KING COUNTY ENVIRONMENTAL LABORATORY
QUALITY ASSURANCE REVIEW

For

ESTUARINE SEDIMENT ANALYTICAL DATA

DUWAMISH/DIAGONAL SEDIMENT REMEDIATION PROJECT
YEAR TWO, ENR CAP SEDIMENT CHARACTERIZATION
APRIL 2007 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 Two, ENR Cap Sediment Characterization, April 2007 Sampling Event. 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 April 3, 4, 2007 as part of the Duwamish/Diagonal Sediment Remediation Project Year Two, ENR Cap Sediment Characterization, April 2007 Sampling Event.
The Sampling and Analysis Plan (SAP) in effect for this sampling event is titled: Duwamish/Diagonal Sediment Remediation Dredging and Capping Operations
Sediment Monitoring Sampling and Analysis Plan. October 28, 2003. (KCEL document # 177)

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 eight grab marine sediment samples in April 3, 4, 2007. These samples were collected for the Duwamish/Diagonal Sediment Remediation Program. 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. Both the prescribed station coordinates and actual sampling coordinates are presented in the following table (see below). All sampling coordinates are recorded in both latitude/longitude and state plane coordinate system North American Datum 1983 (NAD83). Only the state plane coordinate data is presented in the following table.

Duwamish/Diagonal Sediment Sampling
Actual and Prescribed Sample Coordinates, April 2007

Lab Number	Locator	Cast	Grabs Accepted	Prescribed Northing	Actual Northing	Prescribed Easting	Actual Easting
L42274-1	DUD_3C	1	1	208144	208145	1267146	1267150
L42274-2	DUD_4C	1	1	208239	208242	1267116	1267120
L42274-3	DUD_4C (frep)		1	208239	208242	1267116	1267120
L42274-4	DUD_5C	1	2	208263	208263	1267025	1267031
L42274-5	DUD_6C	1	1	208501	208503	1266950	1266951
L42274-6	DUD_7C	1	2	208486	208489	1266902	1266906
L42274-7	DUD_14C	1	2	208002	208009	1267193	1267192
L42274-8	DUD_15C	1	2	207968	207968	1267057	1267059

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.

Sample Description Table

Lab Number	Station	Sample Collection	Average Sediment Sampling Depth [1]	Sampling Notes
L42274-1	DUD_3C	Surface Grabs	10 cm	
L42274-2	DUD_4C	Surface Grabs	9 cm	
L42274-3	DUD_4C	Surface Grabs (field replicate)	10 cm	
L42274-4	DUD_5C	Surface Grabs	7 cm	
L42274-5	DUD_6C	Surface Grabs	6 cm	
L42274-6	DUD_7C	Surface Grabs	9 cm	
L42274-7	DUD_14C	Surface Grabs	10 cm	
L42274-8	DUD_15C	Surface Grabs	9 cm	

[1] Depth of sediment collected from the successful Van Veen cast

Sample Collection

Sediment was collected at each station using two stainless steel, modified, 0.1 m^2 Van Veen grab samplers, operating independently and deployed in tandem via hydrowire. For each acceptable deployment, between 7-17 cm of sediment was recovered, allowing sub-sampling from the top 6 -

10 cm. Samples consisted of sediment aliquots collected from the least number of Van Veen grabs possible to minimize bottom disturbance at each of these thin-capped stations.

Water depth at the eight subtidal cap sample stations ranged between 8-12 meters (not corrected for tide).

Sample Handling

Approximately equal amounts of sediment were subsampled from the one or more separate grabs used for chemistry analysis. For chemistry testing, 6 to 10 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 one 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.

Decontamination

Individual sets of the sub-sampling and mixing equipment and compositing bowls were dedicated to each station, precluding the need for decontamination of the field gear. The Van Veen grab sampler was decontaminated between stations by scrubbing with a brush and ambient seawater and Detergent 8 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 time is defined as that time that sampling commences at each 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.

Subcontracted Analyses
All analyses were performed at the King County Environmental Laboratory.

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
p+5.00	L42274-all	0.1	0.5	MDL was updated after the SAP was completed.
p+6.00	L42274-all	0.1	0.5	MDL was updated after the SAP was completed.
p+7.00	L42274-all	0.1	0.5	MDL was updated after the SAP was completed.
p+8.00	L42274-all	0.1	0.5	MDL was updated after the SAP was completed.
p+9.00	L42274-all	0.1	0.5	MDL was updated after the SAP was completed.
p+10.00 (equal or more than)	L42274-all	0.1	0.5	MDL was updated after the SAP was completed.
TOC	L42274-all	1000	1100 – 1300	Elevated levels of TOC

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. 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	L42274-1 to -5	03-Apr-2007	04-Apr-2007	05-Apr-2007	6 Months at 4°C	NA
	L42274-6 to -8	04-Apr-2007	09-Apr-2007	10-Apr-2007		
Total Organic Carbon	L42274-1 to -5	03-Apr-2007	18-Apr-2007	09-May-2007	6 months at -18°C	6 months at -18°C
	L42274-6 to -8	04-Apr-2007	18-Apr-2007	09-May-2007		
Total Solids	L42274-1 to -5	03-Apr-2007	18-Apr-2007	18-Apr-2007	6 months at -18°C	NA
	L42274-6 to -8	04-Apr-2007	18-Apr-2007	18-Apr-2007		

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/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. The acceptance limits are not applicable when the unspiked sample level is 4 times or greater than the spiked concentration.

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.

METALS CHEMISTRY

Completeness
Metal chemistry data are reported for all samples and parameters 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
Metals analysis was not subcontracted for these sets of samples.

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

Target List
The reported target list includes all metals specified in Table 1.

Detection Limits
The detection limits (MDLs) reported for Metals parameters are all within the requirements defined by the SAP.

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 during the Third Annual PSDDA Review Meeting. 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	L42274-1 through -8	4/3/07 through 4/4/07	5/2/07	5/3/07	2 Years at -18°C	6 months
Total Mercury	L42274-1 through -8	4/3/07 through 4/4/07	4/20/07	4/25/07	28 days at -18°C	NA

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

Method Blanks
All metals method blanks results were less than the MDL

Standard Reference Materials
The SRM analyzed in association with samples included in this data submission is National Research Council of Canada PACS-2. This SRM is not certified for Silver, Arsenic or Cadmium.

Acceptance limits for the certified elements 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 indicated in the SAP.

Matrix Spikes
All matrix spike recoveries were within the 75 to 125% QC limits with the following exceptions:

The reported matrix spike recovery of 31% for Antimony in WG91307 for sample numbers L42274-1 to 8 is less than the 75% QC acceptance limit. Antimony results for all samples in this data submission have been qualified with the G flag.

The reported matrix spike recovery of 133% for Aluminum in WG91307 for sample numbers L42274-1 to 8 is greater than the 125% QC acceptance limit. Aluminum results for all samples in this data submission have been qualified with the L flag.

Laboratory Replicate Samples
The relative percent differences (RPDs) for laboratory duplicate results for all metals were less than or equal to the QC limit of 20%.

ORGANIC CHEMISTRY

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

Methods
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:

Parameter (in ug/Kg)	Sample ID	SAP MDL	Reported MDL	Reason for higher MDL Value
1,4-Dichlorobenzene	L42274-1 to 4, 6 to 8	0.26	0.28 to 0.36	Elevated MDL due to matrix interferences[1]
Benzoic Acid	L42274- 1 to 8	12	13 to 18	Elevated MDL due to matrix interferences[1]
Coprostanol	L42274- 1 to 8	28	51 to 74	Elevated MDL due to matrix interferences[1]
Pentachlorophenol	L42274- 1 to 8	10	13 to 18	Elevated MDL due to matrix interferences[1]
4,4'-DDD	L42274- 1 to 8	0.67	0.85 to 1.2	Prep method was altered for this set of samples
4,4'-DDE	L42274- 1 to 8	0.67	0.85 to 1.2	Prep method was altered for this set of samples
4,4'-DDT	L42274- 1 to 8	0.67	0.85 to 1.2	Prep method was altered for this set of samples
Aldrin	L42274- 1 to 8	0.67	0.85 to 1.2	Prep method was altered for this set of samples
Aroclor 1016	L42274-1 to 8	4	4.7 to 13	See "Additional QA issues" sub-section at the end of the organic section.
Aroclor 1242	L42274-1 to 8	4	10 to 32	See "Additional QA issues" sub-section at the end of the organic section.
Dieldrin	L42274- 1 to 8	0.67	0.85 to 1.2	Prep method was altered for this set of samples
Endosulfan I	L42274- 1 to 8	0.67	0.85 to 1.2	Prep method was altered for this set of samples
Endosulfan II	L42274- 1 to 8	0.67	0.85 to 1.2	Prep method was altered for this set of samples
Endosulfan Sulfate	L42274- 1 to 8	0.67	0.85 to 1.2	Prep method was altered for this set of samples

Endrin	L42274- 1 to 8	0.67	0.85 to 1.2	Prep method was altered for this set of samples
Endrin Aldehyde	L42274- 1 to 8	0.67	0.85 to 1.2	Prep method was altered for this set of samples
Methoxychlor	L42274- 1 to 8	3.3	4.2 to 6.1	Prep method was altered for this set of samples
Toxaphene	L42274- 1 to 8	6.7	8.5 to 12	Prep method was altered for this set of samples

[1] MDL values for this method have been adjusted higher since the SAP was prepared.

For Non-ionizable Organic parameters, all parameters meet the SAP requirements, when converted to mg/Kg TOC.

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	L42274-1 to 8	3, 4-Apr-07	10-Apr-07	23-Apr-07	1 year at -18°C	40 days at 4°C
Chlorinated Pesticides	L42274-1 to 4, 6 to 8	3, 4-Apr-07	19-Apr-07	19-May-07	1 year at -18°C	40 days at 4°C
	L42274-5	3,-Apr-07	24-Apr-07	09-May-07		
PCB	L42274-1 to 4, 6 to 8	3, 4-Apr-07	19-Apr-07	17, 18-May-07	1 year at -18°C	40 days at 4°C
	L42274-5	3-Apr-07	24-Apr-07	11-May-07		

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

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

1. BNAs

The method blank analyzed with BNAs for L42274 had a result above the MDL for Bis (2-Ethylhexyl) Phthalate (5.4 ug/Kg, wet weight). Sample results for Bis (2-Ethylhexyl) Phthalate for that batch (L42274) have been qualified with the B flag. All 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. All BNA surrogates for L42274 were within acceptable limits.

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 with the exception of sample L42274-2. Decachlorobiphenyl surrogate had a recovery of 167% which is outside the specified limits of 15 to 115%. All PCB results for that sample have been flagged with an "L" to indicate a potential high bias in the sample results.

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 with the exception of sample L42274-2. 2, 4, 5, 6-Tetrachloro-m-xylene had a recovery of 141% which is outside the specified limits of 30 to 134%. All Pesticide results for L42274-2 have been flagged with an "L" to indicate a potential high bias in the sample results.

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 and alpha-Chlordane. 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.

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 was included in the matrix spike and measured recoveries for each were within their acceptance limits.

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 with the exception of Aroclor 1260. Recovery for Aroclor 1260 was 284% which is outside the 28 to 118% limit. All PCB results have been flagged with an "L" to indicate a potential high bias in the sample results.

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% with the exception of Aroclor 1260 with an RPD of 46%. All Aroclor 1260 results have been flagged with an "E" to indicate an estimated result.

Additional QA 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 L42274-1 to -8 due to the overlap of the components from Aroclors 1248, 1254 and 1260. 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.

The table below lists the samples and affected Aroclors.

Lab Sample Number	PCB 1016	1232	PCB 1242
L42274-1	x		x
L42274-2	x		x
L42274-3	x		x
L42274-4	x	x	x
L42274-5	x		x
L42274-6	x		x
L42274-7	x	x	x
L42274-8	x		x

The sample jar for sample L42274-1 to -3 and -6 to -9 were broken while stored in the freezer. The samples was thawed and moved to new containers. All the pesticide and PCB results for these samples have been flagged with an "H" to indicate sample handling and storage issues.

TABLE 1
SEDIMENT SAMPLE INVENTORY

Sample	Locator / Description (see SAP)	PSD	Solids	TOC	Metals[1]	BNAs[2]	Pest/ PCBs	Comments
L42274-1	DUD_3C	x	x	x	x	x	x	
L42274-2	DUD_4C	x	x	x	x	x	x	
L42274-3	DUD_4C	x	x	x	x	x	x	field replicate
L42274-4	DUD_5C	x	x	x	x	x	x	
L42274-5	DUD_6C	x	x	x	x	x	x	
L42274-6	DUD_7C	x	x	x	x	x	x	
L42274-7	DUD_14C	x	x	x	x	x	x	
L42274-8	DUD_15C	x	x	x	x	x	x	

1 Metals = Hg, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn, Fe, Al,
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	to 125%	to 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	to 120%	
high duplicate relative percent difference	E	E	to 35 %	to 20%	NA	for organics and metals
high triplicate relative standard deviation	E	E	NA	NA	to 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	to /=MDL	to /=MDL	to /=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 to 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: 423062-200-4

	Locator:	Descrip:	Sampled:	Lab ID:	Matrix:	% Solids:
	DUD_3C	CLEANUP AREA PERIM	04/03/07 1:20:00 PM	L42274-1	SALTWTRSED	54.1
	DUD_4C	CLEANUP AREA PERIM	04/03/07 1:35:00 PM	L42274-2	SALTWTRSED	67.1
	DUD_4C	CLEANUP AREA PERIM	04/03/07 1:35:00 PM	L42274-3	SALTWTRSED	70.2
	DUD_5C	CLEANUP AREA PERIM	04/03/07 1:50:00 PM	L42274-4	SALTWTRSED	67.3

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)																				
Clay *	18.8		0.5	1	%	8.9		0.5	1	%	9		0.5	1	%	7.3		0.5	1	%
Fines *	49.5		0.5	1	%	26.8		0.5	1	%	27		0.5	1	%	26.1		0.5	1	%
Gravel *	13.5		0.1	1	%	28.2		0.1	1	%	17.3		0.1	1	%	6.1		0.1	1	%
p+0.00 *	1.7		0.1	1	%	3.3		0.1	1	%	4.3		0.1	1	%	1.2		0.1	1	%
p+1.00 *	3.7		0.1	1	%	5.8		0.1	1	%	9.8		0.1	1	%	4.8		0.1	1	%
p+10.0(equal/more than) *	11.9		0.5	1	%	6		0.5	1	%	6		0.5	1	%	5.8		0.5	1	%
p+2.00 *	16.4		0.1	1	%	19.7		0.1	1	%	29.9		0.1	1	%	33.6		0.1	1	%
p+3.00 *	13.1		0.1	1	%	12.5		0.1	1	%	12.4		0.1	1	%	27.1		0.1	1	%
p+4.00 *	4.5		0.1	1	%	3.6		0.1	1	%	3.3		0.1	1	%	4.7		0.1	1	%
p+5.00 *	6.8		0.5	1	%	4.5		0.5	1	%	4.5		0.5	1	%	5.8		0.5	1	%
p+6.00 *	6.8		0.5	1	%	3		0.5	1	%	3		0.5	1	%	4.4		0.5	1	%
p+7.00 *	10.2		0.5	1	%	6		0.5	1	%	6		0.5	1	%	4.4		0.5	1	%
p+8.00 *	6.8		0.5	1	%	4.5		0.5	1	%	4.5		0.5	1	%	4.4		0.5	1	%
p+9.00 *	6.8		0.5	1	%	3		0.5	1	%	3		0.5	1	%	1.5		0.5	1	%
p-1.00 *	4.8		0.1	1	%	11		0.1	1	%	8.5		0.1	1	%	2.4		0.1	1	%
p-2.00 *	3.2		0.1	1	%	9.9		0.1	1	%	4.7		0.1	1	%	1.9		0.1	1	%
p-2.00(less than) *	5.4		0.1	1	%	7.2		0.1	1	%	4.1		0.1	1	%	1.8		0.1	1	%
Sand *	39.4		0.1	1	%	44.8		0.1	1	%	59.7		0.1	1	%	71.5		0.1	1	%
Silt *	30.7		0.5	1	%	17.9		0.5	1	%	18		0.5	1	%	18.9		0.5	1	%
M=CV EPA 9060-PSEP96(03-04-002-003)																				
Total Organic Carbon	12400		1200	2440	mg/Kg	9390		1500	2950	mg/Kg	7310		1200	2360	mg/Kg	7470		1100	2290	mg/Kg
M=CV SM2540-G (03-01-007-002)																				
Total Solids *	54.1		0.005	0.01	%	67.1		0.005	0.01	%	70.2		0.005	0.01	%	67.3		0.005	0.01	%
M=ES NONE																				
Field Personnel	JB,SH,JO,JDD				none	JB,SH,JO,JDD				none	JB,SH,JO,JDD				none	JB,SH,JO,JDD				none
Sampcoordx1 *	1267150				ft	1267120				ft	1267120				ft	1267031				ft
Sampcoordy1 *	208145				ft	208242				ft	208242				ft	208263				ft
Sample Depth *	9				m	8				m	8				m	11				m
Sample Function											FREP @ 42274-2				none					
Sampling Method *	20042				none	20042				none	20042				none	20042				none
Sediment Sampling Depth *	17				cm	10				cm	12				cm	8				cm
Sediment Sampling Range *	0-10 cm				cm	0-9 cm				cm	1-10 cm				cm	0-7 cm				cm
Sediment Type	32N20				none	32N20				none	32N20				none	32N20				none
Tidal Condition	F				none	F				none	F				none	F				none
Tide Height *	2				ft	2.5				ft	2.5				ft	2				ft
M=MT EPA 7471A (06-01-004-003)																				
Mercury, Total, CVAA	0.106		0.0096	0.0957	mg/Kg	0.0949		0.0075	0.075	mg/Kg	0.061	<RDL	0.0068	0.0687	mg/Kg	0.051	<RDL	0.0074	0.074	mg/Kg
M=MT EPA3050B/6010B MOD(6-2-04-02)																				
Aluminum, Total, ICP	21800	L	9.2	46.2	mg/Kg	16200	L	7.5	37.3	mg/Kg	15800	L	7.1	35.6	mg/Kg	14900	L	7.4	37	mg/Kg
Antimony, Total, ICP		<MDL,G	1.4	6.91	mg/Kg		<MDL,G	1.1	5.57	mg/Kg		<MDL,G	1.1	5.34	mg/Kg		<MDL;G	1.1	5.56	mg/Kg
Arsenic, Total, ICP	9.4	<RDL	2.2	11.5	mg/Kg	6.3	<RDL	1.8	9.3	mg/Kg	5.7	<RDL	1.7	8.9	mg/Kg	5.5	<RDL	1.8	9.27	mg/Kg
Beryllium, Total, ICP	0.44	<RDL	0.092	0.462	mg/Kg	0.31	<RDL	0.075	0.373	mg/Kg	0.28	<RDL	0.071	0.356	mg/Kg	0.27	<RDL	0.074	0.37	mg/Kg
Cadmium, Total, ICP	0.18	<RDL	0.18	0.922	mg/Kg	0.18	<RDL	0.15	0.744	mg/Kg		<MDL	0.14	0.712	mg/Kg		<MDL	0.15	0.741	mg/Kg
Chromium, Total, ICP	25.9		0.28	1.38	mg/Kg	19.4		0.22	1.12	mg/Kg	20.7		0.21	1.07	mg/Kg	19.5		0.22	1.11	mg/Kg
Copper, Total, ICP	50.6		0.37	1.84	mg/Kg	39.2		0.3	1.49	mg/Kg	38.9		0.28	1.42	mg/Kg	36.1		0.3	1.48	mg/Kg

King County Environmental Lab Analytical Report

PROJECT: 423062-200-4

	Locator:	Descrip:	Sampled:	Lab ID:	Matrix:	% Solids:
	DUD_3C	CLEANUP AREA PERIM	04/03/07 1:20:00 PM	L42274-1	SALTWTRSED	54.1
	DUD_4C	CLEANUP AREA PERIM	04/03/07 1:35:00 PM	L42274-2	SALTWTRSED	67.1
	DUD_4C	CLEANUP AREA PERIM	04/03/07 1:35:00 PM	L42274-3	SALTWTRSED	70.2
	DUD_5C	CLEANUP AREA PERIM	04/03/07 1:50:00 PM	L42274-4	SALTWTRSED	67.3

