylphenol	53	85.07	63	-22
4-Methylphenol	53	85.07	670	585
Acenaphthene	27	1.90	16	14
Acenaphthylene	27	1.90	66	64
Anthracene	27	1.90	220	218
Benzo(a)anthracene	27	1.90	110	108
Benzo(a)pyrene	27	1.90	99	97
Benzo(b)fluoranthene	27	1.90	115	113
Benzo(g,h,i)perylene	27	1.90	31	29
Benzo(k)fluoranthene	27	1.90	115	113
Benzoic Acid	130	208.67	650	441
Benzyl Alcohol	53	85.07	57	-28
Benzyl Butyl Phthalate	53	3.73	4.9	1.2
Bis(2-Ethylhexyl)Phthalate	53	3.73	47	43
Chrysene	27	1.90	110	108
Dibenzo(a,h)anthracene	27	1.90	12	10
Dibenzofuran	27	1.90	15	13
Diethyl Phthalate	53	3.73	61	57
Dimethyl Phthalate	53	3.73	53	49
Di-N-Butyl Phthalate	53	3.73	220	216
Di-N-Octyl Phthalate	53	3.73	58	54
Fluorene	27	1.90	23	21
Fluoranthene	27	1.90	160	158
Hexachlorobenzene	5.3	0.37	0.38	0.01
Hexachlorobutadiene	13	0.92	3.9	3.0
Indeno(1,2,3-Cd)Pyrene	27	1.90	34	32
N-Nitrosodiphenylamine	53	3.73	11	7
Naphthalene	27	1.90	99	97
Pentachlorophenol	130	208.67	360	151
Phenanthrene	27	1.90	100	98
Phenol	53	85.07	420	335
Pyrene	27	1.90	1000	998
Aroclor 1016	36	2.54		
Aroclor 1221	2.5	0.18		
Aroclor 1232	2.5	0.18		
Aroclor 1242	1.3	0.09		
Aroclor 1248	1.3	0.09		
Aroclor 1254	1.3	0.09		
Aroclor 1260	1.3	0.09		
Total Organic Carbon (dry)	22792.9374			
Total Solids	62.3			
HPAH	270	19.01	960	941
LPAH	189	13.31	370	357
Total PCB	36	2.54	12	9.5

SMS OC and Dry Weight Normalization Detection Limit Check

	MDL (ug/Kg, ww)	MDL (mg/Kg, dw, oc)	SMS (mg/Kg, dw,oc)	Delta (SMS-MDL)
1,2,4-Trichlorobenzene	1.3	0.10	0.81	0.71
1,2-Dichlorobenzene	1.3	0.10	2.3	2.2
1,4-Dichlorobenzene	1.3	0.10	3.1	3.0
2-Methylnaphthalene	13	1.01	38	37
2,4-Dimethylphenol	13	30.16	29	-1
2-Methylphenol	27	62.65	63	0
4-Methylphenol	27	62.65	670	607
Acenaphthene	13	1.01	16	15
Acenaphthylene	13	1.01	66	65
Anthracene	13	1.01	220	219
Benzo(a)anthracene	13	1.01	110	109
Benzo(a)pyrene	13	1.01	99	98
Benzo(b)fluoranthene	13	1.01	115	114
Benzo(g,h,i)perylene	13	1.01	31	30
Benzo(k)fluoranthene	13	1.01	115	114
Benzoic Acid	67	155.45	650	495
Benzyl Alcohol	27	62.65	57	-6
Benzyl Butyl Phthalate	27	2.09	4.9	2.8
Bis(2-Ethylhexyl)Phthalate	27	2.09	47	45
Chrysene	13	1.01	110	109
Dibenzo(a,h)anthracene	13	1.01	12	11
Dibenzofuran	13	1.01	15	14
Diethyl Phthalate	27	2.09	61	59
Dimethyl Phthalate	27	2.09	53	51
Di-N-Butyl Phthalate	27	2.09	220	218
Di-N-Octyl Phthalate	27	2.09	58	56
Fluorene	13	1.01	23	22
Fluoranthene	13	1.01	160	159
Hexachlorobenzene	2.7	0.21	0.38	0.17
Hexachlorobutadiene	6.7	0.52	3.9	3.4
Indeno(1,2,3-Cd)Pyrene	13	1.01	34	33
N-Nitrosodiphenylamine	27	2.09	11	9
Naphthalene	13	1.01	99	98
Pentachlorophenol	67	155.45	360	205
Phenanthrene	13	1.01	100	99
Phenol	27	62.65	420	357
Pyrene	13	1.01	1000	999
Aroclor 1016	20	1.55		
Aroclor 1221	2.5	0.19		
Aroclor 1232	2.5	0.19		
Aroclor 1242	1.3	0.10		
Aroclor 1248	1.3	0.10		
Aroclor 1254	1.3	0.10		
Aroclor 1260	1.3	0.10		
Total Organic Carbon (dry)	29930.39443			
Total Solids	43.1			
HPAH	130	10.08	960	950
LPAH	91	7.05	370	363
Total PCB	20	1.55	12	10.4

SMS OC and Dry Weight Normalization Detection Limit Check

	MDL (ug/Kg, ww)	MDL (mg/Kg, dw, oc)	SMS (mg/Kg, dw,oc)	Delta (SMS-MDL)
1,2,4-Trichlorobenzene	0.27	0.03	0.81	0.78
1,2-Dichlorobenzene	0.27	0.03	2.3	2.3
1,4-Dichlorobenzene	0.27	0.03	3.1	3.1
2-Methylnaphthalene	2.7	0.28	38	38
2,4-Dimethylphenol	2.7	5.30	29	24
2-Methylphenol	5.3	10.41	63	53
4-Methylphenol	5.3	10.41	670	660
Acenaphthene	2.7	0.28	16	16
Acenaphthylene	2.7	0.28	66	66
Anthracene	2.7	0.28	220	220
Benzo(a)anthracene	2.7	0.28	110	110
Benzo(a)pyrene	2.7	0.28	99	99
Benzo(b)fluoranthene	2.7	0.28	115	115
Benzo(g,h,i)perylene	2.7	0.28	31	31
Benzo(k)fluoranthene	2.7	0.28	115	115
Benzoic Acid	13	25.54	650	624
Benzyl Alcohol	5.3	10.41	57	47
Benzyl Butyl Phthalate	5.3	0.56	4.9	4.3
Bis(2-Ethylhexyl)Phthalate	5.3	0.56	47	46
Chrysene	2.7	0.28	110	110
Dibenzo(a,h)anthracene	2.7	0.28	12	12
Dibenzofuran	2.7	0.28	15	15
Diethyl Phthalate	5.3	0.56	61	60
Dimethyl Phthalate	5.3	0.56	53	52
Di-N-Butyl Phthalate	5.3	0.56	220	219
Di-N-Octyl Phthalate	5.3	0.56	58	57
Fluorene	2.7	0.28	23	23
Fluoranthene	2.7	0.28	160	160
Hexachlorobenzene	0.53	0.06	0.38	0.32
Hexachlorobutadiene	1.3	0.14	3.9	3.8
Indeno(1,2,3-Cd)Pyrene	2.7	0.28	34	34
N-Nitrosodiphenylamine	5.3	0.56	11	10
Naphthalene	2.7	0.28	99	99
Pentachlorophenol	13	25.54	360	334
Phenanthrene	2.7	0.28	100	100
Phenol	5.3	10.41	420	410
Pyrene	2.7	0.28	1000	1000
Aroclor 1016	23	2.41		
Aroclor 1221	2.5	0.26		
Aroclor 1232	31	3.25		
Aroclor 1242	1.3	0.14		
Aroclor 1248	1.3	0.14		
Aroclor 1254	1.3	0.14		
Aroclor 1260	1.3	0.14		
Total Organic Carbon (dry)	18742.63261			
Total Solids	50.9			
HPAH	27	2.83	960	957
LPAH	18.9	1.98	370	368
Total PCB	31	3.25	12	8.8

SMS OC and Dry Weight Normalization Detection Limit Check

	MDL (ug/Kg, ww)	MDL (mg/Kg, dw, oc)	SMS (mg/Kg, dw,oc)	Delta (SMS-MDL)
1,2,4-Trichlorobenzene	0.27	0.05	0.81	0.76
1,2-Dichlorobenzene	0.27	0.05	2.3	2.3
1,4-Dichlorobenzene	0.27	0.05	3.1	3.1
2-Methylnaphthalene	2.7	0.48	38	38
2,4-Dimethylphenol	2.7	3.72	29	25
2-Methylphenol	5.3	7.30	63	56
4-Methylphenol	5.3	7.30	670	663
Acenaphthene	2.7	0.48	16	16
Acenaphthylene	2.7	0.48	66	66
Anthracene	2.7	0.48	220	220
Benzo(a)anthracene	2.7	0.48	110	110
Benzo(a)pyrene	2.7	0.48	99	99
Benzo(b)fluoranthene	2.7	0.48	115	115
Benzo(g,h,i)perylene	2.7	0.48	31	31
Benzo(k)fluoranthene	2.7	0.48	115	115
Benzoic Acid	13	17.91	650	632
Benzyl Alcohol	5.3	7.30	57	50
Benzyl Butyl Phthalate	5.3	0.95	4.9	3.9
Bis(2-Ethylhexyl)Phthalate	5.3	0.95	47	46
Chrysene	2.7	0.48	110	110
Dibenzo(a,h)anthracene	2.7	0.48	12	12
Dibenzofuran	2.7	0.48	15	15
Diethyl Phthalate	5.3	0.95	61	60
Dimethyl Phthalate	5.3	0.95	53	52
Di-N-Butyl Phthalate	5.3	0.95	220	219
Di-N-Octyl Phthalate	5.3	0.95	58	57
Fluorene	2.7	0.48	23	23
Fluoranthene	2.7	0.48	160	160
Hexachlorobenzene	0.53	0.10	0.38	0.28
Hexachlorobutadiene	1.3	0.23	3.9	3.7
Indeno(1,2,3-Cd)Pyrene	2.7	0.48	34	34
N-Nitrosodiphenylamine	5.3	0.95	11	10
Naphthalene	2.7	0.48	99	99
Pentachlorophenol	13	17.91	360	342
Phenanthrene	2.7	0.48	100	100
Phenol	5.3	7.30	420	413
Pyrene	2.7	0.48	1000	1000
Aroclor 1016	8.2	1.47		
Aroclor 1221	2.5	0.45		
Aroclor 1232	24	4.31		
Aroclor 1242	15	2.69		
Aroclor 1248	1.3	0.23		
Aroclor 1254	1.3	0.23		
Aroclor 1260	1.3	0.23		
Total Organic Carbon (dry)	7672.176309			
Total Solids	72.6			
HPAH	27	4.85	960	955
LPAH	18.9	3.39	370	367
Total PCB	24	4.31	12	7.7

SMS OC and Dry Weight Normalization Detection Limit Check

	MDL (ug/Kg, ww)	MDL (mg/Kg, dw, oc)	SMS (mg/Kg, dw,oc)	Delta (SMS-MDL)
1,2,4-Trichlorobenzene	0.27	0.07	0.81	0.74
1,2-Dichlorobenzene	0.27	0.07	2.3	2.2
1,4-Dichlorobenzene	0.27	0.07	3.1	3.0
2-Methylnaphthalene	2.7	0.66	38	37
2,4-Dimethylphenol	2.7	3.28	29	26
2-Methylphenol	5.3	6.45	63	57
4-Methylphenol	5.3	6.45	670	664
Acenaphthene	2.7	0.66	16	15
Acenaphthylene	2.7	0.66	66	65
Anthracene	2.7	0.66	220	219
Benzo(a)anthracene	2.7	0.66	110	109
Benzo(a)pyrene	2.7	0.66	99	98
Benzo(b)fluoranthene	2.7	0.66	115	114
Benzo(g,h,i)perylene	2.7	0.66	31	30
Benzo(k)fluoranthene	2.7	0.66	115	114
Benzoic Acid	13	15.82	650	634
Benzyl Alcohol	5.3	6.45	57	51
Benzyl Butyl Phthalate	5.3	1.29	4.9	3.6
Bis(2-Ethylhexyl)Phthalate	5.3	1.29	47	46
Chrysene	2.7	0.66	110	109
Dibenzo(a,h)anthracene	2.7	0.66	12	11
Dibenzofuran	2.7	0.66	15	14
Diethyl Phthalate	5.3	1.29	61	60
Dimethyl Phthalate	5.3	1.29	53	52
Di-N-Butyl Phthalate	5.3	1.29	220	219
Di-N-Octyl Phthalate	5.3	1.29	58	57
Fluorene	2.7	0.66	23	22
Fluoranthene	2.7	0.66	160	159
Hexachlorobenzene	0.53	0.13	0.38	0.25
Hexachlorobutadiene	1.3	0.32	3.9	3.6
Indeno(1,2,3-Cd)Pyrene	2.7	0.66	34	33
N-Nitrosodiphenylamine	5.3	1.29	11	10
Naphthalene	2.7	0.66	99	98
Pentachlorophenol	13	15.82	360	344
Phenanthrene	2.7	0.66	100	99
Phenol	5.3	6.45	420	414
Pyrene	2.7	0.66	1000	999
Aroclor 1016	1.3	0.32		
Aroclor 1221	2.5	0.61		
Aroclor 1232	2.5	0.61		
Aroclor 1242	1.3	0.32		
Aroclor 1248	1.3	0.32		
Aroclor 1254	1.3	0.32		
Aroclor 1260	1.3	0.32		
Total Organic Carbon (dry)	5000			
Total Solids	82.2			
HPAH	27	6.57	960	953
LPAH	18.9	4.60	370	365
Total PCB	2.5	0.61	12	11.4

SMS OC and Dry Weight Normalization Detection Limit Check

	MDL (ug/Kg, ww)	MDL (mg/Kg, dw, oc)	SMS (mg/Kg, dw,oc)	Delta (SMS-MDL)
1,2,4-Trichlorobenzene	0.27	0.07	0.81	0.74
1,2-Dichlorobenzene	0.27	0.07	2.3	2.2
1,4-Dichlorobenzene	0.27	0.07	3.1	3.0
2-Methylnaphthalene	2.7	0.66	38	37
2,4-Dimethylphenol	2.7	3.29	29	26
2-Methylphenol	5.3	6.46	63	57
4-Methylphenol	5.3	6.46	670	664
Acenaphthene	2.7	0.66	16	15
Acenaphthylene	2.7	0.66	66	65
Anthracene	2.7	0.66	220	219
Benzo(a)anthracene	2.7	0.66	110	109
Benzo(a)pyrene	2.7	0.66	99	98
Benzo(b)fluoranthene	2.7	0.66	115	114
Benzo(g,h,i)perylene	2.7	0.66	31	30
Benzo(k)fluoranthene	2.7	0.66	115	114
Benzoic Acid	13	15.85	650	634
Benzyl Alcohol	5.3	6.46	57	51
Benzyl Butyl Phthalate	5.3	1.29	4.9	3.6
Bis(2-Ethylhexyl)Phthalate	5.3	1.29	47	46
Chrysene	2.7	0.66	110	109
Dibenzo(a,h)anthracene	2.7	0.66	12	11
Dibenzofuran	2.7	0.66	15	14
Diethyl Phthalate	5.3	1.29	61	60
Dimethyl Phthalate	5.3	1.29	53	52
Di-N-Butyl Phthalate	5.3	1.29	220	219
Di-N-Octyl Phthalate	5.3	1.29	58	57
Fluorene	2.7	0.66	23	22
Fluoranthene	2.7	0.66	160	159
Hexachlorobenzene	0.53	0.13	0.38	0.25
Hexachlorobutadiene	1.3	0.32	3.9	3.6
Indeno(1,2,3-Cd)Pyrene	2.7	0.66	34	33
N-Nitrosodiphenylamine	5.3	1.29	11	10
Naphthalene	2.7	0.66	99	98
Pentachlorophenol	13	15.85	360	344
Phenanthrene	2.7	0.66	100	99
Phenol	5.3	6.46	420	414
Pyrene	2.7	0.66	1000	999
Aroclor 1016	1.3	0.32		
Aroclor 1221	2.5	0.61		
Aroclor 1232	2.5	0.61		
Aroclor 1242	1.3	0.32		
Aroclor 1248	1.3	0.32		
Aroclor 1254	1.3	0.32		
Aroclor 1260	1.3	0.32		
Total Organic Carbon (dry)	5000			
Total Solids	82			
HPAH	27	6.59	960	953
LPAH	18.9	4.61	370	365
Total PCB	2.5	0.61	12	11.4

SMS OC and Dry Weight Normalization Detection Limit Check

	MDL (ug/Kg, ww)	MDL (mg/Kg, dw, oc)	SMS (mg/Kg, dw,oc)	Delta (SMS-MDL)
1,2,4-Trichlorobenzene	0.27	0.03	0.81	0.78
1,2-Dichlorobenzene	0.27	0.03	2.3	2.3
1,4-Dichlorobenzene	0.27	0.03	3.1	3.1
2-Methylnaphthalene	2.7	0.33	38	38
2,4-Dimethylphenol	2.7	5.79	29	23
2-Methylphenol	5.3	11.37	63	52
4-Methylphenol	5.3	11.37	670	659
Acenaphthene	2.7	0.33	16	16
Acenaphthylene	2.7	0.33	66	66
Anthracene	2.7	0.33	220	220
Benzo(a)anthracene	2.7	0.33	110	110
Benzo(a)pyrene	2.7	0.33	99	99
Benzo(b)fluoranthene	2.7	0.33	115	115
Benzo(g,h,i)perylene	2.7	0.33	31	31
Benzo(k)fluoranthene	2.7	0.33	115	115
Benzoic Acid	13	27.90	650	622
Benzyl Alcohol	5.3	11.37	57	46
Benzyl Butyl Phthalate	5.3	0.65	4.9	4.3
Bis(2-Ethylhexyl)Phthalate	5.3	0.65	47	46
Chrysene	2.7	0.33	110	110
Dibenzo(a,h)anthracene	2.7	0.33	12	12
Dibenzofuran	2.7	0.33	15	15
Diethyl Phthalate	5.3	0.65	61	60
Dimethyl Phthalate	5.3	0.65	53	52
Di-N-Butyl Phthalate	5.3	0.65	220	219
Di-N-Octyl Phthalate	5.3	0.65	58	57
Fluorene	2.7	0.33	23	23
Fluoranthene	2.7	0.33	160	160
Hexachlorobenzene	0.53	0.06	0.38	0.32
Hexachlorobutadiene	1.3	0.16	3.9	3.7
Indeno(1,2,3-Cd)Pyrene	2.7	0.33	34	34
N-Nitrosodiphenylamine	5.3	0.65	11	10
Naphthalene	2.7	0.33	99	99
Pentachlorophenol	13	27.90	360	332
Phenanthrene	2.7	0.33	100	100
Phenol	5.3	11.37	420	409
Pyrene	2.7	0.33	1000	1000
Aroclor 1016	6.7	0.82		
Aroclor 1221	2.5	0.31		
Aroclor 1232	11	1.34		
Aroclor 1242	13	1.59		
Aroclor 1248	1.3	0.16		
Aroclor 1254	1.3	0.16		
Aroclor 1260	1.3	0.16		
Total Organic Carbon (dry)	17553.64807			
Total Solids	46.6			
HPAH	27	3.30	960	957
LPAH	18.9	2.31	370	368
Total PCB	13	1.59	12	10.4

SMS OC and Dry Weight Normalization Detection Limit Check

	MDL (ug/Kg, ww)	MDL (mg/Kg, dw, oc)	SMS (mg/Kg, dw,oc)	Delta (SMS-MDL)
1,2,4-Trichlorobenzene	0.27	0.03	0.81	0.79
1,2-Dichlorobenzene	0.27	0.03	2.3	2.3
1,4-Dichlorobenzene	0.27	0.03	3.1	3.1
2-Methylnaphthalene	2.7	0.25	38	38
2,4-Dimethylphenol	2.7	3.83	29	25
2-Methylphenol	5.3	7.52	63	55
4-Methylphenol	5.3	7.52	670	662
Acenaphthene	2.7	0.25	16	16
Acenaphthylene	2.7	0.25	66	66
Anthracene	2.7	0.25	220	220
Benzo(a)anthracene	2.7	0.25	110	110
Benzo(a)pyrene	2.7	0.25	99	99
Benzo(b)fluoranthene	2.7	0.25	115	115
Benzo(g,h,i)perylene	2.7	0.25	31	31
Benzo(k)fluoranthene	2.7	0.25	115	115
Benzoic Acid	13	18.44	650	632
Benzyl Alcohol	5.3	7.52	57	49
Benzyl Butyl Phthalate	5.3	0.49	4.9	4.4
Bis(2-Ethylhexyl)Phthalate	5.3	0.49	47	47
Chrysene	2.7	0.25	110	110
Dibenzo(a,h)anthracene	2.7	0.25	12	12
Dibenzofuran	2.7	0.25	15	15
Diethyl Phthalate	5.3	0.49	61	61
Dimethyl Phthalate	5.3	0.49	53	53
Di-N-Butyl Phthalate	5.3	0.49	220	220
Di-N-Octyl Phthalate	5.3	0.49	58	58
Fluorene	2.7	0.25	23	23
Fluoranthene	2.7	0.25	160	160
Hexachlorobenzene	0.53	0.05	0.38	0.33
Hexachlorobutadiene	1.3	0.12	3.9	3.8
Indeno(1,2,3-Cd)Pyrene	2.7	0.25	34	34
N-Nitrosodiphenylamine	5.3	0.49	11	11
Naphthalene	2.7	0.25	99	99
Pentachlorophenol	13	18.44	360	342
Phenanthrene	2.7	0.25	100	100
Phenol	5.3	7.52	420	412
Pyrene	2.7	0.25	1000	1000
Aroclor 1016	6.1	0.56		
Aroclor 1221	2.5	0.23		
Aroclor 1232	10	0.93		
Aroclor 1242	12	1.11		
Aroclor 1248	1.3	0.12		
Aroclor 1254	1.3	0.12		
Aroclor 1260	1.3	0.12		
Total Organic Carbon (dry)	15319.14894			
Total Solids	70.5			
HPAH	27	2.50	960	958
LPAH	18.9	1.75	370	368
Total PCB	12	1.11	12	10.9

SMS OC and Dry Weight Normalization Detection Limit Check

	MDL (ug/Kg, ww)	MDL (mg/Kg, dw, oc)	SMS (mg/Kg, dw,oc)	Delta (SMS-MDL)
1,2,4-Trichlorobenzene	0.27	0.02	0.81	0.79
1,2-Dichlorobenzene	0.27	0.02	2.3	2.3
1,4-Dichlorobenzene	0.27	0.02	3.1	3.1
2-Methylnaphthalene	2.7	0.22	38	38
2,4-Dimethylphenol	2.7	4.05	29	25
2-Methylphenol	5.3	7.95	63	55
4-Methylphenol	5.3	7.95	670	662
Acenaphthene	2.7	0.22	16	16
Acenaphthylene	2.7	0.22	66	66
Anthracene	2.7	0.22	220	220
Benzo(a)anthracene	2.7	0.22	110	110
Benzo(a)pyrene	2.7	0.22	99	99
Benzo(b)fluoranthene	2.7	0.22	115	115
Benzo(g,h,i)perylene	2.7	0.22	31	31
Benzo(k)fluoranthene	2.7	0.22	115	115
Benzoic Acid	13	19.49	650	631
Benzyl Alcohol	5.3	7.95	57	49
Benzyl Butyl Phthalate	5.3	0.43	4.9	4.5
Bis(2-Ethylhexyl)Phthalate	5.3	0.43	47	47
Chrysene	2.7	0.22	110	110
Dibenzo(a,h)anthracene	2.7	0.22	12	12
Dibenzofuran	2.7	0.22	15	15
Diethyl Phthalate	5.3	0.43	61	61
Dimethyl Phthalate	5.3	0.43	53	53
Di-N-Butyl Phthalate	5.3	0.43	220	220
Di-N-Octyl Phthalate	5.3	0.43	58	58
Fluorene	2.7	0.22	23	23
Fluoranthene	2.7	0.22	160	160
Hexachlorobenzene	0.53	0.04	0.38	0.34
Hexachlorobutadiene	1.3	0.10	3.9	3.8
Indeno(1,2,3-Cd)Pyrene	2.7	0.22	34	34
N-Nitrosodiphenylamine	5.3	0.43	11	11
Naphthalene	2.7	0.22	99	99
Pentachlorophenol	13	19.49	360	341
Phenanthrene	2.7	0.22	100	100
Phenol	5.3	7.95	420	412
Pyrene	2.7	0.22	1000	1000
Aroclor 1016	4.3	0.35		
Aroclor 1221	2.5	0.20		
Aroclor 1232	8.6	0.69		
Aroclor 1242	8.3	0.67		
Aroclor 1248	1.3	0.10		
Aroclor 1254	1.3	0.10		
Aroclor 1260	1.3	0.10		
Total Organic Carbon (dry)	18590.70465			
Total Solids	66.7			
HPAH	27	2.18	960	958
LPAH	18.9	1.52	370	368
Total PCB	8.6	0.69	12	11.3