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																				
Iron, Total, ICP	29900		4.6	23.1	mg/Kg	23000		3.7	18.6	mg/Kg	22900		3.6	17.8	mg/Kg	22100		3.7	18.6	mg/Kg
Lead, Total, ICP	18.7		1.8	9.22	mg/Kg	13.1		1.5	7.44	mg/Kg	10.9		1.4	7.12	mg/Kg	11.8		1.5	7.41	mg/Kg
Manganese, Total, ICP	338		0.18	0.922	mg/Kg	280		0.15	0.744	mg/Kg	292		0.14	0.712	mg/Kg	284		0.15	0.741	mg/Kg
Nickel, Total, ICP	19.6		0.46	2.31	mg/Kg	15.4		0.37	1.86	mg/Kg	16.2		0.36	1.78	mg/Kg	16.2		0.37	1.86	mg/Kg
Selenium, Total, ICP		<MDL	2.2	11.5	mg/Kg		<MDL	1.8	9.3	mg/Kg		<MDL	1.7	8.9	mg/Kg		<MDL	1.8	9.27	mg/Kg
Silver, Total, ICP		<MDL	0.37	1.84	mg/Kg		<MDL	0.3	1.49	mg/Kg		<MDL	0.28	1.42	mg/Kg		<MDL	0.3	1.48	mg/Kg
Thallium, Total, ICP		<MDL	3.7	18.4	mg/Kg		<MDL	3	14.9	mg/Kg		<MDL	2.8	14.2	mg/Kg		<MDL	3	14.8	mg/Kg
Zinc, Total, ICP	82.4		0.46	2.31	mg/Kg	60.5		0.37	1.86	mg/Kg	55.1		0.36	1.78	mg/Kg	56.9		0.37	1.86	mg/Kg
M=OR EPA 3550B/8270C (7-3-01-004)																				
1,2,4-Trichlorobenzene		<MDL	0.18	0.37	ug/Kg		<MDL	0.15	0.298	ug/Kg		<MDL	0.14	0.285	ug/Kg		<MDL	0.15	0.297	ug/Kg
1,2-Dichlorobenzene		<MDL	0.37	0.739	ug/Kg		<MDL	0.3	0.596	ug/Kg		<MDL	0.28	0.57	ug/Kg		<MDL	0.3	0.594	ug/Kg
1,3-Dichlorobenzene		<MDL	0.37	0.739	ug/Kg		<MDL	0.3	0.596	ug/Kg		<MDL	0.28	0.57	ug/Kg		<MDL	0.3	0.594	ug/Kg
1,4-Dichlorobenzene		<MDL	0.37	0.739	ug/Kg		<MDL	0.3	0.596	ug/Kg		<MDL	0.28	0.57	ug/Kg		<MDL	0.3	0.594	ug/Kg
2,4-Dimethylphenol		<MDL	1.8	3.7	ug/Kg		<MDL	1.5	2.98	ug/Kg		<MDL	1.4	2.85	ug/Kg		<MDL	1.5	2.97	ug/Kg
2-Methylnaphthalene		<MDL	3.7	7.39	ug/Kg		<MDL	3	5.96	ug/Kg		<MDL	2.8	5.7	ug/Kg		<MDL	3	5.94	ug/Kg
2-Methylphenol		<MDL	3.7	7.39	ug/Kg		<MDL	3	5.96	ug/Kg		<MDL	2.8	5.7	ug/Kg		<MDL	3	5.94	ug/Kg
4-Methylphenol		<MDL	7.4	14.8	ug/Kg		<MDL	6	11.9	ug/Kg		<MDL	5.7	11.4	ug/Kg		<MDL	5.9	11.9	ug/Kg
Acenaphthene	4.4	<RDL	3.7	7.39	ug/Kg	3.3	<RDL	3	5.96	ug/Kg		<MDL	2.8	5.7	ug/Kg	4	<RDL	3	5.94	ug/Kg
Acenaphthylene		<MDL	3.7	7.39	ug/Kg	3.4	<RDL	3	5.96	ug/Kg		<MDL	2.8	5.7	ug/Kg		<MDL	3	5.94	ug/Kg
Anthracene	23.3		3.7	7.39	ug/Kg	13.3		3	5.96	ug/Kg	10.4		2.8	5.7	ug/Kg	15.5		3	5.94	ug/Kg
Benzo(a)anthracene	76.2		3.7	7.39	ug/Kg	36.1		3	5.96	ug/Kg	41.6		2.8	5.7	ug/Kg	47.5		3	5.94	ug/Kg
Benzo(a)pyrene	72.6		3.7	7.39	ug/Kg	35.9		3	5.96	ug/Kg	43.7		2.8	5.7	ug/Kg	47.3		3	5.94	ug/Kg
Benzo(b)fluoranthene	116		3.7	7.39	ug/Kg	61		3	5.96	ug/Kg	68.4		2.8	5.7	ug/Kg	69.4		3	5.94	ug/Kg
Benzo(g,h,i)perylene	41		3.7	7.39	ug/Kg	24.7		3	5.96	ug/Kg	27.6		2.8	5.7	ug/Kg	26.9		3	5.94	ug/Kg
Benzo(k)fluoranthene	53.8		3.7	7.39	ug/Kg	28.2		3	5.96	ug/Kg	34.6		2.8	5.7	ug/Kg	35.1		3	5.94	ug/Kg
Benzoic Acid	172		18	37	ug/Kg	68.4		15	29.8	ug/Kg	71.5		14	28.5	ug/Kg	67		15	29.7	ug/Kg
Benzyl Alcohol		<MDL	3.7	7.39	ug/Kg		<MDL	3	5.96	ug/Kg		<MDL	2.8	5.7	ug/Kg		<MDL	3	5.94	ug/Kg
Benzyl Butyl Phthalate	44		1.8	3.7	ug/Kg	16.4		1.5	2.98	ug/Kg	17.7		1.4	2.85	ug/Kg	16.2		1.5	2.97	ug/Kg
Bis(2-Ethylhexyl)Phthalate	200	B	7.4	14.8	ug/Kg	96.3	B	6	11.9	ug/Kg	85.5	B	5.7	11.4	ug/Kg	83.2	B	5.9	11.9	ug/Kg
Carbazole	14.1		3.7	7.39	ug/Kg	8.79		3	5.96	ug/Kg	5.95		2.8	5.7	ug/Kg	6.26		3	5.94	ug/Kg
Chrysene	117		3.7	7.39	ug/Kg	52		3	5.96	ug/Kg	58		2.8	5.7	ug/Kg	59.3		3	5.94	ug/Kg
Coprostanol	677		74	148	ug/Kg	297		60	119	ug/Kg	301		57	114	ug/Kg	290		59	119	ug/Kg
Dibenzo(a,h)anthracene	10.8		3.7	7.39	ug/Kg	7.21		3	5.96	ug/Kg	8.95		2.8	5.7	ug/Kg	7.8		3	5.94	ug/Kg
Dibenzofuran	5	<RDL	3.7	7.39	ug/Kg	3	<RDL	3	5.96	ug/Kg		<MDL	2.8	5.7	ug/Kg		<MDL	3	5.94	ug/Kg
Diethyl Phthalate		<MDL	7.4	14.8	ug/Kg		<MDL	6	11.9	ug/Kg		<MDL	5.7	11.4	ug/Kg		<MDL	5.9	11.9	ug/Kg
Dimethyl Phthalate		<MDL	7.4	14.8	ug/Kg		<MDL	6	11.9	ug/Kg		<MDL	5.7	11.4	ug/Kg		<MDL	5.9	11.9	ug/Kg
Di-N-Butyl Phthalate	18.1		7.4	14.8	ug/Kg	6.9	<RDL	6	11.9	ug/Kg	6.6	<RDL	5.7	11.4	ug/Kg		<MDL	5.9	11.9	ug/Kg
Di-N-Octyl Phthalate		<MDL	7.4	14.8	ug/Kg		<MDL	6	11.9	ug/Kg		<MDL	5.7	11.4	ug/Kg		<MDL	5.9	11.9	ug/Kg
Fluoranthene	226		3.7	7.39	ug/Kg	87		3	5.96	ug/Kg	91.3		2.8	5.7	ug/Kg	98.4		3	5.94	ug/Kg
Fluorene	9.72		3.7	7.39	ug/Kg	4.2	<RDL	3	5.96	ug/Kg	3	<RDL	2.8	5.7	ug/Kg	6.61		3	5.94	ug/Kg
Hexachlorobenzene		<MDL	0.18	0.37	ug/Kg		<MDL	0.15	0.298	ug/Kg		<MDL	0.14	0.285	ug/Kg		<MDL	0.15	0.297	ug/Kg
Hexachlorobutadiene		<MDL	0.92	1.85	ug/Kg		<MDL	0.75	1.49	ug/Kg		<MDL	0.71	1.42	ug/Kg		<MDL	0.74	1.49	ug/Kg
Hexachloroethane		<MDL	1.8	3.7	ug/Kg		<MDL	1.5	2.98	ug/Kg		<MDL	1.4	2.85	ug/Kg		<MDL	1.5	2.97	ug/Kg
Indeno(1,2,3-Cd)Pyrene	50.8		3.7	7.39	ug/Kg	26.7		3	5.96	ug/Kg	29.3		2.8	5.7	ug/Kg	29.4		3	5.94	ug/Kg
Naphthalene		<MDL	3.7	7.39	ug/Kg		<MDL	3	5.96	ug/Kg		<MDL	2.8	5.7	ug/Kg		<MDL	3	5.94	ug/Kg
N-Nitrosodiphenylamine		<MDL	7.4	14.8	ug/Kg		<MDL	6	11.9	ug/Kg		<MDL	5.7	11.4	ug/Kg		<MDL	5.9	11.9	ug/Kg

King County Environmental Lab Analytical Report

PROJECT: 423062-200-4

	Locator:	Descrip:	Sampled:	Lab ID:	Matrix:	% Solids:
	DUD_3C	CLEANUP AREA PERIM	04/03/07 1:20:00 PM	L42274-1	SALTWTRSED	54.1
	DUD_4C	CLEANUP AREA PERIM	04/03/07 1:35:00 PM	L42274-2	SALTWTRSED	67.1
	DUD_4C	CLEANUP AREA PERIM	04/03/07 1:35:00 PM	L42274-3	SALTWTRSED	70.2
	DUD_5C	CLEANUP AREA PERIM	04/03/07 1:50:00 PM	L42274-4	SALTWTRSED	67.3

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																				
Pentachlorophenol		<MDL	18	37	ug/Kg		<MDL	15	29.8	ug/Kg		<MDL	14	28.5	ug/Kg		<MDL	15	29.7	ug/Kg
Phenanthrene	86.1		3.7	7.39	ug/Kg	29.2		3	5.96	ug/Kg	22.9		2.8	5.7	ug/Kg	32.1		3	5.94	ug/Kg
Phenol	9.6	<RDL	7.4	14.8	ug/Kg		<MDL	6	11.9	ug/Kg		<MDL	5.7	11.4	ug/Kg	6.5	<RDL	5.9	11.9	ug/Kg
Pyrene	150		3.7	7.39	ug/Kg	67.1		3	5.96	ug/Kg	62.3		2.8	5.7	ug/Kg	80.7		3	5.94	ug/Kg
Total HPAHS	915		3.7	7.39	ug/Kg	426		3	5.96	ug/Kg	466		2.8	5.7	ug/Kg	502		3	5.94	ug/Kg
Total LPAHs	130		3.7	7.39	ug/Kg	48.6		3	5.96	ug/Kg	40.9		2.8	5.7	ug/Kg	62.1		3	5.94	ug/Kg
M=OR EPA 8081A/8082 (7-3-03-002)																				
4,4'-DDD		<MDL,H	1.2	2.46	ug/Kg		<MDL,H,L	1	1.98	ug/Kg		<MDL,H	0.95	1.89	ug/Kg		<MDL	1	1.98	ug/Kg
4,4'-DDE		<MDL,H	1.2	2.46	ug/Kg		<MDL,H,L	1	1.98	ug/Kg		<MDL,H	0.95	1.89	ug/Kg		<MDL	1	1.98	ug/Kg
4,4'-DDT		<MDL,H	1.2	2.46	ug/Kg		<MDL,H,L	1	1.98	ug/Kg		<MDL,H	0.95	1.89	ug/Kg		<MDL	1	1.98	ug/Kg
Aldrin		<MDL,H	1.2	2.46	ug/Kg		<MDL,H,L	1	1.98	ug/Kg		<MDL,H	0.95	1.89	ug/Kg		<MDL	1	1.98	ug/Kg
Alpha-BHC		<MDL,H	0.61	1.23	ug/Kg		<MDL,H,L	0.49	0.994	ug/Kg		<MDL,H	0.47	0.95	ug/Kg		<MDL	0.49	0.991	ug/Kg
Alpha-Chlordane		<MDL,H	0.61	1.23	ug/Kg		<MDL,H,L	0.49	0.994	ug/Kg		<MDL,H	0.47	0.95	ug/Kg		<MDL	0.49	0.991	ug/Kg
Aroclor 1016		<MDL,H,TA	8.5	17	ug/Kg		<MDL,H,L	9.7	29.2	ug/Kg		<MDL,H,TA	5	10.1	ug/Kg		<MDL,TA	5.9	11.8	ug/Kg
Aroclor 1221		<MDL,H	3.1	6.16	ug/Kg		<MDL,H,L	2.5	4.96	ug/Kg		<MDL,H	2.4	4.74	ug/Kg		<MDL	2.5	4.95	ug/Kg
Aroclor 1232		<MDL,H	3.1	6.16	ug/Kg		<MDL,H,L	2.5	4.96	ug/Kg		<MDL,H	2.4	4.74	ug/Kg		<MDL,TA	9.1	18.3	ug/Kg
Aroclor 1242		<MDL,H,TA	24	49	ug/Kg		<MDL,H,L	19	39.5	ug/Kg		<MDL,H,TA	10	20.1	ug/Kg		<MDL,TA	12	24.2	ug/Kg
Aroclor 1248	17	H	1.5	3.09	ug/Kg	13	H,L	1.2	2.49	ug/Kg	8.76	H	1.2	2.38	ug/Kg	10.7		1.2	2.48	ug/Kg
Aroclor 1254	37	H	1.5	3.09	ug/Kg	21.5	H,L	1.2	2.49	ug/Kg	15.2	H	1.2	2.38	ug/Kg	17.4		1.2	2.48	ug/Kg
Aroclor 1260	26.1	H,L,E	1.5	3.09	ug/Kg	13.2	H,L,E	1.2	2.49	ug/Kg	10.3	H,L,E	1.2	2.38	ug/Kg	10.9	L,E	1.2	2.48	ug/Kg
Beta-BHC		<MDL,H	0.61	1.23	ug/Kg		<MDL,H,L	0.49	0.994	ug/Kg		<MDL,H	0.47	0.95	ug/Kg		<MDL	0.49	0.991	ug/Kg
Delta-BHC		<MDL,H	0.61	1.23	ug/Kg		<MDL,H,L	0.49	0.994	ug/Kg		<MDL,H	0.47	0.95	ug/Kg		<MDL	0.49	0.991	ug/Kg
Dieldrin		<MDL,H	1.2	2.46	ug/Kg		<MDL,H,L	1	1.98	ug/Kg		<MDL,H	0.95	1.89	ug/Kg		<MDL	1	1.98	ug/Kg
Endosulfan I		<MDL,H	1.2	2.46	ug/Kg		<MDL,H,L	1	1.98	ug/Kg		<MDL,H	0.95	1.89	ug/Kg		<MDL	1	1.98	ug/Kg
Endosulfan II		<MDL,H	1.2	2.46	ug/Kg		<MDL,H,L	1	1.98	ug/Kg		<MDL,H	0.95	1.89	ug/Kg		<MDL	1	1.98	ug/Kg
Endosulfan Sulfate		<MDL,H	1.2	2.46	ug/Kg		<MDL,H,L	1	1.98	ug/Kg		<MDL,H	0.95	1.89	ug/Kg		<MDL	1	1.98	ug/Kg
Endrin		<MDL,H	1.2	2.46	ug/Kg		<MDL,H,L	1	1.98	ug/Kg		<MDL,H	0.95	1.89	ug/Kg		<MDL	1	1.98	ug/Kg
Endrin Aldehyde		<MDL,H	1.2	2.46	ug/Kg		<MDL,H,L	1	1.98	ug/Kg		<MDL,H	0.95	1.89	ug/Kg		<MDL	1	1.98	ug/Kg
Gamma-BHC (Lindane)		<MDL,H	0.61	1.23	ug/Kg		<MDL,H,L	0.49	0.994	ug/Kg		<MDL,H	0.47	0.95	ug/Kg		<MDL	0.49	0.991	ug/Kg
Gamma-Chlordane		<MDL,H	0.61	1.23	ug/Kg		<MDL,H,L	0.49	0.994	ug/Kg		<MDL,H	0.47	0.95	ug/Kg		<MDL	0.49	0.991	ug/Kg
Heptachlor		<MDL,H	0.61	1.23	ug/Kg		<MDL,H,L	0.49	0.994	ug/Kg		<MDL,H	0.47	0.95	ug/Kg		<MDL	0.49	0.991	ug/Kg
Heptachlor Epoxide		<MDL,H	0.61	1.23	ug/Kg		<MDL,H,L	0.49	0.994	ug/Kg		<MDL,H	0.47	0.95	ug/Kg		<MDL	0.49	0.991	ug/Kg
Methoxychlor		<MDL,H	6.1	12.3	ug/Kg		<MDL,H,L	4.9	9.94	ug/Kg		<MDL,H	4.7	9.5	ug/Kg		<MDL	4.9	9.91	ug/Kg
Toxaphene		<MDL,H	12	24.6	ug/Kg		<MDL,H,L	10	19.8	ug/Kg		<MDL,H	9.5	18.9	ug/Kg		<MDL	10	19.8	ug/Kg

* Not converted to dry weight basis for this parameter

King County Environmental Lab Analytical Report

PROJECT: 423062-200-4

	Locator:	Descrip:	Sampled:	Lab ID:	Matrix:	% Solids:
	DUD_6C	CLEANUP AREA PERIM	04/03/07 2:08:00 PM	L42274-5	SALTWTRSED	78.8
	DUD_7C	CLEANUP AREA PERIM	04/04/07 9:52:00 AM	L42274-6	SALTWTRSED	55.7
	DUD_14C	PERIMETER LOCATION	04/04/07 9:37:00 AM	L42274-7	SALTWTRSED	65.6
	DUD_15C	DUDI PERIMETER LOC	04/04/07 9:22:00 AM	L42274-8	SALTWTRSED	55.1

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)																				
Clay *	4		0.5	1	%	14.7		0.5	1	%	9		0.5	1	%	15.9		0.5	1	%
Fines *	16.2		0.5	1	%	42.5		0.5	1	%	30.9		0.5	1	%	52.5		0.5	1	%
Gravel *	41		0.1	1	%	6.1		0.1	1	%	5		0.1	1	%	22.7		0.1	1	%
p+0.00 *	3.6		0.1	1	%	3.3		0.1	1	%	0.8	<RDL	0.1	1	%	1.5		0.1	1	%
p+1.00 *	4.8		0.1	1	%	8.9		0.1	1	%	3.5		0.1	1	%	2.1		0.1	1	%
p+10.0(equal/more than) *	2.7		0.5	1	%	8.7		0.5	1	%	5.3		0.5	1	%	8.4		0.5	1	%
p+2.00 *	19.2		0.1	1	%	15.3		0.1	1	%	26.7		0.1	1	%	6		0.1	1	%
p+3.00 *	12.6		0.1	1	%	11.8		0.1	1	%	20.1		0.1	1	%	6.9		0.1	1	%
p+4.00 *	3.2		0.1	1	%	9.5		0.1	1	%	8.1		0.1	1	%	6.1		0.1	1	%
p+5.00 *	4		0.5	1	%	7.8		0.5	1	%	5.3		0.5	1	%	11.3		0.5	1	%
p+6.00 *	2.7		0.5	1	%	3.5		0.5	1	%	6		0.5	1	%	5.6		0.5	1	%
p+7.00 *	4		0.5	1	%	8.7		0.5	1	%	5.3		0.5	1	%	12.2		0.5	1	%
p+8.00 *	1.4		0.5	1	%	7.8		0.5	1	%	5.3		0.5	1	%	7.5		0.5	1	%
p+9.00 *	1.4		0.5	1	%	6.1		0.5	1	%	3.8		0.5	1	%	7.5		0.5	1	%
p-1.00 *	15.3		0.1	1	%	2.1		0.1	1	%	2.6		0.1	1	%	6.9		0.1	1	%
p-2.00 *	12.9		0.1	1	%	0.6	<RDL	0.1	1	%	1.2		0.1	1	%	6.8		0.1	1	%
p-2.00(less than) *	12.8		0.1	1	%	3.4		0.1	1	%	1.3		0.1	1	%	9		0.1	1	%
Sand *	43.4		0.1	1	%	48.8		0.1	1	%	59.2		0.1	1	%	22.6		0.1	1	%
Silt *	12.1		0.5	1	%	27.8		0.5	1	%	21.9		0.5	1	%	36.6		0.5	1	%
M=CV EPA 9060-PSEP96(03-04-002-003)																				
Total Organic Carbon	6980		1100	2250	mg/Kg	13600		1200	2440	mg/Kg	10200		1300	2530	mg/Kg	15300		1300	2600	mg/Kg
M=CV SM2540-G (03-01-007-002)																				
Total Solids *	78.8		0.005	0.01	%	55.7		0.005	0.01	%	65.6		0.005	0.01	%	55.1		0.005	0.01	%
M=ES NONE																				
Field Personnel	JB,SH,JO,JDD				none	JB,BK,SH,DR				none	JB,BK,SH,DR				none	JB,BK,SH,DR				none
Sampcoordx1 *	1266951				ft	1266906				ft	1267192				ft	1267059				ft
Sampcoordy1 *	208503				ft	208489				ft	208009				ft	207968				ft
Sample Depth *	11				m	11				m	10				m	12				m
Sample Function																				
Sampling Method *	20042				none	20042				none	20042				none	20042				none
Sediment Sampling Depth *	7				cm	10				cm	13				cm	10				cm
Sediment Sampling Range *	0-6 cm				cm	0-9 cm				cm	0-10 cm				cm	0-9 cm				cm
Sediment Type	32N20				none	23N21				none	23N21				none	24N21				none
Tidal Condition	F				none	E				none	E				none	E				none
Tide Height *	2.5				ft	5				ft	5.5				ft	6				ft
M=MT EPA 7471A (06-01-004-003)																				
Mercury, Total, CVAA	0.048	<RDL	0.0061	0.0612	mg/Kg	0.118		0.0092	0.0912	mg/Kg	0.139		0.0075	0.0753	mg/Kg	0.117		0.0093	0.0931	mg/Kg
M=MT EPA3050B/6010B MOD(6-2-04-02)																				
Aluminum, Total, ICP	12300	L	6.3	31.6	mg/Kg	21900	L	9	44.9	mg/Kg	15400	L	7.6	38	mg/Kg	20700	L	9.1	45.2	mg/Kg
Antimony, Total, ICP		<MDL,G	0.95	4.75	mg/Kg		<MDL,G	1.3	6.73	mg/Kg		<MDL,G	1.1	5.7	mg/Kg		<MDL,G	1.4	6.79	mg/Kg
Arsenic, Total, ICP	5.1	<RDL	1.5	7.91	mg/Kg	10	<RDL	2.2	11.2	mg/Kg	7.3	<RDL	1.8	9.5	mg/Kg	9.6	<RDL	2.2	11.3	mg/Kg
Beryllium, Total, ICP	0.23	<RDL	0.063	0.316	mg/Kg	0.451		0.09	0.449	mg/Kg	0.29	<RDL	0.076	0.38	mg/Kg	0.42	<RDL	0.091	0.452	mg/Kg
Cadmium, Total, ICP		<MDL	0.13	0.633	mg/Kg	0.22	<RDL	0.18	0.898	mg/Kg	0.26	<RDL	0.15	0.761	mg/Kg	0.2	<RDL	0.18	0.906	mg/Kg
Chromium, Total, ICP	16.8		0.19	0.949	mg/Kg	25.3		0.27	1.35	mg/Kg	23.6		0.23	1.14	mg/Kg	23.4		0.27	1.36	mg/Kg
Copper, Total, ICP	31.6		0.25	1.27	mg/Kg	51.5		0.36	1.8	mg/Kg	52.1		0.3	1.52	mg/Kg	45.2		0.36	1.81	mg/Kg

King County Environmental Lab Analytical Report

PROJECT: 423062-200-4

	Locator:	Descrip:	Sampled:	Lab ID:	Matrix:	% Solids:
	DUD_6C	CLEANUP AREA PERIM	04/03/07 2:08:00 PM	L42274-5	SALTWTRSED	78.8
	DUD_7C	CLEANUP AREA PERIM	04/04/07 9:52:00 AM	L42274-6	SALTWTRSED	55.7
	DUD_14C	PERIMETER LOCATION	04/04/07 9:37:00 AM	L42274-7	SALTWTRSED	65.6
	DUD_15C	DUDI PERIMETER LOC	04/04/07 9:22:00 AM	L42274-8	SALTWTRSED	55.1