CONVENTIONAL ANALYSES QC DATA

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

Apr 14 2006, 02:01 pm

Work Group: WG85271 (TOTS 423062-100-4) for Department: 3 - Conventionals

Created: 14-APR-06 PrepDate: Due: Operator: CB

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	Uh	Workdate	Duedate
L38325-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOTS	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOTS	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38326-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-10	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-11	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-12	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-13	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	09-MAR-06	24-APR-06
L38326-14	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	09-MAR-06	24-APR-06
L38326-15	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	09-MAR-06	24-APR-06
L38326-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
WG85271-1	MB			S	TOTS	OTHR SOLID	ANAL	U	14-APR-06	
WG85271-2	LD		SED	S	TOTS	SALTWTRSED	ANAL	U	14-APR-06	
WG85271-3	LT		SED	S	TOTS	SALTWTRSED	ANAL	U	14-APR-06	

Comments:

L38325-8	3 grab comp, 0-10 cm
L38325-9	3 grab comp, 0-10 cm
L38326-1	10 Grab Comp, 0-10 cm
L38326-10	10 Grab Comp, FREP
L38326-11	10 Grab Comp, 0-10 cm
L38326-12	10 Grab Comp, 0-10 cm
L38326-13	10 Grab Comp, 0-10 cm
L38326-14	10 Grab Comp, 0-10 cm
L38326-15	10 Grab Comp, 0-10 cm
L38326-2	10 Grab Comp, 0-10 cm
L38326-9	10 Grab Comp, AREP
WG85271-1	MB2 041006
WG85271-2	L38325-9
WG85271-3	WG85271-2 L38325-9

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/14/06 02:03
Run ID: R113004 Workgroup: WG85271 (TOTS 423062-100-4)

MB:WG85271-1 Matrix: OTHR SOLID Listtype: CVTOTS Method: SM2540-G (03-01-007-002) Project: Pkey: SED
(Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Qual
Total Solids	.005	.01	%	<MDL	

LT:WG85271-3 LD:WG85271-2 L38325-9 Matrix: SALTWTRSED Listtype: CVTOTS Method: SM2540-G (03-01-007-002) Project: 423062-100-4 Pkey: SED
(Lab Triplicate, Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	LT Value	RSD	Qual	LabLimit
Total Solids	.005	.01	%	66.7	65.9	68.8	2		20

WG85271	CVTOTS	
Sample Number	%	Prep Date
Date Analyzed	04/10/06	
WG85271-1	0.000	04/10/06
L38325-8	70.546	04/10/06
L38325-9	66.685	04/10/06
WG85271-2	65.938	04/10/06
WG85271-3	68.794	04/10/06
L38326-1	55.408	04/10/06
L38326-2	54.610	04/10/06
L38326-9	74.976	04/10/06
L38326-10	72.900	04/10/06
L38326-11	76.060	04/10/06
L38326-12	66.576	04/10/06
L38326-13	78.015	04/10/06
L38326-14	70.661	04/10/06
L38326-15	55.587	04/10/06

Total Solids (Solid Matrix) - Balance Link Template

Date Analyzed: 4/10/2006 **Analyst:** CB

Sample #	Crucible #	Initial Crucible Weight (g)	Sample Weight (g)	Final Crucible Weight (g)	Total Solids (%)	Comment
MB2 041006	15	2.2256	20.0000	2.2256	0.000	WG85271-1
L38325-8	16	2.2297	19.8296	16.2186	70.546	
L38325-9	17	2.1919	20.4226	15.8107	66.685	
L38325-9LD	18	2.1806	19.7021	15.1717	65.938	WG85271-2
L38325-9LT	19	2.1874	19.3367	15.4898	68.794	WG85271-3
L38326-1	20	2.1803	19.4773	12.9723	55.408	
L38326-2	21	2.2235	21.4297	13.9263	54.610	
L38326-9	22	2.2205	18.2824	15.9279	74.976	
L38326-10	23	2.2138	21.0297	17.5444	72.900	
L38326-11	24	2.2054	21.6633	18.6826	76.060	
L38326-12	25	2.1800	20.1492	15.5946	66.576	
L38326-13	26	2.2052	19.7175	17.5878	78.015	
L38326-14	27	2.2194	19.5475	16.0318	70.661	
L38326-15	28	2.1871	20.3508	13.4996	55.587	

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

Apr 05 2006, 02:14 pm

Work Group: WG85091 (TOTS Misc Seds 04/03/06) for Department: 3 - Conventionals

Created: 04-APR-06 PrepDate: Due: Operator: CB

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L37820-1	421350C	Seattle Drainage Misc Analytical	SED	S	TOTS	FRSHWTRSED	ANAL	U	18-JAN-06	18-APR-06
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	TOTS	SALTWTRSED	ANAL	U	13-MAR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	TOTS	SALTWTRSED	ANAL	U	13-MAR-06	27-APR-06
[illegible]	[illegible]	Duwamish Diagonal Cap Monitoring	SED	S	TOTS	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
[illegible]	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOTS	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
[illegible]	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOTS	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
[illegible]	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOTS	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
[illegible]	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOTS	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
[illegible]	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOTS	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
[illegible]	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOTS	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
WG85091-1	MB			S	TOTS	OTHR SOLID	ANAL	U	05-APR-06	
WG85091-2	LD		SED	S	TOTS	SALTWTRSED	ANAL	U	05-APR-06	
WG85091-3	LT		SED	S	TOTS	SALTWTRSED	ANAL	U	05-APR-06	
WG85091-4	LD		SED	S	TOTS	FRSHWTRSED	ANAL	U	05-APR-06	
WG85091-5	LT		SED	S	TOTS	FRSHWTRSED	ANAL	U	05-APR-06	

Comments:

L38324-1	0-2 cm, 10 Grab Comp
L38324-2	0-2 cm, 2nd PSD every 10 samples
L38325-1	3 grab comp, 0-10 cm
L38325-2	3 grab comp, 0-10 cm
L38325-3	3 grab comp, 0-10 cm
L38325-4	3 grab comp, 0-10 cm
L38325-5	0-10 cm, AREP
L38325-6	0-10 cm, FREP
L38325-7	3 grab comp, 0-10 cm
WG85091-1	MB1 040306
WG85091-2	L38324-2
WG85091-3	WG85091-2 L38324-2
WG85091-4	L37820-1
WG85091-5	WG85091-4 L37820-1

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/05/06 02:13
Run ID: R112845 Workgroup: WG85091 (TOTS Misc Seds 04/03/06)

MB:WG85091-1 Matrix: OTHR SOLID Listtype: CVTOTS Method: SM2540-G (03-01-007-002) Project: Pkey: SED
(Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Qual
Total Solids	.005	.01	%	<MDL	

LT:WG85091-3 LD:WG85091-2 L38324-2 Matrix: SALTWTRSED Listtype: CVTOTS Method: SM2540-G (03-01-007-002) Project: 423368-80 Pkey: SED
(Lab Triplicate, Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	LT Value	RSD	Qual	LabLi
Total Solids	.005	.01	%	49.3	49.5	49.4	0		2

LT:WG85091-5 LD:WG85091-4 L37820-1 Matrix: FRSHWTRSED Listtype: CVTOTS Method: SM2540-G (03-01-007-002) Project: 421350C Pkey: SED
(Lab Triplicate, Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	LT Value	RSD	Qual	LabLi
Total Solids	.005	.01	%	50.3	45.6	49.4	5		2

WG85091	CVTOTS	
Sample Number	%	Prep Date
Date Analyzed	04/03/06	
WG85091-1	0.001	04/03/06
L38325-1	62.319	04/03/06
L38325-2	43.050	04/03/06
L38325-3	50.934	04/03/06
L38325-4	72.597	04/03/06
L38325-5	82.219	04/03/06
L38325-6	82.037	04/03/06
L38325-7	46.612	04/03/06
L38324-1	43.098	04/03/06
L38324-2	49.283	04/03/06
WG85091-2	49.473	04/03/06
WG85091-3	49.418	04/03/06
L37820-1	50.257	04/03/06
WG85091-4	45.623	04/03/06
WG85091-5	49.380	04/03/06

TOTS (S%)

Total Solids (Solid Matrix) - Balance Link Template

Date Analyzed: 4/3/2006 **Analyst:** CB

Sample #	Crucible #	Initial Crucible Weight (g)	Sample Weight (g)	Final Crucible Weight (g)	Total Solids (%)	Comment
MB1 040306	1	2.2309	15.0000	2.2310	0.001	WG85091-1
L38325-1	2	2.2186	12.9640	10.2976	62.319	
L38325-2	3	2.2156	18.9204	10.3608	43.050	
L38325-3	4	2.2115	17.2730	11.0093	50.934	
L38325-4	5	2.1830	22.4850	18.5065	72.597	
L38325-5	6	2.2260	19.2707	18.0702	82.219	
L38325-6	7	2.2195	20.7626	19.2525	82.037	
L38325-7	8	2.1793	21.2863	12.1012	46.612	
L38324-1	9	2.2111	13.3001	7.9432	43.098	
L38324-2	10	2.2318	10.1860	7.2518	49.283	
L38324-2LD	11	2.1971	9.5045	6.8993	49.473	WG85091-2
L38324-2LT	12	2.2020	10.0312	7.1592	49.418	WG85091-3
L37820-1	13	2.2163	9.1090	6.7942	50.257	
L37820-1LD	14	2.2115	9.8884	6.7229	45.623	WG85091-4
L37820-1LT	15	2.2380	9.8274	7.0908	49.380	WG85091-5
		2.1880				
						104 @ 16:00
						105 @ 0820

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

Apr 20 2006, 03:25 pm

Work Group: WG85335 (DUDI SEDS) for Department: 3 - Conventionals

Created: 20-APR-06 PrepDate: Due: Operator:

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOC	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOC	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOC	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-4	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOC	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-5	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOC	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-6	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOC	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-7	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOC	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOC	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	TOC	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38326-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-10	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-11	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-12	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-13	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	09-MAR-06	24-APR-06
L38326-14	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	09-MAR-06	24-APR-06
L38326-15	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	09-MAR-06	24-APR-06
L38326-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38327-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	10-MAR-06	24-APR-06
L38327-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	10-MAR-06	24-APR-06
L38327-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	10-MAR-06	24-APR-06
L38327-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	10-MAR-06	24-APR-06
L38327-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	10-MAR-06	24-APR-06
L38327-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	10-MAR-06	24-APR-06
L38327-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	10-MAR-06	24-APR-06
L38327-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	10-MAR-06	24-APR-06
WG85335-1	MB			S	TOC	OTHR SOLID	ANAL	U	20-APR-06	
WG85335-10	SRM		SED	S	TOC	SALTWTRSED	ANAL	U	20-APR-06	
WG85335-11	SB			S	TOC	OTHR SOLID	ANAL	U	20-APR-06	
WG85335-12	LD		SED	S	TOC	SALTWTRSED	ANAL	U	20-APR-06	
WG85335-13	LT		SED	S	TOC	SALTWTRSED	ANAL	U	20-APR-06	
WG85335-14	MS		SED	S	TOC	SALTWTRSED	ANAL	U	20-APR-06	
WG85335-2	SRM		SED	S	TOC	SALTWTRSED	ANAL	U	20-APR-06	
WG85335-3	SB			S	TOC	OTHR SOLID	ANAL	U	20-APR-06	
WG85335-4	LD		SED	S	TOC	SALTWTRSED	ANAL	U	20-APR-06	
WG85335-5	LT		SED	S	TOC	SALTWTRSED	ANAL	U	20-APR-06	
WG85335-6	MS		SED	S	TOC	SALTWTRSED	ANAL	U	20-APR-06	
WG85335-7	MB			S	TOC	OTHR SOLID	ANAL	U	20-APR-06	
WG85335-8	SRM		SED	S	TOC	SALTWTRSED	ANAL	U	20-APR-06	
WG85335-9	MB			S	TOC	OTHR SOLID	ANAL	U	20-APR-06	

Comments:

L38325-1	3 grab comp, 0-10 cm
L38325-2	3 grab comp, 0-10 cm
L38325-3	3 grab comp, 0-10 cm
L38325-4	3 grab comp, 0-10 cm
L38325-5	0-10 cm, AREP
L38325-6	0-10 cm, FREP
L38325-7	3 grab comp, 0-10 cm
L38325-8	3 grab comp, 0-10 cm
L38325-9	3 grab comp, 0-10 cm
L38326-1	10 Grab Comp, 0-10 cm
L38326-10	10 Grab Comp, FREP
L38326-11	10 Grab Comp, 0-10 cm
L38326-12	10 Grab Comp, 0-10 cm
L38326-13	10 Grab Comp, 0-10 cm
L38326-14	10 Grab Comp, 0-10 cm
L38326-15	10 Grab Comp, 0-10 cm
L38326-2	10 Grab Comp, 0-10 cm
L38326-9	10 Grab Comp, AREP

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

Apr 20 2006, 03:25 pm

Work Group: WG85335 (DUDI SEDS) for Department: 3 - Conventionals

Created: 20-APR-06 PrepDate: Due: Operator:

Sample	Project Number Project Description	PKey C Product	Matrix	Stat UA Workdate Duedate
L38327-1	Diver Cores, 2006			
L38327-2	Diver Cores, 2006, AREP			
L38327-3	Diver Cores, 2006, FREP			
L38327-4	Diver Cores, 2006			
L38327-5	Diver Cores, 2006			
L38327-6	Diver Cores, 2006			
L38327-7	Diver Cores, 2006			
L38327-8	Diver Cores, 2006			
WG85335-1	MB1 041906			
WG85335-10	HICONC			
WG85335-11	WG85335-9			
WG85335-12	L38327-2			
WG85335-13	WG85335-12 L38327-2			
WG85335-14	L38327-2			
WG85335-2	HICONC			
WG85335-3	WG85335-1			
WG85335-4	L38325-8			
WG85335-5	WG85335-4 L38325-8			
WG85335-6	L38325-8			
WG85335-7	MB1 041806			
WG85335-8	HICONC			
WG85335-9	MB1 042006			

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/21/06 08:54
Run ID: R113063 Workgroup: WG85335 (DUDI SEDS)

MB:WG85335-1 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA9060-PSEP96 (03-04-002-003) Project: Pkey: SED
(Method Blank)

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

SRM:WG85335-2 Matrix: SALTWTRSED Listtype: CVTOC Method: EPA9060-PSEP96 (03-04-002-003) Project: Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
Total Organic Carbon	2500	4910	mg/Kg	21900	21100	96		80-120

SB:WG85335-3 MB:WG85335-1 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA9060-PSEP96 (03-04-002-003) Project: Pkey: SED
(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	2630	105		80-120

LT:WG85335-5 LD:WG85335-4 L38325-8 Matrix: SALTWTRSED Listtype: CVTOC Method: EPA9060-PSEP96 (03-04-002-003) Project: 423062-100-4 Pkey: SED
(Lab Triplicate, Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	LT Value	RSD	Qual	LabLi
Total Organic Carbon	1200	2500	mg/Kg	10800	11500	12900	9		2

MS:WG85335-6 L38325-8 Matrix: SALTWTRSED Listtype: CVTOC Method: EPA9060-PSEP96 (03-04-002-003) Project: 423062-100-4 Pkey: SED
(Matrix Spike)

Parameter	Mdl	Rdl	Units	SampValue	Truevalue	MS Value	% Rec.	Qual	LabLimit
Total Organic Carbon	1300	2590	mg/Kg	10800	6473	16500	89		75-125

MB:WG85335-7 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA9060-PSEP96 (03-04-002-003) Project: Pkey: SED
(Method Blank)

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

SRM:WG85335-8 Matrix: SALTWTRSED Listtype: CVTOC Method: EPA9060-PSEP96 (03-04-002-003) Project: Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
Total Organic Carbon	2500	4970	mg/Kg	21900	21000	96		80-120

MB:WG85335-9 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA9060-PSEP96 (03-04-002-003) Project: Pkey: SED
(Method Blank)

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

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/21/06 08:54
Run ID: R113063 Workgroup: WG85335 (DUDI SEDS)

SRM:WG85335-10 Matrix: SALTWTRSED Listtype: CVTOC Method: EPA9060-PSEP96 (03-04-002-003) Project: Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
Total Organic Carbon	2200	4490	mg/Kg	21900	20700	95		80-120

SB:WG85335-11 MB:WG85335-9 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA9060-PSEP96 (03-04-002-003) Project: Pkey: SED
(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	2610	104		80-120

LT:WG85335-13 LD:WG85335-12 L38327-2 Matrix: SALTWTRSED Listtype: CVTOC Method: EPA9060-PSEP96 (03-04-002-003) Project: 423062-200-4 Pkey: SED
(Lab Triplicate, Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	LT Value	RSD	Qual	LabLim
Total Organic Carbon	400	806	mg/Kg	1590	1610	1670	3		20

MS:WG85335-14 L38327-2 Matrix: SALTWTRSED Listtype: CVTOC Method: EPA9060-PSEP96 (03-04-002-003) Project: 423062-200-4 Pkey: SED
(Matrix Spike)

Parameter	Mdl	Rdl	Units	SampValue	Truevalue	MS Value	% Rec.	Qual	LabLimit
Total Organic Carbon	400	790	mg/Kg	1590	1976	3680	106		75-125

WG85335	CVTOC				
Sample Number	mg/kg	Prep Date	MDL	RDL	
Date Analyzed	4/18/2006				
WG85335-7	-304.6	4/18/2006	500	1000	MB1 041806
WG85335-8	20978	4/18/2006	2483.4	4966.9	SRM1 041806
L38325-1	14195.9	4/3/2006	1222.7	2445.5	
L38325-2	12887.8	4/3/2006	841.2	1682.3	
L38325-3	9540.4	4/3/2006	903.6	1807.2	
L38325-4	5567.2	4/3/2006	758.4	1516.8	
L38325-5	300.1	4/3/2006	395.5	791.1	
L38325-6	455.6	4/3/2006	415.8	831.5	
L38325-7	8184.4	4/3/2006	785.1	1570.2	

WG85335	CVTOC				
Sample Number	mg/kg	Prep Date	MDL	RDL	
Date Analyzed	4/19/2006				
WG85335-1	-304.6	4/19/2006	500	1000	MB1 041906
WG85335-2	21118	4/19/2006	2453	4906	SRM1 041906
WG85335-3	2627	4/19/2006	500	1000	SB1 041906
L38325-8	10758.7	4/10/2006	1218.8	2437.6	
WG85335-4	11462.5	4/10/2006	1248.6	2497.1	L38325-8LD
WG85335-5	12852.2	4/10/2006	1442.6	2885.3	L38325-8LT
WG85335-6	16544.2	4/10/2006	1294.7	2589.4	L38325-8MS
L38325-9	12441.9	4/10/2006	1193.2	2386.3	
L38326-1	11120	4/10/2006	1018.5	2036.9	
L38326-2	10744.9	4/10/2006	1022.9	2045.7	
L38326-9	3617.4	4/10/2006	538.9	1077.8	
L38326-10	5412.1	4/10/2006	634.7	1269.4	
L38326-11	3335.5	4/10/2006	586.3	1172.5	
L38326-12	6288.1	4/10/2006	583.2	1166.4	
L38326-13	4585.1	4/10/2006	515.7	1031.5	
L38326-14	4684.6	4/10/2006	559.2	1118.4	
L38326-15	9099.5	4/10/2006	1048.6	2097.3	

TOC Solid-Matrix Preparation Logbook

Analyst: CB
Beginning Prep Date: 4/10/06
Ending Prep Date: 4/14/06

Workgroup #: WG85335
Project No.: 423062
Project Name: DUDE SEDS

5297-10 H^3PO^4 Lot No

Sample Container Tracking

Date	Sample Numbers	Collect Date Jar ID	Initial Login	Transfer to:	Comments	Transfer to:	Comments
4-10-06	L38325-8,-9		10	Lab	Aliquot Weighed for	10	Samples Returned to -20° Storage
	L38326-1,2,9-15		"	"	TOC & TOTS,	"	"

Prepared Sample Tracking

Date	Sample Numbers	Batch QC (-LD, -LT, -MS)	Initial Storage	Transfer to:	Comments	Transfer to:	Comments	Final Prep Date
4-10-06	L38325-8,9	LD,LT,MS	Lab	TOC oven	~~Weighed~~ ~~over~~ Dried			
"	L38326 1,2,9-15		"	"	overnight @ 70°C			
4-11-06	L38325-8,9	LD,LT,MS	TOC-oven	~~CH~~ Desiccator	Weighed	CH	Acidified & Pulverized	
"	38326-1,2,9-15		"	"	"	"	"	
4-11-06	L38325,8,9	LD,LT,MS	CH	TOC oven	Dried overnight @70°C			
"	38326-1,2,9-15		"	"	"			
4-12-06	38325-8,9	LD,LT,MS	TOC oven	CH	Acidified & Pulverized,	TOC oven	Dried overnight @70°C	
"	38326-1,2,9-15		"	"	"	"	"	
4-13-06	38325-8,9	LD,LT,MS	TOC oven	CH	Acidified & Pulverized	TOC oven	Dried overnight @70°C	
"	38326-1,2,9-15		"	"	"	"	"	
4-14-06	38325-8,9	LD,LT,MS	TOC oven	CH	Pulverized & Transferred	18	Stored at -20°C	4/14/06
"	38326-1,2,9-15		"	"	to vials	"	"	

Cooler 10 / -20 °C
Cooler 18 / -20 °C
Cooler 12 / 4 °C

TOC Oven / 70 °C
Conventionals Hood (CH) / Room Temp

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

Apr 21 2006, 02:43 pm

Work Group: WG85276 (PSD/423062 DuDi) for Department: 3 - Conventionals

Created: 14-APR-06 PrepDate: Due: Operator: DN

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-4	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-5	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-6	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-7	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38325-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD	SALTWTRSED	ANAL	U	07-MAR-06	24-APR-06
L38326-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-10	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-11	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-12	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-13	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD	SALTWTRSED	ANAL	U	09-MAR-06	24-APR-06
L38326-14	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD	SALTWTRSED	ANAL	U	09-MAR-06	24-APR-06
L38326-15	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD	SALTWTRSED	ANAL	U	09-MAR-06	24-APR-06
L38326-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
L38326-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD	SALTWTRSED	ANAL	U	08-MAR-06	24-APR-06
WG85276-1	LD		SED	S	PSD	SALTWTRSED	ANAL	U	21-APR-06	
WG85276-2	LT		SED	S	PSD	SALTWTRSED	ANAL	U	21-APR-06	

Comments:

L38325-1	3 grab comp, 0-10 cm
L38325-2	3 grab comp, 0-10 cm
L38325-3	3 grab comp, 0-10 cm
L38325-4	3 grab comp, 0-10 cm
L38325-5	0-10 cm, AREP
L38325-6	0-10 cm, FREP
L38325-7	3 grab comp, 0-10 cm
L38325-8	3 grab comp, 0-10 cm
L38325-9	3 grab comp, 0-10 cm
L38326-1	10 Grab Comp, 0-10 cm
L38326-10	10 Grab Comp, FREP
L38326-11	10 Grab Comp, 0-10 cm
L38326-12	10 Grab Comp, 0-10 cm
L38326-13	10 Grab Comp, 0-10 cm
L38326-14	10 Grab Comp, 0-10 cm
L38326-15	10 Grab Comp, 0-10 cm
L38326-2	10 Grab Comp, 0-10 cm
L38326-9	10 Grab Comp, AREP
WG85276-1	L38325-6
WG85276-2	WG85276-1 L38325-6

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/21/06 03:01
Run ID: R113087 Workgroup: WG85276 (PSD/423062 DuDi)

LT:WG85276-2 LD:WG85276-1 L38325-6 Matrix: SALTWTRSED Listtype: CVPSD Method: ASTM D422(03-02-005-001) Project: 423062-100-4 Pkey: SED
(Lab Triplicate, Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	LT Value	RSD	Qual	LabLimi
Gravel	.1	1	%	19.5	20.6	20.8	3		20
Sand	.1	1	%	76.8	75.7	76	1		20
Silt	.5	1	%	1.7	1.9	2.1	9		20
Clay	.5	1	%	4	1.9	2	30	E	20

PARTICLE SIZE DISTRIBUTION - ASTM D 422
Sample Preparation

4/7/06	Date
BN	Analyst Initials
WR85276	Workgroup No.
423062	Project Number
#16	4% Dispersant ID #

Sample Tracking

		Location	
Date	Time	From	To
4/7/06	1230	12	LAB
4/7/06	4:00	LAB	12

Water Content (w) Analysis

	Date	Time	Temp (°C)
Spl IN	4/10/06	1455	109°C
Spl OUT	4/11/06	7:45	110°C

Sample ID	Water Content (w) Calc: Empty Dish (g)	Wet Sample (g)	Dry Dish + Sample (g)	PSD Calc: Sample Wet Wt (g)	COMMENTS
L38325-4	2.2133	36.8256	24.1309	101.560	Silky sed w/ kg. excluded small snail "1/2 in" dia.
-5	2.2422	56.0931	48.4743	104.060	wet sand w/ small rocks. / Strong Rotten smell
-6	2.1980	57.1454	49.5186	106.821	" " / No odor -
-6LD	2.2087	47.4664	41.6169	96.790	
-6LT	2.2064	45.5493	40.1754	87.929	
-7	2.2302	31.4266	17.8262	98.862	Silky Sed / w ~~[illegible]~~ standing water / excluded 2 large Rocks
-8	2.2111	62.~~[illegible]~~0688	46.9594	100.588	Silky sed w/ small rocks
-9	2.2145	55.5695	42.1240	103.406	" "
L38326-1	2.2107	41.5655	26.3646	93.531	Silky sed w/ some wtr
2	2.1763	48.2770	29.2083	105.658	" "
9	2.1787	64.6550	51.3190	132.358	" "
10	2.1844	61.5650	48.3591	122.126	" "

Note - After the initial weighing of samples for PSD & % solids, all samples were stored in the cold lab (Room temp) from 4/7/06 to 4/10/06 prior to PSD & % solids analyses

Add 125 mL of 4% Dispersant to sample

Allow sample + dispersant to stand overnight

PARTICLE SIZE DISTRIBUTION - ASTM D 422
Sample Preparation

3/20/06	Date
DN	Analyst Initials
NG84920	Workgroup No.
423368, 421350, 423062	Project Number
#14/#15	4% Dispersant ID #

Sample Tracking

[redacted]		Location	
Date	Time	From	To
3/20/06	2:00	12	LAB
3/20/06	5:30	LAB	12

Water Content (w) Analysis

[redacted]	Date	Time	Temp (°C)
Spl IN	3/20/06	4:35	110°C
Spl OUT	3/21/06	7:40	111°C

Sample ID	Water Content (w) Calc: Empty Dish (g)	Wet Sample (g)	Dry Dish + Sample (g)	PSD Calc: Sample Wet Wt (g)	COMMENTS
~~138~~ L37079-1	2.1916	31.7799	96.392	15.3630	Seds Silky w/ standing wtr.
-2	2.2015	34.0453	109.567	18.9772	(109.567 on)
L37820-1	2.2269	48.9202	102.170	26.3616	Silky seds w/ lot of standing wtr (102.170 on)
-1LD	2.2241	46.1623	111.482	25.2019	"
-1LI	2.2176	35.6733	111.678	19.9145	"
L38324-1	2.2279	46.5497	100.069	22.5870	w/ some standing wtr
-2	2.1940	49.4455	123.101	26.4720	
-2LD	2.2194	44.3162	101.034	23.9322	
-2LI	2.1883	50.1749	103.810	26.8132	
[redacted]	2.1962	49.5178	95.337	33.5307	Sand, mud & Plant debris w/ some wtr.
[redacted]	2.1898	51.1561	95.959	24.8502	Dark sed w/ some standing wtr.
[redacted]	2.1832	44.4558	101.792	25.1209	Silky sed w/ some rocks -
			for all samples		

Add 125 mL of 4% Dispersant to sample

Allow sample + dispersant to stand overnight

Conventionals Data Anomaly Form

Date(s) Occurred: *4/11/06*

WG #(s): *WG85276*

☒ **All samples in WKGP(s) or Sample #(s):**

Project #(s): *423062*

Matrix: ☐ **Liquid** ☒ **Solid** ☐ **Air** ☐ **Tissue** ☐ **Calibration** ☐ **Other:**

I. Analysis

☐ Nutrients:
☐ Demands:
☐ Cyanides:
☐ Physicals:
☐ Solids:
☐ Anions:
☐ Chlorophylls:
☒ Others: *PSD*
☐ Subcontracted:

II. Instrument

Ion Chromatography: ☐ Dionex 120
Spectrophotometer: ☐ Hitachi U3000 UV/VIS ☐ Hach DR 890
Fluorometer: ☐ Turner 10-AU
TOC Analyzer: ☐ OI 1020A ☐ OI TOC Analyzer
Autotitrator: ☐ Metrohm 736GP Titrator ☐ Metrohm 712 Conductometer
Turbidimeter: ☐ Hach 2100AN
Autoanalyzers: ☐ Astoria2+2 (freshwater system) ☐ Astoria2+2 (saltwater system)
☐ Astoria2 (total nutrients system) ☐ Astoria2 (cyanide system)
Dissolved Oxygen: ☐ YSI 5100 ☐ CAT Contriburette
Salinometer: ☐ Portosal 8410A
pH: ☐ Metrohm 736GP ☐ Accument XL60
Others: *AT200 and PG503 Analytical Balances*

III. Type of Sample/Analytical Anomaly

☒ Values Outside of Control Limits:

[1] ☐ Initial Calibration
[2] ☐ Continuing Calibration Checks
[3] ☐ SB Spike Recoveries
[4] ☐ MB Anomaly
[5] ☐ LCS/SRM Recoveries
[6] ☒ Sample/LD/LT RSD
[7] ☐ MS RPD
[8] ☐ Sample/LD RPD
[9] ☐ MS Spike Recoveries

[10] ☐ Holding time exceeded by:
[11] ☐ Insufficient sample amount.
[12] ☐ Inappropriate storage, container or preservation.

☐ Other

Anomaly Description: *The laboratory triplicate analysis for particle size distribution (PSD) for sample L38325-6 had a percent relative standard deviation (%RSD) of 37% for the clay category. This exceeded the established acceptance limit of 20% for the category. The clay category represented a small fraction of the overall sample mass associated with sample L38325-6. Variability due to the low contribution to this category is the probable cause.*

IV. Type of Project Anomaly

☐ SAP/Work Plan specified MDLs not met.
☐ SAP/Work Plan specified QC frequency or QC type not met.
☐ SAP/Work Plan specified methodology not used.
☐ Sample exceeds regulatory and/or hazardous waste limits.
☐ Sample data results are unusual or inconsistent with expected results.
☐ Other

Anomaly Description:

V. Corrective Action Taken

☐ Sample(s) re-analyzed
☐ Sample(s) re-prepared and re-analyzed
☐ Sample(s) reported "AS IS"
☒ Data qualified with the following flags: *"E"*
☐ Other

clay. CBS 1/31/07

Corrective Action Description: *No reanalysis was required due to the clay category representing less than 10% of the overall sample mass. The data were reported to LIMS and the gravel category for all samples in the workgroup qualified with the E qualifier to indicate that an estimate value was reported for this category. No further corrective action was taken.*

VI. Potential Effects on Data Quality

Based upon the expected performance of this method:

☐ It is likely the observed anomaly influenced the reported value(s).
☒ It is unlikely the observed anomaly influenced the reported value(s).
☐ The observed anomaly may have influenced the reported value(s).
☐ It is unknown whether or not the observed anomaly affected the reported value(s).

Explanation: *This does not affect the quality of the data. Inherent variability at low levels can be expected in the method. In these instances, a high %RSD does not necessarily indicate poor precision or poor method performance. In the case of these samples, the QC data suggest that the clay category represents too small a fraction of the overall sample constituency to be considered appropriate for evaluation against a 20% control window.*

	Signatures	Signature Dates
Reported By: *Duc Nguyen*	Duc Nguyen	4/21/06
Reviewer: *Despina Strong*		4/24/06
Supervisor: *Despina Strong*		4/24/06
QA Officer: *Colin Elliott* (For QA1 only)		
cc: LPM:		

METAL CHEMISTRY QC DATA

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

Mar 14 2006, 09:11 am

Work Group: WG84815 (Du/Di Cap 14-MAR-06) for Department: 6 - Metals, Trace

Created: 14-MAR-06 PrepDate: 14-MAR-06 Due: Operator: SH

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	AG-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	AS-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	CD-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	CR-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	CU-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	NI-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	PB-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	SB-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	ZN-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	AG-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	AS-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	CD-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	CR-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	CU-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	NI-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	PB-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	SB-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	ZN-ICP	SALTWTRSED	WKGP	U	27-APR-06	27-APR-06
L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	AL-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	FE-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	MN-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PP ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	AL-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	FE-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	MN-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PP ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PP ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	AL-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	FE-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	MN-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-4	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	AL-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-4	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	FE-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-4	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	MN-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-4	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PP ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-5	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	AL-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-5	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	FE-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-5	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	MN-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-5	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PP ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-6	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	AL-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-6	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	FE-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-6	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	MN-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-6	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PP ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-7	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	AL-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-7	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	FE-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-7	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	MN-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-7	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PP ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	FE-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	MN-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PP ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	AL-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	AL-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	FE-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	MN-ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
L38325-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PP ICP	SALTWTRSED	WKGP	U	21-APR-06	21-APR-06
WG84815-1	SB			S	ROUTINE ICP	SOLIDBLANK	WKGP	U	14-MAR-06	
WG84815-2	SRM		SED	S	ROUTINE ICP	SALTWTRSED	WKGP	U	14-MAR-06	
WG84815-3	LCS			S	ROUTINE ICP	SOIL	WKGP	U	14-MAR-06	
WG84815-4	MB			S	ROUTINE ICP	SOLIDBLANK	WKGP	U	14-MAR-06	
WG84815-5	LD		SED	S	ROUTINE ICP	SALTWTRSED	WKGP	U	14-MAR-06	
WG84815-6	MS		SED	S	ROUTINE ICP	SALTWTRSED	WKGP	U	14-MAR-06	
WG84815-7	LD		SED	S	ROUTINE ICP	SALTWTRSED	WKGP	U	14-MAR-06	

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

Mar 14 2006, 09:11 am

Work Group: WG84815 (Du/Di Cap 14-MAR-06) for Department: 6 - Metals, Trace

Created: 14-MAR-06 PrepDate: 14-MAR-06 Due: Operator: SH

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
WG84815-8	MS		SED	S	ROUTINE ICP	SALTWTRSED	WKGP	U	14-MAR-06	

Comments:

L38324-1 0-2 cm, 10 Grab Comp
L38324-2 0-2 cm, 2nd PSD every 10 samples
L38325-1 3 grab comp, 0-10 cm
L38325-2 3 grab comp, 0-10 cm
L38325-3 3 grab comp, 0-10 cm
L38325-4 3 grab comp, 0-10 cm
L38325-5 0-10 cm, AREP
L38325-6 0-10 cm, FREP
L38325-7 3 grab comp, 0-10 cm
L38325-8 3 grab comp, 0-10 cm
L38325-9 3 grab comp, 0-10 cm
WG84815-1 WG84815-4 ICPH
WG84815-2 PACS2
WG84815-3 ERASOIL
WG84815-4 METHOD BLANK
WG84815-5 L38325-7 RPD-SOL
WG84815-6 L38325-7 ICPH
WG84815-7 L38324-2 RPD-SOL
WG84815-8 L38324-2 ICPH

KING COUNTY ENVIRONMENTAL LABORATORY

Trace Metals Section ICP Preparation Log

Preparation Method: EPA 3050
Project Number(s): 423062-100-4
Project Description(s): Duwamish Cap Monitoring
Preparation Date: 3/14/06

Work Group #: WG84815
Analyst: SH
Matrices: Saltwater Sed.
Preparation: (1st) 2nd 3rd
Storage conditions: room temp 4° C (-20° C)

Analytical Samples

	Sample Number	Aliquot (g or mL)	Final Vol.(mL)	Comments	pH <2
1	L38325-1	1.0010	50		
2	-2	0.9607			
3	-3	0.9650			
4	-4	1.0323			
5	-5	1.0479			
6	-6	0.9853			
7	-7	1.0487		BKG1	
8	-8	0.9798			
9	-9	1.0295			
10	L38324-1	1.0112	50		

	Sample Number	Aliquot (g or mL)	Final Vol.(mL)	Comments	pH <2
11	L38324-2	0.9625	50	BKG2	
12					
13					
14					
15					
16					
17					
18					
19					
20					

Quality Control Samples

	QC Sample Number	QC Sample Description	Aliquot (g or mL)	Final Vol.(mL)	Comments	pH <2
1	WG84815-1	Spike Blank	1.050	50	ICPH	
2	-2	Std. Reference Material	0.2548		PACS2 M1-11-30	
3	-3	Lab Control Sample	0.2524		ERA Soil M-05-038	
4	-4	Method Blank	1.050			
5	-5	Lab Duplicate 1 L38325-7	1.0256		~~HF~~ SH 3/14/06	
6	-6	Matrix Spike 1	1.0276		ICPH	
7	-7	Lab Duplicate 2 L38324-2	0.9728	50		
8	-8	Matrix Spike 2	0.9876		ICPH	
9						
10						

Spike Solution

	Solution Name	Solution ID #	Solution Conc.	Amount Used (uL)
1	Cd 1	M-05-040	100 mg/L	500
2	2	M-05-039	varies	
3	3	M-05-042	100 mg/L	
4	4	M-06-002	5,000 mg/L	250
5	K	M-05-033	10,000 mg/L	500
6				
7				

LCS Solution

	Solution Name	Solution ID #	Solution Conc.	Amount Used (mL)
1				~~50~~ SH 3/14/06
2				
3				
4				

Comments:
Analyst neglected to use ICPMarine Spike (ICPH + Mn, Zn); all Mn & Zn spikes were within control limits.
SH 3/16/06

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/12/06 12:08
Run ID: R112834 Workgroup: WG84815 (Du/Di Cap 14-MAR-06)

SB:WG84815-1 MB:WG84815-4 Matrix: SOLIDBLANK Listtype: MTICP-SED Method: EPA3050A/6010B (06-02-004-002) Project: Pkey: SED
(Spike Blank, Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Truevalue	SB Value	% Rec.	Qual	LabLimit
Silver, Total, ICP	.19	.952	mg/Kg	<MDL	47.6	46.6	98		85-115
Aluminum, Total, ICP	4.8	23.8	mg/Kg	<MDL	1190	1190	100		85-115
Arsenic, Total, ICP	2.4	11.9	mg/Kg	<MDL	47.6	48.4	102		85-115
Beryllium, Total, ICP	.048	.238	mg/Kg	<MDL	47.6	46.9	98		85-115
Cadmium, Total, ICP	.14	.714	mg/Kg	<MDL	47.6	47	99		85-115
Chromium, Total, ICP	.24	1.19	mg/Kg	<MDL	47.6	47.9	101		85-115
Copper, Total, ICP	.19	.952	mg/Kg	<MDL	47.6	46.8	98		85-115
Iron, Total, ICP	19	95.2	mg/Kg	<MDL	1240	1190	96		85-115
Manganese, Total, ICP	.095	.476	mg/Kg	<MDL	47.6	47.1	99		85-115
Nickel, Total, ICP	.95	4.76	mg/Kg	<MDL	47.6	46.9	99		85-115
Lead, Total, ICP	1.4	7.14	mg/Kg	<MDL	47.6	46.8	98		85-115
Antimony, Total, ICP	1.4	7.14	mg/Kg	<MDL	47.6	48.1	101		85-115
Selenium, Total, ICP	2.4	11.9	mg/Kg	<MDL	47.6	48.5	102		85-115
Thallium, Total, ICP	9.5	47.6	mg/Kg	<MDL	47.6	47	98		85-115
Zinc, Total, ICP	.24	1.19	mg/Kg	<MDL	47.6	46.5	98		85-115

SRM:WG84815-2 Matrix: SALTWTRSED Listtype: MTICP-SED Method: EPA3050A/6010B (06-02-004-002) Project: Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
Aluminum, Total, ICP	20	98.1	mg/Kg	66200	14200	21		10-43
Chromium, Total, ICP	.98	4.91	mg/Kg	90.7	44.7	49		30-70
Copper, Total, ICP	.78	3.92	mg/Kg	310	295	95		78-118
Iron, Total, ICP	78	392	mg/Kg	40900	29600	72		55-95
Manganese, Total, ICP	.39	1.96	mg/Kg	440	229	52		35-75
Nickel, Total, ICP	3.9	19.6	mg/Kg	39.5	29.3	74		51-91
Lead, Total, ICP	5.9	29.4	mg/Kg	183	172	94		74-114
Zinc, Total, ICP	.98	4.91	mg/Kg	364	338	93		73-113

LCS:WG84815-3 Matrix: SOIL Listtype: MTICP-SED Method: EPA3050A/6010B (06-02-004-002) Project: Pkey: SED
(Lab Control Sample)

Parameter	Mdl	Rdl	Units	Truevalue	LCS Value	% Rec.	Qual	LabLimit
Silver, Total, ICP	.79	3.96	mg/Kg	171	184	107		80-120
Aluminum, Total, ICP	20	99	mg/Kg	7890	6760	86		80-120
Arsenic, Total, ICP	9.9	49.5	mg/Kg	142	144	102		80-120
Beryllium, Total, ICP	.2	.99	mg/Kg	40.6	40.3	99		80-120
Cadmium, Total, ICP	.59	2.97	mg/Kg	64.5	62.2	96		80-120
Chromium, Total, ICP	.99	4.95	mg/Kg	86.5	84.8	98		80-120
Copper, Total, ICP	.79	3.96	mg/Kg	68.6	66.2	96		80-120
Iron, Total, ICP	79	396	mg/Kg	13600	13200	97		80-120
Manganese, Total, ICP	.4	1.98	mg/Kg	501	512	102		80-120
Nickel, Total, ICP	4	19.8	mg/Kg	68.4	66.8	98		80-120
Lead, Total, ICP	5.9	29.7	mg/Kg	93.6	93.3	100		80-120
Antimony, Total, ICP	5.9	29.7	mg/Kg	105	99.7	95		80-120
Selenium, Total, ICP	9.9	49.5	mg/Kg	124	129	104		80-120
Thallium, Total, ICP	40	198	mg/Kg	110	100	95		80-120
Zinc, Total, ICP	.99	4.95	mg/Kg	296	287	97		80-120

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/12/06 12:08
Run ID: R112834 Workgroup: WG84815 (Du/Di Cap 14-MAR-06)

MB:WG84815-4 Matrix: SOLIDBLANK Listtype: MTICP-SED Method: EPA3050A/6010B (06-02-004-002) Project: Pkey: SED
(Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Qual
Silver, Total, ICP	.19	.952	mg/Kg	<MDL	
Aluminum, Total, ICP	4.8	23.8	mg/Kg	<MDL	
Arsenic, Total, ICP	2.4	11.9	mg/Kg	<MDL	
Beryllium, Total, ICP	.048	.238	mg/Kg	<MDL	
Cadmium, Total, ICP	.14	.714	mg/Kg	<MDL	
Chromium, Total, ICP	.24	1.19	mg/Kg	<MDL	
Copper, Total, ICP	.19	.952	mg/Kg	<MDL	
Iron, Total, ICP	19	95.2	mg/Kg	<MDL	
Manganese, Total, ICP	.095	.476	mg/Kg	<MDL	
Nickel, Total, ICP	.95	4.76	mg/Kg	<MDL	
Lead, Total, ICP	1.4	7.14	mg/Kg	<MDL	
Antimony, Total, ICP	1.4	7.14	mg/Kg	<MDL	
Selenium, Total, ICP	2.4	11.9	mg/Kg	<MDL	
Thallium, Total, ICP	9.5	47.6	mg/Kg	<MDL	
Zinc, Total, ICP	.24	1.19	mg/Kg	<MDL	

LD:WG84815-5 L38325-7 Matrix: SALTWTRSED Listtype: MTICP-SED Method: EPA3050A/6010B (06-02-004-002) Project: 423062-100-4 Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimit
Silver, Total, ICP	.2	.975	mg/Kg	.31	.32			20
Aluminum, Total, ICP	4.9	24.4	mg/Kg	7980	7930	1		20
Arsenic, Total, ICP	2.4	12.2	mg/Kg	5.4	5.1			20
Beryllium, Total, ICP	.049	.244	mg/Kg	.14	.14			20
Cadmium, Total, ICP	.15	.731	mg/Kg	.15	.16			20
Chromium, Total, ICP	.24	1.22	mg/Kg	13.4	13.6	1		20
Copper, Total, ICP	.2	.975	mg/Kg	28.2	29.2	3		20
Iron, Total, ICP	20	97.5	mg/Kg	13200	13100	1		20
Manganese, Total, ICP	.098	.488	mg/Kg	162	163	0		20
Nickel, Total, ICP	.98	4.88	mg/Kg	10.9	10.8	1		20
Lead, Total, ICP	1.5	7.31	mg/Kg	13.6	13.7	1		20
Antimony, Total, ICP	1.5	7.31	mg/Kg	<MDL	<MDL			20
Selenium, Total, ICP	2.4	12.2	mg/Kg	<MDL	<MDL			20
Thallium, Total, ICP	9.8	48.8	mg/Kg	<MDL	<MDL			20
Zinc, Total, ICP	.24	1.22	mg/Kg	46.9	46.9	0		20

MS:WG84815-6 L38325-7 Matrix: SALTWTRSED Listtype: MTICP-SED Method: EPA3050A/6010B (06-02-004-002) Project: 423062-100-4 Pkey: SED
(Matrix Spike)

Parameter	Mdl	Rdl	Units	SampValue	Truevalue	MS Value	% Rec.	Qual	LabLimit
Silver, Total, ICP	.19	.973	mg/Kg	.31	48.7	46.7	95		75-125
Aluminum, Total, ICP	4.9	24.3	mg/Kg	7980	1220	10300	195		75-125
Arsenic, Total, ICP	2.4	12.2	mg/Kg	5.4	48.7	54.3	100		75-125
Beryllium, Total, ICP	.049	.243	mg/Kg	.14	48.7	46.4	95		75-125
Cadmium, Total, ICP	.15	.73	mg/Kg	.15	48.7	47.3	97		75-125
Chromium, Total, ICP	.24	1.22	mg/Kg	13.4	48.7	60.9	98		75-125
Copper, Total, ICP	.19	.973	mg/Kg	28.2	48.7	74.5	95		75-125
Iron, Total, ICP	19	97.3	mg/Kg	13200	1270	14500	106		75-125
Manganese, Total, ICP	.097	.487	mg/Kg	162	48.7	211	100		75-125

MS:WG84815-6 L38325-7 Matrix: SALTWTRSED Listtype: MTICP-SED Method: EPA3050A/6010B (06-02-004-002) Project: 423062-100-4 Pkey: SED
(Matrix Spike)

Parameter	Mdl	Rdl	Units	SampValue	Truevalue	MS Value	% Rec.	Qual	LabLimit
Nickel, Total, ICP	.97	4.87	mg/Kg	10.9	48.7	56.5	94		75-125
Lead, Total, ICP	1.5	7.3	mg/Kg	13.6	48.7	60	95		75-125
Antimony, Total, ICP	1.5	7.3	mg/Kg	<MDL	48.7	14.9	31	G	75-125
Selenium, Total, ICP	2.4	12.2	mg/Kg	<MDL	48.7	48.2	99		75-125
Thallium, Total, ICP	9.7	48.7	mg/Kg	<MDL	48.7	41	85		75-125
Zinc, Total, ICP	.24	1.22	mg/Kg	46.9	48.7	93.6	96		75-125

LD:WG84815-7 L38324-2 Matrix: SALTWTRSED Listtype: MTICP-SED Method: EPA3050A/6010B (06-02-004-002) Project: 423368-80 Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimit
Silver, Total, ICP	.21	1.03	mg/Kg	1.54	1.39	10		20
Arsenic, Total, ICP	2.6	12.8	mg/Kg	4.4	4.4			20
Cadmium, Total, ICP	.15	.771	mg/Kg	.34	.36			20
Chromium, Total, ICP	.26	1.28	mg/Kg	22.5	22.7	1		20
Copper, Total, ICP	.21	1.03	mg/Kg	30.4	30.7	1		20
Nickel, Total, ICP	1	5.14	mg/Kg	20.8	20.6	1		20
Lead, Total, ICP	1.5	7.71	mg/Kg	42.5	41.4	3		20
Antimony, Total, ICP	1.5	7.71	mg/Kg	<MDL	<MDL			20
Zinc, Total, ICP	.26	1.28	mg/Kg	55.5	53.8	3		20

MS:WG84815-8 L38324-2 Matrix: SALTWTRSED Listtype: MTICP-SED Method: EPA3050A/6010B (06-02-004-002) Project: 423368-80 Pkey: SED
(Matrix Spike)

Parameter	Mdl	Rdl	Units	SampValue	Truevalue	MS Value	% Rec.	Qual	LabLimit
Silver, Total, ICP	.2	1.01	mg/Kg	1.54	50.6	50.8	97		75-125
Arsenic, Total, ICP	2.5	12.7	mg/Kg	4.4	50.6	56	102		75-125
Cadmium, Total, ICP	.15	.759	mg/Kg	.34	50.6	49.7	98		75-125
Chromium, Total, ICP	.25	1.27	mg/Kg	22.5	50.6	72.7	99		75-125
Copper, Total, ICP	.2	1.01	mg/Kg	30.4	50.6	79.4	97		75-125
Nickel, Total, ICP	1	5.06	mg/Kg	20.8	50.6	69.2	96		75-125
Lead, Total, ICP	1.5	7.59	mg/Kg	42.5	50.6	91.7	97		75-125
Antimony, Total, ICP	1.5	7.59	mg/Kg	<MDL	50.6	15	30	G	75-125
Zinc, Total, ICP	.25	1.27	mg/Kg	55.5	50.6	104	96		75-125

Trace Metals Data Anomaly Form

Date(s) Occurred: *3/15/06*

WG #(s): *WG84815*

☒ **All samples in WKGP(s) or Sample #(s):**

Project #(s):

Matrix: ☐ **Liquid** ☒ **Solid** ☐ **Air** ☐ **Tissue** ☐ **Calibration** ☐ **Other:**

I. Analysis/Digestion

☒ Total ☐ TCLP ☐ Other:
☐ Dissolved ☐ SEM ☐ Subcontracted:

II. Instrument

☐ CVAA ☐ CVAF ICP (☐ B ☒ E) ICP-MS (☐PE ☐X7 ☐X II)

III. Type of Sample/Analytical Anomaly

☒ Values Outside of Control Limits:

[1] ☐ Blank Contamination
[2] ☐ SB Spike Recoveries
[3] ☐ ISTD Recoveries
[4] ☐ LCS/SRM Recoveries
[5] ☒ MS/MSD Spike Recoveries
[6] ☐ MS/MSD RPD
[7] ☐ Sample/LD RPD

☐ Certified values developed by a method other than that which was used for the analysis.