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																				
Iron, Total, ICP	18800		3.2	15.9	mg/Kg	30200		4.5	22.4	mg/Kg	23600		3.8	19.1	mg/Kg	27400		4.5	22.7	mg/Kg
Lead, Total, ICP	10.4		1.3	6.33	mg/Kg	18.7		1.8	8.98	mg/Kg	24.2		1.5	7.61	mg/Kg	17.6		1.8	9.06	mg/Kg
Manganese, Total, ICP	261		0.13	0.633	mg/Kg	361		0.18	0.898	mg/Kg	262		0.15	0.761	mg/Kg	330		0.18	0.906	mg/Kg
Nickel, Total, ICP	13.7		0.32	1.59	mg/Kg	20.1		0.45	2.24	mg/Kg	18		0.38	1.91	mg/Kg	17.9		0.45	2.27	mg/Kg
Selenium, Total, ICP		<MDL	1.5	7.91	mg/Kg		<MDL	2.2	11.2	mg/Kg		<MDL	1.8	9.5	mg/Kg		<MDL	2.2	11.3	mg/Kg
Silver, Total, ICP		<MDL	0.25	1.27	mg/Kg		<MDL	0.36	1.8	mg/Kg	0.47	<RDL	0.3	1.52	mg/Kg		<MDL	0.36	1.81	mg/Kg
Thallium, Total, ICP		<MDL	2.5	12.7	mg/Kg		<MDL	3.6	18	mg/Kg		<MDL	3	15.2	mg/Kg		<MDL	3.6	18.1	mg/Kg
Zinc, Total, ICP	52.4		0.32	1.59	mg/Kg	86		0.45	2.24	mg/Kg	79.3		0.38	1.91	mg/Kg	78.9		0.45	2.27	mg/Kg
M=OR EPA 3550B/8270C (7-3-01-004)																				
1,2,4-Trichlorobenzene		<MDL	0.13	0.254	ug/Kg		<MDL	0.18	0.359	ug/Kg		<MDL	0.15	0.305	ug/Kg		<MDL	0.18	0.363	ug/Kg
1,2-Dichlorobenzene		<MDL	0.25	0.508	ug/Kg		<MDL	0.36	0.718	ug/Kg		<MDL	0.3	0.61	ug/Kg		<MDL	0.36	0.726	ug/Kg
1,3-Dichlorobenzene		<MDL	0.25	0.508	ug/Kg		<MDL	0.36	0.718	ug/Kg		<MDL	0.3	0.61	ug/Kg		<MDL	0.36	0.726	ug/Kg
1,4-Dichlorobenzene		<MDL	0.25	0.508	ug/Kg		<MDL	0.36	0.718	ug/Kg		<MDL	0.3	0.61	ug/Kg		<MDL	0.36	0.726	ug/Kg
2,4-Dimethylphenol		<MDL	1.3	2.54	ug/Kg		<MDL	1.8	3.59	ug/Kg		<MDL	1.5	3.05	ug/Kg		<MDL	1.8	3.63	ug/Kg
2-Methylnaphthalene		<MDL	2.5	5.08	ug/Kg		<MDL	3.6	7.18	ug/Kg		<MDL	3	6.1	ug/Kg		<MDL	3.6	7.26	ug/Kg
2-Methylphenol		<MDL	2.5	5.08	ug/Kg		<MDL	3.6	7.18	ug/Kg		<MDL	3	6.1	ug/Kg		<MDL	3.6	7.26	ug/Kg
4-Methylphenol		<MDL	5.1	10.2	ug/Kg		<MDL	7.2	14.4	ug/Kg		<MDL	6.1	12.2	ug/Kg		<MDL	7.3	14.5	ug/Kg
Acenaphthene	3.2	<RDL	2.5	5.08	ug/Kg	3.9	<RDL	3.6	7.18	ug/Kg	4.1	<RDL	3	6.1	ug/Kg	3.8	<RDL	3.6	7.26	ug/Kg
Acenaphthylene		<MDL	2.5	5.08	ug/Kg		<MDL	3.6	7.18	ug/Kg	6.36		3	6.1	ug/Kg		<MDL	3.6	7.26	ug/Kg
Anthracene	10.3		2.5	5.08	ug/Kg	25.5		3.6	7.18	ug/Kg	40.7		3	6.1	ug/Kg	19.6		3.6	7.26	ug/Kg
Benzo(a)anthracene	35.2		2.5	5.08	ug/Kg	74.3		3.6	7.18	ug/Kg	112		3	6.1	ug/Kg	48.8		3.6	7.26	ug/Kg
Benzo(a)pyrene	36.7		2.5	5.08	ug/Kg	70.9		3.6	7.18	ug/Kg	93.3		3	6.1	ug/Kg	55.4		3.6	7.26	ug/Kg
Benzo(b)fluoranthene	57.1		2.5	5.08	ug/Kg	106		3.6	7.18	ug/Kg	136		3	6.1	ug/Kg	84		3.6	7.26	ug/Kg
Benzo(g,h,i)perylene	22.7		2.5	5.08	ug/Kg	47.9		3.6	7.18	ug/Kg	56.7		3	6.1	ug/Kg	37.6		3.6	7.26	ug/Kg
Benzo(k)fluoranthene	24.1		2.5	5.08	ug/Kg	57.5		3.6	7.18	ug/Kg	98.3		3	6.1	ug/Kg	37.9		3.6	7.26	ug/Kg
Benzoic Acid	62.1		13	25.4	ug/Kg	97.8		18	35.9	ug/Kg	75.5		15	30.5	ug/Kg	83.5		18	36.3	ug/Kg
Benzyl Alcohol		<MDL	2.5	5.08	ug/Kg		<MDL	3.6	7.18	ug/Kg		<MDL	3	6.1	ug/Kg		<MDL	3.6	7.26	ug/Kg
Benzyl Butyl Phthalate	18.1		1.3	2.54	ug/Kg	26		1.8	3.59	ug/Kg	21.2		1.5	3.05	ug/Kg	22.3		1.8	3.63	ug/Kg
Bis(2-Ethylhexyl)Phthalate	73.9	B	5.1	10.2	ug/Kg	155	B	7.2	14.4	ug/Kg	165	B	6.1	12.2	ug/Kg	141	B	7.3	14.5	ug/Kg
Carbazole	4.4	<RDL	2.5	5.08	ug/Kg	11.2		3.6	7.18	ug/Kg	13.5		3	6.1	ug/Kg	12.1		3.6	7.26	ug/Kg
Chrysene	52.7		2.5	5.08	ug/Kg	121		3.6	7.18	ug/Kg	181		3	6.1	ug/Kg	83.3		3.6	7.26	ug/Kg
Coprostanol	245		51	102	ug/Kg	397		72	144	ug/Kg	328		61	122	ug/Kg	336		73	145	ug/Kg
Dibenzo(a,h)anthracene	6.04		2.5	5.08	ug/Kg	12.5		3.6	7.18	ug/Kg	15.7		3	6.1	ug/Kg	10.1		3.6	7.26	ug/Kg
Dibenzofuran	3	<RDL	2.5	5.08	ug/Kg	4.7	<RDL	3.6	7.18	ug/Kg	4.6	<RDL	3	6.1	ug/Kg	4	<RDL	3.6	7.26	ug/Kg
Diethyl Phthalate		<MDL	5.1	10.2	ug/Kg		<MDL	7.2	14.4	ug/Kg		<MDL	6.1	12.2	ug/Kg		<MDL	7.3	14.5	ug/Kg
Dimethyl Phthalate		<MDL	5.1	10.2	ug/Kg		<MDL	7.2	14.4	ug/Kg		<MDL	6.1	12.2	ug/Kg		<MDL	7.3	14.5	ug/Kg
Di-N-Butyl Phthalate	5.3	<RDL	5.1	10.2	ug/Kg	8.3	<RDL	7.2	14.4	ug/Kg	6.3	<RDL	6.1	12.2	ug/Kg	8.7	<RDL	7.3	14.5	ug/Kg
Di-N-Octyl Phthalate		<MDL	5.1	10.2	ug/Kg		<MDL	7.2	14.4	ug/Kg		<MDL	6.1	12.2	ug/Kg		<MDL	7.3	14.5	ug/Kg
Fluoranthene	75.6		2.5	5.08	ug/Kg	154		3.6	7.18	ug/Kg	195		3	6.1	ug/Kg	131		3.6	7.26	ug/Kg
Fluorene	4.2	<RDL	2.5	5.08	ug/Kg	7.49		3.6	7.18	ug/Kg	10.4		3	6.1	ug/Kg	6.5	<RDL	3.6	7.26	ug/Kg
Hexachlorobenzene		<MDL	0.13	0.254	ug/Kg		<MDL	0.18	0.359	ug/Kg		<MDL	0.15	0.305	ug/Kg		<MDL	0.18	0.363	ug/Kg
Hexachlorobutadiene		<MDL	0.63	1.27	ug/Kg		<MDL	0.9	1.8	ug/Kg		<MDL	0.76	1.52	ug/Kg		<MDL	0.91	1.81	ug/Kg
Hexachloroethane		<MDL	1.3	2.54	ug/Kg		<MDL	1.8	3.59	ug/Kg		<MDL	1.5	3.05	ug/Kg		<MDL	1.8	3.63	ug/Kg
Indeno(1,2,3-Cd)Pyrene	25.9		2.5	5.08	ug/Kg	49.4		3.6	7.18	ug/Kg	55.6		3	6.1	ug/Kg	39		3.6	7.26	ug/Kg
Naphthalene		<MDL	2.5	5.08	ug/Kg		<MDL	3.6	7.18	ug/Kg	3.4	<RDL	3	6.1	ug/Kg		<MDL	3.6	7.26	ug/Kg
N-Nitrosodiphenylamine		<MDL	5.1	10.2	ug/Kg		<MDL	7.2	14.4	ug/Kg		<MDL	6.1	12.2	ug/Kg		<MDL	7.3	14.5	ug/Kg

King County Environmental Lab Analytical Report

PROJECT: 423062-200-4

	Locator:	Descrip:	Sampled:	Lab ID:	Matrix:	% Solids:
	DUD_6C	CLEANUP AREA PERIM	04/03/07 2:08:00 PM	L42274-5	SALTWTRSED	78.8
	DUD_7C	CLEANUP AREA PERIM	04/04/07 9:52:00 AM	L42274-6	SALTWTRSED	55.7
	DUD_14C	PERIMETER LOCATION	04/04/07 9:37:00 AM	L42274-7	SALTWTRSED	65.6
	DUD_15C	DUDI PERIMETER LOC	04/04/07 9:22:00 AM	L42274-8	SALTWTRSED	55.1

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																				
Pentachlorophenol		<MDL	13	25.4	ug/Kg		<MDL	18	35.9	ug/Kg		<MDL	15	30.5	ug/Kg		<MDL	18	36.3	ug/Kg
Phenanthrene	26		2.5	5.08	ug/Kg	55.1		3.6	7.18	ug/Kg	62.2		3	6.1	ug/Kg	48.6		3.6	7.26	ug/Kg
Phenol		<MDL	5.1	10.2	ug/Kg		<MDL	7.2	14.4	ug/Kg		<MDL	6.1	12.2	ug/Kg		<MDL	7.3	14.5	ug/Kg
Pyrene	66.5		2.5	5.08	ug/Kg	125		3.6	7.18	ug/Kg	162		3	6.1	ug/Kg	110		3.6	7.26	ug/Kg
Total HPAHS	402		2.5	5.08	ug/Kg	819		3.6	7.18	ug/Kg	1110		3	6.1	ug/Kg	637		3.6	7.26	ug/Kg
Total LPAHs	47.2		2.5	5.08	ug/Kg	98.2		3.6	7.18	ug/Kg	130		3	6.1	ug/Kg	84.4		3.6	7.26	ug/Kg
M=OR EPA 8081A/8082 (7-3-03-002)																				
4,4'-DDD		<MDL	0.85	1.69	ug/Kg		<MDL,H	1.2	2.39	ug/Kg		<MDL,H	1	2.03	ug/Kg		<MDL,H	1.2	2.41	ug/Kg
4,4'-DDE		<MDL	0.85	1.69	ug/Kg		<MDL,H	1.2	2.39	ug/Kg		<MDL,H	1	2.03	ug/Kg		<MDL,H	1.2	2.41	ug/Kg
4,4'-DDT		<MDL	0.85	1.69	ug/Kg		<MDL,H	1.2	2.39	ug/Kg		<MDL,H	1	2.03	ug/Kg		<MDL,H	1.2	2.41	ug/Kg
Aldrin		<MDL	0.85	1.69	ug/Kg		<MDL,H	1.2	2.39	ug/Kg		<MDL,H	1	2.03	ug/Kg		<MDL,H	1.2	2.41	ug/Kg
Alpha-BHC		<MDL	0.42	0.846	ug/Kg		<MDL,H	0.59	1.2	ug/Kg		<MDL,H	0.5	1.02	ug/Kg		<MDL,H	0.6	1.21	ug/Kg
Alpha-Chlordane		<MDL	0.42	0.846	ug/Kg		<MDL,H	0.59	1.2	ug/Kg		<MDL,H	0.5	1.02	ug/Kg		<MDL,H	0.6	1.21	ug/Kg
Aroclor 1016		<MDL,TA	4.7	9.39	ug/Kg		<MDL,H,TA	8.8	17.5	ug/Kg		<MDL,H,TA	13	26.7	ug/Kg		<MDL,H,TA	4.5	9.2	ug/Kg
Aroclor 1221		<MDL	2.2	4.23	ug/Kg		<MDL,H	3.1	5.98	ug/Kg		<MDL,H	2.6	5.08	ug/Kg		<MDL,H	3.1	6.04	ug/Kg
Aroclor 1232		<MDL,TA	7.7	15.6	ug/Kg		<MDL,H	3.1	5.98	ug/Kg		<MDL,H,TA	27	55.8	ug/Kg		<MDL,H	3.1	6.04	ug/Kg
Aroclor 1242		<MDL,TA	15	30.8	ug/Kg		<MDL,H,TA	23	45.1	ug/Kg		<MDL,H,TA	32	64.8	ug/Kg		<MDL,H,TA	18	35.2	ug/Kg
Aroclor 1248	8.88		1.1	2.12	ug/Kg	19.6	H	1.5	3	ug/Kg	24.7	H	1.3	2.55	ug/Kg	11.3	H	1.5	3.03	ug/Kg
Aroclor 1254	14.3		1.1	2.12	ug/Kg	38.1	H	1.5	3	ug/Kg	48.2	H	1.3	2.55	ug/Kg	18.1	H	1.5	3.03	ug/Kg
Aroclor 1260	9.49	L	1.1	2.12	ug/Kg	19.9	H,L,E	1.5	3	ug/Kg	48.5	H,L,E	1.3	2.55	ug/Kg	13.1	H,L,E	1.5	3.03	ug/Kg
Beta-BHC		<MDL	0.42	0.846	ug/Kg		<MDL,H	0.59	1.2	ug/Kg		<MDL,H	0.5	1.02	ug/Kg		<MDL,H	0.6	1.21	ug/Kg
Delta-BHC		<MDL	0.42	0.846	ug/Kg		<MDL,H	0.59	1.2	ug/Kg		<MDL,H	0.5	1.02	ug/Kg		<MDL,H	0.6	1.21	ug/Kg
Dieldrin		<MDL	0.85	1.69	ug/Kg		<MDL,H	1.2	2.39	ug/Kg		<MDL,H	1	2.03	ug/Kg		<MDL,H	1.2	2.41	ug/Kg
Endosulfan I		<MDL	0.85	1.69	ug/Kg		<MDL,H	1.2	2.39	ug/Kg		<MDL,H	1	2.03	ug/Kg		<MDL,H	1.2	2.41	ug/Kg
Endosulfan II		<MDL	0.85	1.69	ug/Kg		<MDL,H	1.2	2.39	ug/Kg		<MDL,H	1	2.03	ug/Kg		<MDL,H	1.2	2.41	ug/Kg
Endosulfan Sulfate		<MDL	0.85	1.69	ug/Kg		<MDL,H	1.2	2.39	ug/Kg		<MDL,H	1	2.03	ug/Kg		<MDL,H	1.2	2.41	ug/Kg
Endrin		<MDL	0.85	1.69	ug/Kg		<MDL,H	1.2	2.39	ug/Kg		<MDL,H	1	2.03	ug/Kg		<MDL,H	1.2	2.41	ug/Kg
Endrin Aldehyde		<MDL	0.85	1.69	ug/Kg		<MDL,H	1.2	2.39	ug/Kg		<MDL,H	1	2.03	ug/Kg		<MDL,H	1.2	2.41	ug/Kg
Gamma-BHC (Lindane)		<MDL	0.42	0.846	ug/Kg		<MDL,H	0.59	1.2	ug/Kg		<MDL,H	0.5	1.02	ug/Kg		<MDL,H	0.6	1.21	ug/Kg
Gamma-Chlordane		<MDL	0.42	0.846	ug/Kg		<MDL,H	0.59	1.2	ug/Kg		<MDL,H	0.5	1.02	ug/Kg		<MDL,H	0.6	1.21	ug/Kg
Heptachlor		<MDL	0.42	0.846	ug/Kg		<MDL,H	0.59	1.2	ug/Kg		<MDL,H	0.5	1.02	ug/Kg		<MDL,H	0.6	1.21	ug/Kg
Heptachlor Epoxide		<MDL	0.42	0.846	ug/Kg	1.28	H	0.59	1.2	ug/Kg		<MDL,H	0.5	1.02	ug/Kg	0.64	<RDL,H	0.6	1.21	ug/Kg
Methoxychlor		<MDL	4.2	8.46	ug/Kg		<MDL,H	5.9	12	ug/Kg		<MDL,H	5	10.2	ug/Kg		<MDL,H	6	12.1	ug/Kg
Toxaphene		<MDL	8.5	16.9	ug/Kg		<MDL,H	12	23.9	ug/Kg		<MDL,H	10	20.3	ug/Kg		<MDL,H	12	24.1	ug/Kg

* Not converted to dry weight basis for this parameter

PROJECT: 423062-200-4

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 * %	Sampcoordx1 * ft	Sampcoordy1 * ft	Sample Depth * m	Sampling Method * none
DUD_3C	9	L42274-1	18.8	49.5	13.5	1.7	3.7	11.9	16.4	13.1	4.5	6.8	6.8	10.2	6.8	6.8	4.8	3.2	5.4	39.4	30.7	12400	54.1	1267150	208145	9	20042
DUD_4C	8	L42274-2	8.9	26.8	28.2	3.3	5.8	6	19.7	12.5	3.6	4.5	3	6	4.5	3	11	9.9	7.2	44.8	17.9	9390	67.1	1267120	208242	8	20042
DUD_4C FREP	8	L42274-3	9	27	17.3	4.3	9.8	6	29.9	12.4	3.3	4.5	3	6	4.5	3	8.5	4.7	4.1	59.7	18	7310	70.2	1267120	208242	8	20042
DUD_5C	11	L42274-4	7.3	26.1	6.1	1.2	4.8	5.8	33.6	27.1	4.7	5.8	4.4	4.4	4.4	1.5	2.4	1.9	1.8	71.5	18.9	7470	67.3	1267031	208263	11	20042
DUD_6C	11	L42274-5	4	16.2	41	3.6	4.8	2.7	19.2	12.6	3.2	4	2.7	4	1.4	1.4	15.3	12.9	12.8	43.4	12.1	6980	78.8	1266951	208503	11	20042
DUD_7C	11	L42274-6	14.7	42.5	6.1	3.3	8.9	8.7	15.3	11.8	9.5	7.8	3.5	8.7	7.8	6.1	2.1	0.6	3.4	48.8	27.8	13600	55.7	1266906	208489	11	20042
DUD_14C	10	L42274-7	9	30.9	5	0.8	3.5	5.3	26.7	20.1	8.1	5.3	6	5.3	5.3	3.8	2.6	1.2	1.3	59.2	21.9	10200	65.6	1267192	208009	10	20042
DUD_15C	12	L42274-8	15.9	52.5	22.7	1.5	2.1	8.4	6	6.9	6.1	11.3	5.6	12.2	7.5	7.5	6.9	6.8	9	22.6	36.6	15300	55.1	1267059	207968	12	20042

PROJECT: 423062-200-4

King County Environmental Lab Matrix Report

COMBINED LABS-Solid

Locator	Sample Depth	Lab ID	Sediment Sampling Depth *	Tide Height *	Aluminum, Total, ICP	Arsenic, Total, ICP	Beryllium, Total, ICP	Cadmium, Total, ICP	Chromium, Total, ICP	Copper, Total, ICP	Iron, Total, ICP	Lead, Total, ICP	Manganese, Total, ICP	Mercury, Total, CVAA	Nickel, Total, ICP	Silver, Total, ICP	Zinc, Total, ICP	Acenaphthene	Acenaphthylene	Anthracene	Aroclor 1248	Aroclor 1254	Aroclor 1260
			cm	ft	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
DUD_3C	9	L42274-1	17	2	21800	9.4	0.44	0.18	25.9	50.6	29900	18.7	338	0.106	19.6		82.4	4.4		23.3	17	37	26.1
DUD_4C	8	L42274-2	10	2.5	16200	6.3	0.31	0.18	19.4	39.2	23000	13.1	280	0.0949	15.4		60.5	3.3	3.4	13.3	13	21.5	13.2
DUD_4C FREP	8	L42274-3	12	2.5	15800	5.7	0.28		20.7	38.9	22900	10.9	292	0.061	16.2		55.1			10.4	8.76	15.2	10.3
DUD_5C	11	L42274-4	8	2	14900	5.5	0.27		19.5	36.1	22100	11.8	284	0.051	16.2		56.9	4		15.5	10.7	17.4	10.9
DUD_6C	11	L42274-5	7	2.5	12300	5.1	0.23		16.8	31.6	18800	10.4	261	0.048	13.7		52.4	3.2		10.3	8.88	14.3	9.49
DUD_7C	11	L42274-6	10	5	21900	10	0.451	0.22	25.3	51.5	30200	18.7	361	0.118	20.1		86	3.9		25.5	19.6	38.1	19.9
DUD_14C	10	L42274-7	13	5.5	15400	7.3	0.29	0.26	23.6	52.1	23600	24.2	262	0.139	18	0.47	79.3	4.1	6.36	40.7	24.7	48.2	48.5
DUD_15C	12	L42274-8	10	6	20700	9.6	0.42	0.2	23.4	45.2	27400	17.6	330	0.117	17.9		78.9	3.8		19.6	11.3	18.1	13.1

PROJECT: 423062-200-4

King County Environmental Lab Matrix Report

COMBINED LABS-Solid

Locator	Sample Depth	Lab ID	Benzo(a)anthracene ug/Kg	Benzo(a)pyrene ug/Kg	Benzo(b)fluoranthene ug/Kg	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	Coprostanol ug/Kg	Di-N-Butyl Phthalate ug/Kg	Dibenzo(a,h)anthracene ug/Kg	Dibenzofuran ug/Kg	Fluoranthene ug/Kg	Fluorene ug/Kg	Heptachlor Epoxide ug/Kg	Indeno(1,2,3-Cd)Pyrene ug/Kg	Naphthalene ug/Kg	Phenanthrene ug/Kg	Phenol ug/Kg	Pyrene ug/Kg
DUD_3C	9	L42274-1	76.2	72.6	116	41	53.8	172	44	200	14.1	117	677	18.1	10.8	5	226	9.72		50.8		86.1	9.6	150
DUD_4C	8	L42274-2	36.1	35.9	61	24.7	28.2	68.4	16.4	96.3	8.79	52	297	6.9	7.21	3	87	4.2		26.7		29.2		67.1
DUD_4C FREP	8	L42274-3	41.6	43.7	68.4	27.6	34.6	71.5	17.7	85.5	5.95	58	301	6.6	8.95		91.3	3		29.3		22.9		62.3
DUD_5C	11	L42274-4	47.5	47.3	69.4	26.9	35.1	67	16.2	83.2	6.26	59.3	290		7.8		98.4	6.61		29.4		32.1	6.5	80.7
DUD_6C	11	L42274-5	35.2	36.7	57.1	22.7	24.1	62.1	18.1	73.9	4.4	52.7	245	5.3	6.04	3	75.6	4.2		25.9		26		66.5
DUD_7C	11	L42274-6	74.3	70.9	106	47.9	57.5	97.8	26	155	11.2	121	397	8.3	12.5	4.7	154	7.49	1.28	49.4		55.1		125
DUD_14C	10	L42274-7	112	93.3	136	56.7	98.3	75.5	21.2	165	13.5	181	328	6.3	15.7	4.6	195	10.4		55.6	3.4	62.2		162
DUD_15C	12	L42274-8	48.8	55.4	84	37.6	37.9	83.5	22.3	141	12.1	83.3	336	8.7	10.1	4	131	6.5	0.64	39		48.6		110

PROJECT: 423062-200-4

King County Environmental Lab Matrix Report

COMBINED LABS-Solid

Locator	Sample Depth	Lab ID	Total HPAHS ug/Kg	Total LPAHs ug/Kg
DUD_3C	9	L42274-1	915	130
DUD_4C	8	L42274-2	426	48.6
DUD_4C FREP	8	L42274-3	466	40.9
DUD_5C	11	L42274-4	502	62.1
DUD_6C	11	L42274-5	402	47.2
DUD_7C	11	L42274-6	819	98.2
DUD_14C	10	L42274-7	1110	130
DUD_15C	12	L42274-8	637	84.4

KING COUNTY ENVIRONMENTAL LABORATORY

Analytical Text Value Report

JUL 24 2007, 13:18

PROJECT:423062-200-4

SAMPLENUM	PARM NAME	TEXT VALUE
L42274-1	4,4'-DDD	Broken sample container
L42274-1	4,4'-DDE	Broken sample container
L42274-1	4,4'-DDT	Broken sample container
L42274-1	Aldrin	Broken sample container
L42274-1	Alpha-BHC	Broken sample container
L42274-1	Alpha-Chlordane	Broken sample container
L42274-1	Aroclor 1016	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-1	Aroclor 1221	Broken sample container
L42274-1	Aroclor 1232	Broken sample container
L42274-1	Aroclor 1242	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-1	Aroclor 1248	Broken sample container
L42274-1	Aroclor 1254	Broken sample container
L42274-1	Aroclor 1260	Broken sample container
L42274-1	Beta-BHC	Broken sample container
L42274-1	Delta-BHC	Broken sample container
L42274-1	Dieldrin	Broken sample container
L42274-1	Endosulfan I	Broken sample container
L42274-1	Endosulfan II	Broken sample container
L42274-1	Endosulfan Sulfate	Broken sample container
L42274-1	Endrin	Broken sample container
L42274-1	Endrin Aldehyde	Broken sample container
L42274-1	Gamma-BHC (Lindane)	Broken sample container
L42274-1	Gamma-Chlordane	Broken sample container
L42274-1	Heptachlor	Broken sample container
L42274-1	Heptachlor Epoxide	Broken sample container
L42274-1	Methoxychlor	Broken sample container
L42274-1	Toxaphene	Broken sample container
L42274-2	4,4'-DDD	Broken sample container
L42274-2	4,4'-DDE	Broken sample container
L42274-2	4,4'-DDT	Broken sample container
L42274-2	Aldrin	Broken sample container
L42274-2	Alpha-BHC	Broken sample container
L42274-2	Alpha-Chlordane	Broken sample container
L42274-2	Aroclor 1016	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-2	Aroclor 1221	Broken sample container
L42274-2	Aroclor 1232	Broken sample container
L42274-2	Aroclor 1242	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-2	Aroclor 1248	Broken sample container

L42274-2	Aroclor 1254	Broken sample container
L42274-2	Aroclor 1260	Broken sample container
L42274-2	Beta-BHC	Broken sample container
L42274-2	Delta-BHC	Broken sample container
L42274-2	Dieldrin	Broken sample container
L42274-2	Endosulfan I	Broken sample container
L42274-2	Endosulfan II	Broken sample container
L42274-2	Endosulfan Sulfate	Broken sample container
L42274-2	Endrin	Broken sample container
L42274-2	Endrin Aldehyde	Broken sample container
L42274-2	Gamma-BHC (Lindane)	Broken sample container
L42274-2	Gamma-Chlordane	Broken sample container
L42274-2	Heptachlor	Broken sample container
L42274-2	Heptachlor Epoxide	Broken sample container
L42274-2	Methoxychlor	Broken sample container
L42274-2	Toxaphene	Broken sample container
L42274-3	4,4'-DDD	Broken sample container
L42274-3	4,4'-DDE	Broken sample container
L42274-3	4,4'-DDT	Broken sample container
L42274-3	Aldrin	Broken sample container
L42274-3	Alpha-BHC	Broken sample container
L42274-3	Alpha-Chlordane	Broken sample container
L42274-3	Aroclor 1016	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-3	Aroclor 1221	Broken sample container
L42274-3	Aroclor 1232	Broken sample container
L42274-3	Aroclor 1242	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-3	Aroclor 1248	Broken sample container
L42274-3	Aroclor 1254	Broken sample container
L42274-3	Aroclor 1260	Broken sample container
L42274-3	Beta-BHC	Broken sample container
L42274-3	Delta-BHC	Broken sample container
L42274-3	Dieldrin	Broken sample container
L42274-3	Endosulfan I	Broken sample container
L42274-3	Endosulfan II	Broken sample container
L42274-3	Endosulfan Sulfate	Broken sample container
L42274-3	Endrin	Broken sample container
L42274-3	Endrin Aldehyde	Broken sample container
L42274-3	Gamma-BHC (Lindane)	Broken sample container
L42274-3	Gamma-Chlordane	Broken sample container
L42274-3	Heptachlor	Broken sample container
L42274-3	Heptachlor Epoxide	Broken sample container
L42274-3	Methoxychlor	Broken sample container
L42274-3	Sample Function	FREP @ 42274-2
L42274-3	Toxaphene	Broken sample container
L42274-4	Aroclor 1016	MDL/RDL raised due to overlapping PCB congeners
L42274-4	Aroclor 1232	MDL/RDL raised due to overlapping PCB congeners

L42274-4	Aroclor 1242	MDL/RDL raised due to overlapping PCB congeners
L42274-5	Aroclor 1016	MDL/RDL raised due to overlapping PCB congeners
L42274-5	Aroclor 1232	MDL/RDL raised due to overlapping PCB congeners
L42274-5	Aroclor 1242	MDL/RDL raised due to overlapping PCB congeners
L42274-6	4,4'-DDD	Broken sample container
L42274-6	4,4'-DDE	Broken sample container
L42274-6	4,4'-DDT	Broken sample container
L42274-6	Aldrin	Broken sample container
L42274-6	Alpha-BHC	Broken sample container
L42274-6	Alpha-Chlordane	Broken sample container
L42274-6	Aroclor 1016	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-6	Aroclor 1221	Broken sample container
L42274-6	Aroclor 1232	Broken sample container
L42274-6	Aroclor 1242	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-6	Aroclor 1248	Broken sample container
L42274-6	Aroclor 1254	Broken sample container
L42274-6	Aroclor 1260	Broken sample container
L42274-6	Beta-BHC	Broken sample container
L42274-6	Delta-BHC	Broken sample container
L42274-6	Dieldrin	Broken sample container
L42274-6	Endosulfan I	Broken sample container
L42274-6	Endosulfan II	Broken sample container
L42274-6	Endosulfan Sulfate	Broken sample container
L42274-6	Endrin	Broken sample container
L42274-6	Endrin Aldehyde	Broken sample container
L42274-6	Gamma-BHC (Lindane)	Broken sample container
L42274-6	Gamma-Chlordane	Broken sample container
L42274-6	Heptachlor	Broken sample container
L42274-6	Heptachlor Epoxide	Broken sample container
L42274-6	Methoxychlor	Broken sample container
L42274-6	Toxaphene	Broken sample container
L42274-7	4,4'-DDD	Broken sample container
L42274-7	4,4'-DDE	Broken sample container
L42274-7	4,4'-DDT	Broken sample container
L42274-7	Aldrin	Broken sample container
L42274-7	Alpha-BHC	Broken sample container
L42274-7	Alpha-Chlordane	Broken sample container
L42274-7	Aroclor 1016	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-7	Aroclor 1221	Broken sample container
L42274-7	Aroclor 1232	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-7	Aroclor 1242	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-7	Aroclor 1248	Broken sample container
L42274-7	Aroclor 1254	Broken sample container

L42274-7	Aroclor 1260	Broken sample container
L42274-7	Beta-BHC	Broken sample container
L42274-7	Delta-BHC	Broken sample container
L42274-7	Dieldrin	Broken sample container
L42274-7	Endosulfan I	Broken sample container
L42274-7	Endosulfan II	Broken sample container
L42274-7	Endosulfan Sulfate	Broken sample container
L42274-7	Endrin	Broken sample container
L42274-7	Endrin Aldehyde	Broken sample container
L42274-7	Gamma-BHC (Lindane)	Broken sample container
L42274-7	Gamma-Chlordane	Broken sample container
L42274-7	Heptachlor	Broken sample container
L42274-7	Heptachlor Epoxide	Broken sample container
L42274-7	Methoxychlor	Broken sample container
L42274-7	Toxaphene	Broken sample container
L42274-8	4,4'-DDD	Broken sample container
L42274-8	4,4'-DDE	Broken sample container
L42274-8	4,4'-DDT	Broken sample container
L42274-8	Aldrin	Broken sample container
L42274-8	Alpha-BHC	Broken sample container
L42274-8	Alpha-Chlordane	Broken sample container
L42274-8	Aroclor 1016	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-8	Aroclor 1221	Broken sample container
L42274-8	Aroclor 1232	Broken sample container
L42274-8	Aroclor 1242	Broken sample container. ; MDL/RDL raised due to overlapping PCB congeners
L42274-8	Aroclor 1248	Broken sample container
L42274-8	Aroclor 1254	Broken sample container
L42274-8	Aroclor 1260	Broken sample container
L42274-8	Beta-BHC	Broken sample container
L42274-8	Delta-BHC	Broken sample container
L42274-8	Dieldrin	Broken sample container
L42274-8	Endosulfan I	Broken sample container
L42274-8	Endosulfan II	Broken sample container
L42274-8	Endosulfan Sulfate	Broken sample container
L42274-8	Endrin	Broken sample container
L42274-8	Endrin Aldehyde	Broken sample container
L42274-8	Gamma-BHC (Lindane)	Broken sample container
L42274-8	Gamma-Chlordane	Broken sample container
L42274-8	Heptachlor	Broken sample container
L42274-8	Heptachlor Epoxide	Broken sample container
L42274-8	Methoxychlor	Broken sample container
L42274-8	Toxaphene	Broken sample container

SAP MDL Comparison Table

King County Environmental Lab Analytical Report

PROJECT: 423062-200-4

Locator:	DUD_3C	DUD_4C	DUD_4C	DUD_5C	DUD_6C	DUD_7C	DUD_14C
Descrip:	CLEANUP AREA PERIM	CLEANUP AREA PERIM	CLEANUP AREA PERIM	CLEANUP AREA PERIM	CLEANUP AREA PERIM	CLEANUP AREA PERIM	PERIMETER LOCATION
Sampled:	04/03/07 1:20:00 PM	04/03/07 1:35:00 PM	04/03/07 1:35:00 PM	04/03/07 1:50:00 PM	04/03/07 2:08:00 PM	04/04/07 9:52:00 AM	04/04/07 9:37:00 AM
Lab ID:	L42274-1	L42274-2	L42274-3	L42274-4	L42274-5	L42274-6	L42274-7
Matrix:	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED
% Solids:	54.1	67.1	70.2	67.3	78.8	55.7	65.6

Parameters	Units	SAP MDL (@50% TS)	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 EPA 9060-PSEP96(03-04-002-003)									
Total Organic Carbon	mg/Kg	1000	1200	1500	1200	1100	1100	1200	1300
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	0.0096	0.0075	0.0068	0.0074	0.0061	0.0092	0.0075
M=MT EPA3050B/6010B MOD(6-2-04-02)									
Aluminum, Total, ICP	mg/Kg	10	9.2	7.5	7.1	7.4	6.3	9	7.6
Antimony, Total, ICP	mg/Kg	3	1.4	1.1	1.1	1.1	0.95	1.3	1.1
Arsenic, Total, ICP	mg/Kg	5	2.2	1.8	1.7	1.8	1.5	2.2	1.8
Beryllium, Total, ICP	mg/Kg	0.1	0.092	0.075	0.071	0.074	0.063	0.09	0.076
Cadmium, Total, ICP	mg/Kg	0.3	0.18	0.15	0.14	0.15	0.13	0.18	0.15
Chromium, Total, ICP	mg/Kg	0.5	0.28	0.22	0.21	0.22	0.19	0.27	0.23
Copper, Total, ICP	mg/Kg	0.4	0.37	0.3	0.28	0.3	0.25	0.36	0.3
Iron, Total, ICP	mg/Kg	5	4.6	3.7	3.6	3.7	3.2	4.5	3.8
Lead, Total, ICP	mg/Kg	3	1.8	1.5	1.4	1.5	1.3	1.8	1.5
Manganese, Total, ICP	mg/Kg	0.2	0.18	0.15	0.14	0.15	0.13	0.18	0.15
Nickel, Total, ICP	mg/Kg	2	0.46	0.37	0.36	0.37	0.32	0.45	0.38
Selenium, Total, ICP	mg/Kg	5	2.2	1.8	1.7	1.8	1.5	2.2	1.8
Silver, Total, ICP	mg/Kg	0.4	0.37	0.3	0.28	0.3	0.25	0.36	0.3
Thallium, Total, ICP	mg/Kg	20	3.7	3	2.8	3	2.5	3.6	3
Zinc, Total, ICP	mg/Kg	0.5	0.46	0.37	0.36	0.37	0.32	0.45	0.38
M=OR EPA 3550B/8270C (7-3-01-004)									
1,2,4-Trichlorobenzene	ug/Kg	0.52	0.18	0.15	0.14	0.15	0.13	0.18	0.15
1,2-Dichlorobenzene	ug/Kg	0.52	0.37	0.3	0.28	0.3	0.25	0.36	0.3
1,3-Dichlorobenzene	ug/Kg	0.52	0.37	0.3	0.28	0.3	0.25	0.36	0.3
1,4-Dichlorobenzene	ug/Kg	0.26	0.37	0.3	0.28	0.3	0.25	0.36	0.3

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PROJECT: 423062-200-4

Locator:	DUD_3C	DUD_4C	DUD_4C	DUD_5C	DUD_6C	DUD_7C	DUD_14C
Descrip:	CLEANUP AREA PERIM	CLEANUP AREA PERIM	CLEANUP AREA PERIM	CLEANUP AREA PERIM	CLEANUP AREA PERIM	CLEANUP AREA PERIM	PERIMETER LOCATION
Sampled:	04/03/07 1:20:00 PM	04/03/07 1:35:00 PM	04/03/07 1:35:00 PM	04/03/07 1:50:00 PM	04/03/07 2:08:00 PM	04/04/07 9:52:00 AM	04/04/07 9:37:00 AM
Lab ID:	L42274-1	L42274-2	L42274-3	L42274-4	L42274-5	L42274-6	L42274-7
Matrix:	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED
% Solids:	54.1	67.1	70.2	67.3	78.8	55.7	65.6

Parameters	Units	SAP MDL (@50% TS)	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									
2,4-Dimethylphenol	ug/Kg	14	1.8	1.5	1.4	1.5	1.3	1.8	1.5
2-Methylnaphthalene	ug/Kg	28	3.7	3	2.8	3	2.5	3.6	3
2-Methylphenol	ug/Kg	38	3.7	3	2.8	3	2.5	3.6	3
4-Methylphenol	ug/Kg	32	7.4	6	5.7	5.9	5.1	7.2	6.1
Acenaphthene	ug/Kg	14	3.7	3	2.8	3	2.5	3.6	3
Acenaphthylene	ug/Kg	29	3.7	3	2.8	3	2.5	3.6	3
Anthracene	ug/Kg	7.9	3.7	3	2.8	3	2.5	3.6	3
Benzo(a)anthracene	ug/Kg	4	3.7	3	2.8	3	2.5	3.6	3
Benzo(a)pyrene	ug/Kg	6	3.7	3	2.8	3	2.5	3.6	3
Benzo(b)fluoranthene	ug/Kg	6	3.7	3	2.8	3	2.5	3.6	3
Benzo(g,h,i)perylene	ug/Kg	16	3.7	3	2.8	3	2.5	3.6	3
Benzo(k)fluoranthene	ug/Kg	6	3.7	3	2.8	3	2.5	3.6	3
Benzoic Acid	ug/Kg	12	18	15	14	15	13	18	15
Benzyl Alcohol	ug/Kg	12	3.7	3	2.8	3	2.5	3.6	3
Benzyl Butyl Phthalate	ug/Kg	12	1.8	1.5	1.4	1.5	1.3	1.8	1.5
Bis(2-Ethylhexyl)Phthalate	ug/Kg	13	7.4	6	5.7	5.9	5.1	7.2	6.1
Carbazole	ug/Kg	14	3.7	3	2.8	3	2.5	3.6	3
Chrysene	ug/Kg	7.9	3.7	3	2.8	3	2.5	3.6	3
Coprostanol	ug/Kg	28	74	60	57	59	51	72	61
Dibenzo(a,h)anthracene	ug/Kg	14	3.7	3	2.8	3	2.5	3.6	3
Dibenzofuran	ug/Kg	28	3.7	3	2.8	3	2.5	3.6	3
Diethyl Phthalate	ug/Kg	12	7.4	6	5.7	5.9	5.1	7.2	6.1
Dimethyl Phthalate	ug/Kg	22	7.4	6	5.7	5.9	5.1	7.2	6.1
Di-N-Butyl Phthalate	ug/Kg	10	7.4	6	5.7	5.9	5.1	7.2	6.1
Di-N-Octyl Phthalate	ug/Kg	16	7.4	6	5.7	5.9	5.1	7.2	6.1
Fluoranthene	ug/Kg	16	3.7	3	2.8	3	2.5	3.6	3
Fluorene	ug/Kg	26	3.7	3	2.8	3	2.5	3.6	3
Hexachlorobenzene	ug/Kg	1.3	0.18	0.15	0.14	0.15	0.13	0.18	0.15
Hexachlorobutadiene	ug/Kg	1.5	0.92	0.75	0.71	0.74	0.63	0.9	0.76
Hexachloroethane	ug/Kg	29	1.8	1.5	1.4	1.5	1.3	1.8	1.5
Indeno(1,2,3-Cd)Pyrene	ug/Kg	18	3.7	3	2.8	3	2.5	3.6	3
Naphthalene	ug/Kg	28	3.7	3	2.8	3	2.5	3.6	3
N-Nitrosodiphenylamine	ug/Kg	40	7.4	6	5.7	5.9	5.1	7.2	6.1
Pentachlorophenol	ug/Kg	10	18	15	14	15	13	18	15
Phenanthrene	ug/Kg	7.9	3.7	3	2.8	3	2.5	3.6	3
Phenol	ug/Kg	18	7.4	6	5.7	5.9	5.1	7.2	6.1
Pyrene	ug/Kg	7.9	3.7	3	2.8	3	2.5	3.6	3
Total HPAHS	ug/Kg	NA	3.7	3	2.8	3	2.5	3.6	3
Total LPAHs	ug/Kg	NA	3.7	3	2.8	3	2.5	3.6	3
M=OR EPA 8081A/8082 (7-3-03-002)									
4,4'-DDD		0.67	1.2	1	0.95	1	0.85	1.2	1
4,4'-DDE	ug/Kg	0.67	1.2	1	0.95	1	0.85	1.2	1
4,4'-DDT	ug/Kg	0.67	1.2	1	0.95	1	0.85	1.2	1
Aldrin	ug/Kg	0.67	1.2	1	0.95	1	0.85	1.2	1
Alpha-BHC	ug/Kg	0.67	0.61	0.49	0.47	0.49	0.42	0.59	0.5
Alpha-Chlordane	ug/Kg	0.67	0.61	0.49	0.47	0.49	0.42	0.59	0.5
Aroclor 1016	ug/Kg	4	8.5	9.7	5	5.9	4.7	8.8	13

King County Environmental Lab Analytical Report

PROJECT: 423062-200-4

Locator:	DUD_3C	DUD_4C	DUD_4C	DUD_5C	DUD_6C	DUD_7C	DUD_14C
Descrip:	CLEANUP AREA PERIM	CLEANUP AREA PERIM	CLEANUP AREA PERIM	CLEANUP AREA PERIM	CLEANUP AREA PERIM	CLEANUP AREA PERIM	PERIMETER LOCATION
Sampled:	04/03/07 1:20:00 PM	04/03/07 1:35:00 PM	04/03/07 1:35:00 PM	04/03/07 1:50:00 PM	04/03/07 2:08:00 PM	04/04/07 9:52:00 AM	04/04/07 9:37:00 AM
Lab ID:	L42274-1	L42274-2	L42274-3	L42274-4	L42274-5	L42274-6	L42274-7
Matrix:	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED	SALTWTRSED
% Solids:	54.1	67.1	70.2	67.3	78.8	55.7	65.6

Parameters	Units	SAP MDL (@50% TS)	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									
Aroclor 1221	ug/Kg	8	3.1	2.5	2.4	2.5	2.2	3.1	2.6
Aroclor 1232	ug/Kg	8	3.1	2.5	2.4	9.1	7.7	3.1	27
Aroclor 1242	ug/Kg	4	24	19	10	12	15	23	32
Aroclor 1248	ug/Kg	4	1.5	1.2	1.2	1.2	1.1	1.5	1.3
Aroclor 1254	ug/Kg	4	1.5	1.2	1.2	1.2	1.1	1.5	1.3
Aroclor 1260	ug/Kg	4	1.5	1.2	1.2	1.2	1.1	1.5	1.3
Beta-BHC	ug/Kg	0.67	0.61	0.49	0.47	0.49	0.42	0.59	0.5
Delta-BHC	ug/Kg	0.67	0.61	0.49	0.47	0.49	0.42	0.59	0.5
Dieldrin	ug/Kg	0.67	1.2	1	0.95	1	0.85	1.2	1
Endosulfan I	ug/Kg	0.67	1.2	1	0.95	1	0.85	1.2	1
Endosulfan II	ug/Kg	0.67	1.2	1	0.95	1	0.85	1.2	1
Endosulfan Sulfate	ug/Kg	0.67	1.2	1	0.95	1	0.85	1.2	1
Endrin	ug/Kg	0.67	1.2	1	0.95	1	0.85	1.2	1
Endrin Aldehyde	ug/Kg	0.67	1.2	1	0.95	1	0.85	1.2	1
Gamma-BHC (Lindane)	ug/Kg	0.67	0.61	0.49	0.47	0.49	0.42	0.59	0.5
Gamma-Chlordane	ug/Kg	2.7	0.61	0.49	0.47	0.49	0.42	0.59	0.5
Heptachlor	ug/Kg	0.67	0.61	0.49	0.47	0.49	0.42	0.59	0.5
Heptachlor Epoxide	ug/Kg	0.67	0.61	0.49	0.47	0.49	0.42	0.59	0.5
Methoxychlor	ug/Kg	3.3	6.1	4.9	4.7	4.9	4.2	5.9	5
Toxaphene	ug/Kg	6.7	12	10	9.5	10	8.5	12	10