[8] ☐ Holding time exceeded by:
[9] ☐ Insufficient sample amount.
[10] ☐ Inappropriate storage, container, or preservation.
[11] ☐ Other

Anomaly Description: *5.) The matrix spike recoveries for antimony for WG84815-6,-8 were 30% and 31%, respectively.*

IV. Type of Project Anomaly

☒ SAP/Work Plan specified MDLs not met.
☐ SAP/Work Plan specified QC frequency or QC type not met.
☐ SAP/Work Plan specified methodology not used.
☐ Sample exceeds regulatory and/or hazardous waste limits.
☐ Sample data results are unusual or inconsistent with expected results.
☐ Other

Anomaly Description: *The Duwamish Diagonal SAP requires that Iron (Fe) is reported with an MDL of 0.05 ppm. Iron is reported from the Fe271 wavelength due to the out of control*

at the instrument
SH 4/17/06

ICP ICV Solution SOP Deviation Document

Issue: The ICP second source Initial Calibration Verification (ICV) solution was not a secondary source between January 24, 2006 and May 12, 2006.

Explanation: The 100 mL Spex QC21 solution received November of 2005 (M-05-040) is a different bottle of the same lot as the 500 mL Spex QC21 solution used in the calibration standards (M-05-068). This smaller bottle of QC21 was put into use on January 24th, 2006 for the ICP ICV solution. The ICV should be a different source than the calibration standards in order to validate the calibration. A different lot number qualifies as a second source. Trace Metals was out of compliance for the ICP ICV standard from 1/24/2006 to 5/12/2006. A custom standard from Spex (M-06-011) was created for use in the calibration standards in order to avoid the same source problem in the future. The RDL and LCS solutions are also different sources than the ICV but with different concentrations and acceptance limits than the ICV standard. During the approximate 3 month deviation of the ICV both the RDL and LCS met acceptance limits.

WG84815 QC Association Report
4/12/2006 15:32

WG84815	WG84815-1(SB)	WG84815-2(SRM)	WG84815-3(LCS)	WG84815-4(MB)	WG84815-5(LD)	WG84815-6(MS)	WG84815-7(LD)	WG84815-8(MS)
L38324-1	X	X	X	X			X	X
L38324-2	X	X	X	X			X	X
L38325-1	X	X	X	X	X	X		
L38325-2	X	X	X	X	X	X		
L38325-3	X	X	X	X	X	X		
L38325-4	X	X	X	X	X	X		
L38325-5	X	X	X	X	X	X		
L38325-6	X	X	X	X	X	X		
L38325-7	X	X	X	X	X	X		
L38325-8	X	X	X	X	X	X		
L38325-9	X	X	X	X	X	X		
WG84815-1	X	X	X	X	X	X	X	X
WG84815-2	X	X	X	X	X	X	X	X
WG84815-3	X	X	X	X	X	X	X	X
WG84815-4	X	X	X	X	X	X	X	X
WG84815-5	X	X	X	X	X	X		
WG84815-6	X	X	X	X	X	X		
WG84815-7	X	X	X	X			X	X
WG84815-8	X	X	X	X			X	X

Legend: x - Associated
(blank) - Not Associated

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

Jun 14 2006, 08:27 am

Work Group: WG84810 (Duwamish Diagonal Cap Monitoring) for Department: 6 - Metals, Trace

Created: 13-MAR-06 PrepDate: 13-MAR-06 Due: Operator: DC

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	HG-CVAA	SALTWTRSED	DONE	U	04-APR-06	24-APR-06
L38325-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	HG-CVAA	SALTWTRSED	DONE	U	04-APR-06	24-APR-06
L38325-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	HG-CVAA	SALTWTRSED	DONE	U	04-APR-06	24-APR-06
L38325-4	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	HG-CVAA	SALTWTRSED	DONE	U	04-APR-06	24-APR-06
L38325-5	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	HG-CVAA	SALTWTRSED	DONE	U	04-APR-06	24-APR-06
L38325-6	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	HG-CVAA	SALTWTRSED	DONE	U	04-APR-06	24-APR-06
L38325-7	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	HG-CVAA	SALTWTRSED	DONE	U	04-APR-06	24-APR-06
L38325-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	HG-CVAA	SALTWTRSED	DONE	U	04-APR-06	24-APR-06
L38325-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	HG-CVAA	SALTWTRSED	DONE	U	04-APR-06	24-APR-06
L38326-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA	SALTWTRSED	DONE	U	05-APR-06	24-APR-06
L38326-10	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA	SALTWTRSED	DONE	U	05-APR-06	24-APR-06
L38326-11	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA	SALTWTRSED	DONE	U	05-APR-06	24-APR-06
L38326-12	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA	SALTWTRSED	DONE	U	05-APR-06	24-APR-06
L38326-13	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA	SALTWTRSED	DONE	U	06-APR-06	24-APR-06
L38326-14	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA	SALTWTRSED	DONE	U	06-APR-06	24-APR-06
L38326-15	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA	SALTWTRSED	DONE	U	06-APR-06	24-APR-06
L38326-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA	SALTWTRSED	DONE	U	05-APR-06	24-APR-06
L38326-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA	SALTWTRSED	DONE	U	05-APR-06	24-APR-06
WG84810-1	SRM		SED	S	HG-CVAA	SALTWTRSED	DONE	U	13-MAR-06	
WG84810-2	MB			S	HG-CVAA	SOLIDBLANK	DONE	U	13-MAR-06	
WG84810-3	SB			S	HG-CVAA	SOLIDBLANK	DONE	U	13-MAR-06	
WG84810-4	MS		SED	S	HG-CVAA	SALTWTRSED	DONE	U	13-MAR-06	
WG84810-5	MSD		SED	S	HG-CVAA	SALTWTRSED	DONE	U	13-MAR-06	
WG84810-6	LD		SED	S	HG-CVAA	SALTWTRSED	DONE	U	13-MAR-06	

Comments:

L38325-1	3 grab comp, 0-10 cm
L38325-2	3 grab comp, 0-10 cm
L38325-3	3 grab comp, 0-10 cm
L38325-4	3 grab comp, 0-10 cm
L38325-5	0-10 cm, AREP
L38325-6	0-10 cm, FREP
L38325-7	3 grab comp, 0-10 cm
L38325-8	3 grab comp, 0-10 cm
L38325-9	3 grab comp, 0-10 cm
L38326-1	10 Grab Comp, 0-10 cm
L38326-10	10 Grab Comp, FREP
L38326-11	10 Grab Comp, 0-10 cm
L38326-12	10 Grab Comp, 0-10 cm
L38326-13	10 Grab Comp, 0-10 cm
L38326-14	10 Grab Comp, 0-10 cm
L38326-15	10 Grab Comp, 0-10 cm
L38326-2	10 Grab Comp, 0-10 cm
L38326-9	10 Grab Comp, AREP
WG84810-1	PACS2
WG84810-2	METHOD BLANK
WG84810-3	WG84810-2 HG-SOL
WG84810-4	L38325-7 HG-SOL
WG84810-5	WG84810-4 L38325-7 HG-SOL-MSD
WG84810-6	L38326-9 RPD-SOL

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 06/14/06 08:24
Run ID: R112548 Workgroup: WG84810 (Duwamish Diagonal Cap Monitoring)

SRM:WG84810-1 Matrix: SALTWTRSED Listtype: MTHG-SED Method: EPA 7471A (06-01-004-003) Project: Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
Mercury, Total, CVAA	.1	1.03	mg/Kg	3.04	2.86	94		80-120

MB:WG84810-2 Matrix: SOLIDBLANK Listtype: MTHG-SED Method: EPA 7471A (06-01-004-003) Project: Pkey: SED
(Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Qual
Mercury, Total, CVAA	.019	.19	mg/Kg	<MDL	

SB:WG84810-3 MB:WG84810-2 Matrix: SOLIDBLANK Listtype: MTHG-SED Method: EPA 7471A (06-01-004-003) Project: Pkey: SED
(Spike Blank, Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Truevalue	SB Value	% Rec.	Qual	LabLimit
Mercury, Total, CVAA	.019	.19	mg/Kg	<MDL	0.476	.491	103		85-115

MSD:WG84810-5 MS:WG84810-4 L38325-7 Matrix: SALTWTRSED Listtype: MTHG-SED Method: EPA 7471A (06-01-004-003) Project: 423062-100-4 Pkey: SED
(Matrix Spike Duplicate, Matrix Spike)

Parameter	Mdl	Rdl	Units	SampValue	Truevalue	MS Value	% Rec.	Qual	LabLimit	Truevalue	MSD Value	% Rec.	Qual	RPD	Qual	Lablimit
Mercury, Total, CVAA	.019	.194	mg/Kg	.093	0.484	.572	99		75-125	0.505	.594	99		0		20

LD:WG84810-6 L38326-9 Matrix: SALTWTRSED Listtype: MTHG-SED Method: EPA 7471A (06-01-004-003) Project: 423062-200-4 Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimit
Mercury, Total, CVAA	.019	.193	mg/Kg	.069	.074			20

KING COUNTY ENVIRONMENTAL LABORATORY

Trace Metals Section HG-CVAA Preparation Log

Preparation Method: EPA 7471A
Project Number(s): 423062
Project Description(s): DUWAMISH DIAG. CAP MONITORING
Preparation Date: 3/13/06
Temperature: 94.4°C

Work Group #: WG84810
Analyst: DC
Matrices: SALTWATER SEDIMENT
Preparation: (1st) 2nd 3rd
Storage conditions: room temp 4° C (-20° C)

Analytical Samples

	Sample Number	Aliquot (g or mL)	Final Vol.(mL)	Comments	pH <2
1	L38325-1	1.004	126		
2	-2	1.048			
3	-3	1.037			
4	-4	1.018			
5	-5	1.019			
6	-6	1.036			
7	-7	1.010		BKG	
8	-8	1.011			
9	-9	1.022			
10	L38326-1	1.019			

	Sample Number	Aliquot (g or mL)	Final Vol.(mL)	Comments	pH <2
11	L38326-2	1.022	126		
12	L38326-9	0.970		LD	
13	-10	1.007			
14	-11	0.986			
15	-12	0.995			
16	-13	0.990			
17	-14	1.027			
18	-15	1.000			
19					
20					

Batch Quality Control Samples

	QC Sample Number	QC Sample Description	Aliquot (g or mL)	Final Vol.(mL)	Solution ID #	Solution Conc.	Amount Used (uL)	pH <2
1	WG84810-1	SRM-NRCC PACS-2	0.195	126	MI-11-30			
2	WG84810-2	METHOD BLANK	1.050					
3	WG84810-3	SPIKE BLANK	1.050		Hg-06-~~030~~ 034 DC 3/14/06	2ppm	250	
4	WG84810-4	L38325-7 MS	1.033					
5	WG84810-5	MSD	0.990					
6	WG84810-6	L38326-9 LD	1.037					
7								
8								
9								

Calibration and Instrument Check Standards

prep date 3/14/06 by ST SM

	Standard Conc. (ppb or ppt)	Cal Std	Inst Chk Std	Aliquot (g or mL)	Final Vol.(mL)	Solution ID #	Solution Conc.	Amount Used (uL)
1	0	✓	✓	100	126			
2	0.2 (MDL)		✓			Hg-06-034	2ppm	10
3	1.0	✓						50
4	2.5	✓						125
5	5.0 (CCV)	✓	✓					250
6	10.0	✓						500
7	20.0	✓						1000
8	7.95 (ICV)		✓			MI-17-08	1.59 ppm	500
9								
10								
11								

* Standards, Samples and pre-digestion dilutions are based on a (100)/25/20 mL final volume

Reagent Solution ID #'s

$KMnO_4$	Hg-06-029	$K_2S_2O_8$	N/A	NH_2OH-HCl	Hg-06-017	$SnCl_2$	Hg-06-036

Comments:

A/M
5/23/06
MS

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

May 09 2006, 08:00 am

Work Group: WG84958 (BS#211 BNASMS) for Department: 7 - Organics, Trace

Created: 23-MAR-06 PrepDate: 24-MAR-06 Due: Operator: JG/KM

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	BNASMS	SALTWTRSED	PREP	U	27-MAR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	BNASMS	SALTWTRSED	PREP	U	27-MAR-06	27-APR-06
L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	BNASMS	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	BNASMS	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	BNASMS	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-4	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	BNASMS	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-5	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	BNASMS	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-6	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	BNASMS	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-7	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	BNASMS	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	BNASMS	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	BNASMS	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
WG84958-1	MB			S	BNASMS	OTHR SOLID	PREP	U	23-MAR-06	
WG84958-5	SRM		SED	S	BNASMS	SALTWTRSED	PREP	U	23-MAR-06	
WG84958-6	LD		SED	S	BNASMS	SALTWTRSED	PREP	U	23-MAR-06	
WG84958-7	SB			S	BNASMS	OTHR SOLID	PREP	U	23-MAR-06	
WG84958-8	MS		SED	S	BNASMS	SALTWTRSED	PREP	U	23-MAR-06	
WG84958-9	MSD		SED	S	BNASMS	SALTWTRSED	PREP	U	23-MAR-06	

Comments:

L38324-1	0-2 cm, 10 Grab Comp
L38324-2	0-2 cm, 2nd PSD every 10 samples
L38325-1	3 grab comp, 0-10 cm
L38325-2	3 grab comp, 0-10 cm
L38325-3	3 grab comp, 0-10 cm
L38325-4	3 grab comp, 0-10 cm
L38325-5	0-10 cm, AREP
L38325-6	0-10 cm, FREP
L38325-7	3 grab comp, 0-10 cm
L38325-8	3 grab comp, 0-10 cm
L38325-9	3 grab comp, 0-10 cm
WG84958-1	MB060324
WG84958-5	SRM1944
WG84958-6	L38325-5
WG84958-7	WG84958-1
WG84958-8	L38325-6
WG84958-9	WG84958-8 L38325-6

SOLID AND TISSUE SAMPLE EXTRACTION RECORD FOR BNA ANALYSES
TRACE ORGANICS LABORATORY

QC BATCH NO.: BS # 211 1:1 Acetone:MeCl2 WORKGROUP NO.: WG84958

EPA SW-846 EXTRACTION METHOD: BNASMS LL BNA SURROGATE SPIKE I.D.#: 1193

SONICATION EPA 3550 SOXHLET EPA 3540 LL BNA MATRIX SPIKE I.D.#: 1188A

Date/ Analyst	Sample Number	Project Number	Sample Description	coc	Init. Amt (g)	Spike Amount (uL)	Vf (mL)	Clean ups (GPC)	Conc. Anal.	Turn Over Date	Comments
JG/KM 03/24/06	WG84958-1	QC	MB		30.0	1193 ~~1164~~-100µl	0.5	YES	KM	3/29/06	JG 03/23/06
	-2		SB			1188A-100µl					
JG 03/23/06	-3		MS (L38324-2) ~~(L38234-2)~~								
JG 03/23/06	-4		MSD (L38324-2) ~~(L38234-2)~~								
	-5		SRM 1944		3.0	1164-100µl	5.0				
	-6		LD (L38325-5)		30.0	1193-100µl	0.5				
JG 03/23/06	-7		SB2 High ~~(L38325-6)~~			1188A-300µl					
	-8		MS 2 High (L38325-6)								
	-9		MSD2 High (L38325-6)								
	L38324-1	423368-80	Denny Way Sediment, Post Const			1193-100µl					
	L38324-2	423368-80	Denny Way Sediment, Post Const								
	L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring								
	-2										
	-3										
	-4										
	-5										
	-6										
	-7										*R.D. a bit low - ~1.0ml (Foaming).
	-8										
	-9										

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/09/06 08:33
Run ID: R113342 Workgroup: WG84958 (BS#211 BNASMS)

MB:WG84958-1 Matrix: OTHR SOLID Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-100-4 Pkey: SED
(Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Qual
Phenol	5.3	10.7	ug/Kg	<MDL	
1,3 Dichlorobenzene	27	.533	ug/Kg	<MDL	
1,4-Dichlorobenzene	.27	.533	ug/Kg	<MDL	
1,2-Dichlorobenzene	.27	.533	ug/Kg	<MDL	
2,4-Dimethylphenol	2.7	5.33	ug/Kg	<MDL	
1,2,4-Trichlorobenzene	.27	.533	ug/Kg	<MDL	
Naphthalene	2.7	5.33	ug/Kg	<MDL	
Hexachlorobutadiene	1.3	2.67	ug/Kg	<MDL	
Acenaphthylene	2.7	5.33	ug/Kg	<MDL	
Dimethyl Phthalate	5.3	10.7	ug/Kg	<MDL	
Acenaphthene	2.7	5.33	ug/Kg	<MDL	
Fluorene	2.7	5.33	ug/Kg	<MDL	
Diethyl Phthalate	5.3	10.7	ug/Kg	<MDL	
N-Nitrosodiphenylamine	5.3	10.7	ug/Kg	<MDL	
Hexachlorobenzene	.53	1.07	ug/Kg	<MDL	
Pentachlorophenol	13	26.7	ug/Kg	<MDL	
Phenanthrene	2.7	5.33	ug/Kg	<MDL	
Anthracene	2.7	5.33	ug/Kg	<MDL	
Di-N-Butyl Phthalate	5.3	10.7	ug/Kg	8.4	B
Fluoranthene	2.7	5.33	ug/Kg	<MDL	
Pyrene	2.7	5.33	ug/Kg	<MDL	
Benzyl Butyl Phthalate	5.3	10.7	ug/Kg	7.1	B
Benzo(a)anthracene	2.7	5.33	ug/Kg	<MDL	
Chrysene	2.7	5.33	ug/Kg	<MDL	
Bis(2-Ethylhexyl)Phthalate	5.3	10.7	ug/Kg	8.3	B
Di-N-Octyl Phthalate	5.3	10.7	ug/Kg	<MDL	
Benzo(b)fluoranthene	2.7	5.33	ug/Kg	<MDL	
Benzo(k)fluoranthene	2.7	5.33	ug/Kg	<MDL	
Benzo(a)pyrene	2.7	5.33	ug/Kg	<MDL	
Indeno(1,2,3-Cd)Pyrene	2.7	5.33	ug/Kg	<MDL	
Dibenzo(a,h)anthracene	2.7	5.33	ug/Kg	<MDL	
Benzo(g,h,i)perylene	2.7	5.33	ug/Kg	<MDL	
Benzyl Alcohol	5.3	10.7	ug/Kg	<MDL	
2-Methylphenol	5.3	10.7	ug/Kg	<MDL	
4-Methylphenol	5.3	10.7	ug/Kg	<MDL	
Benzoic Acid	13	26.7	ug/Kg	<MDL	
2-Methylnaphthalene	2.7	5.33	ug/Kg	<MDL	
Dibenzofuran	2.7	5.33	ug/Kg	<MDL	
Carbazole	2.7	5.33	ug/Kg	<MDL	
Coprostanol	53	107	ug/Kg	<MDL	
Caffeine	5.3	10.7	ug/Kg	<MDL	
Total LPAHs	2.7	5.33	ug/Kg	<MDL	
Total HPAHS	2.7	5.33	ug/Kg	<MDL	

SRM:WG84958-5 Matrix: SALTWTRSED Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-100-4 Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
Naphthalene	67	133	ug/Kg	1630	220	14		10-29
Phenanthrene	270	533	ug/Kg	5200	4600	88		51-106

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/09/06 08:33
Run ID: R113342 Workgroup: WG84958 (BS#211 BNASMS,

SRM:WG84958-5 Matrix: SALTWTRSED Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-100-4 Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
Anthracene	270	533	ug/Kg	1750	644	37		28-98
Fluoranthene	270	533	ug/Kg	8800	8980	102		45-126
Pyrene	270	533	ug/Kg	9570	8910	93		36-135
Benzo(a)anthracene	270	533	ug/Kg	4660	4290	92		66-124
Chrysene	270	533	ug/Kg	4800	5130	107		77-136
Benzo(b)fluoranthene	270	533	ug/Kg	3820	3510	92		52-190
Benzo(k)fluoranthene	270	533	ug/Kg	2270	2250	99		60-146
Benzo(a)pyrene	270	533	ug/Kg	4240	3550	84		60-116
Indeno(1,2,3-Cd)Pyrene	270	533	ug/Kg	2740	2200	80		33-121
Dibenzo(a,h)anthracene	270	533	ug/Kg	419.	622	149		10-200
Benzo(g,h,i)perylene	270	533	ug/Kg	2800	2480	88		15-121

LD:WG84958-6 L38325-5 Matrix: SALTWTRSED Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-100-4 Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimit
Phenol	5.3	10.7	ug/Kg	<MDL	5.6			35
1,3-Dichlorobenzene	.27	.533	ug/Kg	<MDL	<MDL			35
1,4-Dichlorobenzene	.27	.533	ug/Kg	<MDL	<MDL			35
1,2-Dichlorobenzene	.27	.533	ug/Kg	<MDL	<MDL			35
2,4-Dimethylphenol	2.7	5.33	ug/Kg	<MDL	<MDL			35
1,2,4-Trichlorobenzene	.27	.533	ug/Kg	<MDL	<MDL			35
Naphthalene	2.7	5.33	ug/Kg	<MDL	<MDL			35
Hexachlorobutadiene	1.3	2.67	ug/Kg	<MDL	<MDL			35
Acenaphthylene	2.7	5.33	ug/Kg	<MDL	<MDL			35
Dimethyl Phthalate	5.3	10.7	ug/Kg	<MDL	<MDL			35
Acenaphthene	2.7	5.33	ug/Kg	<MDL	<MDL			35
Fluorene	2.7	5.33	ug/Kg	<MDL	<MDL			35
Diethyl Phthalate	5.3	10.7	ug/Kg	<MDL	<MDL			35
N-Nitrosodiphenylamine	5.3	10.7	ug/Kg	<MDL	<MDL			35
Hexachlorobenzene	.53	1.07	ug/Kg	<MDL	<MDL			35
Pentachlorophenol	13	26.7	ug/Kg	<MDL	<MDL			35
Phenanthrene	2.7	5.33	ug/Kg	<MDL	<MDL			35
Anthracene	2.7	5.33	ug/Kg	<MDL	<MDL			35
Di-N-Butyl Phthalate	5.3	10.7	ug/Kg	5.9	9			35
Fluoranthene	2.7	5.33	ug/Kg	5.45	5.1	7		35
Pyrene	2.7	5.33	ug/Kg	5	4.9			35
Benzyl Butyl Phthalate	5.3	10.7	ug/Kg	7.9	8.2			35
Benzo(a)anthracene	2.7	5.33	ug/Kg	2.9	<MDL			35
Chrysene	2.7	5.33	ug/Kg	5.1	4.1			35
Bis(2-Ethylhexyl)Phthalate	5.3	10.7	ug/Kg	14.4	15.9	10		35
Di-N-Octyl Phthalate	5.3	10.7	ug/Kg	<MDL	<MDL			35
Benzo(b)fluoranthene	2.7	5.33	ug/Kg	5.91	5.41	9		35
Benzo(k)fluoranthene	2.7	5.33	ug/Kg	5.2	4.7			35
Benzo(a)pyrene	2.7	5.33	ug/Kg	5.74	5.83	2		35
Indeno(1,2,3-Cd)Pyrene	2.7	5.33	ug/Kg	3.2	3.1			35
Dibenzo(a,h)anthracene	2.7	5.33	ug/Kg	<MDL	<MDL			35
Benzo(g,h,i)perylene	2.7	5.33	ug/Kg	4	3.9			35
Benzyl Alcohol	5.3	10.7	ug/Kg	<MDL	<MDL			35
2-Methylphenol	5.3	10.7	ug/Kg	<MDL	<MDL			35

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/09/06 08:33
Run ID: R113342 Workgroup: WG84958 (BS#211 BNASMS)

LD:WG84958-6 L38325-5 Matrix: SALTWTRSED Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-100-4 Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimi
4-Methylphenol	5.3	10.7	ug/Kg	<MDL	<MDL			35
Benzoic Acid	13	26.7	ug/Kg	49.8	50	0		35
2-Methylnaphthalene	2.7	5.33	ug/Kg	<MDL	<MDL			35
Dibenzofuran	2.7	5.33	ug/Kg	<MDL	<MDL			35
Carbazole	2.7	5.33	ug/Kg	<MDL	<MDL			35
Coprostanol	53	107	ug/Kg	<MDL	<MDL			35
Caffeine	5.3	10.7	ug/Kg	<MDL	<MDL			35

SB:WG84958-7 MB:WG84958-1 Matrix: OTHR SOLID Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-100-4 Pkey: SED
(Spike Blank, Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Truevalue	SB Value	% Rec.	Qual	LabLimit
Phenol	5.3	10.7	ug/Kg	<MDL	400.	174	43		10-107
1,3-Dichlorobenzene	.27	.533	ug/Kg	<MDL	400.	139	35		18-95
1,4-Dichlorobenzene	.27	.533	ug/Kg	<MDL	400.	140	35		21-99
1,2-Dichlorobenzene	.27	.533	ug/Kg	<MDL	400.	147	37		10-116
2,4-Dimethylphenol	2.7	5.33	ug/Kg	<MDL	400.	8.69	2	*	10-81
1,2,4-Trichlorobenzene	.27	.533	ug/Kg	<MDL	400.	152	38		13-110
Naphthalene	2.7	5.33	ug/Kg	<MDL	400.	147	37		17-94
Hexachlorobutadiene	1.3	2.67	ug/Kg	<MDL	400.	141	35		10-97
Acenaphthylene	2.7	5.33	ug/Kg	<MDL	400.	202	51		31-101
Dimethyl Phthalate	5.3	10.7	ug/Kg	<MDL	400.	252	63		38-114
Acenaphthene	2.7	5.33	ug/Kg	<MDL	400.	190	47		29-102
Fluorene	2.7	5.33	ug/Kg	<MDL	400.	236	59		39-106
Diethyl Phthalate	5.3	10.7	ug/Kg	<MDL	400.	261	65		51-118
N-Nitrosodiphenylamine	5.3	10.7	ug/Kg	<MDL	400.	206	52		11-148
Hexachlorobenzene	.53	1.07	ug/Kg	<MDL	400.	243	61		40-111
Pentachlorophenol	13	26.7	ug/Kg	<MDL	400.	209	52		38-124
Phenanthrene	2.7	5.33	ug/Kg	<MDL	400.	247	62		57-104
Anthracene	2.7	5.33	ug/Kg	<MDL	400.	225	56		45-114
Di-N-Butyl Phthalate	5.3	10.7	ug/Kg	8.4	400.	269	65		17-180
Fluoranthene	2.7	5.33	ug/Kg	<MDL	400.	280	70		55-132
Pyrene	2.7	5.33	ug/Kg	<MDL	400.	269	67		48-132
Benzyl Butyl Phthalate	5.3	10.7	ug/Kg	7.1	400.	278	68		15-183
Benzo(a)anthracene	2.7	5.33	ug/Kg	<MDL	400.	277	69		69-117
Chrysene	2.7	5.33	ug/Kg	<MDL	400.	244	61	*	69-111
Bis(2-Ethylhexyl)Phthalate	5.3	10.7	ug/Kg	8.3	400.	278	67		10-182
Di-N-Octyl Phthalate	5.3	10.7	ug/Kg	<MDL	400.	280	70		10-200
Benzo(b)fluoranthene	2.7	5.33	ug/Kg	<MDL	400.	270	67		50-121
Benzo(k)fluoranthene	2.7	5.33	ug/Kg	<MDL	400.	261	65		58-128
Benzo(a)pyrene	2.7	5.33	ug/Kg	<MDL	400.	240	60		15-137
Indeno(1,2,3-Cd)Pyrene	2.7	5.33	ug/Kg	<MDL	400.	257	64		51-132
Dibenzo(a,h)anthracene	2.7	5.33	ug/Kg	<MDL	400.	254	64		53-129
Benzo(g,h,i)perylene	2.7	5.33	ug/Kg	<MDL	400.	249	62		46-126
Benzyl Alcohol	5.3	10.7	ug/Kg	<MDL	400.	164	41		10-119
2-Methylphenol	5.3	10.7	ug/Kg	<MDL	400.	110	28		16-91
4-Methylphenol	5.3	10.7	ug/Kg	<MDL	400.	124	31		10-125
Benzoic Acid	13	26.7	ug/Kg	<MDL	400.	69.6	17		10-170
2-Methylnaphthalene	2.7	5.33	ug/Kg	<MDL	400.	171	43		22-99
Dibenzofuran	2.7	5.33	ug/Kg	<MDL	400.	216	54		37-97

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/09/06 08:33
Run ID: R113342 Workgroup: WG84958 (BS#211 BNASMS)

SB:WG84958-7 MB:WG84958-1 Matrix: OTHR SOLID Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-100-4 Pkey: SED
(Spike Blank, Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Truevalue	SB Value	% Rec.	Qual	LabLimit
Carbazole	2.7	5.33	ug/Kg	<MDL	400.	249	62		44-179
Coprostanol	53	107	ug/Kg	<MDL	4000	2560	64		10-159
Caffeine	5.3	10.7	ug/Kg	<MDL	400.	293	73		45-159
Total LPAHs	2.7	5.33	ug/Kg	<MDL	2800	1420			
Total HPAHS	2.7	5.33	ug/Kg	<MDL	4000	2600			

MSD:WG84958-9 MS:WG84958-8 L38325-6 Matrix: SALTWTRSED Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-100-4 Pkey: SED
(Matrix Spike Duplicate, Matrix Spike)

Parameter	Mdl	Rdl	Units	SampValue	Truevalue	MS Value	% Rec.	Qual	LabLimit	Truevalue	MSD Value	% Rec.	Qual	RPD	Qual	Lablimit
Phenol	5.3	10.7	ug/Kg	<MDL	400.	145	36		10-127	400.	204	51		34		35
1,3-Dichlorobenzene	.27	.533	ug/Kg	<MDL	400.	113	28		10-103	400.	154	38		30		35
1,4-Dichlorobenzene	.27	.533	ug/Kg	<MDL	400.	113	28		10-104	400.	160	40		35		35
1,2-Dichlorobenzene	.27	.533	ug/Kg	<MDL	400.	122	30		10-105	400.	164	41		31		35
2,4-Dimethylphenol	2.7	5.33	ug/Kg	<MDL	400.	8.31	2	X	10-150	400.	11.4	3	*	40	*	35
1,2,4-Trichlorobenzene	.27	.533	ug/Kg	<MDL	400.	125	31		10-115	400.	173	43		32		35
Naphthalene	2.7	5.33	ug/Kg	<MDL	400.	121	30		12-97	400.	166	42		33		35
Hexachlorobutadiene	1.3	2.67	ug/Kg	<MDL	400.	115	29		10-97	400.	167	42		37	*	35
Acenaphthylene	2.7	5.33	ug/Kg	<MDL	400.	160	40		27-132	400.	204	51		24		35
Dimethyl Phthalate	5.3	10.7	ug/Kg	<MDL	400.	206	52		13-162	400.	249	62		18		35
Acenaphthene	2.7	5.33	ug/Kg	<MDL	400.	153	38		25-130	400.	194	48		23		35
Fluorene	2.7	5.33	ug/Kg	<MDL	400.	203	51		22-147	400.	242	61		18		35
Diethyl Phthalate	5.3	10.7	ug/Kg	<MDL	400.	233	58		31-150	400.	283	71		20		35
N-Nitrosodiphenylamine	5.3	10.7	ug/Kg	<MDL	400.	193	48		10-169	400.	235	59		21		35
Hexachlorobenzene	.53	1.07	ug/Kg	<MDL	400.	221	55		18-151	400.	278	69		23		35
Pentachlorophenol	13	26.7	ug/Kg	<MDL	400.	213	53		17-170	400.	278	69		26		35
Phenanthrene	2.7	5.33	ug/Kg	4	400.	234	57		10-200	400.	290	71		22		35
Anthracene	2.7	5.33	ug/Kg	<MDL	400.	208	52		10-181	400.	247	62		18		35
Di-N-Butyl Phthalate	5.3	10.7	ug/Kg	9	400.	260	63		10-194	400.	343	84		29		35
Fluoranthene	2.7	5.33	ug/Kg	10	400.	276	67		12-188	400.	351	85		24		35
Pyrene	2.7	5.33	ug/Kg	10.2	400.	275	66		20-174	400.	349	85		25		35
Benzyl Butyl Phthalate	5.3	10.7	ug/Kg	8.6	400.	266	64		41-145	400.	350	85		28		35
Benzo(a)anthracene	2.7	5.33	ug/Kg	5.39	400.	264	65		32-168	400.	340	84		26		35
Chrysene	2.7	5.33	ug/Kg	8.38	400.	240	58		14-184	400.	314	76		27		35
Bis(2-Ethylhexyl)Phthalate	5.3	10.7	ug/Kg	37.3	400.	282	61		10-189	400.	369	83		31		35
Di-N-Octyl Phthalate	5.3	10.7	ug/Kg	<MDL	400.	274	68		52-151	400.	369	92		30		35
Benzo(b)fluoranthene	2.7	5.33	ug/Kg	9.75	400.	229	55		10-199	400.	334	81		38	*	35
Benzo(k)fluoranthene	2.7	5.33	ug/Kg	8.44	400.	281	68		10-192	400.	335	82		19		35
Benzo(a)pyrene	2.7	5.33	ug/Kg	8.74	400.	238	57		10-200	400.	307	75		27		35
Indeno(1,2,3-Cd)Pyrene	2.7	5.33	ug/Kg	4.8	400.	243	59		10-177	400.	319	79		29		35
Dibenzo(a,h)anthracene	2.7	5.33	ug/Kg	<MDL	400.	240	60		10-166	400.	318	79		27		35
Benzo(g,h,i)perylene	2.7	5.33	ug/Kg	5.58	400.	234	57		10-173	400.	308	76		29		35
Benzyl Alcohol	5.3	10.7	ug/Kg	<MDL	400.	132	33		10-138	400.	184	46		33		35
2-Methylphenol	5.3	10.7	ug/Kg	<MDL	400.	88.3	22		10-142	400.	132	33		40	*	35
4-Methylphenol	5.3	10.7	ug/Kg	<MDL	400.	96	24		10-163	400.	141	35		37	*	35
Benzoic Acid	13	26.7	ug/Kg	45.7	400.	168	30		10-158	400.	234	47		44	*	35

Matrix Spike Duplicate Report
MSD:WG84958-9 MS:WG84958-8 L38325-6 Matrix: SALTWTRSED Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-100-4 Pkey: SED
(Matrix Spike Duplicate, Matrix Spike)

Parameter	Mdl	Rdl	Units	SampValue	Truevalue	MS Value	% Rec.	Qual	LabLimit	Truevalue	MSD Value	% Rec.	Qual	RPD	Qual	Lablimit
2-Methylnaphthalene	2.7	5.33	ug/Kg	<MDL	400.	136	34		22-112	400.	184	46		30		35
Dibenzofuran	2.7	5.33	ug/Kg	<MDL	400.	179	45		21-134	400.	221	55		20		35
Carbazole	2.7	5.33	ug/Kg	<MDL	400.	231	58		16-200	400.	298	74		24		35
Coprostanol	53	107	ug/Kg	<MDL	4000	2160	54		10-183	4000	2730	68		23		35
Caffeine	5.3	10.7	ug/Kg	<MDL	400.	269	67		17-195	400.	350	88		27		35
Total LPAHs	2.7	5.33	ug/Kg	5.3	2800	1220				2800	1530					
Total HPAHS	2.7	5.33	ug/Kg	73.3	4000	2520				4000	3280					

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/09/06 08:33
Run ID: R113342 Workgroup: WG84958 (BS#211 BMASMS)

Sample #	2-Fluorophenol	d5-Phenol	d5-Nitrobenzene	d4 2-Chlorophenol	d4-1,2-Dichlorobenzene	2-Fluorobiphenyl	2,4,6 Tribromophenol	d14-Terphenyl
(Lab Limits)	10-112	10-106	28-94	11-105	24-91	31-101	29-112	51-130
L38324-1	54	61	66	66	46	76	80	87
L38324-2	51	54	66	58	51	73	86	97
L38325-1	54	44	59	53	52	86	119 L	95
L38325-2	50	36	51	51	49	69	85	83
L38325-3	42	53	53	45	52	86	101	99
L38325-4	53	50	53	56	50	76	93	91
L38325-5	43	53	52	55	45	59	72	84
L38325-6	29	39	42	39	36	55	70	99
L38325-7	45	43	43	47	42	71	94	102
L38325-8	44	55	52	54	42	68	104	99
L38325-9	58	68	66	69	47	72	75	93
WG84958-1	27	43	52	41	45	54	23 G	75
WG84958-5	47	64	55	64	43	82	94	100
WG84958-6	36	39	50	43	42	56	63	83
WG84958-7	37	43	39	41	36	44	50	70
WG84958-8	31	36	32	34	30	35	49	66
WG84958-9	44	51	44	49	41	46	64	86

Trace Organics Data Anomaly Form

Date(s) Occurred: *06/03/30, 06/04/12, 06/04/26, 06/05/02*

WG #(s): *WG84958*

☐ **All samples in WKGP(s) or Sample #(s):** *Various samples*

Project #(s): *423062-100-004*

Matrix: ☐ **Liquid** ☒ **Solid** ☐ **Air** ☐ **Tissue** ☐ **Calibration** ☐ **Other:**

I. Analysis/Extraction

☐ BNA	☐ BNALL	☐ EDC	☐ EDC-LVI
☐ CLPESTPCB	☐ PEST	☐ PCB	☐ OPPEST
☐ VOA-GCMS	☐ NWTPH-GX	☐ NWTPH-DX	☐ NWTPH-HCID
☐ BUTYL TIN	☐ AIRTOX	☐ AIR-SULFUR	
☒ Other: *BNASMS*			
☐ Subcontracted:			

II. Instrument

GC/ICP/MS:	☐ P
GC/MS:	☐ D ☐ E ☒ J ☐ K ☐ L ☐ M ☐ N
GC:	☐ F ECD ☐ G ECD ☐ H FID ☐ H OI4450PID/FID
	☐ I FID
Extraction/Cleanup:	☐ PFE ☐ GPC
	☐ Other:

III. Type of Sample/Analytical Anomaly

☒ Values Outside of Control Limits:

1 ☒ Blank Contamination	8 ☐ Surrogate Spike Recoveries
2 ☐ SB/SBD Spike Recoveries	9 ☐ SB/SBD RPD
3 ☒ MS/MSD Spike Recoveries	10 ☐ MS/MSD RPD
4 ☐ LCS/SRM Recoveries	11 ☐ Sample/LD RPD
5 ☐ Initial Calibration	12 ☒ Continuing Calibration Checks
6 ☐ Performance Checks	13 ☒ Tuning Criteria
7 ☒ ISTD % Differences	

14 ☐ Holding time exceeded by:
15 ☐ Insufficient sample amount.
16 ☐ Inappropriate storage, container or preservation.
17 ☒ Other

Anomaly Description:
1. The MB contained reportable levels of Di-N-Butyl Phthalate, ButylBenzyl Phthalate, and Bis (2EH) Phthalate. The levels are consistant with sediment extractions and are attributed to lab background. All sample are flagged "B".

3. The BS/MS/MSD recoveries for 2,4-Dimethylphenol were less than 10% and flagged with an X with the text notation " Flag due to, < 10% MS/MSD recoveries". Low recoveries for 2-4-Dimethylphenol have been reported in past sediment analyses. All other phenolic compounds were recovered within QA/QC limits. The dimethylphenol appears to be an isolated case and reqiures further investigation.

7. Initial analyses of WG84958 on 06/03/30 had most of the samples failing ISTD % differences QA/QC. Sample were re-analyzed on 06/04/12 with L38325-3 and L38325-9 failing ISTD % differencs criteria. Sample L38325-3 was re-analyzed on 06/04/26 and L38325-9 was re-analyzed on 06/05/02. Both samples passed ISTD % difference.

12. CCALI-01 on 06/04/26 for phenol exceeded 20 % (23.3%) compared to the calibration curve. Since the failure was due to an increase in sensitivity for phenol analyses was continued. No phenol was reported in L38325-3. CCALI-01 on 06/05/02 for acenaphthylene exceeded 20% (21.1%) compared to the calibration curve. Since the failure was due to an increase in sensitivity analyses was continued. For pentachlorophenol, the CCALI-01 exceeded 25% (30%) compared to the calibration curve. Since the failure was due to a loss of sentivity, any reportable pentachlorophenol would be quantitated against the daliy standard. The batch for 060502.b were reanalyses due to ISTDS failures and no pentachlorophenol was found in the original analyses.

13. Injection of L38325-8 exceeded the initial 12 hour DFTPP-01 shift by 23 minutes. DFTPP-02 was injected approximately 2 hours passed the 12 shift of DFTPP-01 but passed all QA/QA tuning criteria.

17. Initial analyses of WG84958 yielded dilution information for samples L38324-1, -2 and L38325-1, L38325-2. The diluted samples were re-analyzed on 06/04/12. L38324-1, -2 were analyzed to diluted on 06/04/12. The original extracted were re-analyzed again on 06/05/02.

IV. Type of Project Anomaly

- [x] SAP/Work Plan specified MDLs not met.
- [ ] SAP/Work Plan specified QC frequency or QC type not met.
- [ ] SAP/Work Plan specified methodology not used.
- [ ] Sample exceeds regulatory and/or hazardous waste limits.
- [ ] Sample data results are unusual or inconsistent with expected results.
- [ ] Other

Anomaly Description: *For the diluted samples L38325-1, -2, the MDLs/RDLs are corrected for the dilution.*

V. Corrective Action Taken

- [x] Sample(s) re-analyzed
- [ ] Sample(s) re-prepared and re-analyzed
- [x] Sample(s) reported "AS IS"
- [x] Data qualified with the following flags: *X*
- [ ] Other

Corrective Action Description: *see anomaly description*

VI. Potential Effects on Data Quality

Based upon the expected performance of this method:

☐ It is likely the observed anomaly influenced the reported value(s).
☒ It is unlikely the observed anomaly influenced the reported value(s).
☐ The observed anomaly may have influenced the reported value(s).
☐ It is unknown whether or not the observed anomaly affected the reported value(s).

Explanation:

	Signatures	Signature Dates
Reported By: *Doubrava*		5/17/06
Reviewer:		
Supervisor: *Dana Walker*	Dana Walker	5/22/06
QA Officer: *Colin Elliott* (For QA1 only)	Colin Elliott	5/23/06
cc: LPM: *F. Grothkopp*		

Batch: \\orgizmo\EE\chem\6890j.i\060412.b

#	Smp. #	Injection Time	Wkgp. #	QC #	Project #	Sample Description	Matrix	Amount	DilFac	IS#2-RT	IS#2-Area	Method	Init Cali	Analyst
1	DFTPP-1	12-APR-2006 08:13	SDGa0971	SDGa09		10 NG/UL DFTPP MIX	NONE	0.000	1.0	13.449	208640	DFTPP.m		M.Doubrava
2	CCALI-01	12-APR-2006 08:48	SDGa0282	SDGa02		SS#1263 D 6.00 PPM BNA STD	SOIL	0.000	1.0	8.611	1002912	8270b1.m	11-APR-2006	M.Doubrava
3	BLANK-02	12-APR-2006 09:30	SDGa0282	SDGa02		MECL2	SOIL	0.000	1.0	0.000	0	8270B1.m	11-APR-2006	M.Doubrava
4	WG84958-1	12-APR-2006 10:11	WG84958	BS#211		WG84958-1 MB DU/DI CAP	SOIL	18.750	0.5	8.620	1064207	8270b1.m	11-APR-2006	M.Doubrava
5	WG84958-7	12-APR-2006 10:53	WG84958	BS#211		WG84958-7 SB DU/DI CAP	SOIL	18.750	0.5	8.612	1432513	8270b1.m	11-APR-2006	M.Doubrava
6	WG84958-8	12-APR-2006 11:34	WG84958	BS#211		WG84958-8 MS L38325-6 DU/DI	SOIL	18.750	0.5	8.611	839513	8270b1.m	11-APR-2006	M.Doubrava
7	WG84958-9	12-APR-2006 12:16	WG84958	BS#211		WG84958-9 MSD L38325-6 DU/DI	SOIL	18.750	0.5	8.611	795035	8270b1.m	11-APR-2006	M.Doubrava
8	WG84958-5	12-APR-2006 12:57	WG84958	BS#211		WG84958-5 SRM 1944 DU/DI CAP	SOIL	1.875	5.0	8.611	1783545	8270b1.m	11-APR-2006	M.Doubrava
9	WG84958-6	12-APR-2006 13:39	WG84958	BS#211		WG84958-6 LD L38325-5 DU/DI	SOIL	18.750	0.5	8.621	700350	8270b1.m	11-APR-2006	M.Doubrava
10	L38325-5	12-APR-2006 14:21	WG84958	BS#211		L38325-5 DU/DI CAP	SOIL	18.750	0.5	8.620	1451358	8270b1.m	11-APR-2006	M.Doubrava
11	L38325-6	12-APR-2006 15:03	WG84958	BS#211		L38325-5 DU/DI CAP	SOIL	18.750	0.5	8.620	1205546	8270b1.m	11-APR-2006	M.Doubrava
12	L38324-1X	12-APR-2006 15:45	WG84958	BS#211		L38324-1 X 5 DIL DENNY POST	SOIL	18.750	2.5	8.611	628916	8270B1.m	11-APR-2006	M.Doubrava
13	L38324-2X	12-APR-2006 16:27	WG84958	BS#211		L38324-2 X 5 DIL DENNY POST	SOIL	18.750	2.5	8.611	575900	8270B1.m	11-APR-2006	M.Doubrava
14	L38325-1	12-APR-2006 17:08	WG84958	BS#211		L38325-1 X 10 DIL DU/DI CAP	SOIL	18.750	5.0	8.621	1344070	8270b1.m	11-APR-2006	M.Doubrava
15	L38325-2	12-APR-2006 17:50	WG84958	BS#211		L38325-2 X 5 DIL DU/DI CAP	SOIL	18.750	2.5	8.620	533068	8270b1.m	11-APR-2006	M.Doubrava
16	L38325-3	12-APR-2006 18:32	WG84958	BS#211		L38325-3 DU/DI CAP	SOIL	18.750	0.5	8.620	213003	8270B1.m	11-APR-2006	M.Doubrava
17	L38325-4	12-APR-2006 19:13	WG84958	BS#211		L38325-4 DU/DI CAP	SOIL	18.750	0.5	8.621	557987	8270b1.m	11-APR-2006	M.Doubrava
18	L38325-7	12-APR-2006 19:54	WG84958	BS#211		L38325-7 DU/DI CAP	SOIL	18.750	0.5	8.621	557667	8270b1.m	11-APR-2006	M.Doubrava
19	L38325-8	12-APR-2006 20:36	WG84958	BS#211		L38325-8 DU/DI CAP	SOIL	18.750	0.5	8.639	1244465	8270b1.m	11-APR-2006	M.Doubrava
20	L38325-9	12-APR-2006 21:17	WG84958	BS#211		L38325-9 DU/DI CAP	SOIL	18.750	0.5	8.639	550112	8270B1.m	11-APR-2006	M.Doubrava
21	BLANK-03	12-APR-2006 21:59	SDGa0282	SDGa02		MECL2	SOIL	0.000	1.0	0.000	0	8270B1.m	11-APR-2006	M.Doubrava
22	DFTPP-2	12-APR-2006 22:40	SDGa0971	SDGa09		10 NG/UL DFTPP MIX	NONE	0.000	1.0	13.458	90976	DFTPP.m		M.Doubrava
23	CCALI-02	12-APR-2006 23:15	SDGa0282	SDGa02		SS#1263 D 6.00 PPM BNA STD	SOIL	0.000	1.0	8.620	624207	8270B1.m	11-APR-2006	M.Doubrava

Samples: 12 **QC Samples + Misc.: 8** **ContinuingCals: 1** **Tunes: 2** **Calibrations: 0**

CBE 5/22/06

Sequence Name: C:\MSDChem\1\sequence\060412.s
Comment:
Operator:
Data Path: C:\MSDChem\1\data\060412\

Top Pre-Seq Cmd:
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Top Post-Seq Cmd:
Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line			Sample Name/Misc Info		
1)	Sample	1	cond-01	8270B1	cond
2)	Blank	2	BLANK-01	8270B1	MECL2
3)	Tune	3	DFTPP-1	DFTPP	10 NG/UL DFTPP MIX
4)	Sample	4	CCALI-01	8270B1	SS#1263 D 6.00 PPM BNA STD
5)	Inst. Blk	2	BLANK-02	8270B1	MECL2
6)	Blank	5			
	Datafile		WG84958-1		
	Method		8270B1		
7)	SB	6			
	Datafile		WG84958-7		
	Method		8270B1		
8)	MS	7			
	Datafile		WG84958-8		
	Method		8270B1		
9)	MSD	8			
	Datafile		WG84958-9		
	Method		8270B1		
10)	SRM	9			
	Datafile		WG84958-5		
	Method		8270B1		
11)	LD	10			
	Datafile		WG84958-6		
	Method		8270B1		
12)	Sample	11	L38325-5	8270B1	L38325-5 DU/DI CAP
13)	Sample	12	L38325-6	8270B1	L38325-5 DU/DI CAP
14)	Sample	13			
	Datafile		L38324-1X		
	Method		8270B1		
15)	Sample	14			
	Datafile		L38324-2X		
	Method		8270B1		
16)	Sample	15			
	Datafile		L38325-1X		
	Method		8270B1		
17)	Sample	16			
	Datafile		L38325-2X		
	Method		8270B1		
18)	Sample	17	L38325-3	8270B1	L38325-3 DU/DI CAP
19)	Sample	18	L38325-4	8270B1	L38325-4 DU/DI CAP
20)	Sample	19	L38325-7	8270B1	L38325-7 DU/DI CAP
21)	Sample	20	L38325-8	8270B1	L38325-8 DU/DI CAP
22)	Sample	21	L38325-9	8270B1	L38325-9 DU/DI CAP
23)	Blank	2	BLANK-03	8270B1	MECL2
24)	Tune	3	DFTPP-2	DFTPP	10 NG/UL DFTPP MIX
25)	Sample	4	CCALI-02	8270B1	SS#1263 D 6.00 PPM BNA STD