* Not converted to dry weight basis for this parameter

King County Environmental Lab Analytical Report

PROJECT: 423062-200-4

Locator: DUD_15C
Descrip: DUDI PERIMETER LOC
Sampled: 04/04/07 9:22:00 AM
Lab ID: L42274-8
Matrix: SALTWTRSED
% Solids: 55.1

Parameters	Units	SAP MDL (@50% TS)	MDL - Dry Weight Basis
COMBINED LABS			
M=CV ASTM D422(03-02-005-001)			
Fines *	%	NA	0.5
Clay *	%	NA	0.5
Silt *	%	NA	0.5
Sand *	%	NA	0.1
Gravel *	%	NA	0.1
p+0.00 *	%	0.1	0.1
p+1.00 *	%	0.1	0.1
p+10.0(equal/more than) *	%	0.1	0.5
p+2.00 *	%	0.1	0.1
p+3.00 *	%	0.1	0.1
p+4.00 *	%	0.1	0.1
p+5.00 *	%	0.1	0.5
p+6.00 *	%	0.1	0.5
p+7.00 *	%	0.1	0.5
p+8.00 *	%	0.1	0.5
p+9.00 *	%	0.1	0.5
p-1.00 *	%	0.1	0.1
p-2.00 *	%	0.1	0.1
p-2.00(less than) *	%	0.1	0.1
M=CV EPA 9060-PSEP96(03-04-002-003)			
Total Organic Carbon	mg/Kg	1000	1300
M=CV SM2540-G (03-01-007-002)			
Total Solids *	%	0.005	0.005
M=MT EPA 7471A (06-01-004-003)			
Mercury, Total, CVAA	mg/Kg	0.04	0.0093
M=MT EPA3050B/6010B MOD(6-2-04-02)			
Aluminum, Total, ICP	mg/Kg	10	9.1
Antimony, Total, ICP	mg/Kg	3	1.4
Arsenic, Total, ICP	mg/Kg	5	2.2
Beryllium, Total, ICP	mg/Kg	0.1	0.091
Cadmium, Total, ICP	mg/Kg	0.3	0.18
Chromium, Total, ICP	mg/Kg	0.5	0.27
Copper, Total, ICP	mg/Kg	0.4	0.36
Iron, Total, ICP	mg/Kg	5	4.5
Lead, Total, ICP	mg/Kg	3	1.8
Manganese, Total, ICP	mg/Kg	0.2	0.18
Nickel, Total, ICP	mg/Kg	2	0.45
Selenium, Total, ICP	mg/Kg	5	2.2
Silver, Total, ICP	mg/Kg	0.4	0.36
Thallium, Total, ICP	mg/Kg	20	3.6
Zinc, Total, ICP	mg/Kg	0.5	0.45
M=OR EPA 3550B/8270C (7-3-01-004)			
1,2,4-Trichlorobenzene	ug/Kg	0.52	0.18
1,2-Dichlorobenzene	ug/Kg	0.52	0.36
1,3-Dichlorobenzene	ug/Kg	0.52	0.36
1,4-Dichlorobenzene	ug/Kg	0.26	0.36

King County Environmental Lab Analytical Report

PROJECT: 423062-200-4

Locator: DUD_15C
Descrip: DUDI PERIMETER LOC
Sampled: 04/04/07 9:22:00 AM
Lab ID: L42274-8
Matrix: SALTWTRSED
% Solids: 55.1

Parameters	Units	SAP MDL (@50% TS)	MDL - Dry Weight Basis
COMBINED LABS			
2,4-Dimethylphenol	ug/Kg	14	1.8
2-Methylnaphthalene	ug/Kg	28	3.6
2-Methylphenol	ug/Kg	38	3.6
4-Methylphenol	ug/Kg	32	7.3
Acenaphthene	ug/Kg	14	3.6
Acenaphthylene	ug/Kg	29	3.6
Anthracene	ug/Kg	7.9	3.6
Benzo(a)anthracene	ug/Kg	4	3.6
Benzo(a)pyrene	ug/Kg	6	3.6
Benzo(b)fluoranthene	ug/Kg	6	3.6
Benzo(g,h,i)perylene	ug/Kg	16	3.6
Benzo(k)fluoranthene	ug/Kg	6	3.6
Benzoic Acid	ug/Kg	12	18
Benzyl Alcohol	ug/Kg	12	3.6
Benzyl Butyl Phthalate	ug/Kg	12	1.8
Bis(2-Ethylhexyl)Phthalate	ug/Kg	13	7.3
Carbazole	ug/Kg	14	3.6
Chrysene	ug/Kg	7.9	3.6
Coprostanol	ug/Kg	28	73
Dibenzo(a,h)anthracene	ug/Kg	14	3.6
Dibenzofuran	ug/Kg	28	3.6
Diethyl Phthalate	ug/Kg	12	7.3
Dimethyl Phthalate	ug/Kg	22	7.3
Di-N-Butyl Phthalate	ug/Kg	10	7.3
Di-N-Octyl Phthalate	ug/Kg	16	7.3
Fluoranthene	ug/Kg	16	3.6
Fluorene	ug/Kg	26	3.6
Hexachlorobenzene	ug/Kg	1.3	0.18
Hexachlorobutadiene	ug/Kg	1.5	0.91
Hexachloroethane	ug/Kg	29	1.8
Indeno(1,2,3-Cd)Pyrene	ug/Kg	18	3.6
Naphthalene	ug/Kg	28	3.6
N-Nitrosodiphenylamine	ug/Kg	40	7.3
Pentachlorophenol	ug/Kg	10	18
Phenanthrene	ug/Kg	7.9	3.6
Phenol	ug/Kg	18	7.3
Pyrene	ug/Kg	7.9	3.6
Total HPAHS	ug/Kg	NA	3.6
Total LPAHs	ug/Kg	NA	3.6
M=OR EPA 8081A/8082 (7-3-03-002)			
4,4'-DDD		0.67	1.2
4,4'-DDE	ug/Kg	0.67	1.2
4,4'-DDT	ug/Kg	0.67	1.2
Aldrin	ug/Kg	0.67	1.2
Alpha-BHC	ug/Kg	0.67	0.6
Alpha-Chlordane	ug/Kg	0.67	0.6
Aroclor 1016	ug/Kg	4	4.5

King County Environmental Lab Analytical Report

PROJECT: 423062-200-4

Locator: DUD_15C
Descrip: DUDI PERIMETER LOC
Sampled: 04/04/07 9:22:00 AM
Lab ID: L42274-8
Matrix: SALTWTRSED
% Solids: 55.1

Parameters	Units	SAP MDL (@50% TS)	MDL - Dry Weight Basis
COMBINED LABS			
Aroclor 1221	ug/Kg	8	3.1
Aroclor 1232	ug/Kg	8	3.1
Aroclor 1242	ug/Kg	4	18
Aroclor 1248	ug/Kg	4	1.5
Aroclor 1254	ug/Kg	4	1.5
Aroclor 1260	ug/Kg	4	1.5
Beta-BHC	ug/Kg	0.67	0.6
Delta-BHC	ug/Kg	0.67	0.6
Dieldrin	ug/Kg	0.67	1.2
Endosulfan I	ug/Kg	0.67	1.2
Endosulfan II	ug/Kg	0.67	1.2
Endosulfan Sulfate	ug/Kg	0.67	1.2
Endrin	ug/Kg	0.67	1.2
Endrin Adehyde	ug/Kg	0.67	1.2
Gamma-BHC (Lindane)	ug/Kg	0.67	0.6
Gamma-Chlordane	ug/Kg	2.7	0.6
Heptachlor	ug/Kg	0.67	0.6
Heptachlor Epoxide	ug/Kg	0.67	0.6
Methoxychlor	ug/Kg	3.3	6
Toxaphene	ug/Kg	6.7	12

* Not converted to dry weight basis for this parameter

SMS OC and Dry Weight Normalization MDL Check Tables

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	0.1	0.01	0.81	0.80
1,2-Dichlorobenzene	0.2	0.03	2.3	2.3
1,4-Dichlorobenzene	0.2	0.03	3.1	3.1
2-Methylnaphthalene	2	0.30	38	38
2,4-Dimethylphenol	1	1.85	29	27
2-Methylphenol	2	3.70	63	59
4-Methylphenol	4	7.39	670	663
Acenaphthene	2	0.30	16	16
Acenaphthylene	2	0.30	66	66
Anthracene	2	0.30	220	220
Benzo(a)anthracene	2	0.30	110	110
Benzo(a)pyrene	2	0.30	99	99
Benzo(b)fluoranthene	2	0.30	115	115
Benzo(g,h,i)perylene	2	0.30	31	31
Benzo(k)fluoranthene	2	0.30	115	115
Benzoic Acid	10	18.48	650	632
Benzyl Alcohol	2	3.70	57	53
Benzyl Butyl Phthalate	1	0.15	4.9	4.8
Bis(2-Ethylhexyl)Phthalate	4	0.60	47	46
Chrysene	2	0.30	110	110
Dibenzo(a,h)anthracene	2	0.30	12	12
Dibenzofuran	2	0.30	15	15
Diethyl Phthalate	4	0.60	61	60
Dimethyl Phthalate	4	0.60	53	52
Di-N-Butyl Phthalate	4	0.60	220	219
Di-N-Octyl Phthalate	4	0.60	58	57
Fluorene	2	0.30	23	23
Fluoranthene	2	0.30	160	160
Hexachlorobenzene	0.1	0.01	0.38	0.37
Hexachlorobutadiene	0.5	0.07	3.9	3.8
Indeno(1,2,3-Cd)Pyrene	2	0.30	34	34
N-Nitrosodiphenylamine	4	0.60	11	10
Naphthalene	2	0.30	99	99
Pentachlorophenol	10	18.48	360	342
Phenanthrene	2	0.30	100	100
Phenol	4	7.39	420	413
Pyrene	2	0.30	1000	1000
Aroclor 1016	4.6	0.68		
Aroclor 1221	1.7	0.25		
Aroclor 1232	1.7	0.25		
Aroclor 1242	13	1.93		
Aroclor 1248	0.83	0.12		
Aroclor 1254	0.83	0.12		
Aroclor 1260	0.83	0.12		
Total Organic Carbon (dry)	12421.44177			
Total Solids	54.1			
HPAH	20	2.98	960	957
LPAH	14	2.08	370	368
Total PCB	13	1.93	12	10.1

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	0.1	0.02	0.81	0.79
1,2-Dichlorobenzene	0.2	0.03	2.3	2.3
1,4-Dichlorobenzene	0.2	0.03	3.1	3.1
2-Methylnaphthalene	2	0.32	38	38
2,4-Dimethylphenol	1	1.49	29	28
2-Methylphenol	2	2.98	63	60
4-Methylphenol	4	5.96	670	664
Acenaphthene	2	0.32	16	16
Acenaphthylene	2	0.32	66	66
Anthracene	2	0.32	220	220
Benzo(a)anthracene	2	0.32	110	110
Benzo(a)pyrene	2	0.32	99	99
Benzo(b)fluoranthene	2	0.32	115	115
Benzo(g,h,i)perylene	2	0.32	31	31
Benzo(k)fluoranthene	2	0.32	115	115
Benzoic Acid	10	14.90	650	635
Benzyl Alcohol	2	2.98	57	54
Benzyl Butyl Phthalate	1	0.16	4.9	4.7
Bis(2-Ethylhexyl)Phthalate	4	0.63	47	46
Chrysene	2	0.32	110	110
Dibenzo(a,h)anthracene	2	0.32	12	12
Dibenzofuran	2	0.32	15	15
Diethyl Phthalate	4	0.63	61	60
Dimethyl Phthalate	4	0.63	53	52
Di-N-Butyl Phthalate	4	0.63	220	219
Di-N-Octyl Phthalate	4	0.63	58	57
Fluorene	2	0.32	23	23
Fluoranthene	2	0.32	160	160
Hexachlorobenzene	0.1	0.02	0.38	0.36
Hexachlorobutadiene	0.5	0.08	3.9	3.8
Indeno(1,2,3-Cd)Pyrene	2	0.32	34	34
N-Nitrosodiphenylamine	4	0.63	11	10
Naphthalene	2	0.32	99	99
Pentachlorophenol	10	14.90	360	345
Phenanthrene	2	0.32	100	100
Phenol	4	5.96	420	414
Pyrene	2	0.32	1000	1000
Aroclor 1016	6.5	1.03		
Aroclor 1221	1.7	0.27		
Aroclor 1232	1.7	0.27		
Aroclor 1242	13	2.06		
Aroclor 1248	0.83	0.13		
Aroclor 1254	0.83	0.13		
Aroclor 1260	0.83	0.13		
Total Organic Carbon (dry)	9388.971684			
Total Solids	67.1			
HPAH	20	3.17	960	957
LPAH	14	2.22	370	368
Total PCB	13	2.06	12	9.9

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	0.1	0.02	0.81	0.79
1,2-Dichlorobenzene	0.2	0.04	2.3	2.3
1,4-Dichlorobenzene	0.2	0.04	3.1	3.1
2-Methylnaphthalene	2	0.39	38	38
2,4-Dimethylphenol	1	1.42	29	28
2-Methylphenol	2	2.85	63	60
4-Methylphenol	4	5.70	670	664
Acenaphthene	2	0.39	16	16
Acenaphthylene	2	0.39	66	66
Anthracene	2	0.39	220	220
Benzo(a)anthracene	2	0.39	110	110
Benzo(a)pyrene	2	0.39	99	99
Benzo(b)fluoranthene	2	0.39	115	115
Benzo(g,h,i)perylene	2	0.39	31	31
Benzo(k)fluoranthene	2	0.39	115	115
Benzoic Acid	10	14.25	650	636
Benzyl Alcohol	2	2.85	57	54
Benzyl Butyl Phthalate	1	0.19	4.9	4.7
Bis(2-Ethylhexyl)Phthalate	4	0.78	47	46
Chrysene	2	0.39	110	110
Dibenzo(a,h)anthracene	2	0.39	12	12
Dibenzofuran	2	0.39	15	15
Diethyl Phthalate	4	0.78	61	60
Dimethyl Phthalate	4	0.78	53	52
Di-N-Butyl Phthalate	4	0.78	220	219
Di-N-Octyl Phthalate	4	0.78	58	57
Fluorene	2	0.39	23	23
Fluoranthene	2	0.39	160	160
Hexachlorobenzene	0.1	0.02	0.38	0.36
Hexachlorobutadiene	0.5	0.10	3.9	3.8
Indeno(1,2,3-Cd)Pyrene	2	0.39	34	34
N-Nitrosodiphenylamine	4	0.78	11	10
Naphthalene	2	0.39	99	99
Pentachlorophenol	10	14.25	360	346
Phenanthrene	2	0.39	100	100
Phenol	4	5.70	420	414
Pyrene	2	0.39	1000	1000
Aroclor 1016	3.5	0.68		
Aroclor 1221	1.7	0.33		
Aroclor 1232	1.7	0.33		
Aroclor 1242	7	1.36		
Aroclor 1248	0.83	0.16		
Aroclor 1254	0.83	0.16		
Aroclor 1260	0.83	0.16		
Total Organic Carbon (dry)	7307.692308			
Total Solids	70.2			
HPAH	20	3.90	960	956
LPAH	14	2.73	370	367
Total PCB	7	1.36	12	10.6

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	0.1	0.02	0.81	0.79
1,2-Dichlorobenzene	0.2	0.04	2.3	2.3
1,4-Dichlorobenzene	0.2	0.04	3.1	3.1
2-Methylnaphthalene	2	0.40	38	38
2,4-Dimethylphenol	1	1.49	29	28
2-Methylphenol	2	2.97	63	60
4-Methylphenol	4	5.94	670	664
Acenaphthene	2	0.40	16	16
Acenaphthylene	2	0.40	66	66
Anthracene	2	0.40	220	220
Benzo(a)anthracene	2	0.40	110	110
Benzo(a)pyrene	2	0.40	99	99
Benzo(b)fluoranthene	2	0.40	115	115
Benzo(g,h,i)perylene	2	0.40	31	31
Benzo(k)fluoranthene	2	0.40	115	115
Benzoic Acid	10	14.86	650	635
Benzyl Alcohol	2	2.97	57	54
Benzyl Butyl Phthalate	1	0.20	4.9	4.7
Bis(2-Ethylhexyl)Phthalate	4	0.80	47	46
Chrysene	2	0.40	110	110
Dibenzo(a,h)anthracene	2	0.40	12	12
Dibenzofuran	2	0.40	15	15
Diethyl Phthalate	4	0.80	61	60
Dimethyl Phthalate	4	0.80	53	52
Di-N-Butyl Phthalate	4	0.80	220	219
Di-N-Octyl Phthalate	4	0.80	58	57
Fluorene	2	0.40	23	23
Fluoranthene	2	0.40	160	160
Hexachlorobenzene	0.1	0.02	0.38	0.36
Hexachlorobutadiene	0.5	0.10	3.9	3.8
Indeno(1,2,3-Cd)Pyrene	2	0.40	34	34
N-Nitrosodiphenylamine	4	0.80	11	10
Naphthalene	2	0.40	99	99
Pentachlorophenol	10	14.86	360	345
Phenanthrene	2	0.40	100	100
Phenol	4	5.94	420	414
Pyrene	2	0.40	1000	1000
Aroclor 1016	4	0.80		
Aroclor 1221	1.7	0.34		
Aroclor 1232	6.1	1.21		
Aroclor 1242	8.1	1.61		
Aroclor 1248	0.83	0.17		
Aroclor 1254	0.83	0.17		
Aroclor 1260	0.83	0.17		
Total Organic Carbon (dry)	7473.997028			
Total Solids	67.3			
HPAH	20	3.98	960	956
LPAH	14	2.78	370	367
Total PCB	8.1	1.61	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	0.1	0.02	0.81	0.79
1,2-Dichlorobenzene	0.2	0.04	2.3	2.3
1,4-Dichlorobenzene	0.2	0.04	3.1	3.1
2-Methylnaphthalene	2	0.36	38	38
2,4-Dimethylphenol	1	1.27	29	28
2-Methylphenol	2	2.54	63	60
4-Methylphenol	4	5.08	670	665
Acenaphthene	2	0.36	16	16
Acenaphthylene	2	0.36	66	66
Anthracene	2	0.36	220	220
Benzo(a)anthracene	2	0.36	110	110
Benzo(a)pyrene	2	0.36	99	99
Benzo(b)fluoranthene	2	0.36	115	115
Benzo(g,h,i)perylene	2	0.36	31	31
Benzo(k)fluoranthene	2	0.36	115	115
Benzoic Acid	10	12.69	650	637
Benzyl Alcohol	2	2.54	57	54
Benzyl Butyl Phthalate	1	0.18	4.9	4.7
Bis(2-Ethylhexyl)Phthalate	4	0.73	47	46
Chrysene	2	0.36	110	110
Dibenzo(a,h)anthracene	2	0.36	12	12
Dibenzofuran	2	0.36	15	15
Diethyl Phthalate	4	0.73	61	60
Dimethyl Phthalate	4	0.73	53	52
Di-N-Butyl Phthalate	4	0.73	220	219
Di-N-Octyl Phthalate	4	0.73	58	57
Fluorene	2	0.36	23	23
Fluoranthene	2	0.36	160	160
Hexachlorobenzene	0.1	0.02	0.38	0.36
Hexachlorobutadiene	0.5	0.09	3.9	3.8
Indeno(1,2,3-Cd)Pyrene	2	0.36	34	34
N-Nitrosodiphenylamine	4	0.73	11	10
Naphthalene	2	0.36	99	99
Pentachlorophenol	10	12.69	360	347
Phenanthrene	2	0.36	100	100
Phenol	4	5.08	420	415
Pyrene	2	0.36	1000	1000
Aroclor 1016	3.7	0.67		
Aroclor 1221	1.7	0.31		
Aroclor 1232	6.1	1.11		
Aroclor 1242	12	2.18		
Aroclor 1248	0.83	0.15		
Aroclor 1254	0.83	0.15		
Aroclor 1260	0.83	0.15		
Total Organic Carbon (dry)	6979.695431			
Total Solids	78.8			
HPAH	20	3.64	960	956
LPAH	14	2.55	370	367
Total PCB	12	2.18	12	9.8

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	0.1	0.01	0.81	0.80
1,2-Dichlorobenzene	0.2	0.03	2.3	2.3
1,4-Dichlorobenzene	0.2	0.03	3.1	3.1
2-Methylnaphthalene	2	0.26	38	38
2,4-Dimethylphenol	1	1.80	29	27
2-Methylphenol	2	3.59	63	59
4-Methylphenol	4	7.18	670	663
Acenaphthene	2	0.26	16	16
Acenaphthylene	2	0.26	66	66
Anthracene	2	0.26	220	220
Benzo(a)anthracene	2	0.26	110	110
Benzo(a)pyrene	2	0.26	99	99
Benzo(b)fluoranthene	2	0.26	115	115
Benzo(g,h,i)perylene	2	0.26	31	31
Benzo(k)fluoranthene	2	0.26	115	115
Benzoic Acid	10	17.95	650	632
Benzyl Alcohol	2	3.59	57	53
Benzyl Butyl Phthalate	1	0.13	4.9	4.8
Bis(2-Ethylhexyl)Phthalate	4	0.53	47	46
Chrysene	2	0.26	110	110
Dibenzo(a,h)anthracene	2	0.26	12	12
Dibenzofuran	2	0.26	15	15
Diethyl Phthalate	4	0.53	61	60
Dimethyl Phthalate	4	0.53	53	52
Di-N-Butyl Phthalate	4	0.53	220	219
Di-N-Octyl Phthalate	4	0.53	58	57
Fluorene	2	0.26	23	23
Fluoranthene	2	0.26	160	160
Hexachlorobenzene	0.1	0.01	0.38	0.37
Hexachlorobutadiene	0.5	0.07	3.9	3.8
Indeno(1,2,3-Cd)Pyrene	2	0.26	34	34
N-Nitrosodiphenylamine	4	0.53	11	10
Naphthalene	2	0.26	99	99
Pentachlorophenol	10	17.95	360	342
Phenanthrene	2	0.26	100	100
Phenol	4	7.18	420	413
Pyrene	2	0.26	1000	1000
Aroclor 1016	4.9	0.65		
Aroclor 1221	1.7	0.22		
Aroclor 1232	1.7	0.22		
Aroclor 1242	13	1.72		
Aroclor 1248	0.83	0.11		
Aroclor 1254	0.83	0.11		
Aroclor 1260	0.83	0.11		
Total Organic Carbon (dry)	13608.61759			
Total Solids	55.7			
HPAH	20	2.64	960	957
LPAH	14	1.85	370	368
Total PCB	13	1.72	12	10.3

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	0.1	0.01	0.81	0.80
1,2-Dichlorobenzene	0.2	0.03	2.3	2.3
1,4-Dichlorobenzene	0.2	0.03	3.1	3.1
2-Methylnaphthalene	2	0.30	38	38
2,4-Dimethylphenol	1	1.52	29	27
2-Methylphenol	2	3.05	63	60
4-Methylphenol	4	6.10	670	664
Acenaphthene	2	0.30	16	16
Acenaphthylene	2	0.30	66	66
Anthracene	2	0.30	220	220
Benzo(a)anthracene	2	0.30	110	110
Benzo(a)pyrene	2	0.30	99	99
Benzo(b)fluoranthene	2	0.30	115	115
Benzo(g,h,i)perylene	2	0.30	31	31
Benzo(k)fluoranthene	2	0.30	115	115
Benzoic Acid	10	15.24	650	635
Benzyl Alcohol	2	3.05	57	54
Benzyl Butyl Phthalate	1	0.15	4.9	4.8
Bis(2-Ethylhexyl)Phthalate	4	0.60	47	46
Chrysene	2	0.30	110	110
Dibenzo(a,h)anthracene	2	0.30	12	12
Dibenzofuran	2	0.30	15	15
Diethyl Phthalate	4	0.60	61	60
Dimethyl Phthalate	4	0.60	53	52
Di-N-Butyl Phthalate	4	0.60	220	219
Di-N-Octyl Phthalate	4	0.60	58	57
Fluorene	2	0.30	23	23
Fluoranthene	2	0.30	160	160
Hexachlorobenzene	0.1	0.01	0.38	0.37
Hexachlorobutadiene	0.5	0.07	3.9	3.8
Indeno(1,2,3-Cd)Pyrene	2	0.30	34	34
N-Nitrosodiphenylamine	4	0.60	11	10
Naphthalene	2	0.30	99	99
Pentachlorophenol	10	15.24	360	345
Phenanthrene	2	0.30	100	100
Phenol	4	6.10	420	414
Pyrene	2	0.30	1000	1000
Aroclor 1016	8.7	1.30		
Aroclor 1221	1.7	0.25		
Aroclor 1232	18	2.69		
Aroclor 1242	21	3.13		
Aroclor 1248	0.83	0.12		
Aroclor 1254	0.83	0.12		
Aroclor 1260	0.83	0.12		
Total Organic Carbon (dry)	10213.41463			
Total Solids	65.6			
HPAH	20	2.99	960	957
LPAH	14	2.09	370	368
Total PCB	21	3.13	12	8.9

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	0.1	0.01	0.81	0.80
1,2-Dichlorobenzene	0.2	0.02	2.3	2.3
1,4-Dichlorobenzene	0.2	0.02	3.1	3.1
2-Methylnaphthalene	2	0.24	38	38
2,4-Dimethylphenol	1	1.81	29	27
2-Methylphenol	2	3.63	63	59
4-Methylphenol	4	7.26	670	663
Acenaphthene	2	0.24	16	16
Acenaphthylene	2	0.24	66	66
Anthracene	2	0.24	220	220
Benzo(a)anthracene	2	0.24	110	110
Benzo(a)pyrene	2	0.24	99	99
Benzo(b)fluoranthene	2	0.24	115	115
Benzo(g,h,i)perylene	2	0.24	31	31
Benzo(k)fluoranthene	2	0.24	115	115
Benzoic Acid	10	18.15	650	632
Benzyl Alcohol	2	3.63	57	53
Benzyl Butyl Phthalate	1	0.12	4.9	4.8
Bis(2-Ethylhexyl)Phthalate	4	0.47	47	47
Chrysene	2	0.24	110	110
Dibenzo(a,h)anthracene	2	0.24	12	12
Dibenzofuran	2	0.24	15	15
Diethyl Phthalate	4	0.47	61	61
Dimethyl Phthalate	4	0.47	53	53
Di-N-Butyl Phthalate	4	0.47	220	220
Di-N-Octyl Phthalate	4	0.47	58	58
Fluorene	2	0.24	23	23
Fluoranthene	2	0.24	160	160
Hexachlorobenzene	0.1	0.01	0.38	0.37
Hexachlorobutadiene	0.5	0.06	3.9	3.8
Indeno(1,2,3-Cd)Pyrene	2	0.24	34	34
N-Nitrosodiphenylamine	4	0.47	11	11
Naphthalene	2	0.24	99	99
Pentachlorophenol	10	18.15	360	342
Phenanthrene	2	0.24	100	100
Phenol	4	7.26	420	413
Pyrene	2	0.24	1000	1000
Aroclor 1016	2.5	0.30		
Aroclor 1221	1.7	0.20		
Aroclor 1232	1.7	0.20		
Aroclor 1242	9.7	1.15		
Aroclor 1248	0.83	0.10		
Aroclor 1254	0.83	0.10		
Aroclor 1260	0.83	0.10		
Total Organic Carbon (dry)	15317.60436			
Total Solids	55.1			
HPAH	20	2.37	960	958
LPAH	14	1.66	370	368
Total PCB	9.7	1.15	12	10.9

CONVENTIONAL ANALYSES QC DATA

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

Apr 30 2007, 01:08 pm

Work Group: WG91132 (TOTS DuDi Thin Layer 423062-200-4) for Department: 3 - Conventionals

Created: 18-APR-07 PrepDate: Due: Operator: DO

Sample	Project Number	Project Description	Prep	C	Product	Matrix	Stat	UA	Workdate	Duedate
L42274-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	04-APR-07	19-MAY-07
L42274-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	04-APR-07	19-MAY-07
L42274-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	04-APR-07	19-MAY-07
L42275-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOTS	SALTWTRSED	ANAL	U	04-APR-07	19-MAY-07
WG91132-1	MB			S	TOTS	OTHR SOLID	ANAL	U	18-APR-07	
WG91132-2	LD		SED	S	TOTS	SALTWTRSED	ANAL	U	18-APR-07	
WG91132-3	LT		SED	S	TOTS	SALTWTRSED	ANAL	U	18-APR-07	
WG91132-4	MB			S	TOTS	OTHR SOLID	ANAL	U	18-APR-07	
WG91132-5	LD		SED	S	TOTS	SALTWTRSED	ANAL	U	18-APR-07	
WG91132-6	LT		SED	S	TOTS	SALTWTRSED	ANAL	U	18-APR-07	

Comments:

L42274-1	Take Minimum Casts
L42274-2	Take Minimum Casts, AREP
L42274-3	Take Minimum Casts, FREP
L42274-4	Take Minimum Casts
L42274-5	Take Minimum Casts
L42274-6	Take Minimum Casts
L42274-7	Take Minimum Casts
L42274-8	Take Minimum Casts
L42275-1	10 Grab Comp, 0-10 cm
L42275-2	10 Grab Comp, 0-10 cm
L42275-3	10 Grab Comp, AREP
L42275-4	10 Grab Comp, FREP
L42275-5	10 Grab Comp, 0-10 cm
L42275-6	10 Grab Comp, 0-10 cm
L42275-7	10 Grab Comp, 0-10 cm
L42275-8	10 Grab Comp, 0-10 cm
L42275-9	10 Grab Comp, 0-10 cm
WG91132-1	MB1 070418
WG91132-2	L42274-6
WG91132-3	WG91132-2 L42274-6
WG91132-4	MB1 070423
WG91132-5	L42275-7
WG91132-6	WG91132-5 L42275-7

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 04/30/07 01:08
Run ID: R119653 Workgroup: WG91132 (TOTS DuDi Thin Layer 423062-200-4)

MB:WG91132-1 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:WG91132-3 LD:WG91132-2 L42274-6 Matrix: SALTWTRSED Listtype: CVTOTS Method: SM2540-G (03-01-007-002) Project: 423062-200-4 Pkey: SED
(Lab Triplicate, Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	LT Value	RSD	Qual	LabLimi
Total Solids	.005	.01	%	55.7	54.9	56.3	1		20

MB:WG91132-4 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:WG91132-6 LD:WG91132-5 L42275-7 Matrix: SALTWTRSED Listtype: CVTOTS Method: SM2540-G (03-01-007-002) Project: 423062-200-4 Pkey: SED
(Lab Triplicate, Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	LT Value	RSD	Qual	LabLimit
Total Solids	.005	.01	%	67.7	66.4	68.7	2		20

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If the following parameters are reported, values in the RPD column are their Absolute Differences:

- pH
- pH, Field
- Salinity
- Salinity, Field
- Sample Depth
- Sample Temperature, Field

WG91132	CVTOTS	
Sample Number	%	Prep Date
Date Analyzed	04/18/07	
WG91132-1	0.000	04/18/07
L42274-1	54.085	04/18/07
L42274-2	67.141	04/18/07
L42274-3	70.197	04/18/07
L42274-4	67.318	04/18/07
L42274-5	78.826	04/18/07
L42274-6	55.686	04/18/07
WG91132-2	54.942	04/18/07
WG91132-3	56.290	04/18/07
L42274-7	65.583	04/18/07
L42274-8	55.058	04/18/07

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

May 11 2007, 07:48 am

Work Group: WG91133 (TOC DuDi Thin Layer 423062-200-4) for Department: 3 - Conventionals

Created: 18-APR-07 PrepDate: Due: Operator: DO

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L42274-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	04-APR-07	19-MAY-07
L42274-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	04-APR-07	19-MAY-07
L42274-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	04-APR-07	19-MAY-07
L42275-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	TOC	SALTWTRSED	ANAL	U	04-APR-07	19-MAY-07
WG91133-1	MB			S	TOC	OTHR SOLID	ANAL	U	19-APR-07	
WG91133-10	LD		SED	S	TOC	SALTWTRSED	ANAL	U	09-MAY-07	
WG91133-11	LT		SED	S	TOC	SALTWTRSED	ANAL	U	09-MAY-07	
WG91133-12	MS		SED	S	TOC	SALTWTRSED	ANAL	U	09-MAY-07	
WG91133-2	SRM			S	TOC	OTHR SOLID	ANAL	U	19-APR-07	
WG91133-3	SB			S	TOC	OTHR SOLID	ANAL	U	19-APR-07	
WG91133-4	LD		SED	S	TOC	SALTWTRSED	ANAL	U	19-APR-07	
WG91133-5	LT		SED	S	TOC	SALTWTRSED	ANAL	U	19-APR-07	
WG91133-6	MS		SED	S	TOC	SALTWTRSED	ANAL	U	19-APR-07	
WG91133-7	MB			S	TOC	OTHR SOLID	ANAL	U	09-MAY-07	
WG91133-8	SRM			S	TOC	OTHR SOLID	ANAL	U	09-MAY-07	
WG91133-9	SB			S	TOC	OTHR SOLID	ANAL	U	09-MAY-07	

Comments:

L42274-1	Take Minimum Casts
L42274-2	Take Minimum Casts, AREP
L42274-3	Take Minimum Casts, FREP
L42274-4	Take Minimum Casts
L42274-5	Take Minimum Casts
L42274-6	Take Minimum Casts
L42274-7	Take Minimum Casts
L42274-8	Take Minimum Casts
L42275-1	10 Grab Comp, 0-10 cm
L42275-2	10 Grab Comp, 0-10 cm
L42275-3	10 Grab Comp, AREP
L42275-4	10 Grab Comp, FREP
L42275-5	10 Grab Comp, 0-10 cm
L42275-6	10 Grab Comp, 0-10 cm
L42275-7	10 Grab Comp, 0-10 cm
L42275-8	10 Grab Comp, 0-10 cm
L42275-9	10 Grab Comp, 0-10 cm
WG91133-1	MB1 070509
WG91133-10	L42275-6
WG91133-11	WG91133-10 L42275-6
WG91133-12	L42275-6
WG91133-2	HICONC
WG91133-3	WG91133-1
WG91133-4	L42274-1
WG91133-5	WG91133-1 L42274-1
WG91133-6	L42274-1
WG91133-7	MB1 070510
WG91133-8	HICONC
WG91133-9	WG91133-7

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/11/07 08:01
Run ID: R120052 Workgroup: WG91133 (TOC DuDi Thin Layer 423062-200-4)

MB:WG91133-1 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-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:WG91133-2 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-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	36900	33100	90		80-120

SB:WG91133-3 MB:WG91133-1 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-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	2780	111		80-120

LD:WG91133-4 L42274-1 Matrix: SALTWTRSED Listtype: CVTOC Method: EPA 9060-PSEP96(03-04-002-003) Project: 423062-200-4 Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimi
Total Organic Carbon	680	1360	mg/Kg	6720	6880	2		25

MS:WG91133-6 L42274-1 Matrix: SALTWTRSED Listtype: CVTOC Method: EPA 9060-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	740	1490	mg/Kg	6720	3714	10300	97		75-125

MB:WG91133-7 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-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:WG91133-8 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-PSEP96(03-04-002-003) Project: Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
Total Organic Carbon	2400	4850	mg/Kg	36900	32400	88		80-120

SB:WG91133-9 MB:WG91133-7 Matrix: OTHR SOLID Listtype: CVTOC Method: EPA 9060-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	2710	108		80-120

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/11/07 08:01
Run ID: R120052 Workgroup: WG91133 (TOC DuDi Thin Layer 423062-200-4)

LT:WG91133-11 LD:WG91133-10 L42275-6 Matrix: SALTWTRSED Listtype: CVTOC Method: EPA 9060-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	920	1850	mg/Kg	6740	6830	6990	2		20

MS:WG91133-12 L42275-6 Matrix: SALTWTRSED Listtype: CVTOC Method: EPA 9060-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	960	1920	mg/Kg	6740	4802	11200	93		75-125

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If the following parameters are reported, values in the RPD column are their Absolute Differences:

- pH
- pH, Field
- Salinity
- Salinity, Field
- Sample Depth
- Sample Temperature, Field

WG91133	CVTOC				
Sample Number	mg/kg	Prep Date	MDL	RDL	
Date Analyzed	5/9/2007				
WG91133-1	-189.4	5/9/2007	500	1000	MB1 070509
WG91133-2	33060.9	5/9/2007	2457	4914	SRM1 070509
WG91133-3	2782.9	5/9/2007	500	1000	SB2 070509
L42274-1	6724.2	4/18/2007	661	1322	
WG91133-4	6878.4	4/18/2007	680	1360	L42274-1LD
WG91133-5	6896.3	4/18/2007	692	1384	L42274-1LT
WG91133-6	10321.9	4/18/2007	743	1486	L42274-1MS
L42274-2	6300.4	4/18/2007	992	1983	
L42274-3	5126.1	4/18/2007	831	1661	
L42274-4	5026.8	4/18/2007	768	1535	
L42274-5	5495.9	4/18/2007	883	1766	
L42274-6	7582	4/18/2007	677	1355	
L42274-7	6699.3	4/18/2007	831	1661	
L42274-8	8441.9	4/18/2007	716	1432	

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

May 04 2007, 04:07 pm

Work Group: WG90944 (PSD - Duwa. Diagonal) for Department: 3 - Conventionals

Created: 04-APR-07 PrepDate: Due: Operator: keith

Sample	Project Number	Project Description	PKey	C	Product		Matrix	Stat	UA	Workdate	Duedate
L42274-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42274-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	04-APR-07	19-MAY-07
L42274-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	04-APR-07	19-MAY-07
L42274-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	04-APR-07	19-MAY-07
L42275-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	02-APR-07	19-MAY-07
L42275-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PSD		SALTWTRSED	ANAL	U	04-APR-07	19-MAY-07
L42276-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42276-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42276-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42276-4	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42276-5	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42276-6	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42276-7	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42276-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
L42276-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PSD		SALTWTRSED	ANAL	U	03-APR-07	19-MAY-07
WG90944-1	LD		SED	S	PSD		SALTWTRSED	ANAL	U	10-APR-07	
WG90944-2	LT		SED	S	PSD		SALTWTRSED	ANAL	U	10-APR-07	
WG90944-3	LD		SED	S	PSD		SALTWTRSED	ANAL	U	24-APR-07	
WG90944-4	LT		SED	S	PSD		SALTWTRSED	ANAL	U	24-APR-07	

Comments:

L42274-1	Take Minimum Casts
L42274-2	Take Minimum Casts, AREP
L42274-3	Take Minimum Casts, FREP
L42274-4	Take Minimum Casts
L42274-5	Take Minimum Casts
L42274-6	Take Minimum Casts
L42274-7	Take Minimum Casts
L42274-8	Take Minimum Casts
L42275-1	10 Grab Comp, 0-10 cm
L42275-2	10 Grab Comp, 0-10 cm
L42275-3	10 Grab Comp, AREP
L42275-4	10 Grab Comp, FREP
L42275-5	10 Grab Comp, 0-10 cm
L42275-6	10 Grab Comp, 0-10 cm
L42275-7	10 Grab Comp, 0-10 cm
L42275-8	10 Grab Comp, 0-10 cm
L42275-9	10 Grab Comp, 0-10 cm
L42276-1	3 grab comp, 0-10 cm
L42276-2	3 grab comp, 0-10 cm
L42276-3	3 grab comp, 0-10 cm
L42276-4	3 grab comp, 0-10 cm
L42276-5	0-10 cm, AREP
L42276-6	0-10 cm, FREP
L42276-7	3 grab comp, 0-10 cm
L42276-8	3 grab comp, 0-10 cm
L42276-9	3 grab comp, 0-10 cm
WG90944-1	L42274-1
WG90944-2	WG90944-1 L42274-1

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

May 04 2007, 04:07 pm

Work Group: WG90944 (PSD - Duwa. Diagonal) for Department: 3 - Conventionals

Created: 04-APR-07 PrepDate: Due: Operator: keith

Sample	Project Number Project Description	PKey C Product	Matrix	Stat UA Workdate	Duedate
WG90944-3	L42276-6				
WG90944-4	WG90944-3 L42276-6				

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/09/07 11:00
Run ID: R119511 Workgroup: WG90944 (PSD - Duwa. Diagonal)

LT:WG90944-2 LD:WG90944-1 L42274-1 Matrix: SALTWTRSED Listtype: CVPSD Method: ASTM D422(03-02-005-001) Project: 423062-200-4 Pkey: SED
(Lab Triplicate, Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	LT Value	RSD	Qual	LabLim
Gravel	.1	1	%	13.5	15	16.8	11		20
Sand	.1	1	%	39.4	38.3	37.6	2		20
Silt	.5	1	%	30.7	31	30.7	1		20
Clay	.5	1	%	18.8	18.9	17	6		20

LT:WG90944-4 LD:WG90944-3 L42276-6 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	LabLim
Gravel	.1	1	%	31.8	31	31.5	1		20
Sand	.1	1	%	62.3	62.5	63.1	1		20
Silt	.5	1	%	4.1	4.8	4.4	8		20
Clay	.5	1	%	2.9	2.4	2.2	15		20

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If the following parameters are reported, values in the RPD column are their Absolute Differences:

- pH
- pH, Field
- Salinity
- Salinity, Field
- Sample Depth
- Sample Temperature, Field

PARTICLE SIZE DISTRIBUTION - ASTM D 422
Sample Preparation

4-4-07	Date
K.S.	Analyst Initials
WG90944	Workgroup No.
423062-200-4	Project Number
#40	4% Dispersant ID #

Sample Tracking

		Location	
Date	Time	From	To
4/4/07	1:30pm	12	LAB
4/4/07	3:15 pm	LAB	12

Water Content (w) Analysis

	Date	Time	Temp (°C)
Spl IN	4/4/07	3:20	108
Spl OUT	4-5-07	7:45	107

Sample ID	Water Content (w) Calc			PSD Calc	COMMENTS
	Empty Dish (g)	Wet Sample (g)	Dry Dish + Sample (g)	Sample Wet Wt (g)	
L42274-1	2.1409	23.8829	15.6698	103.46	Sandy
-1LD	2.1682	24.1835	15.9139	102.15	
-1LT	2.1309	23.5314	15.7640	101.31	
-2	2.1480	26.3051	20.4857	96.43	some small gravel
-3	2.1420	25.7738	19.1417	100.97	Sandy - mostly
-4	2.0781	28.1502	21.1202	101.92	Soupy w/ pea gravel
-5	2.1233	35.5852	29.0925	98.01	Soupy w/pea gravel

Add 125 mL of 4% Dispersant to sample

Allow sample + dispersant to stand overnight

PARTICLE SIZE DISTRIBUTION - ASTM D 422
Sample Preparation

4-9-07	Date
KS	Analyst Initials
WG90944	Workgroup No.
423062-200-4	Project Number
40/41	4% Dispersant ID #

Sample Tracking

		Location	
Date	Time	From	To
4-9-07	11:00	12	LAB
4-9-07	KS 11:17 PM	LAB	12

Water Content (w) Analysis

	Date	Time	Temp (°C)
Spl IN	4-9-07	1:15 PM	105 °C
Spl OUT	4-10-7	8:00 AM	109 °C

Sample ID	Water Content (w) Calc			PSD Calc	COMMENTS
	Empty Dish (g)	Wet Sample (g)	Dry Dish + Sample (g)	Sample Wet Wt (g)	
L42275-1	2.1542	23.7269	12.4098	94.49	Very fine
-3	2.1239	21.1593	15.1353	105.39	gritty
-4	2.1123	29.6949	21.1405	106.15	gritty
-5	2.0453	25.3225	19.5321	99.49	removed 1 large rock ~1" gritty
-6	2.0932	18.8164	12.9651	99.59	" 4 "large" to "medium" rocks gritty
L42274-6	2.1340	28.6452	18.0592	103.59	" 1 1" worm, gritty
7	2.1257	30.4759	22.0385	101.58	gritty small rocks
8	2.1110	20.7487	13.2939	98.95	

Add 125 mL of 4% Dispersant to sample

Allow sample + dispersant to stand overnight

WG90944	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD
Prep Date	4/4/07																		
Parameter	P-2.00(LESS THAN)	P-2.00	P-1.00	P+0.00	P+1.00	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+10.0(EQUAL/MORE THAN)	GRAVEL	SAND	SILT	CLAY	FINES
Sample Number	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Date Analyzed	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07	4/5/07
L42274-1	5.41	3.24	4.81	1.67	3.74	16.35	13.14	4.54	6.82	6.82	10.24	6.82	6.82	11.94	13.46	39.43	30.71	18.77	49.48
WG90944-1	6.49	4.29	4.25	1.83	6.75	18.34	8.23	3.17	8.61	3.44	12.06	6.89	6.89	12.06	15.04	38.32	31.00	18.94	49.94
WG90944-2	6.42	4.87	5.54	1.67	3.78	15.38	12.64	4.16	8.52	5.11	8.52	8.52	6.81	10.22	16.83	37.64	30.67	17.04	47.70
L42274-2	7.20	9.94	11.01	3.30	5.82	19.65	12.45	3.60	4.46	2.97	5.95	4.46	2.97	5.95	28.15	44.82	17.85	8.92	26.77
L42274-3	4.10	4.71	8.53	4.29	9.84	29.90	12.36	3.33	4.50	3.00	6.01	4.50	3.00	6.01	17.34	59.72	18.02	9.01	27.03
L42274-4	1.81	1.90	2.36	1.23	4.77	33.61	27.14	4.74	5.80	4.35	4.35	4.35	1.45	5.80	6.08	71.49	18.85	7.25	26.11
L42274-5	12.83	12.87	15.32	3.63	4.75	19.22	12.59	3.20	4.04	2.69	4.04	1.35	1.35	2.69	41.02	43.40	12.12	4.04	16.15