Batch: \\orgizmo\EE\chem\6890j.i\060426.b

#	Smp. #	Injection Time	Wkgp. #	QC #	Project #	Sample Description	Matrix	Amount	DilFac	IS#2-RT	IS#2-Area	Method	Init Cali	Analyst
1	DFTPP-1	26-APR-2006 12:44	SDGa0971	SDGa09		10 NG/UL DFTPP MIX	NONE	0.000	1.0	13.383	443136	DFTPP.m		M.Doubrava
2	CCALI-01	26-APR-2006 13:19	SDGa0282	SDGa02		SS#1263 D 6.00 PPM BNA STD	SOIL	0.000	1.0	8.575	1257055	8270B1.m	11-APR-2006	M.Doubrava
3	BLANK-02	26-APR-2006 14:00	SDGa0282	SDGa02		MECL2	SOIL	0.000	1.0	0.000	0	8270B1.m	11-APR-2006	M.Doubrava
4	L38327-2	26-APR-2006 14:42	WG84979	BS#212		L38327-2 DU/DI CAP	SOIL	18.750	0.5	8.584	1332900	8270b1.m	11-APR-2006	M.Doubrava
5	L38327-3	26-APR-2006 15:23	WG84979	BS#212		L38327-3 DU/DI CAP	SOIL	18.750	0.5	8.584	1164158	8270b1.m	11-APR-2006	M.Doubrava
6	L38327-4	26-APR-2006 16:05	WG84979	BS#212		L38327-4 DU/DI CAP	SOIL	18.750	0.5	8.584	1064389	8270b1.m	11-APR-2006	M.Doubrava
7	L38327-5	26-APR-2006 16:47	WG84979	BS#212		L38327-5 DU/DI CAP	SOIL	18.750	0.5	8.584	1014821	8270b1.m	11-APR-2006	M.Doubrava
8	L38327-6	26-APR-2006 17:28	WG84979	BS#212		L38327-6 DU/DI CAP	SOIL	18.750	0.5	8.584	846484	8270b1.m	11-APR-2006	M.Doubrava
9	L38327-7	26-APR-2006 18:10	WG84979	BS#212		L38327-7 DU/DI CAP	SOIL	18.750	0.5	8.584	1241488	8270b1.m	11-APR-2006	M.Doubrava
10	L38327-8	26-APR-2006 18:51	WG84979	BS#212		L38327-8 DU/DI CAP	SOIL	18.750	0.5	8.584	978834	8270b1.m	11-APR-2006	M.Doubrava
11	L38325-3	26-APR-2006 19:33	WG84958	BS#211		L38325-3 DU/DI CAP	SOIL	18.750	0.5	8.584	1026256	8270b1.m	11-APR-2006	M.Doubrava
12	L38325-10	26-APR-2006 20:14	WG84958	BS#211		L38325-10 DU/DI CAP	SOIL	18.750	0.5	8.593	1008808	8270b1.m	11-APR-2006	M.Doubrava
13	L38325-11	26-APR-2006 20:56	WG84958	BS#211		L38325-11 DU/DI CAP	SOIL	18.750	0.5	8.593	693330	8270b1.m	11-APR-2006	M.Doubrava
14	L38325-14	26-APR-2006 21:37	WG84958	BS#211		L38325-14 DU/DI CAP	SOIL	18.750	0.5	8.593	700637	8270b1.m	11-APR-2006	M.Doubrava
15	DFTPP-2	26-APR-2006 22:18	SDGa0971	SDGa09		10 NG/UL DFTPP MIX	NONE	0.000	1.0	13.392	242304	DFTPP.m		M.Doubrava
16	CCALI-02	26-APR-2006 22:53	SDGa0282	SDGa02		SS#1263 D 6.00 PPM BNA STD	SOIL	0.000	1.0	8.584	711777	8270b1.m	11-APR-2006	M.Doubrava

Samples: 12 **QC Samples + Misc.: 1** **ContinuingCals: 1** **Tunes: 2** **Calibrations: 0**

Comment:
Operator:
Data Path: C:\MSDChem\1\data\060426\

Top Pre-Seq Cmd:
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Top Post-Seq Cmd:
Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line			Sample Name/Misc Info		
1)	Tune	3	DFTPP-1	DFTPP	10 NG/UL DFTPP MIX
2)	Sample	4	CCALI-01	8270B1	SS#1263 D 6.00 PPM BNA STD
3)	Inst. Blk	2	BLANK-02	8270B1	MECL2
4)	Sample	5	L38327-2	8270B1	L38327-2 DU/DI CAP
5)	Sample	6	L38327-3	8270B1	L38327-3 DU/DI CAP
6)	Sample	7	L38327-4	8270B1	L38327-4 DU/DI CAP
7)	Sample	8	L38327-5	8270B1	L38327-5 DU/DI CAP
8)	Sample	9	L38327-6	8270B1	L38327-6 DU/DI CAP
9)	Sample	10	L38327-7	8270B1	L38327-7 DU/DI CAP
10)	Sample	11	L38327-8	8270B1	L38327-8 DU/DI CAP
11)	Sample	12	L38325-3	8270B1	L38325-3 DU/DI CAP
12)	Sample	13			
	Datafile		L38325-10		
	Method		8270B1		
13)	Sample	14			
	Datafile		L38325-11		
	Method		8270B1		
14)	Sample	15			
	Datafile		L38325-14		
	Method		8270B1		
15)	Tune	3	DFTPP-2	DFTPP	10 NG/UL DFTPP MIX
16)	Sample	4	CCALI-02	8270B1	SS#1263 D 6.00 PPM BNA STD

Batch: \\orgizmo\EE\chem\6890j.i\060502.b

#	Smp. #	Injection Time	Wkgp. #	QC #	Project #	Sample Description	Matrix	Amount	DilFac	IS#2-RT	IS#2-Area	Method	Init Cali	Analyst
1	COND-01	02-MAY-2006 08:07	SDGa0282	SDGa02		cond	SOIL	0.000	1.0	20.039	523537	8270B1.m	11-APR-2006	M.Doubrava
2	BLANK-01	02-MAY-2006 08:48	SDGa0282	SDGa02		MECL2	SOIL	0.000	1.0	0.000	0	8270B1.m	11-APR-2006	M.Doubrava
3	DFTPP-1	02-MAY-2006 09:30	SDGa0971	SDGa09		10 NG/UL DFTPP MIX	NONE	0.000	1.0	13.345	146624	DFTPP.m		M.Doubrava
4	CCALI-01	02-MAY-2006 10:04	SDGa0282	SDGa02		SS#1263 D 6.00 PPM BNA STD	SOIL	0.000	1.0	8.547	559772	8270b1.m	11-APR-2006	M.Doubrava
5	BLANK-02	02-MAY-2006 10:46	SDGa0282	SDGa02		MECL2	SOIL	0.000	1.0	0.000	0	8270B1.m	11-APR-2006	M.Doubrava
6	L38325-9	02-MAY-2006 11:27	WG84958	BS#211		L38325-9 DU/DI CAP	SOIL	18.750	0.5	8.556	439068	8270b1.m	11-APR-2006	M.Doubrava
7	L38326-1X	02-MAY-2006 12:08	WG84979	BS#212		L38326-1 X 10 DIL DU/DI CAP	SOIL	18.750	5.0	8.556	494685	8270b1.m	11-APR-2006	M.Doubrava
8	L38326-2X	02-MAY-2006 12:50	WG84979	BS#212		L38326-2 X 10 DIL DU/DI CAP	SOIL	18.750	5.0	8.556	560599	8270b1.m	11-APR-2006	M.Doubrava
9	WG84979-6X	02-MAY-2006 13:31	WG84979	BS#212		WG84979-6 X 10 DIL DU/DI CAP	SOIL	18.750	5.0	8.556	490079	8270b1.m	11-APR-2006	M.Doubrava
10	L38324-1	02-MAY-2006 14:13	WG84958	BS#211		L38324-1 DENNY WAY	SOIL	18.750	0.5	8.556	427434	8270B1.m	11-APR-2006	M.Doubrava
11	L38324-2	02-MAY-2006 14:54	WG84958	BS#211		L38324-2 DENNY WAY	SOIL	18.750	0.5	8.556	510537	8270B1.m	11-APR-2006	M.Doubrava
12	BLANK-03	02-MAY-2006 15:36	SDGa0282	SDGa02		MECL2	SOIL	0.000	1.0	0.000	0	8270B1.m	11-APR-2006	M.Doubrava
13	DFTPP-2	02-MAY-2006 16:17	SDGa0971	SDGa09		10 NG/UL DFTPP MIX	NONE	0.000	1.0	13.350	137408	DFTPP.m		M.Doubrava
14	CCALI-02	02-MAY-2006 16:52	SDGa0282	SDGa02		SS#1263 D 6.00 PPM BNA STD	SOIL	0.000	1.0	8.556	681306	8270B1.m	11-APR-2006	M.Doubrava

Samples: 8 **QC Samples + Misc.: 3** **ContinuingCals: 1** **Tunes: 2** **Calibrations: 0**

Comment:
Operator:
Data Path: C:\MSDChem\1\data\060502\

Top Pre-Seq Cmd:
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

Top Post-Seq Cmd:
Instrument Control Post-Seq Cmd:
Data Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line			Sample Name/Misc Info		
1)	Sample	1	cond-01	8270B1	cond
2)	Blank	2	BLANK-01	8270B1	MECL2
3)	Tune	3	DFTPP-1	DFTPP	10 NG/UL DFTPP MIX
4)	Sample	4	CCALI-01	8270B1	SS#1263 D 6.00 PPM BNA STD
5)	Inst. Blk	2	BLANK-02	8270B1	MECL2
6)	Sample	5	L38325-9	8270B1	L38325-9 DU/DI CAP
7)	Sample	6			
	Datafile		L38326-1X		
	Method		8270B1		
8)	Sample	7			
	Datafile		L38326-2X		
	Method		8270B1		
9)	Sample	8			
	Datafile		WG84979-6X		
	Method		8270B1		
10)	Sample	9	L38324-1	8270B1	L38324-1 DENNY WAY
11)	Sample	10	L38324-2	8270B1	L38324-2 DENNY WAY
12)	Blank	2	BLANK-03	8270B1	MECL2
13)	Tune	3	DFTPP-2	DFTPP	10 NG/UL DFTPP MIX
14)	Sample	4	CCALI-02	8270B1	SS#1263 D 6.00 PPM BNA STD

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

Apr 11 2006, 02:13 pm

Work Group: WG85104 (PPLLS#51 PESTLL) for Department: 7 - Organics, Trace

Created: 05-APR-06 PrepDate: 06-APR-06 Due: Operator: JG/KM

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	PESTLL	SALTWTRSED	PREP	U	27-MAR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	PESTLL	SALTWTRSED	PREP	U	27-MAR-06	27-APR-06
L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-4	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-5	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-6	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-7	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
WG85104-1	MB			S	PESTLL	OTHR SOLID	PREP	U	05-APR-06	
WG85104-2	SB			S	PESTLL	OTHR SOLID	PREP	U	05-APR-06	
WG85104-3	MS		SED	S	PESTLL	SALTWTRSED	PREP	U	05-APR-06	
WG85104-4	MSD		SED	S	PESTLL	SALTWTRSED	PREP	U	05-APR-06	
WG85104-5	SRM		SED	S	PESTLL	SALTWTRSED	PREP	U	05-APR-06	
WG85104-6	LD		SED	S	PESTLL	SALTWTRSED	PREP	U	05-APR-06	

Comments:

L38324-1	0-2 cm, 10 Grab Comp
L38324-2	0-2 cm, 2nd PSD every 10 samples
L38325-1	3 grab comp, 0-10 cm
L38325-2	3 grab comp, 0-10 cm
L38325-3	3 grab comp, 0-10 cm
L38325-4	3 grab comp, 0-10 cm
L38325-5	0-10 cm, AREP
L38325-6	0-10 cm, FREP
L38325-7	3 grab comp, 0-10 cm
L38325-8	3 grab comp, 0-10 cm
L38325-9	3 grab comp, 0-10 cm
WG85104-1	MB060406
WG85104-2	WG85104-1
WG85104-3	L38325-6
WG85104-4	WG85104-3 L38325-6
WG85104-5	SRM1944
WG85104-6	L38325-8

SOLID AND TISSUE SAMPLE EXTRACTION RECORD FOR PESTICIDE-LL/PCB-LL ANALYSIS
TRACE ORGANICS LABORATORY

1:1 MeCL2:ACETONE

PCBLL/PESTLL

PEST-LL WORKGROUP NO.: WG85104
PCB-LL WORKGROUP NO.: WG85105
LL PESTICIDE SURROGATE SPIKE I.D. # 1260
LL PESTICIDE MATRIX SPIKE I.D. # 1163.1
LL PCB MATRIX SPIKE I.D. # 1261

QC BATCH NO.: PPLLS # 51

EPA SW-846 EXTRACTON METHOD:
SONICATION EPA 3550 SOXHLET EPA 3540

2.0 ml PCB extract split from 2.5 ml total

Date/ Analyst	Sample Number	Project Number	Sample Description	coc	Initial Amt(g)		Effective Amt. (g) after split	Spike Amt. (uL)	Vf (ml)	CLEANUPS (GPC, AL,TBA)	PCB H+	Pest-LL conc. anlyst	Pest-LL turn in Date	PCB-LL conc. anlyst	PCB-LL turn in Date	Comments
4/11/06	WG85104-1	QC	MB		20.0	Pest		1260-100µl	2.5			✓	4/11/06			
	WG85105-1					PCB			0.5		H+			✓	4/11/06	
	WG85104-2		SB PESTLL		20.0	Pest		1163.1-100µl 1260-100µl	2.5							
						PCB			/		/					
	WG85105-2		SB PCBLL		16.0	Pest		1260-100µl 1261-200µl	/							
						PCB			0.5		H+					
	WG85104-3		PESTLL MS (L38325-6)		20.0	Pest		1260-100µl 1163.1-100µl	2.5							
						PCB			/		/					
	WG85104-4		PESTLL MSD (L38325-6)		20.0	Pest		1260-100µl 1163.1-100µl	2.5							
						PCB			/		/					
	WG85105-3		PCBLL MS (L38324-2)		16.0	Pest		1260-100µl 1261-200µl	/							
						PCB			0.5		H+					
	WG85105-4		PCBLL MSD (L38324-2)		16.0	Pest		1260-100µl 1261-200µl	/							
						PCB			0.5		H+					
	WG85104-5		PESTLL SRM 1944		3.0	Pest		1260-100µl	2.0							2
						PCB			/		/					
	WG85105-5		PCBLL SRM H52		7.5	Pest			/							
						PCB			0.5		H+					
	WG85104-6		LD (L38325-8)		20.0	Pest			2.5							3
	WG85105-6					PCB			0.5		H+					
	L38324-1	423368-80	Denny Way Sediment Post Construction		20.0	Pest			2.5							
						PCB			0.5		H+					

Continued on next page

SOLID AND TISSUE SAMPLE EXTRACTION RECORD FOR PESTICIDE-LL/PCB-LL ANALYSIS
TRACE ORGANICS LABORATORY

1:1 MeCL2:ACETONE

PEST-LL WORKGROUP NO.: WG85104
PCB-LL WORKGROUP NO.: WG85105
LL PESTICIDE SURROGATE SPIKE I.D. # 1260
LL PESTICIDE MATRIX SPIKE I.D. # 1163.1
LL PCB MATRIX SPIKE I.D. # 1261

QC BATCH NO.: PPLLS # 51 (Continued)

EPA SW-846 EXTRACTON METHOD:
(SONICATION EPA 3550) SOXHLET EPA 3540

2.0 ml PCB extract split from 2.5 ml total

Date/ Analyst	Sample Number	Project Number	Sample Description	coc	Initial Amt(g)	Effective Amt. (g) after split	Spike Amt. (uL)	Vf (ml)	CLEANUPS (GPC, AL,TBA)	PCB H+	Pest-LL conc. anlyst	Pest-LL turn in Date	PCB-LL conc. anlyst	PCB-LL turn in Date	Comments
4/6/06 RM	L38324-2	423368-80	Denny Way Sediment Post Construction		20.0	Pest	(1260 - 100µl)	2.5	All		[illegible]	4/11/06			
						PCB		0.5		H+			[illegible]	4/18/06	
	L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring			Pest		2.5							3
						PCB		0.5		H+					
	-2					Pest		2.5							3
						PCB		0.5		H+					
	-3					Pest		2.5							3
						PCB		0.5		H+					
	-4					Pest		2.5							
						PCB		0.5		H+					
	-5					Pest		2.5							3
						PCB		0.5		H+					
	-6					Pest		2.5							3
						PCB		0.5		H+					
	-7					Pest		2.5							
						PCB		0.5		H+					
	-8					Pest		2.5							
						PCB		0.5		H+					
	-9					Pest		2.5							* No liner for lid for sample L38325-9. Also jar cracked prior to prep for WG85104/05 (post prep for BNA&MS). Transferred to MeCl2-rinsed beaker (allowed to thaw with water collected and included in sample). Sample then transferred to clean (MeCl2-rinsed) jar.
						PCB		0.5		H+					
						Pest									
						PCB									

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Data File Name	Sample Name	Date Acquired	Vial Numb	Sample Amount	Sample Multiplie	Isodrin (RT)	Isodrin (Height)	Leptophos (RT)	Leptophos (Height)	Isodrin #2 (RT)	Isodrin #2 (Height)	Leptoph (RT)	Leptophos #2 (Height)	Misc Info	Data File Path
COND-01.D	conditioner	24 Apr 2006 9:40 am	1	0	1										S:\MSDCHEM\2\DATA\060424\
BLANK-01.D	blank	24 Apr 2006 10:17 am	2	0	1										S:\MSDCHEM\2\DATA\060424\
PPES-01.D	1211 PPES 20 PPB (BREAKDOWN)	24 Apr 2006 10:53 am	3	0	1	14.426	96823225	22.643	166243236	13.072	252559085	19.537	356679928		S:\MSDCHEM\2\DATA\060424\
PEST-01.D	1225D PEST 50 PPB (DAILY CAL)	24 Apr 2006 11:30 am	4	0	1	14.425	90077614	22.643	158272953	13.073	225708517	19.537	328471613		S:\MSDCHEM\2\DATA\060424\
TOX-01.D	1212.1 TOXAPHENE 1000 PPB	24 Apr 2006 12:07 pm	5	0	1	14.424	87613139	22.642	158506768	13.072	224634782	19.536	337809396		S:\MSDCHEM\2\DATA\060424\
WG85104-1.D	MB	24 Apr 2006 12:43 pm	6	12.5	2.5	14.425	77222309	22.643	139912579	13.073	195433602	19.538	296283610	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
WG85104-2.D	SB	24 Apr 2006 1:20 pm	7	12.5	2.5	14.426	81816360	22.643	151651447	13.073	206846754	19.537	306403936	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
WG85104-3.D	MS L38325-6	24 Apr 2006 1:57 pm	8	12.5	2.5	14.425	75166798	22.643	142513046	13.073	193803047	19.539	297046217	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
WG85104-4.D	MSD L38325-6	24 Apr 2006 2:34 pm	9	12.5	2.5	14.424	70737285	22.642	133814514	13.072	185157390	19.537	277738191	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
WG85104-5.D	SRM1944	24 Apr 2006 3:11 pm	10	1.875	2	14.428	61938251	22.662	139302437	13.083	140406823	19.567	262145210	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
WG85104-6.D	LD L38325-8	24 Apr 2006 3:47 pm	11	12.5	2.5	14.427	60376572	22.647	132599019	13.073	161440731	19.542	271384972	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
L38324-1.D	L38324-1	24 Apr 2006 4:24 pm	12	12.5	2.5	14.427	60633232	22.649	135794040	13.075	151282875	19.546	264248350	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
L38324-2.D	L38324-2	24 Apr 2006 5:01 pm	13	12.5	2.5	14.428	67874060	22.652	133538729	13.076	149495158	19.549	273852207	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
L38325-1.D	L38325-1	24 Apr 2006 5:37 pm	14	12.5	2.5	14.436	85205344	22.670	126621848	13.083	127326942	19.582	235440957	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
COND-02.D	conditioner	24 Apr 2006 6:14 pm	1	0	1										S:\MSDCHEM\2\DATA\060424\
PPES-02.D	1211 PPES 20 PPB (BREAKDOWN)	24 Apr 2006 6:51 pm	3	0	1	14.427	84218621	22.644	149107563	13.072	220954979	19.537	324660295		S:\MSDCHEM\2\DATA\060424\
PEST-02.D	1225D PEST 50 PPB (DAILY CAL)	24 Apr 2006 7:28 pm	4	0	1	14.426	81447115	22.643	153581308	13.072	209826578	19.537	299026980		S:\MSDCHEM\2\DATA\060424\
L38325-2.D	L38325-2	24 Apr 2006 8:05 pm	15	12.5	2.5	14.428	63228842	22.658	124436793	13.077	128445225	19.563	232513740	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
L38325-3.D	L38325-3	24 Apr 2006 8:41 pm	16	12.5	2.5	14.429	58124705	22.651	122709419	13.074	128322547	19.547	227866107	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
L38325-4.D	L38325-4	24 Apr 2006 9:18 pm	17	12.5	2.5	14.427	58666694	22.649	124320227	13.073	131817877	19.546	233429224	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
L38325-5.D	L38325-5	24 Apr 2006 9:55 pm	18	12.5	2.5	14.424	64637161	22.642	129987869	13.071	149448019	19.535	228559391	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
L38325-6.D	L38325-6	24 Apr 2006 10:32 pm	19	12.5	2.5	14.425	67895867	22.642	129029092	13.070	160571993	19.535	233904742	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
L38325-7.D	L38325-7	24 Apr 2006 11:09 pm	20	12.5	2.5	14.425	59420973	22.644	124932852	13.071	134329337	19.537	221299409	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
L38325-8.D	L38325-8	24 Apr 2006 11:45 pm	21	12.5	2.5	14.426	61175624	22.646	129610085	13.072	144014386	19.541	240459627	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
L38325-9.D	L38325-9	25 Apr 2006 12:22 am	22	12.5	2.5	14.425	57309705	22.645	120141348	13.071	133932922	19.539	222641138	PPLLS51 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\060424\
COND-03.D	conditioner	25 Apr 2006 12:59 am	1	0	1										S:\MSDCHEM\2\DATA\060424\
PPES-03.D	1211 PPES 20 PPB (BREAKDOWN)	25 Apr 2006 1:35 am	3	0	1	14.424	92807180	22.641	161476045	13.069	229247349	19.532	333689146		S:\MSDCHEM\2\DATA\060424\
PEST-03.D	1225D PEST 50 PPB (DAILY CAL)	25 Apr 2006 2:12 am	4	0	1	14.423	87251042	22.639	162852292	13.069	206460598	19.531	296724613		S:\MSDCHEM\2\DATA\060424\
					Ave.	14.426	72986155	22.647	139623146	13.073	174644480	19.543	275094958		
					Std. Dev.	0.003	12801493	0.007	14481672	0.004	39799491	0.012	42038766		
					%RSD		18%		10%		23%		15%		

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/27/06 03:11
Run ID: R113199 Workgroup: WG85104 (PPLLS#51 PESTLL)

MB:WG85104-1 Matrix: OTHR SOLID Listtype: ORPESTLL Method: EPA 8081A/8082 (7-3-03-002) Project: Pkey: SED
(Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Qual
Alpha-BHC	.5	1	ug/Kg	<MDL	
Beta-BHC	.5	1	ug/Kg	<MDL	
Delta-BHC	.5	1	ug/Kg	<MDL	
Gamma-BHC (Lindane)	.5	1	ug/Kg	<MDL	
Heptachlor	.5	1	ug/Kg	<MDL	
Aldrin	1	2	ug/Kg	<MDL	
Heptachlor Epoxide	.5	1	ug/Kg	<MDL	
Endosulfan I	1	2	ug/Kg	<MDL	
Dieldrin	1	2	ug/Kg	<MDL	
4,4'-DDE	1	2	ug/Kg	<MDL	
Endrin	1	2	ug/Kg	<MDL	
Endosulfan II	1	2	ug/Kg	<MDL	
4,4'-DDD	1	2	ug/Kg	<MDL	
Endrin Aldehyde	2	4	ug/Kg	<MDL	
Endosulfan Sulfate	1	2	ug/Kg	<MDL	
4,4'-DDT	1	2	ug/Kg	<MDL	
Methoxychlor	5	10	ug/Kg	<MDL	
Gamma-Chlordane	.5	1	ug/Kg	<MDL	
Alpha-Chlordane	.5	1	ug/Kg	<MDL	
Toxaphene	10	20	ug/Kg	<MDL	

SB:WG85104-2 MB:WG85104-1 Matrix: OTHR SOLID Listtype: ORPESTLL Method: EPA 8081A/8082 (7-3-03-002) Project: Pkey: SED
(Spike Blank, Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Truevalue	SB Value	% Rec.	Qual	LabLimit
Alpha-BHC	.5	1	ug/Kg	<MDL	10.0	4.3	43		20-99
Beta-BHC	.5	1	ug/Kg	<MDL	10.0	7.3	73		66-102
Delta-BHC	.5	1	ug/Kg	<MDL	10.0	7.19	72		63-108
Gamma-BHC (Lindane)	.5	1	ug/Kg	<MDL	10.0	5.16	52		27-130
Heptachlor	.5	1	ug/Kg	<MDL	10.0	5.07	51		20-137
Aldrin	1	2	ug/Kg	<MDL	10.0	4.66	47		28-113
Heptachlor Epoxide	.5	1	ug/Kg	<MDL	10.0	7.2	72		59-107
Endosulfan I	1	2	ug/Kg	<MDL	10.0	7.76	78		62-104
Dieldrin	1	2	ug/Kg	<MDL	10.0	8.42	84		58-139
4,4'-DDE	1	2	ug/Kg	<MDL	10.0	8.84	88		75-111
Endrin	1	2	ug/Kg	<MDL	10.0	9.06	91		60-160
Endosulfan II	1	2	ug/Kg	<MDL	10.0	8.86	89		72-109
4,4'-DDD	1	2	ug/Kg	<MDL	10.0	9.57	96		78-121
Endrin Aldehyde	2	4	ug/Kg	<MDL	10.0	2.1	21		10-77
Endosulfan Sulfate	1	2	ug/Kg	<MDL	10.0	8.52	85		61-104
4,4'-DDT	1	2	ug/Kg	<MDL	10.0	9.28	93		57-145
Methoxychlor	5	10	ug/Kg	<MDL	10.0	10.8	108		72-131