WG90944	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD	CVPSD
Prep Date	4/9/07																		
Parameter	P-2.00(LESS THAN)	P-2.00	P-1.00	P+0.00	P+1.00	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+10.0(EQUAL/MORE THAN)	GRAVEL	SAND	SILT	CLAY	FINES
Sample Number	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Date Analyzed	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07	4/10/07
L42274-6	3.40	0.61	2.05	3.30	8.86	15.32	11.81	9.51	7.81	3.47	8.67	7.81	6.07	8.67	6.05	48.79	27.75	14.74	42.49
L42274-7	1.27	1.18	2.58	0.77	3.53	26.73	20.10	8.09	5.27	6.03	5.27	5.27	3.77	5.27	5.02	59.21	21.85	9.04	30.88
L42274-8	9.00	6.83	6.86	1.46	2.12	5.98	6.94	6.09	11.25	5.62	12.19	7.50	7.50	8.44	22.69	22.59	36.56	15.94	52.50
L42275-6	5.70	2.57	4.61	1.04	2.83	14.93	11.42	6.36	8.69	5.21	11.30	9.56	6.08	7.82	12.88	36.58	34.75	13.90	48.66
L42275-5	0.32	0.92	2.88	3.22	12.36	39.52	14.60	2.43	7.28	2.91	5.82	2.18	2.91	2.18	4.12	72.12	18.19	5.09	23.29
L42275-4	4.87	1.66	4.76	4.43	7.10	25.51	16.10	6.76	5.88	5.88	6.62	3.68	3.68	2.21	11.29	59.89	22.05	5.88	27.93
L42275-3	2.02	1.19	2.64	2.82	6.17	23.59	19.01	7.02	6.17	6.17	7.71	5.40	3.09	5.40	5.85	58.62	25.46	8.49	33.94
L42275-1	0.00	0.00	0.22	0.17	0.22	1.30	3.18	5.68	12.24	13.47	18.36	12.24	12.24	14.69	0.22	10.55	56.31	26.93	83.24

METAL CHEMISTRY QC DATA

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

Jul 10 2007, 03:11 pm

Work Group: WG91181 (Du/Di) for Department: 6 - Metals, Trace

Created: 24-APR-07 PrepDate: 20-APR-07 Due: Operator: ST

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L42274-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	01-MAY-07	19-MAY-07
L42274-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	01-MAY-07	19-MAY-07
L42274-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	01-MAY-07	19-MAY-07
L42274-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	01-MAY-07	19-MAY-07
L42274-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	01-MAY-07	19-MAY-07
L42274-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	02-MAY-07	19-MAY-07
L42274-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	02-MAY-07	19-MAY-07
L42274-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	02-MAY-07	19-MAY-07
L42275-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	30-APR-07	19-MAY-07
L42275-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	30-APR-07	19-MAY-07
L42275-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	30-APR-07	19-MAY-07
L42275-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	30-APR-07	19-MAY-07
L42275-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	30-APR-07	19-MAY-07
L42275-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	30-APR-07	19-MAY-07
L42275-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	30-APR-07	19-MAY-07
L42275-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	30-APR-07	19-MAY-07
L42275-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	02-MAY-07	19-MAY-07
WG91181-1	SRM		SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	24-APR-07	
WG91181-2	MB			S	HG-CVAA-M	SOLIDBLANK	WKGP	U	24-APR-07	
WG91181-3	SB			S	HG-CVAA-M	SOLIDBLANK	WKGP	U	24-APR-07	
WG91181-4	MS		SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	24-APR-07	
WG91181-5	MSD		SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	24-APR-07	
WG91181-6	LD		SED	S	HG-CVAA-M	SALTWTRSED	WKGP	U	24-APR-07	

Comments:

L42274-1	Take Minimum Casts
L42274-2	Take Minimum Casts, AREP
L42274-3	Take Minimum Casts, FREP
L42274-4	Take Minimum Casts
L42274-5	Take Minimum Casts
L42274-6	Take Minimum Casts
L42274-7	Take Minimum Casts
L42274-8	Take Minimum Casts
L42275-1	10 Grab Comp, 0-10 cm
L42275-2	10 Grab Comp, 0-10 cm
L42275-3	10 Grab Comp, AREP
L42275-4	10 Grab Comp, FREP
L42275-5	10 Grab Comp, 0-10 cm
L42275-6	10 Grab Comp, 0-10 cm
L42275-7	10 Grab Comp, 0-10 cm
L42275-8	10 Grab Comp, 0-10 cm
L42275-9	10 Grab Comp, 0-10 cm
WG91181-1	PACS2
WG91181-2	METHOD BLANK
WG91181-3	WG91181-2 HG-SMID
WG91181-4	L42274-2 HG-SMID
WG91181-5	WG91181-4 L42274-2 HG-SMID-MSD
WG91181-6	L42274-2 RPD-SOL

KING COUNTY ENVIRONMENTAL LABORATORY

Trace Metals Section HG-CVAA Preparation Log

Preparation Method: EPA 7471A
Project Number(s): 423062
Project Description(s): DV / TD
Preparation Date: 4/20/07
Temperature: 95.5°C

Work Group #: WG91181
Analyst: ST
Matrices: SF- 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	L42274-1	0.960	12.0		
2	-2	0.994		BKG	
3	-3	1.037			
4	-4	1.004			
5	-5	1.038			
6	-6	0.985			
7	-7	1.013			
8	-8	0.974			
9	L42275-1	1.048			
10	-2	1.005			
11	L42275-3	1.035	12.0		
12	-4	1.045			
13	-5	0.991			
14	-6	1.004			
15	-7	1.000			
16	-8	0.965		4/20/07 BKG ST	
17	-9	0.982			
18					
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	WG91181-1	SRM PACS-2	0.208	12.0	Hg-11-30			
2	-2	Method Blank	1.050					
3	-3	Spike Blank			Hg-07-036	2 ppm	50	
4	-4	L42274-2 MS	1.013					
5	-5	L42274-2 MSD	0.988					
6	-6	L42274-2 LD	0.970		not spiked 4/26/07 ST			
7								
8								
9								

Calibration and Instrument Check Standards

prep date 4/24/07 ST

	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	12.0			
2	0.5	✓				Hg-07-032	2 ppm	25
3	1	✓	✓					50
4	2.5	✓						125
5	4	✓						200
6	RDL		✓			Hg-07-038	10 ppb	1500
7	ICV		✓			Hg-07-024	7.5 ppb	20 ml
8								
9								
10								
11								

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

Reagent Solution ID #'s

$KMnO_4$	$K_2S_2O_8$	NH_2OH-HCl	$SnCl_2$
Hg-07-042	NA	Hg-07-026	Hg-07-044

Comments:

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 07/10/07 03:00
Run ID: R120888 Workgroup: WG91181 (Du/Di)

SRM:WG91181-1 Matrix: SALTWTRSED Listtype: MTHG-MIDS 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	.048	.481	mg/Kg	3.04	2.87	94		80-120

MB:WG91181-2 Matrix: SOLIDBLANK Listtype: MTHG-MIDS Method: EPA 7471A (06-01-004-003) Project: Pkey: SED
(Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Qual
Mercury, Total, CVAA	.0048	.0476	mg/Kg	<MDL	

SB:WG91181-3 MB:WG91181-2 Matrix: SOLIDBLANK Listtype: MTHG-MIDS 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	.0048	.0476	mg/Kg	<MDL	0.0952	.0967	102		85-115

MSD:WG91181-5 MS:WG91181-4 L42274-2 Matrix: SALTWTRSED Listtype: MTHG-MIDS Method: EPA 7471A (06-01-004-003) Project: 423062-200-4 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	.0051	.0506	mg/Kg	.0637	0.0987	.15	87		75-125	0.101	.158	93		7		20

LD:WG91181-6 L42274-2 Matrix: SALTWTRSED Listtype: MTHG-MIDS 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	.0052	.0515	mg/Kg	.0637	.0665	4		20

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If the following parameters are reported, values in the RPD column are their Absolute Differences:

- pH
- pH, Field
- Salinity
- Salinity, Field
- Sample Depth
- Sample Temperature, Field

	WG91181	6-SED	ng/L			
	WG91181-1	25-Apr-07	2983.3	0.208	2	100
4/18/07 SF	WG91181-23	25-Apr-07	1015	1.05	1	100
	WG91181-32	25-Apr-07	-2.184	1.05	1	100
	L42274-1	25-Apr-07	554.41	0.966	1	100
	L42274-2	25-Apr-07	633.05	0.994	1	100
	WG91181-4	25-Apr-07	1517.2	1.013	1	100
	WG91181-5	25-Apr-07	1562.3	0.988	1	100
	WG91181-6	25-Apr-07	645.41	0.97	1	100
	L42274-3	25-Apr-07	442.85	1.037	1	100
	L42274-4	25-Apr-07	342.13	1.004	1	100
	L42274-5	25-Apr-07	391.62	1.038	1	100
	L42274-6	25-Apr-07	647.67	0.985	1	100
	L42274-7	25-Apr-07	923.21	1.013	1	100
	L42274-8	25-Apr-07	630.23	0.974	1	100
	L42275-1	25-Apr-07	1375.6	1.048	1	100
	L42275-2	25-Apr-07	732.24	1.005	1	100
	L42275-3	25-Apr-07	783.32	1.035	1	100
	L42275-4	25-Apr-07	811.81	1.045	1	100
	L42275-5	25-Apr-07	816.32	0.991	1	100
	L42275-6	25-Apr-07	650.79	1.004	1	100
	L42275-7	25-Apr-07	664.53	1	1	100
	L42275-8	25-Apr-07	944.47	0.965	1	100
	L42275-9	25-Apr-07	1341.8	0.982	1	100

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

May 02 2007, 11:29 am

Work Group: WG91307 (ICP 5/2/07) for Department: 6 - Metals, Trace

Created: 02-MAY-07 PrepDate: 02-MAY-07 Due: Operator: BDM

Sample	Project Number	Project Description	Prkey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L42274-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42274-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

May 02 2007, 11:29 am

Work Group: WG91307 (ICP 5/2/07) for Department: 6 - Metals, Trace

Created: 02-MAY-07 PrepDate: 02-MAY-07 Due: Operator: BDM

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L42275-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	MN-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PP ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	AL-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
L42275-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	FE-ICP	SALTWTRSED	WKGP	U	19-MAY-07	19-MAY-07
WG91307-1	SB			S	PP ICP	SOLIDBLANK	WKGP	U	02-MAY-07	
WG91307-2	SRM		SED	S	PP ICP	SALTWTRSED	WKGP	U	02-MAY-07	
WG91307-3	MB			S	PP ICP	SOLIDBLANK	WKGP	U	02-MAY-07	
WG91307-4	LD		SED	S	PP ICP	SALTWTRSED	WKGP	U	02-MAY-07	
WG91307-5	MS		SED	S	PP ICP	SALTWTRSED	WKGP	U	02-MAY-07	
WG91307-6	LCS			S	PP ICP	SOIL	WKGP	U	02-MAY-07	

Comments:

L42274-1	Take Minimum Casts
L42274-2	Take Minimum Casts, AREP
L42274-3	Take Minimum Casts, FREP
L42274-4	Take Minimum Casts
L42274-5	Take Minimum Casts
L42274-6	Take Minimum Casts
L42274-7	Take Minimum Casts
L42274-8	Take Minimum Casts
L42275-1	10 Grab Comp, 0-10 cm
L42275-2	10 Grab Comp, 0-10 cm
L42275-3	10 Grab Comp, AREP
L42275-4	10 Grab Comp, FREP
L42275-5	10 Grab Comp, 0-10 cm
L42275-6	10 Grab Comp, 0-10 cm
L42275-7	10 Grab Comp, 0-10 cm
L42275-8	10 Grab Comp, 0-10 cm
L42275-9	10 Grab Comp, 0-10 cm
WG91307-1	WG91307-3 ICPMARINE SPIKE BLANK
WG91307-2	PACS2
WG91307-3	DIGESTED METHOD BLANK
WG91307-4	L42274-1 RPD-SOL LAB DUPLICATE
WG91307-5	L42274-1 ICPMARINE MATRIX SPIKE
WG91307-6	ERASOIL

KING COUNTY ENVIRONMENTAL LABORATORY

Trace Metals Section ICP Preparation Log

Preparation Method: EPA 305 D
Project Number(s): 423062
Project Description(s): Duwamish Diag.
Preparation Date: 5-2-07

Work Group #: WG91307
Analyst: Brian Majdowski
Matrices: Soil water, 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	L42274-1	1.0019	50	BKG	
2	-2	1.0019			
3	-3	1.0006			
4	-4	1.0022			
5	-5	1.0025			
6	-6	1.0001			
7	-7	1.0026			
8	-8	1.0022			
9	L42275-1	1.0008			
10	-2	1.0003			
11	L42275-3	1.0011	50		
12	-4	1.0001			
13	-5	1.0024			
14	-6	1.0003			
15	-7	1.0017			
16	-8	1.0004			
17	-9	1.0000			
18					
19					
20					

Quality Control Samples

	QC Sample Number	QC Sample Description	Aliquot (g or mL)	Final Vol.(mL)	Comments	pH <2
1	WG91307-1	Spike Blank	1.0500	50	ICPMARINE	
2	-2	Lab Control Sample SRM	0.2462		PACS-2 M-11-3D	
3	-3	Method Blank	1.0500			
4	-4	Lab Duplicate	1.0017		L42274-1	
5	-5	Matrix Spike	1.0001		L42274-1	
6	-6	LCS LAB CONTROL SAMPLE	0.2448		ERA SOIL M-05-038	
7						
8						
9						
10						

Spike Solution

	Solution Name	Solution ID #	Solution Conc. (mg/L)	Amount Used (uL)
1	Cal 1/2	M-06-011	VARIES	500
2	3	M-06-031	100	1
3	4	M-06-076	5,000	1000
4	K	M-07-011	10,000	500
5	Mn	M-06-049	1000	200
6	Zn	M-06-048	1	200
7				

Comments:

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/04/07 10:19
Run ID: R119892 Workgroup: WG91307 (ICP 5/2/07)

SB:WG91307-1 MB:WG91307-3 Matrix: SOLIDBLANK Listtype: MTICP-SED Method: EPA3050B/6010B MOD(6-2-04-02) 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	49.2	103		85-115
Aluminum, Total, ICP	4.8	23.8	mg/Kg	<MDL	4810	4940	103		85-115
Arsenic, Total, ICP	1.2	5.95	mg/Kg	<MDL	47.6	49.6	104		85-115
Beryllium, Total, ICP	.048	.238	mg/Kg	<MDL	47.6	50.2	106		85-115
Cadmium, Total, ICP	.095	.476	mg/Kg	<MDL	47.6	48.6	102		85-115
Chromium, Total, ICP	.14	.714	mg/Kg	<MDL	47.6	49.6	104		85-115
Copper, Total, ICP	.19	.952	mg/Kg	<MDL	47.6	49	103		85-115
Iron, Total, ICP	2.4	11.9	mg/Kg	<MDL	4810	4960	103		85-115
Manganese, Total, ICP	.095	.476	mg/Kg	<MDL	238.	240	101		85-115
Nickel, Total, ICP	.24	1.19	mg/Kg	<MDL	47.6	47.7	100		85-115
Lead, Total, ICP	.95	4.76	mg/Kg	<MDL	47.6	48.6	102		85-115
Antimony, Total, ICP	.71	3.57	mg/Kg	<MDL	47.6	50.7	107		85-115
Selenium, Total, ICP	1.2	5.95	mg/Kg	<MDL	47.6	49.5	104		85-115
Thallium, Total, ICP	1.9	9.52	mg/Kg	<MDL	47.6	48.3	101		85-115
Zinc, Total, ICP	.24	1.19	mg/Kg	<MDL	238.	239	100		85-115

SRM:WG91307-2 Matrix: SALTWTRSED Listtype: MTICP-SED Method: EPA3050B/6010B MOD(6-2-04-02) Project: Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
Aluminum, Total, ICP	20	102	mg/Kg	66200	15600	24		10-43
Chromium, Total, ICP	.61	3.05	mg/Kg	90.7	45.6	50		30-70
Copper, Total, ICP	.81	4.06	mg/Kg	310	293	95		78-118
Iron, Total, ICP	10	50.8	mg/Kg	40900	30800	75		55-95
Manganese, Total, ICP	.41	2.03	mg/Kg	440	241	55		35-75
Nickel, Total, ICP	1	5.08	mg/Kg	39.5	27.8	70		51-91
Lead, Total, ICP	4.1	20.3	mg/Kg	183	171	93		74-114
Zinc, Total, ICP	1	5.08	mg/Kg	364	331	91		73-113

MB:WG91307-3 Matrix: SOLIDBLANK Listtype: MTICP-SED Method: EPA3050B/6010B MOD(6-2-04-02) 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	1.2	5.95	mg/Kg	<MDL	
Beryllium, Total, ICP	.048	.238	mg/Kg	<MDL	
Cadmium, Total, ICP	.095	.476	mg/Kg	<MDL	
Chromium, Total, ICP	.14	.714	mg/Kg	<MDL	
Copper, Total, ICP	.19	.952	mg/Kg	<MDL	
Iron, Total, ICP	2.4	11.9	mg/Kg	<MDL	
Manganese, Total, ICP	.095	.476	mg/Kg	<MDL	
Nickel, Total, ICP	.24	1.19	mg/Kg	<MDL	
Lead, Total, ICP	.95	4.76	mg/Kg	<MDL	
Antimony, Total, ICP	.71	3.57	mg/Kg	<MDL	
Selenium, Total, ICP	1.2	5.95	mg/Kg	<MDL	
Thallium, Total, ICP	1.9	9.52	mg/Kg	<MDL	
Zinc, Total, ICP	.24	1.19	mg/Kg	<MDL	

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/04/07 10:19
Run ID: R119892 Workgroup: WG91307 (ICP 5/2/07)

LD:WG91307-4 L42274-1 Matrix: SALTWTRSED Listtype: MTICP-SED Method: EPA3050B/6010B MOD(6-2-04-02) Project: 423062-200-4 Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimit
Silver, Total, ICP	.2	.998	mg/Kg	<MDL	<MDL			20
Aluminum, Total, ICP	5	25	mg/Kg	11800	12100	3		20
Arsenic, Total, ICP	1.2	6.24	mg/Kg	5.1	5.2			20
Beryllium, Total, ICP	.05	.25	mg/Kg	.24	.25			20
Cadmium, Total, ICP	.1	.499	mg/Kg	.1	.13			20
Chromium, Total, ICP	.15	.749	mg/Kg	14	13.5	3		20
Copper, Total, ICP	.2	.998	mg/Kg	27.4	27.6	1		20
Iron, Total, ICP	2.5	12.5	mg/Kg	16200	16500	2		20
Manganese, Total, ICP	.1	.499	mg/Kg	183	189	3		20
Nickel, Total, ICP	.25	1.25	mg/Kg	10.6	10.8	2		20
Lead, Total, ICP	1	4.99	mg/Kg	10.1	10.2	1		20
Antimony, Total, ICP	.75	3.74	mg/Kg	<MDL	<MDL			20
Selenium, Total, ICP	1.2	6.24	mg/Kg	<MDL	<MDL			20
Thallium, Total, ICP	2	9.98	mg/Kg	<MDL	<MDL			20
Zinc, Total, ICP	.25	1.25	mg/Kg	44.6	45.8	3		20

MS:WG91307-5 L42274-1 Matrix: SALTWTRSED Listtype: MTICP-SED Method: EPA3050B/6010B MOD(6-2-04-02) Project: 423062-200-4 Pkey: SED
(Matrix Spike)

Parameter	Mdl	Rdl	Units	SampValue	Truevalue	MS Value	% Rec.	Qual	LabLimit
Silver, Total, ICP	.2	1	mg/Kg	<MDL	50.0	49.7	99		75-125
Aluminum, Total, ICP	5	25	mg/Kg	11800	5050	18500	133	L	75-125
Arsenic, Total, ICP	1.2	6.25	mg/Kg	5.1	50.0	55.5	101		75-125
Beryllium, Total, ICP	.05	.25	mg/Kg	.24	50.0	50.2	100		75-125
Cadmium, Total, ICP	.1	.5	mg/Kg	.1	50.0	49.3	98		75-125
Chromium, Total, ICP	.15	.75	mg/Kg	14	50.0	63.1	98		75-125
Copper, Total, ICP	.2	1	mg/Kg	27.4	50.0	77.5	100		75-125
Iron, Total, ICP	2.5	12.5	mg/Kg	16200	5050	20900	94		75-125
Manganese, Total, ICP	.1	.5	mg/Kg	183	250.	417	94		75-125
Nickel, Total, ICP	.25	1.25	mg/Kg	10.6	50.0	57.8	94		75-125
Lead, Total, ICP	1	5	mg/Kg	10.1	50.0	58.6	97		75-125
Antimony, Total, ICP	.75	3.75	mg/Kg	<MDL	50.0	15.3	31	G	75-125
Selenium, Total, ICP	1.2	6.25	mg/Kg	<MDL	50.0	49.5	99		75-125
Thallium, Total, ICP	2	10	mg/Kg	<MDL	50.0	47.4	95		75-125
Zinc, Total, ICP	.25	1.25	mg/Kg	44.6	250.	286	97		75-125

LCS:WG91307-6 Matrix: SOIL Listtype: MTICP-SED Method: EPA3050B/6010B MOD(6-2-04-02) Project: Pkey: SED
(Lab Control Sample)

Parameter	Mdl	Rdl	Units	Truevalue	LCS Value	% Rec.	Qual	LabLimit
Silver, Total, ICP	.82	4.08	mg/Kg	171	188	110		80-120
Aluminum, Total, ICP	20	102	mg/Kg	7890	7870	100		80-120
Arsenic, Total, ICP	5.1	25.5	mg/Kg	142	147	104		80-120
Beryllium, Total, ICP	.2	1.02	mg/Kg	40.6	42.5	105		80-120
Cadmium, Total, ICP	.41	2.04	mg/Kg	64.5	63.6	99		80-120
Chromium, Total, ICP	.61	3.06	mg/Kg	86.5	88.3	102		80-120
Copper, Total, ICP	.82	4.08	mg/Kg	68.6	66.9	98		80-120
Iron, Total, ICP	10	51.1	mg/Kg	13600	14200	105		80-120
Manganese, Total, ICP	.41	2.04	mg/Kg	501	529	106		80-120

LCS:WG91307-6 Matrix: SOIL Listtype: MTICP-SED Method: EPA3050B/6010B MOD(6-2-04-02) Project: Pkey: SED
(Lab Control Sample)

Parameter	Mdl	Rdl	Units	Truevalue	LCS Value	% Rec.	Qual	LabLimit
Nickel, Total, ICP	1	5.11	mg/Kg	68.4	68.1	100		80-120
Lead, Total, ICP	4.1	20.4	mg/Kg	93.6	96	103		80-120
Antimony, Total, ICP	3.1	15.3	mg/Kg	105	97.4	93		80-120
Selenium, Total, ICP	5.1	25.5	mg/Kg	124	129	104		80-120
Thallium, Total, ICP	8.2	40.8	mg/Kg	110	115	104		80-120
Zinc, Total, ICP	1	5.11	mg/Kg	296	296	100		80-120

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If the following parameters are reported, values in the RPD column are their Absolute Differences:

- pH
- pH, Field
- Salinity
- Salinity, Field
- Sample Depth
- Sample Temperature, Field

Trace Metals Data Anomaly Form

Date(s) Occurred: *5-3-2007*

WG #(s): *WG91307*

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

Project #(s): *423062*

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: *Manganese and Zinc failed to meet acceptance limits in the ICSA check standard. They failed above the +/- MDL criteria.*
The following elements in the Matrix Spike failed to meet the +/- 25% acceptance criteria; Al at 133% and Sb at 31%.