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/27/06 03:11
Run ID: R113199 Workgroup: WG85104 (PPLLS#51 PESTLL)

Matrix Spike Duplicate Report
MSD:WG85104-4 MS:WG85104-3 L38325-6 Matrix: SALTWTRSED Listtype: ORPESTLL Method: EPA 8081A/8082 (7-3-03-002) Project: Pkey: SED
(Matrix Spike Duplicate, Matrix Spike)

Parameter	Mdl	Rdl	Units	SampValue	Truevalue	MS Value	% Rec.	Qual	LabLimit	Truevalue	MSD Value	% Rec.	Qual	RPD	Qual	Lablimit
Alpha-BHC	.5	1	ug/Kg	<MDL	10.0	7.77	78		59-111	10.0	6.34	63		21		35
Beta-BHC	.5	1	ug/Kg	<MDL	10.0	8.69	87		60-119	10.0	8.73	87		0		35
Delta-BHC	.5	1	ug/Kg	<MDL	10.0	8.06	81		54-126	10.0	7.94	79		3		35
Gamma-BHC (Lindane)	.5	1	ug/Kg	<MDL	10.0	8.32	83		61-135	10.0	7.35	73		13		35
Heptachlor	.5	1	ug/Kg	<MDL	10.0	8.81	88		52-157	10.0	7.78	78		12		35
Aldrin	1	2	ug/Kg	<MDL	10.0	8.06	81		61-119	10.0	7.29	73		10		35
Heptachlor Epoxide	.5	1	ug/Kg	<MDL	10.0	9.42	94		61-118	10.0	9.28	93		1		35
Endosulfan I	1	2	ug/Kg	<MDL	10.0	9.52	95		64-118	10.0	9.34	93		2		35
Dieldrin	1	2	ug/Kg	<MDL	10.0	10.2	102		60-139	10.0	10.1	101		1		35
4,4'-DDE	1	2	ug/Kg	<MDL	10.0	10	100		59-125	10.0	9.89	99		1		35
Endrin	1	2	ug/Kg	<MDL	10.0	10.5	105		62-166	10.0	10.4	104		1		35
Endosulfan II	1	2	ug/Kg	<MDL	10.0	9.25	93		36-146	10.0	8.78	88		6		35
4,4'-DDD	1	2	ug/Kg	<MDL	10.0	9.84	98		41-157	10.0	10	100		2		35
Endrin Aldehyde	2	4	ug/Kg	<MDL	10.0	5.03	50		10-66	10.0	3.4	34		38	*	35
Endosulfan Sulfate	1	2	ug/Kg	<MDL	10.0	8.15	81		46-113	10.0	7.15	72		12		35
4,4'-DDT	1	2	ug/Kg	<MDL	10.0	10.4	104		50-144	10.0	10.4	104		0		35
Methoxychlor	5	10	ug/Kg	<MDL	10.0	11.9	119		53-129	10.0	11.7	117		2		35

SRM:WG85104-5 Matrix: SALTWTRSED Listtype: ORPESTLL Method: EPA 8081A/8082 (7-3-03-002) Project: Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
4,4'-DDT	5.3	10.7	ug/Kg	119.	347	292	L	10-200
Alpha-Chlordane	2.7	5.33	ug/Kg	16.5	21.2	129		48-144

LD:WG85104-6 L38325-8 Matrix: SALTWTRSED Listtype: ORPESTLL Method: EPA 8081A/8082 (7-3-03-002) Project: 423062-100-4 Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimit
Alpha-BHC	.5	1	ug/Kg	<MDL	<MDL			35
Beta-BHC	.5	1	ug/Kg	<MDL	<MDL			35
Delta-BHC	.5	1	ug/Kg	<MDL	<MDL			35
Gamma-BHC (Lindane)	.5	1	ug/Kg	<MDL	<MDL			35
Heptachlor	.5	1	ug/Kg	<MDL	<MDL			35
Aldrin	1	2	ug/Kg	<MDL	<MDL			35
Heptachlor Epoxide	.5	1	ug/Kg	<MDL	<MDL			35
Endosulfan I	1	2	ug/Kg	<MDL	<MDL			35
Dieldrin	1	2	ug/Kg	<MDL	<MDL			35
4,4'-DDE	1	2	ug/Kg	<MDL	<MDL			35
Endrin	1	2	ug/Kg	<MDL	<MDL			35
Endosulfan II	1	2	ug/Kg	<MDL	<MDL			35
4,4'-DDD	1	2	ug/Kg	<MDL	<MDL			35
Endrin Aldehyde	2	4	ug/Kg	<MDL	<MDL			35
Endosulfan Sulfate	1	2	ug/Kg	<MDL	<MDL			35
4,4'-DDT	1	2	ug/Kg	<MDL	<MDL			35
Methoxychlor	5	10	ug/Kg	<MDL	<MDL			35
Gamma-Chlordane	.5	1	ug/Kg	<MDL	<MDL			35
Alpha-Chlordane	.5	1	ug/Kg	<MDL	<MDL			35

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/27/06 03:11
Run ID: R113199 Workgroup: WG85104 (PPLLS#51 PESTLL)

LD:WG85104-6 L38325-8 Matrix: SALTWTRSED Listtype: ORPESTLL Method: EPA 8081A/8082 (7-3-03-002) Project: 423062-100-4 Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimit
Toxaphene	10	20	ug/Kg	<MDL	<MDL			35

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/27/06 03:11
Run ID: R113199 Workgroup: WG85104 (PPLLS#51 PESTLL)

Sample # (Lab Limits)	2,4,5,6-Tetrachlo-ro-m-xylene 30-134	Decachlorobipheny-l 15-155
L38324-1	105	121
L38324-2	106	122
L38325-1	129	129
L38325-2	113	124
L38325-3	122	141
L38325-4	123	122
L38325-5	54	101
L38325-6	79	102
L38325-7	117	117
L38325-8	109	128
L38325-9	105	125
WG85104-1	39	119
WG85104-2	30	110
WG85104-3	70	116
WG85104-4	51	124
WG85104-5	106	131
WG85104-6	91	105

Trace Organics Data Anomaly Form

Date(s) Occurred: *04/06/2006*

WG #(s): *85104, 85105*

☒ **All samples in WKGP(s) or Sample #(s):** *L38325-9*

Project #(s): *423062-100-4*

Matrix: ☐ **Liquid** ☒ **Solid** ☐ **Air** ☐ **Tissue** ☐ **Calibration** ☐ **Other:**

I. Analysis/Extraction

☐ BNA	☐ BNALL	☐ EDC	☐ EDC-LVI
☒ CLPESTPCB	☐ PEST	☐ PCB	☐ OPPEST
☐ VOA-GCMS	☐ NWTPH-GX	☐ NWTPH-DX	☐ NWTPH-HCID
☐ BUTYL TIN	☐ AIRTOX	☐ AIR-SULFUR	
☐ Other:			
☐ Subcontracted:			

II. Instrument

GC/ICP/MS:	☐ P
GC/MS:	☐ D ☐ E ☐ J ☐ K ☐ L ☐ M ☒ N
GC:	☐ F ECD ☐ G ECD ☐ H FID ☐ H OI4450PID/FID ☐ I FID
Extraction/Cleanup:	☐ PFE ☐ GPC ☒ Other:

III. Type of Sample/Analytical Anomaly

☐ Values Outside of Control Limits:

1 ☐ Blank Contamination	8 ☐ Surrogate Spike Recoveries
2 ☐ SB/SBD Spike Recoveries	9 ☐ SB/SBD RPD
3 ☐ MS/MSD Spike Recoveries	10 ☐ MS/MSD RPD
4 ☐ LCS/SRM Recoveries	11 ☐ Sample/LD RPD
5 ☐ Initial Calibration	12 ☐ Continuing Calibration Checks
6 ☐ Performance Checks	13 ☐ Tuning Criteria
7 ☐ ISTD % Differences	

14 ☐ Holding time exceeded by:
15 ☐ Insufficient sample amount.
16 ☒ Inappropriate storage, container or preservation.
17 ☐ Other

Anomaly Description: *For sample L38325-9 (WG85104 PESTLL WG85105 PCBLL) the jar cracked prior to sample preparation for PESTLL/PCBLL. In addition, there was no liner for the lid. In order to collect all water from the sample, the sample was allowed to thaw while the broken jar was resting in a clean (MeCl2-rinsed) beaker. Once thawed, the drained water and all of the solid were combined in a second clean (MeCl2-rinsed) sample jar.*

Trace Organics Data Anomaly Form

Date(s) Occurred: *04/24/2006*

WG #(s): *85104*

☒ **All samples in WKGP(s) or Sample #(s):**

Project #(s): *423062,423368*

Matrix: ☐ **Liquid** ☒ **Solid** ☐ **Air** ☐ **Tissue** ☐ **Calibration** ☐ **Other:**

I. Analysis/Extraction

☐ BNA	☐ BNALL	☐ EDC	☐ EDC-LVI
☐ CLPESTPCB	☒ PEST	☐ PCB	☐ OPPEST
☐ VOA-GCMS	☐ NWTPH-GX	☐ NWTPH-DX	☐ NWTPH-HCID
☐ BUTYL TIN	☐ AIRTOX	☐ AIR-SULFUR	
☐ Other:			
☐ Subcontracted:			

II. Instrument

GC/ICP/MS:	☐ P
GC/MS:	☐ D ☐ E ☐ J ☐ K ☐ L ☐ M ☒ N
GC:	☐ F ECD ☒ G ECD ☐ H FID ☐ H OI4450PID/FID
	☐ I FID
Extraction/Cleanup:	☐ PFE ☐ GPC
	☐ Other:

III. Type of Sample/Analytical Anomaly

☐ Values Outside of Control Limits:

1 ☐ Blank Contamination	8 ☐ Surrogate Spike Recoveries
2 ☐ SB/SBD Spike Recoveries	9 ☐ SB/SBD RPD
3 ☐ MS/MSD Spike Recoveries	10 ☒ MS/MSD RPD
4 ☒ LCS/SRM Recoveries	11 ☐ Sample/LD RPD
5 ☐ Initial Calibration	12 ☒ Continuing Calibration Checks
6 ☒ Performance Checks	13 ☐ Tuning Criteria
7 ☐ ISTD % Differences	

14 ☐ Holding time exceeded by:
15 ☐ Insufficient sample amount.
16 ☐ Inappropriate storage, container or preservation.
17 ☐ Other

Anomaly Description: *4. The SRM had a recovery for DDT that was outside the lab limits. All DDT results are flagged with an "L". 6. PPES-02,03 both had breakdown on the front column >15% for DDT. All DDT and breakdown components were reported from the back column. 10. The RPD for endrin aldhyde is out of range at 38%. 12. Final calibration check had low recoveries (<85%) for methoxyclor and DDT.*

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

Apr 11 2006, 02:14 pm

Work Group: WG85105 (PPLLS#51 PCBLL) for Department: 7 - Organics, Trace

Created: 05-APR-06 PrepDate: 06-APR-06 Due: Operator: JG/KM

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L38324-1	423368-80	Denny Way Sediment, Post Constru	SED	S	PCBLL	SALTWTRSED	PREP	U	27-MAR-06	27-APR-06
L38324-2	423368-80	Denny Way Sediment, Post Constru	SED	S	PCBLL	SALTWTRSED	PREP	U	27-MAR-06	27-APR-06
L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PCBLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PCBLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PCBLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-4	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PCBLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-5	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PCBLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-6	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PCBLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-7	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PCBLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PCBLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
L38325-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PCBLL	SALTWTRSED	PREP	U	21-MAR-06	24-APR-06
WG85105-1	MB			S	PCBLL	OTHR SOLID	PREP	U	05-APR-06	
WG85105-2	SB			S	PCBLL	OTHR SOLID	PREP	U	05-APR-06	
WG85105-3	MS		SED	S	PCBLL	SALTWTRSED	PREP	U	05-APR-06	
WG85105-4	MSD		SED	S	PCBLL	SALTWTRSED	PREP	U	05-APR-06	
WG85105-5	SRM		SED	S	PCBLL	SALTWTRSED	PREP	U	05-APR-06	
WG85105-6	LD		SED	S	PCBLL	SALTWTRSED	PREP	U	05-APR-06	

Comments:

L38324-1	0-2 cm, 10 Grab Comp
L38324-2	0-2 cm, 2nd PSD every 10 samples
L38325-1	3 grab comp, 0-10 cm
L38325-2	3 grab comp, 0-10 cm
L38325-3	3 grab comp, 0-10 cm
L38325-4	3 grab comp, 0-10 cm
L38325-5	0-10 cm, AREP
L38325-6	0-10 cm, FREP
L38325-7	3 grab comp, 0-10 cm
L38325-8	3 grab comp, 0-10 cm
L38325-9	3 grab comp, 0-10 cm
WG85105-1	MB060406
WG85105-2	WG85105-1
WG85105-3	L38324-2
WG85105-4	WG85105-3 L38324-2
WG85105-5	SRMHS2
WG85105-6	L38325-8

SOLID AND TISSUE SAMPLE EXTRACTION RECORD FOR PESTICIDE-LL/PCB-LL ANALYSIS
TRACE ORGANICS LABORATORY

1:1 MeCL2:ACETONE

PCBLL/PESTLL

PEST-LL WORKGROUP NO.: WG85104
PCB-LL WORKGROUP NO.: WG85105
LL PESTICIDE SURROGATE SPIKE I.D. # 1260
LL PESTICIDE MATRIX SPIKE I.D. # 1163.1
LL PCB MATRIX SPIKE I.D. # 1261

QC BATCH NO.: PPLLS # 51

EPA SW-846 EXTRACTON METHOD:
SONICATION EPA 3550 SOXHLET EPA 3540

2.0 ml PCB extract split from 2.5 ml total

Date/ Analyst	Sample Number	Project Number	Sample Description	coc	Initial Amt(g)		Effective Amt. (g) after split	Spike Amt. (uL)	Vf (ml)	CLEANUPS (GPC, AL,TBA)	PCB H+	Pest-LL conc. anlyst	Pest-LL turn in Date	PCB-LL conc. anlyst	PCB-LL turn in Date	Comments
4/6/06	WG85104-1	QC	MB		20.0	Pest		1260-100µl	2.5			✓	4/11/06			
	WG85105-1					PCB			0.5		H+			✓	4/11/06	
	WG85104-2		SB PESTLL		20.0	Pest		1163.1-100µl 1260-100µl	2.5							
						PCB			/		/					
	WG85105-2		SB PCBLL		16.0	Pest		1260-100µl 1261-200µl	/							
						PCB			0.5		H+					
	WG85104-3		PESTLL MS (L38325-6)		20.0	Pest		1260-100µl 1163.1-100µl	2.5							
						PCB			/		/					
	WG85104-4		PESTLL MSD (L38325-6)		20.0	Pest		1260-100µl 1163.1-100µl	2.5							
						PCB			/		/					
	WG85105-3		PCBLL MS (L38324-2)		16.0	Pest		1260-100µl 1261-200µl	/							
						PCB			0.5		H+					
	WG85105-4		PCBLL MSD (L38324-2)		16.0	Pest		1260-100µl 1261-200µl	/							
						PCB			0.5		H+					
	WG85104-5		PESTLL SRM 1944		3.0	Pest		1260-100µl	2.0							2
						PCB			/		/					
	WG85105-5		PCBLL SRM 1582		7.5	Pest			/							
						PCB			0.5		H+					
	WG85104-6		LD (L38325-8)		20.0	Pest			2.5							3
	WG85105-6					PCB			0.5		H+					
	L38324-1	423368-80	Denny Way Sediment Post Construction		20.0	Pest			2.5							
						PCB			0.5		H+					

Continued on next page

SOLID AND TISSUE SAMPLE EXTRACTION RECORD FOR PESTICIDE-LL/PCB-LL ANALYSIS
TRACE ORGANICS LABORATORY

1:1 MeCL2:ACETONE

PEST-LL WORKGROUP NO.: WG85104
PCB-LL WORKGROUP NO.: WG85105
LL PESTICIDE SURROGATE SPIKE I.D. # 1260
LL PESTICIDE MATRIX SPIKE I.D. # 1163.1
LL PCB MATRIX SPIKE I.D. # 1261

QC BATCH NO.: PPLLS # 51 (Continued)
EPA SW-846 EXTRACTON METHOD:
(SONICATION EPA 3550) SOXHLET EPA 3540

2.0 ml PCB extract split from 2.5 ml total

Date/ Analyst	Sample Number	Project Number	Sample Description	coc	Initial Amt(g)	Effective Amt. (g) after split	Spike Amt. (uL)	Vf (ml)	CLEANUPS (GPC, AL,TBA)	CLEANUPS PCB H+	Pest-LL conc. anlyst	Pest-LL turn in Date	PCB-LL conc. anlyst	PCB-LL turn in Date	Comments
4/6/06 KM	L38324-2	423368-80	Denny Way Sediment Post Construction		20.0	Pest	(1260-100µl)	2.5	All		[illegible]	4/11/06			
						PCB		0.5		H+			[illegible]	4/18/06	
	L38325-1	423062-100-4	Duwamish Diagonal Cap Monitoring			Pest		2.5							3
						PCB		0.5		H+					
	-2					Pest		2.5							3
						PCB		0.5		H+					
	-3					Pest		2.5							3
						PCB		0.5		H+					
	-4					Pest		2.5							
						PCB		0.5		H+					
	-5					Pest		2.5							3
						PCB		0.5		H+					
	-6					Pest		2.5							3
						PCB		0.5		H+					
	-7					Pest		2.5							
						PCB		0.5		H+					
	-8					Pest		2.5							
						PCB		0.5		H+					
	-9					Pest		2.5							* No liner for lid for sample L38325-9. Also, jar cracked prior to prep for WG85104/05 (post prep for BNA&MS). Transferred to MeCl2-rinsed beaker (allowed to thaw with water collected and included in sample). Sample then transferred to clean (MeCl2-rinsed) jar.
						PCB		0.5		H+					
						Pest									
						PCB									

Data File Name	Sample Name	Date Acquired	Vial Numbe	Sample Amount	Sample Multiplie	Isodrin (RT)	Isodrin (Height)	Leptophos (RT)	Leptophos (Height)	Isodrin #2 (RT)	Isodrin #2 (Height)	Leptoph (RT)	Leptophos #2 (Height)	Misc Info	Data File Path
COND-01.D	conditioner	4/12/2006 10:46	1	0	1										S:\MSDCHEM\2\DATA\060412\
BLANK-01.D	blank	4/12/2006 11:23	2	0	1										S:\MSDCHEM\2\DATA\060412\
PCB-01.D	1218D 1016/1260 500/50	4/12/2006 12:00	3	0	1	14.428	93727926	22.646	175451059	13.076	250233792	19.542	380175375		S:\MSDCHEM\2\DATA\060412\
PCB-02.D	1209.1 1248 500/50	4/12/2006 12:36	4	0	1	14.428	93168741	22.646	168559883	13.076	237233319	19.543	358736653		S:\MSDCHEM\2\DATA\060412\
PCB-03.D	1210.1 1254 500/50	4/12/2006 13:13	5	0	1	14.428	79761087	22.645	143696477	13.075	204179543	19.540	303916646		S:\MSDCHEM\2\DATA\060412\
PCB-04.D	1206.1 1221 500/50	4/12/2006 13:50	6	0	1	14.427	80261610	22.644	145842807	13.075	204501720	19.540	300339663		S:\MSDCHEM\2\DATA\060412\
PCB-05.D	1207.1 1232 500/50	4/12/2006 14:26	7	0	1	14.428	83788208	22.646	150207925	13.075	212428444	19.540	317955655		S:\MSDCHEM\2\DATA\060412\
PCB-06.D	1208.1 1242 500/50	4/12/2006 15:03	8	0	1	14.427	82074920	22.645	149233322	13.076	210309048	19.542	311585237		S:\MSDCHEM\2\DATA\060412\
WG85105-1.D	MB	4/12/2006 15:40	9	10	0.5	14.427	71773956	22.646	132492685	13.076	191623726	19.542	293915191	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
WG85105-2.D	SB	4/12/2006 16:16	10	10	0.5	14.427	70235337	22.645	132471122	13.075	179320633	19.540	284531652	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
WG85105-3.D	MS L38324-2	4/12/2006 16:53	11	10	0.5	14.437	50113416	22.670	130711509	13.088	137524153	19.583	291847900	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
WG85105-4.D	MSD L38324-2	4/12/2006 17:30	12	10	0.5	14.438	49980054	22.671	129333699	13.088	140208187	19.581	299198813	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
WG85105-5.D	SRM HS2	4/12/2006 18:07	13	4.6875	0.5	14.440	50801610	22.666	124568110	13.088	142576888	19.573	300049673	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
WG85105-6.D	LD L38325-8	4/12/2006 18:43	14	10	0.5	14.430	50155185	22.653	117774796	13.077	140377390	19.552	292853095	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
L38324-1.D	L38324-1	4/12/2006 19:20	15	10	0.5	14.430	45953768	22.654	127735529	13.080	140943631	19.557	292998802	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
L38324-2.D	L38324-2	4/12/2006 19:57	16	10	0.5	14.431	48779190	22.662	122790890	13.081	138001794	19.565	289900957	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
L38325-1.D	L38325-1	4/12/2006 20:33	17	10	0.5	14.440	52286204	22.695	118524082	13.095	133232585	19.625	254817904	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
L38325-2.D	L38325-2	4/12/2006 21:10	18	10	0.5	14.439	59406278	22.678	117102002	13.087	129834624	19.598	272515198	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
PCB-07.D	1218D 1016/1260 500/50	4/12/2006 21:47	3	0	1	14.424	77287578	22.641	168176735	13.072	217417400	19.536	361206407		S:\MSDCHEM\2\DATA\060412\
PCB-08.D	1209.1 1248 500/50	4/12/2006 22:24	4	0	1	14.424	88569264	22.640	167460122	13.073	231065428	19.537	358013664		S:\MSDCHEM\2\DATA\060412\
L38325-3.D	L38325-3	4/12/2006 23:00	19	10	0.5	14.431	55732849	22.656	117731915	13.079	128119909	19.561	276631943	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
L38325-4.D	L38325-4	4/12/2006 23:37	20	10	0.5	14.430	50932231	22.657	118244185	13.077	141043826	19.562	291937183	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
L38325-7.D	L38325-7	4/13/2006 1:27	23	10	0.5	14.427	55919982	22.650	124252667	13.075	150181282	19.548	289070446	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
L38325-5.D	L38325-5	4/13/2006 12:14	21	10	0.5	14.425	55422043	22.642	113974608	13.073	150490080	19.536	247792624	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
L38325-6.D	L38325-6	4/13/2006 12:50	22	10	0.5	14.424	60991673	22.642	122844602	13.073	165519172	19.536	270812631	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
L38325-8.D	L38325-8	4/13/2006 2:04	24	10	0.5	14.429	56052877	22.652	127764237	13.076	155684115	19.556	311561603	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
L38325-9.D	L38325-9	4/13/2006 2:41	25	10	0.5	14.427	50192184	22.649	112608421	13.076	138178082	19.549	268587107	PPLLS51 PCBLL DUDI SOIL	S:\MSDCHEM\2\DATA\060412\
PCB-09.D	1218D 1016/1260 500/50	4/13/2006 3:17	3	0	1	14.425	91232159	22.640	180952048	13.072	241270499	19.535	379534430		S:\MSDCHEM\2\DATA\060412\
PCB-10.D	1210.1 1254 500/50	4/13/2006 3:54	5	0	1	14.424	76729392	22.641	144440624	13.073	196447307	19.535	307807901		S:\MSDCHEM\2\DATA\060412\
					Ave.	14.429	65975175	22.653	136479484	13.078	174368318	19.554	304010902		
					Std. Dev.	0.005	16118883	0.013	20367715	0.006	39973826	0.022	35183642		
					%RSD		24%		15%		23%		12%		

Data File Name	Sample Name	Date Acquired	Vial Numb	Sample Amount	Sample Multiplie	Isodrin (RT)	Isodrin (Height)	Leptophos (RT)	Leptophos (Height)	Isodrin #2 (RT)	Isodrin #2 (Height)	Leptoph (RT)	Leptophos #2 (Height)	Misc Info	Data File Path
COND-01.D	conditioner	6/2/2006 12:01	1	0	1										S:\MSDCHEM\2\DATA\060602\
BLANK-01.D	blank	6/2/2006 12:38	2	0	1										S:\MSDCHEM\2\DATA\060602\
PCB-01.D	1218D 1016/1260 500/50	6/2/2006 13:15	3	0	1	14.367	76392287	22.588	145793260	13.051	250538124	19.508	370885869		S:\MSDCHEM\2\DATA\060602\
PCB-02.D	1209.1 1248 500/50	6/2/2006 13:51	4	0	1	14.368	101351442	22.589	198126983	13.049	328405350	19.504	478034017		S:\MSDCHEM\2\DATA\060602\
PCB-03.D	1210.1 1254 500/50	6/2/2006 14:28	5	0	1	14.367	95159309	22.587	179275883	13.049	295243192	19.506	439623278		S:\MSDCHEM\2\DATA\060602\
PCB-04.D	1206.1 1221 500/50	6/2/2006 15:05	6	0	1	14.366	91525755	22.588	175511523	13.048	293759734	19.502	425770284		S:\MSDCHEM\2\DATA\060602\
PCB-05.D	1207.1 1232 500/50	6/2/2006 15:41	7	0	1	14.366	97256934	22.586	182865797	13.049	317220940	19.505	461048304		S:\MSDCHEM\2\DATA\060602\
PCB-06.D	1208.1 1242 500/50	6/2/2006 16:18	8	0	1	14.366	91645975	22.587	176806240	13.050	293239210	19.505	425935103		S:\MSDCHEM\2\DATA\060602\
WG85781-1.D	MB	6/2/2006 16:55	9	9.375	2.5	14.367	73010381	22.587	138873566	13.049	239341106	19.505	341865730	PPS333 PCB SLUDGE SOIL	S:\MSDCHEM\2\DATA\060602\
WG85781-2.D	SB	6/2/2006 17:31	10	9.375	2.5	14.366	67093097	22.587	134763069	13.049	227209505	19.505	347955643	PPS333 PCB SLUDGE SOIL	S:\MSDCHEM\2\DATA\060602\
WG85781-3.D	MS L39049-1	6/2/2006 18:08	11	9.375	2.5	14.381	58852520	22.625	136293313	13.068	185409733	19.582	363403001	PPS333 PCB SLUDGE SOIL	S:\MSDCHEM\2\DATA\060602\
WG85781-4.D	MSD L39049-1	6/2/2006 18:45	12	9.375	2.5	14.382	58232534	22.628	140308618	13.069	181657508	19.584	355769220	PPS333 PCB SLUDGE SOIL	S:\MSDCHEM\2\DATA\060602\
L39049-1.D	L39049-1	6/2/2006 19:22	13	9.375	2.5	14.383	56388994	22.631	133704088	13.068	177053371	19.583	346278940	PPS333 PCB SLUDGE SOIL	S:\MSDCHEM\2\DATA\060602\
L39049-2.D	L39049-2	6/2/2006 19:58	14	9.375	2.5	14.381	55327012	22.625	127494175	13.067	176266793	19.577	333575858	PPS333 PCB SLUDGE SOIL	S:\MSDCHEM\2\DATA\060602\
WG85364-1.D	MB	6/2/2006 20:35	20	2000	1	14.366	66254710	22.586	138247380	13.048	220133624	19.502	336858505	BL644 PCBLL DUWAMISH PHTHALATES	S:\MSDCHEM\2\DATA\060602\
WG85364-2.D	SB	6/2/2006 21:12	21	2000	1	14.364	67179750	22.584	140399571	13.048	225233863	19.502	342399704	BL644 PCBLL DUWAMISH PHTHALATES	S:\MSDCHEM\2\DATA\060602\
WG85364-3.D	SBD	6/2/2006 21:48	22	2000	1	14.364	69712620	22.582	143431017	13.048	233453428	19.502	341938984	BL644 PCBLL DUWAMISH PHTHALATES	S:\MSDCHEM\2\DATA\060602\
L38799-1.D	L38799-1	6/2/2006 22:25	23	2000	1	14.364	67665896	22.583	135630294	13.047	226798670	19.501	340140390	BL644 PCBLL DUWAMISH PHTHALATES	S:\MSDCHEM\2\DATA\060602\
PCB-07.D	1218D 1016/1260 500/50	6/2/2006 23:02	3	0	1	14.363	75179938	22.582	154158021	13.047	245802068	19.503	370234500		S:\MSDCHEM\2\DATA\060602\
PCB-08.D	1209.1 1248 500/50	6/2/2006 23:38	4	0	1	14.364	97843973	22.583	192961433	13.047	320449404	19.501	487219034		S:\MSDCHEM\2\DATA\060602\
SBLANK-01.D	SOLVENT BLANK	6/3/2006 12:15	24	2000	1	14.363	67949358	22.582	137864582	13.046	228088490	19.501	339096711	BL644 PCBLL DUWAMISH PHTHALATES	S:\MSDCHEM\2\DATA\060602\
L38324-1.D	L38324-1	6/3/2006 12:52	15	10	0.5	14.367	46582563	22.592	115188187	13.052	143494017	19.520	295383526	PPLLS51 PCBLL DUDI SOIL CLEANUP RERUN	S:\MSDCHEM\2\DATA\060602\
L38324-2.D	L38324-2	6/3/2006 1:28	16	10	0.5	14.369	45291415	22.598	115151638	13.055	145530733	19.530	300956464	PPLLS51 PCBLL DUDI SOIL CLEANUP RERUN	S:\MSDCHEM\2\DATA\060602\
L38325-1.D	L38325-1	6/3/2006 2:05	17	10	0.5	14.381	44322330	22.631	112588452	13.067	140667485	19.591	281170216	PPLLS51 PCBLL DUDI SOIL CLEANUP RERUN	S:\MSDCHEM\2\DATA\060602\
L38325-2.D	L38325-2	6/3/2006 2:42	18	10	0.5	14.376	44351891	22.616	110751129	13.062	136644304	19.566	288603220	PPLLS51 PCBLL DUDI SOIL CLEANUP RERUN	S:\MSDCHEM\2\DATA\060602\
L38325-3.D	L38325-3	6/3/2006 3:19	19	10	0.5	14.370	22318386	22.598	95485946	13.051	70834662	19.526	237014382	PPLLS51 PCBLL DUDI SOIL CLEANUP RERUN	S:\MSDCHEM\2\DATA\060602\
PCB-09.D	1218D 1016/1260 500/50	6/3/2006 3:55	3	0	1	14.363	67897948	22.582	140042423	13.046	227171791	19.503	355226791		S:\MSDCHEM\2\DATA\060602\
PCB-10.D	1210.1 1254 500/50	6/3/2006 4:32	5	0	1	14.362	86817741	22.583	180836339	13.049	289282160	19.506	428581836		S:\MSDCHEM\2\DATA\060602\
					Ave.	14.369	68907875	22.596	145482805	13.053	223804972	19.524	362883443		
					Std. Dev.	0.007	19851543	0.018	27127998	0.008	65694379	0.033	62470829		
					%RSD		29%		19%		29%		17%		

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/17/06 11:39
Run ID: R112994 Workgroup: WG85105 (PPLLS#51 PCBLL)

MB:WG85105-1 Matrix: OTHR SOLID Listtype: ORPCBLL Method: EPA 8081A/8082 (7-3-03-002) Project: Pkey: SED
(Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Qual
Aroclor 1016	1.3	2.5	ug/Kg	<MDL	
Aroclor 1221	2.5	5	ug/Kg	<MDL	
Aroclor 1232	2.5	5	ug/Kg	<MDL	
Aroclor 1242	1.3	2.5	ug/Kg	<MDL	
Aroclor 1248	1.3	2.5	ug/Kg	<MDL	
Aroclor 1254	1.3	2.5	ug/Kg	<MDL	
Aroclor 1260	1.3	2.5	ug/Kg	<MDL	

SB:WG85105-2 MB:WG85105-1 Matrix: OTHR SOLID Listtype: ORPCBLL Method: EPA 8081A/8082 (7-3-03-002) Project: Pkey: SED
(Spike Blank, Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Truevalue	SB Value	% Rec.	Qual	LabLimit
Aroclor 1016	1.3	2.5	ug/Kg	<MDL	37.5	22.6	60		39-121
Aroclor 1260	1.3	2.5	ug/Kg	<MDL	37.5	31.3	83		53-140

MSD:WG85105-4 MS:WG85105-3 L38324-2 Matrix: SALTWTRSED Listtype: ORPCBLL Method: EPA 8081A/8082 (7-3-03-002) Project: Pkey: SED
(Matrix Spike Duplicate, Matrix Spike)

Parameter	Mdl	Rdl	Units	SampValue	Truevalue	MS Value	% Rec.	Qual	LabLimit	Truevalue	MSD Value	% Rec.	Qual	RPD	Qual	Lablimit
Aroclor 1016	1.3	2.5	ug/Kg	<MDL	37.5	56	149		32-164	37.5	52	139		7		35
Aroclor 1260	1.3	2.5	ug/Kg	61.7	37.5	124	166	L	28-144	37.5	117	147	*	12		35

SRM:WG85105-5 Matrix: SALTWTRSED Listtype: ORPCBLL Method: EPA 8081A/8082 (7-3-03-002) Project: Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
Aroclor 1254	2.7	5.33	ug/Kg	112.	115	103		57-139

LD:WG85105-6 L38325-8 Matrix: SALTWTRSED Listtype: ORPCBLL Method: EPA 8081A/8082 (7-3-03-002) Project: 423062-100-4 Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimit
Aroclor 1016	5.1	10.2	ug/Kg	<MDL	<MDL			35
Aroclor 1221	2.5	5	ug/Kg	<MDL	<MDL			35
Aroclor 1232	10	20.2	ug/Kg	<MDL	<MDL			35
Aroclor 1242	9.9	19.8	ug/Kg	<MDL	<MDL			35
Aroclor 1248	1.3	2.5	ug/Kg	11.5	10.4	10		35
Aroclor 1254	1.3	2.5	ug/Kg	21.2	19.8	7		35
Aroclor 1260	1.3	2.5	ug/Kg	16.4	13.3	21		35

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/17/06 11:39
Run ID: R112994 Workgroup: WG85105 (PPLLS#51 PCBLL)

Sample # (Lab Limits)	2,4,5,6-Tetrachloro-m-xylene 30-134	Decachlorobiphenyl 15-155
L38324-1	75	84
L38324-2	79	89
L38325-1	77	72
L38325-2	83	83
L38325-3	62	85
L38325-4	75	85
L38325-5	37	70
L38325-6	58	83
L38325-7	67	80
L38325-8	71	84
L38325-9	71	90
WG85105-1	31	94
WG85105-2	61	120
WG85105-3	102	119
WG85105-4	98	114
WG85105-5	92	115
WG85105-6	62	83

Trace Organics Data Anomaly Form

Date(s) Occurred: *04/06/2006*

WG #(s): *85104, 85105*

☒ **All samples in WKGP(s) or Sample #(s):** *L38325-9*

Project #(s): *423062-100-4*

Matrix: ☐ **Liquid** ☒ **Solid** ☐ **Air** ☐ **Tissue** ☐ **Calibration** ☐ **Other:**

I. Analysis/Extraction

☐ BNA	☐ BNALL	☐ EDC	☐ EDC-LVI
☒ CLPESTPCB	☐ PEST	☐ PCB	☐ OPPEST
☐ VOA-GCMS	☐ NWTPH-GX	☐ NWTPH-DX	☐ NWTPH-HCID
☐ BUTYL TIN	☐ AIRTOX	☐ AIR-SULFUR	
☐ Other:			
☐ Subcontracted:			

II. Instrument

GC/ICP/MS:	☐ P
GC/MS:	☐ D ☐ E ☐ J ☐ K ☐ L ☐ M ☒ N
GC:	☐ F ECD ☐ G ECD ☐ H FID ☐ H OI4450PID/FID ☐ I FID
Extraction/Cleanup:	☐ PFE ☐ GPC ☒ Other:

III. Type of Sample/Analytical Anomaly

☐ Values Outside of Control Limits:

1 ☐ Blank Contamination	8 ☐ Surrogate Spike Recoveries
2 ☐ SB/SBD Spike Recoveries	9 ☐ SB/SBD RPD
3 ☐ MS/MSD Spike Recoveries	10 ☐ MS/MSD RPD
4 ☐ LCS/SRM Recoveries	11 ☐ Sample/LD RPD
5 ☐ Initial Calibration	12 ☐ Continuing Calibration Checks
6 ☐ Performance Checks	13 ☐ Tuning Criteria
7 ☐ ISTD % Differences	

14 ☐ Holding time exceeded by:
15 ☐ Insufficient sample amount.
16 ☒ Inappropriate storage, container or preservation.
17 ☐ Other

Anomaly Description: *For sample L38325-9 (WG85104 PESTLL WG85105 PCBLL) the jar cracked prior to sample preparation for PESTLL/PCBLL. In addition, there was no liner for the lid. In order to collect all water from the sample, the sample was allowed to thaw while the broken jar was resting in a clean (MeCl2-rinsed) beaker. Once thawed, the drained water and all of the solid were combined in a second clean (MeCl2-rinsed) sample jar.*

Trace Organics Data Anomaly Form

Date(s) Occurred: *4-12-06*

WG #(s): *WG85105*

☒ **All samples in WKGP(s) or Sample #(s):**

Project #(s): *423062*

Matrix: ☐ **Liquid** ☒ **Solid** ☐ **Air** ☐ **Tissue** ☐ **Calibration** ☐ **Other:**

I. Analysis/Extraction

☐ BNA	☐ BNALL	☐ EDC	☐ EDC-LVI
☐ CLPESTPCB	☐ PEST	☒ PCB	☐ OPPEST
☐ VOA-GCMS	☐ NWTPH-GX	☐ NWTPH-DX	☐ NWTPH-HCID
☐ BUTYL TIN	☐ AIRTOX	☐ AIR-SULFUR	
☐ Other:			
☐ Subcontracted:			

II. Instrument

GC/ICP/MS:	☐ P
GC/MS:	☐ D ☐ E ☐ J ☐ K ☐ L ☐ M ☐ N
GC:	☐ F ECD ☒ G ECD ☐ H FID ☐ H OI4450PID/FID ☐ I FID
Extraction/Cleanup:	☐ PFE ☐ GPC ☐ Other:

III. Type of Sample/Analytical Anomaly

☒ Values Outside of Control Limits:

1 ☐ Blank Contamination	8 ☒ Surrogate Spike Recoveries
2 ☐ SB/SBD Spike Recoveries	9 ☐ SB/SBD RPD
3 ☒ MS/MSD Spike Recoveries	10 ☐ MS/MSD RPD
4 ☐ LCS/SRM Recoveries	11 ☐ Sample/LD RPD
5 ☐ Initial Calibration	12 ☒ Continuing Calibration Checks
6 ☐ Performance Checks	13 ☐ Tuning Criteria
7 ☐ ISTD % Differences	

14 ☐ Holding time exceeded by:
15 ☐ Insufficient sample amount.
16 ☐ Inappropriate storage, container or preservation.
17 ☒ Other

Anomaly Description: *3. The MS and MSD(WG85105-3,4) had recoveries for aroclor 1260 of 166 and 147% (limit 28-144%). 8. All surrogates are taken from the back column due to slightly low recoveries on continuing cals PCB-08,09. This would most likely be due to the matrix and method for these type of samples. 12. Aroclor 1260 is still a little high on the back column (120%ish) in the Continuing Cals.*

	Signatures	Signature Dates
Reported By: *JSF*		6-9-06
Reviewer: *Gretchen Nerlin*		6/12/06
Supervisor: *Dana Walker*	Dana Walker	6/12/06
QA Officer: *Colin Elliott* (For QA1 only)	Colin Elliott	6-12-2006
cc: LPM:		

CHAIN OF CUSTODY FORMS

Login Number: P38325

T_DUD.STAAB.ON

DUDI SEDS, STAS. A,B, ON-CAP

Project Number: 423062-100-4

Personnel: _____

Sample Number	P38325-1	P38325-2	P38325-3
Locator	DUD_1A	DUD_2A	DUD_3A
Short Loc. Desc.	DUD_1A	DUD_2A	DUD_3A
Locator Desc.	Cleanup Area A Monitoring Location	Cleanup Area A Monitoring Location	Cleanup Area A Monitoring Location
Site	DUWAMISH RIVER	DUWAMISH RIVER	DUWAMISH RIVER
Start Date/Time			
End Date/Time			
Sample Depth	5	7	8
Collect Date	3/7/06	→	→
Comments	3 grab comp, 0-10 cm	3 grab comp, 0-10 cm	3 grab comp, 0-10 cm
PERSONNEL	JD JDD JB RR	→	→
SAMP METH	20062	→	→
SED DEPTH	9, 11, 8	8, 10, 11	9, 8, 8
SED SAMP RANGE	0-8 cm	0-9 cm	0-7 cm
SED TYPE	23P12	21P11	21N31
TIDE COND	E	E	E
TIDE HT	3.5	3	2.5
TIME	1315	1340	1403
Dept., Matrix, Prod			
	3 SALTWTRSED PSD	3 SALTWTRSED PSD	3 SALTWTRSED PSD
	3 SALTWTRSED TOC	3 SALTWTRSED TOC	3 SALTWTRSED TOC
	3 SALTWTRSED TOTS	3 SALTWTRSED TOTS	3 SALTWTRSED TOTS
	6 SALTWTRSED AL-ICP	6 SALTWTRSED AL-ICP	6 SALTWTRSED AL-ICP
	6 SALTWTRSED FE-ICP	6 SALTWTRSED FE-ICP	6 SALTWTRSED FE-ICP
	6 SALTWTRSED HG-CVAA	6 SALTWTRSED HG-CVAA	6 SALTWTRSED HG-CVAA
	6 SALTWTRSED MN-ICP	6 SALTWTRSED MN-ICP	6 SALTWTRSED MN-ICP
	6 SALTWTRSED PP ICP	6 SALTWTRSED PP ICP	6 SALTWTRSED PP ICP

CHAIN OF CUSTODY

RELINQUISHED BY	Date	Time
[signature]	3/7/06	1630
RECEIVED BY	Date	Time
[signature]	3/7/06	1630

Sample Number(s)

(All)

Coords Data continue

W684929 W685000

[illegible] 3/21 [illegible] 4/3

DUDI SEDS, STAS. A,B, ON-CAP

Project Number: 423062-100-4

Personnel: _____

Sample Number	P38325-1	P38325-2	P38325-3
	7 SALTWTRSED BNASMS	7 SALTWTRSED BNASMS	7 SALTWTRSED BNASMS
	7 SALTWTRSED PCBLL	7 SALTWTRSED PCBLL	7 SALTWTRSED PCBLL
	7 SALTWTRSED PESTLL	7 SALTWTRSED PESTLL	7 SALTWTRSED PESTLL

continue ...

DUDI SEDS, STAS. A,B, ON-CAP

Project Number: 423062-100-4

Personnel: _____

Sample Number	P38325-4	P38325-5	P38325-6
Locator	DUD_4A	DUD_5A	DUD_5A
Short Loc. Desc.	DUD_4A	DUD_5A	DUD_5A
Locator Desc.	Cleanup Area A Monitoring Location	Cleanup Area A Monitoring Location	Cleanup Area A Monitoring Location
Site	DUWAMISH RIVER	DUWAMISH RIVER	DUWAMISH RIVER
Start Date/Time			
End Date/Time			
Sample Depth	7	9	9
Collect Date	3/7/06	→	→
Comments	3 grab comp, 0-10 cm	0-10 cm, AREP	0-10 cm, FREP
PERSONNEL	JD JDD JB FR	→	→
SAMP METH	200 4 2	→	→
SED DEPTH	8, 11, 11 (10)	6, 7, 7	6 (6) 5
SED SAMP RANGE	0-9 cm	0-6 cm	0-5 cm
SED TYPE	32N30	30N20	30N20
TIDE COND	E	E	→
TIDE HT	2	1.8	→
TIME	1430	1448	1448
SAMP FUNC	**********	**********	FRP
Dept., Matrix, Prod			
	3 SALTWTRSED PSD	3 SALTWTRSED PSD	3 SALTWTRSED PSD
	3 SALTWTRSED TOC	3 SALTWTRSED TOC	3 SALTWTRSED TOC
	3 SALTWTRSED TOTS	3 SALTWTRSED TOTS	3 SALTWTRSED TOTS
	6 SALTWTRSED AL-ICP	6 SALTWTRSED AL-ICP	6 SALTWTRSED AL-ICP
	6 SALTWTRSED FE-ICP	6 SALTWTRSED FE-ICP	6 SALTWTRSED FE-ICP
	6 SALTWTRSED HG-CVAA	6 SALTWTRSED HG-CVAA	6 SALTWTRSED HG-CVAA

grey-brown

continue ...

DUDI SEDS, STAS. A,B, ON-CAP

Project Number: 423062-100-4

Personnel: _____

Sample Number	P38325-4	P38325-5	P38325-6
	6 SALTWTRSED MN-ICP	6 SALTWTRSED MN-ICP	6 SALTWTRSED MN-ICP
	6 SALTWTRSED PP ICP	6 SALTWTRSED PP ICP	6 SALTWTRSED PP ICP
	7 SALTWTRSED BNASMS	7 SALTWTRSED BNASMS	7 SALTWTRSED BNASMS
	7 SALTWTRSED PCBLL	7 SALTWTRSED PCBLL	7 SALTWTRSED PCBLL
	7 SALTWTRSED PESTLL	7 SALTWTRSED PESTLL	7 SALTWTRSED PESTLL

continue ...

DUDI SEDS, STAS. A,B, ON-CAP

Project Number: 423062-100-4

Personnel: _____

Sample Number	P38325-7	P38325-8	P38325-9
Locator	DUD_1B	DUD_2B	DUD_3B
Short Loc. Desc.	DUD_1B	DUD_2B	DUD_3B
Locator Desc.	Cleanup Area A Monitoring Location	Cleanup Area A Monitoring Location	Cleanup Area A Monitoring Location
Site	DUWAMISH RIVER	DUWAMISH RIVER	DUWAMISH RIVER
Start Date/Time			
End Date/Time			
Sample Depth	11	8	8
Collect Date	3/7/06	→	→
Comments	3 grab comp, 0-10 cm	3 grab comp, 0-10 cm	3 grab comp, 0-10 cm
PERSONNEL	JD JDD JB PR	→	→
SAMP METH	20042	→	→
SED DEPTH	6 9 10 (8)	3, 3, 4, 5, (4) 2	4, 7, 8, 7 (6)
SED SAMP RANGE	0-7 cm	0-4 cm	0-5 cm
SED TYPE	23N2Ø -ROCKS	54N2Ø	54N2Ø
TIDE COND	E	E	E
TIDE HT	6.5	6	4.5
TIME	1028	1105	1238
Dept., Matrix, Prod			
	3 SALTWTRSED PSD	3 SALTWTRSED PSD	3 SALTWTRSED PSD
	3 SALTWTRSED TOC	3 SALTWTRSED TOC	3 SALTWTRSED TOC
	3 SALTWTRSED TOTS	3 SALTWTRSED TOTS	3 SALTWTRSED TOTS
	6 SALTWTRSED AL-ICP	6 SALTWTRSED AL-ICP	6 SALTWTRSED AL-ICP
	6 SALTWTRSED FE-ICP	6 SALTWTRSED FE-ICP	6 SALTWTRSED FE-ICP
	6 SALTWTRSED HG-CVAA	6 SALTWTRSED HG-CVAA	6 SALTWTRSED HG-CVAA
	6 SALTWTRSED MN-ICP	6 SALTWTRSED MN-ICP	6 SALTWTRSED MN-ICP
	6 SALTWTRSED PP ICP	6 SALTWTRSED PP ICP	6 SALTWTRSED PP ICP

ROCKS - SAMPLE KEPT IN SS BUCKET TO BE SIEVED IN LAB

continue ...

DUDI SEDS, STAS. A,B, ON-CAP

Project Number: 423062-100-4

Personnel: _____

Sample Number	P38325-7	P38325-8	P38325-9
	7 SALTWTRSED BNASMS	7 SALTWTRSED BNASMS	7 SALTWTRSED BNASMS
	7 SALTWTRSED PCBLL	7 SALTWTRSED PCBLL	7 SALTWTRSED PCBLL
	7 SALTWTRSED PESTLL	7 SALTWTRSED PESTLL	7 SALTWTRSED PESTLL

End of Fieldsheet.

LABORATORY WORK ORDER
Chain of Custody

Project Name: Duwamish/Diagonal Sediments, On-cap A/B Stations
Project Number: 423062-100-4
Laboratory Project Manager: Fritz Grothkopp/John Blaine
Telephone Number: 684 2327/2384

King County Department of Natural Resources
Water and Land Resources Division
Environmental Laboratory
322 West Ewing Street
Seattle, Washington 98119-1507

Sample Number (Note: Use only one Login No. per sheet.)	Client Locator	Collect Date	Collect Time	TOC/TOTS	PSD	Metals-ICP/HG-CVAA	BNASMS/PESTLL/PCBLL		STAINLESS STEEL BUCKET									Number of Containers	Comments
L 38325 - 1		3/7/06	1315	1	1	1	1											4	JB
L - 2		↓	1340	1	1	1	1		+	JB							4	+	~~TO BE FILTERED, SIEVED, SPLIT IN LAB~~
L - 3			1403	1	1	1	1		+								4	+	
L - 4			1430	1	1	1	1											4	
L - 5			1448	1	1	1	1											4	
L - 6			1448	1	2	1	1											5	
L - 7			1028	1	1	1	1	JB										4	JB
L - 8			1105	~~+~~	~~+~~	~~+~~	~~+~~		1								1	~~4~~	Sieved+split @ Lab
L - 9			1238	~~+~~	~~+~~	~~+~~	~~+~~		1								1	~~4~~	" " "
L -																			
L -																			

Analyses

Additional Comments:

Total Number of Containers 31

Sampled By: JEFF DROKER
JIM DEVERCAUX JOHN BLAINE

Relinquished By: JEFF DROKER
Signature [signature]
Printed Name JEFF DROKER
Organization King County Environmental Laboratory
Date 3/7/06
Time 1630

Received By:
Signature [signature]
Printed Name David C. Hunn
Organization King County Environmental Laboratory
Date 3/7/06
Time 1630