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) reported "AS IS"
☒ Data qualified with the following flags: *Al qualified "L", Sb qualified "G".*
☐ Other
☐ Sample(s) re-prepared and re-analyzed
☐ Exposure deleted

Corrective Action Description: *Manganese and Zinc are known contaminants in the CAL4 standard used to make up the ICSA check standard. ICP-MS confirmed the contamination in a separate analysis of the CAL4 solution. The Trace Metals group is currently investigating options to mitigate this contamination.*
The low matrix spike recovery for Sb is related to the 3050 digestion procedure. The spike blank recovery (107%) indicates that the matrix may be affecting antimony during digestion. Sb results will be qualified with a "G". No further corrective action is required for Sb as per the Trace Metals decision dated 8-1-2006.
The spiked amount for Al was not adequate enough to meet the 2 to 3 times higher than the sample concentration guidelines. Al results will be qualified with a "L". In the future, the Al spiking concentration for Marine Sediments will be increased to a more appropriate level.

VI. Potential Effects on Data Quality:

☐ None; corrective action entirely corrected anomaly (explanation optional):

☒ Potential effect explanation (explanation mandatory): *The reported values for Sb may be biased low, as indicated by the low matrix spike recovery.*

	Signatures	Signature Dates
Reported By: *Brian Mazikowski*	Brian Mazikowski	5-7-07
Reviewer: *Susannah Hochstein*		5/9/07
Supervisor: *Diane McElhany*		
QA Officer: *Colin Elliott* (For QA1 only)		
cc: LPM:		

Trace Metals ICP Run Log

Workgroup Number: WG91307
Analyst: Brian Mazikowski
Instrument: Ernie11480
Method: Daily Method_Ernie_May07

#	Sample Name	Sample Comment	D.F.	Analyze Date & Time
1	Blank	ICP-07-057	1	5/3/07 7:46:11 AM
2	STD1	ICP-07-048	1	5/3/07 7:51:33 AM
3	STD2	ICP-07-059	1	5/3/07 7:56:47 AM
4	ICV	ICP-07-054	1	5/3/07 8:00:14 AM
5	ICB	ICP-07-057	1	5/3/07 8:05:27 AM
6	RDL	ICP-07-038	1	5/3/07 8:10:50 AM
7	ICSA	ICP-07-061	1	5/3/07 8:16:11 AM
8	ICSAB	ICP-07-062	1	5/3/07 8:21:29 AM
9	CCV	ICP-07-058	1	5/3/07 8:26:43 AM
10	CCB	ICP-07-057	1	5/3/07 8:31:56 AM
11	WG91307-1	6 WG91307	1	5/3/07 8:37:16 AM
12	WG91307-2	6 WG91307	1	5/3/07 8:42:28 AM
13	WG91307-3	6 WG91307	1	5/3/07 8:47:43 AM
14	WG91307-6	6 WG91307	1	5/3/07 8:53:04 AM
15	L42274-1	6 WG91307	1	5/3/07 8:58:18 AM
16	WG91307-4	6 WG91307	1	5/3/07 9:03:33 AM
17	WG91307-5	6 WG91307	1	5/3/07 9:08:49 AM
18	L42274-2	6 WG91307	1	5/3/07 9:14:02 AM
19	L42274-3	6 WG91307	1	5/3/07 9:19:17 AM
20	L42274-4	6 WG91307	1	5/3/07 9:24:32 AM
21	CCV		1	5/3/07 9:29:48 AM
22	CCB		1	5/3/07 9:35:03 AM
23	L42274-5	6 WG91307	1	5/3/07 9:40:26 AM
24	L42274-6	6 WG91307	1	5/3/07 9:45:41 AM
25	L42274-7	6 WG91307	1	5/3/07 9:50:59 AM
26	L42274-8	6 WG91307	1	5/3/07 9:56:14 AM
27	L42275-1	6 WG91307	1	5/3/07 10:01:30 AM
28	L42275-2	6 WG91307	1	5/3/07 10:06:48 AM
29	L42275-3	6 WG91307	1	5/3/07 10:12:04 AM
30	L42275-4	6 WG91307	1	5/3/07 10:17:21 AM
31	L42275-5	6 WG91307	1	5/3/07 10:22:37 AM
32	L42275-6	6 WG91307	1	5/3/07 10:27:53 AM
33	CCV		1	5/3/07 10:33:10 AM
34	CCB		1	5/3/07 10:38:24 AM
35	L42275-7	6 WG91307	1	5/3/07 10:43:49 AM
36	L42275-8	6 WG91307	1	5/3/07 10:49:06 AM
37	L42275-9	6 WG91307	1	5/3/07 10:54:23 AM
38	RDL		1	5/3/07 10:59:39 AM
39	ICSA		1	5/3/07 11:05:02 AM
40	ICSAB		1	5/3/07 11:10:21 AM
41	CCV		1	5/3/07 11:15:35 AM
42	CCB		1	5/3/07 11:20:51 AM

ORGANIC CHEMISTRY QC DATA

A1111
S/22b7

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

May 22 2007, 10:07 am

Work Group: WG90996 (bs#242 bnasms) for Department: 7 - Organics, Trace

Created: 09-APR-07 PrepDate: 10-APR-07 Due: Operator: km

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L42274-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	18-APR-07	19-MAY-07
L42274-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	18-APR-07	19-MAY-07
L42274-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	18-APR-07	19-MAY-07
L42275-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	BNASMS	SALTWTRSED	PREP	U	18-APR-07	19-MAY-07
L42276-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	BNASMS	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42276-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	BNASMS	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42276-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	BNASMS	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
WG90996-1	MB			S	BNASMS	OTHR SOLID	PREP	U	09-APR-07	
WG90996-5	SRM		SED	S	BNASMS	SALTWTRSED	PREP	U	09-APR-07	
WG90996-6	LD		SED	S	BNASMS	SALTWTRSED	PREP	U	09-APR-07	
WG90996-7	SB			S	BNASMS	OTHR SOLID	PREP	U	09-APR-07	
WG90996-8	MS		SED	S	BNASMS	SALTWTRSED	PREP	U	09-APR-07	
WG90996-9	MSD		SED	S	BNASMS	SALTWTRSED	PREP	U	09-APR-07	

Comments:

L42274-1	Take Minimum Casts
L42274-2	Take Minimum Casts, AREP
L42274-3	Take Minimum Casts, FREP
L42274-4	Take Minimum Casts
L42274-5	Take Minimum Casts
L42274-6	Take Minimum Casts
L42274-7	Take Minimum Casts
L42274-8	Take Minimum Casts
L42275-1	10 Grab Comp, 0-10 cm
L42275-2	10 Grab Comp, 0-10 cm
L42275-3	10 Grab Comp, AREP
L42275-4	10 Grab Comp, FREP
L42275-5	10 Grab Comp, 0-10 cm
L42275-6	10 Grab Comp, 0-10 cm
L42275-7	10 Grab Comp, 0-10 cm
L42275-8	10 Grab Comp, 0-10 cm
L42275-9	10 Grab Comp, 0-10 cm
L42276-1	3 grab comp, 0-10 cm
L42276-2	3 grab comp, 0-10 cm
L42276-3	3 grab comp, 0-10 cm
WG90996-1	MB070410
WG90996-5	1944
WG90996-6	L42274-2
WG90996-7	WG90996-1
WG90996-8	L42274-3
WG90996-9	WG90996-8 L42274-3

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

QC BATCH NO.: BS #242 1:1 Acetone:MeCl2

EPA SW-846 EXTRACTION METHOD: BNA SMS

SONICATION EPA 3550 SOXHLET EPA 3540

WORKGROUP NO.: WG90996

LL BNA SURROGATE SPIKE I.D.#: 1376 BNA surr #1304

LL BNA MATRIX SPIKE I.D.#: 1263A

Coprostanol:

Caffeine:

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
4/10/07 KM	WG90996-1	QC	MB		40.0g	1376 100µl	0.5	YES	LL	4/12/07	
	-2		SB LOW		↓	1263A 100µl	↓	↓	↓	↓	
	-3		MS LOW (L42274-1)			↓					
	-4		MSD LOW (L42274-1)		↓	↓					
	-5		SRM 1944		3.0g	1304 100µl	5.0				
	-6		LD (L42274-2)		40.0g	1376 100µl					
	-7		SB2HIGH			1263A 300µl					
	-8		MS2HIGH (L42274-3)			↓					
	-9	↓	MSD2HIGH (L42274-3)			↓					
	L42274-1	423062	DUWAMISH DIAGONAL			1376 100µl					
	-2	200-004	THIN LAYER C								
	-3										
	-4										
	-5										
	-6										
	-7										
	-8										
	L42275-1										* BROKEN JAR
	-2										
	-3										
	-4										
	-5										
	-6										
	-7	↓	↓		↓	↓	↓	↓	↓	↓	

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

QC BATCH NO.: BS #242 1:1 Acetone:MeCl2

EPA SW-846 EXTRACTION METHOD: BNA-SIMS

SONICATION EPA 3550 SOXHLET EPA 3540

WORKGROUP NO.: WG90996

BNA SURROGATE SPIKE I.D.#: 1376 BNA SUCR #1304 Coprostanol:

BNA MATRIX SPIKE I.D.#: 1243A Caffeine:

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
RM 4/10/07	142275-8	423062	DUWAMISH DIAGONAL		40.0 g	1376 100 µl	0.5	YES	VL	4/12/07	
	1 -9	200-004	THIN LAYER C								
	142276-1	423062	DUWAMISH DIAGONAL								0.1g sheen
	-2	100-004	CAP MONITORING								0.1g sheen
	-3										

Batch: \\orgizmo\EE\chem\6890j.i\070423.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	23-APR-2007 06:44	SDGa0971	SDGa09		10 NG/UL DFTPP MIX	NONE	0.000	1.0	12.974	145280	DFTPP.m		M.Doubrava
2	CCALI-01	23-APR-2007 07:17	SDGa0282	SDGa02		SS#1354 D 8.0 PPM BNA STD	SOIL	0.000	1.0	8.360	694838	8270B1SMS.m	17-APR-2007	M.Doubrava
3	BLANK-01	23-APR-2007 08:05	SDGa0282	SDGa02		MECL2 INSTRUMENT BLANK	SOIL	0.000	1.0	0.000	0	8270B1SMS.m	17-APR-2007	M.Doubrava
4	WG90996-1	23-APR-2007 08:53	WG90996	BS#242		WG90996-1 MB DUDI SEDS	SOIL	25.000	0.5	8.360	573446	8270b1sms.m	17-APR-2007	M.Doubrava
5	WG90996-7	23-APR-2007 09:42	WG90996	BS#242		WG90996-7 SB DUDI SEDS	SOIL	25.000	0.5	8.360	592112	8270b1sms.m	17-APR-2007	M.Doubrava
6	WG90996-8	23-APR-2007 10:30	WG90996	BS#242		WG90996-8 MS L42274-3 DUDI S	SOIL	25.000	0.5	8.360	513457	8270b1sms.m	17-APR-2007	M.Doubrava
7	WG90996-9	23-APR-2007 11:18	WG90996	BS#242		WG90996-9 MSD L42274-3 DUDI	SOIL	25.000	0.5	8.360	743703	8270b1sms.m	17-APR-2007	M.Doubrava
8	WG90996-5	23-APR-2007 12:06	WG90996	BS#242		WG90996-5 SRM 1944 DUDI SEDS	SOIL	1.875	5.0	8.360	568537	8270b1sms.m	17-APR-2007	M.Doubrava
9	L42274-3	23-APR-2007 12:54	WG90996	BS#242		L42274-3 DUDI SEDS	SOIL	25.000	0.5	8.360	680215	8270b1sms.m	17-APR-2007	M.Doubrava
10	WG90996-6	23-APR-2007 13:42	WG90996	BS#242		WG90996-6 LD L42274-2 DUDI S	SOIL	25.000	0.5	8.360	399943	8270b1sms.m	17-APR-2007	M.Doubrava
11	L42274-2	23-APR-2007 14:31	WG90996	BS#242		L42274-2 DUDI SEDS	SOIL	25.000	0.5	8.360	581890	8270b1sms.m	17-APR-2007	M.Doubrava
12	L42274-1	23-APR-2007 15:19	WG90996	BS#242		L42274-1 DUDI SEDS	SOIL	25.000	0.5	8.360	1004221	8270b1sms.m	17-APR-2007	M.Doubrava
13	L42274-4	23-APR-2007 16:08	WG90996	BS#242		L42274-4 DUDI SEDS	SOIL	25.000	0.5	8.360	466839	8270b1sms.m	17-APR-2007	M.Doubrava
14	L42274-5	23-APR-2007 16:57	WG90996	BS#242		L42274-5 DUDI SEDS	SOIL	25.000	0.5	8.360	519559	8270b1sms.m	17-APR-2007	M.Doubrava
15	L42274-6	23-APR-2007 17:46	WG90996	BS#242		L42274-6 DUDI SEDS	SOIL	25.000	0.5	8.360	478305	8270b1sms.m	17-APR-2007	M.Doubrava
16	L42274-7	23-APR-2007 18:35	WG90996	BS#242		L42274-7 DUDI SEDS	SOIL	25.000	0.5	8.360	487219	8270b1sms.m	17-APR-2007	M.Doubrava
17	L42274-8	23-APR-2007 19:23	WG90996	BS#242		L42274-8 DUDI SEDS	SOIL	25.000	0.5	8.360	556422	8270b1sms.m	17-APR-2007	M.Doubrava
18	DFTPP-2	23-APR-2007 20:12	SDGa0971	SDGa09		10 NG/UL DFTPP MIX	NONE	0.000	1.0	12.974	124112	DFTPP.m		M.Doubrava
19	CCALI-02	23-APR-2007 20:45	SDGa0282	SDGa02		SS#1354 D 8.0 PPM BNA STD	SOIL	0.000	1.0	8.360	601859	8270B1SMS.m	17-APR-2007	M.Doubrava
20	BLANK-02	23-APR-2007 21:34	SDGa0282	SDGa02		MECL2 INSTRUMENT BLANK	SOIL	0.000	1.0	8.069	376	8270B1SMS.m	17-APR-2007	M.Doubrava

Samples: 9 **QC Samples + Misc.:** 8 **ContinuingCals:** 1 **Tunes:** 2 **Calibrations:** 0

Batch: \\orgizmo\EE\chem\6890j.i\070424.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	24-APR-2007 06:41	SDGa0971	SDGa09		10 NG/UL DFTPP MIX	NONE	0.000	1.0	12.965	291904	DFTPP.m		M.Doubrava
2	CCALI-01	24-APR-2007 07:15	SDGa0282	SDGa02		SS#1354 D 8.0 PPM BNA STD	SOIL	0.000	1.0	8.360	1183406	8270B1SMS.m	17-APR-2007	M.Doubrava
3	BLANK-01	24-APR-2007 08:03	SDGa0282	SDGa02		MECL2 INSTRUMENT BLANK	SOIL	0.000	1.0	0.000	0	8270B1SMS.m	17-APR-2007	M.Doubrava
4	L42275-1	24-APR-2007 08:50	WG90996	BS#242		L42275-1 DUDI SEDS	SOIL	25.000	0.5	8.360	644965	8270b1sms.m	17-APR-2007	M.Doubrava
5	L42275-2	24-APR-2007 09:38	WG90996	BS#242		L42275-2 DUDI SEDS	SOIL	25.000	0.5	8.369	1019675	8270B1SMS.m	17-APR-2007	M.Doubrava
6	L42275-3	24-APR-2007 10:26	WG90996	BS#242		L42275-3 DUDI SEDS	SOIL	25.000	0.5	8.360	683216	8270B1SMS.m	17-APR-2007	M.Doubrava
7	L42275-4	24-APR-2007 11:14	WG90996	BS#242		L42275-4 DUDI SEDS	SOIL	25.000	0.5	8.369	835584	8270B1SMS.m	17-APR-2007	M.Doubrava
8	L42275-5	24-APR-2007 12:02	WG90996	BS#242		L42275-5 DUDI SEDS	SOIL	25.000	0.5	8.360	883350	8270B1SMS.m	17-APR-2007	M.Doubrava
9	L42275-6	24-APR-2007 12:50	WG90996	BS#242		L42275-6 DUDI SEDS	SOIL	25.000	0.5	8.360	627261	8270B1SMS.m	17-APR-2007	M.Doubrava
10	L42275-7	24-APR-2007 13:38	WG90996	BS#242		L42275-7 DUDI SEDS	SOIL	25.000	0.5	8.369	705449	8270B1SMS.m	17-APR-2007	M.Doubrava
11	L42275-8	24-APR-2007 14:27	WG90996	BS#242		L42275-8 DUDI SEDS	SOIL	25.000	0.5	8.369	401226	8270B1SMS.m	17-APR-2007	M.Doubrava
12	L42275-9	24-APR-2007 15:15	WG90996	BS#242		L42275-9 DUDI SEDS	SOIL	25.000	0.5	8.369	388928	8270B1SMS.m	17-APR-2007	M.Doubrava
13	L42276-1	24-APR-2007 16:03	WG90996	BS#242		L42276-1 DUDI SEDS	SOIL	25.000	0.5	8.369	407292	8270B1SMS.m	17-APR-2007	M.Doubrava
14	L42276-2	24-APR-2007 16:51	WG90996	BS#242		L42276-2 DUDI SEDS	SOIL	25.000	0.5	8.369	222715	8270B1SMS.m	17-APR-2007	M.Doubrava
15	L42276-3	24-APR-2007 17:40	WG90996	BS#242		L42276-3 DUDI SEDS	SOIL	25.000	0.5	8.378	332918	8270B1SMS.m	17-APR-2007	M.Doubrava
16	DFTPP-2	24-APR-2007 18:28	SDGa0971	SDGa09		10 NG/UL DFTPP MIX	NONE	0.000	1.0	12.979	137344	DFTPP.m		M.Doubrava
17	CCALI-02	24-APR-2007 19:01	SDGa0282	SDGa02		SS#1354 D 8.0 PPM BNA STD	SOIL	0.000	1.0	8.369	645211	8270B1SMS.m	17-APR-2007	M.Doubrava
18	BLANK-02	24-APR-2007 19:49	SDGa0282	SDGa02		MECL2 INSTRUMENT BLANK	SOIL	0.000	1.0	0.000	0	8270B1SMS.m	17-APR-2007	M.Doubrava

Samples: 13 **QC Samples + Misc.: 2** **ContinuingCals: 1** **Tunes: 2** **Calibrations: 0**

Batch: \\orgizmo\EE\chem\6890j.i\070426.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-2007 05:35	SDGa0971	SDGa09		10 NG/UL DFTPP MIX	NONE	0.000	1.0	12.946	279040	DFTPP.m		M.Doubrava
2	CCALI-01	26-APR-2007 06:09	SDGa0282	SDGa02		SS#1354 D 8.0 PPM BNA STD	SOIL	0.000	1.0	8.341	1100192	8270B1SMS.m	17-APR-2007	M.Doubrava
3	BLANK-01	26-APR-2007 06:57	SDGa0282	SDGa02		MECL2 INSTRUMENT BLANK	SOIL	0.000	1.0	0.000	0	8270B1SMS.m	17-APR-2007	M.Doubrava
4	L42276-1	26-APR-2007 07:45	WG90996	BS#242		L42276-1 DUDI SEDS	SOIL	25.000	0.5	8.351	631365	8270b1sms.m	17-APR-2007	M.Doubrava
5	L42276-2	26-APR-2007 08:33	WG90996	BS#242		L42276-2 DUDI SEDS	SOIL	25.000	0.5	8.350	613917	8270b1sms.m	17-APR-2007	M.Doubrava
6	L42276-3	26-APR-2007 09:22	WG90996	BS#242		L42276-3 DUDI SEDS	SOIL	25.000	0.5	8.350	781441	8270b1sms.m	17-APR-2007	M.Doubrava
7	L42275-6	26-APR-2007 10:09	WG90996	BS#242		L42275-6 DUDI SEDS	SOIL	25.000	0.5	8.350	608908	8270b1sms.m	17-APR-2007	M.Doubrava
8	L42275-7	26-APR-2007 10:57	WG90996	BS#242		L42275-7 DUDI SEDS	SOIL	25.000	0.5	8.350	552189	8270b1sms.m	17-APR-2007	M.Doubrava
9	L42275-8	26-APR-2007 11:45	WG90996	BS#242		L42275-8 DUDI SEDS	SOIL	25.000	0.5	8.350	588547	8270b1sms.m	17-APR-2007	M.Doubrava
10	L42275-9	26-APR-2007 12:33	WG90996	BS#242		L42275-9 DUDI SEDS	SOIL	25.000	0.5	8.350	657397	8270b1sms.m	17-APR-2007	M.Doubrava

Samples: 7 **QC Samples + Misc.:** 1 **ContinuingCals:** 1 **Tunes:** 1 **Calibrations:** 0

A/M
5/22/07
pm

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/02/07 07:43
Run ID: R119803 Workgroup: WG90996 (bs#242 bnasms)

MB:WG90996-1 Matrix: OTHR SOLID Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-200-4 Pkey: SED
(Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Qual
Phenol	4	8	ug/Kg	<MDL	
1,3-Dichlorobenzene	.2	.4	ug/Kg	<MDL	
1,4-Dichlorobenzene	.2	.4	ug/Kg	<MDL	
1,2-Dichlorobenzene	.2	.4	ug/Kg	<MDL	
Hexachloroethane	1	2	ug/Kg	<MDL	
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	
1,2,4-Trichlorobenzene	.1	.2	ug/Kg	<MDL	
Naphthalene	2	4	ug/Kg	<MDL	
Hexachlorobutadiene	.5	1	ug/Kg	<MDL	
Acenaphthylene	2	4	ug/Kg	<MDL	
Dimethyl Phthalate	4	8	ug/Kg	<MDL	
Acenaphthene	2	4	ug/Kg	<MDL	
Fluorene	2	4	ug/Kg	<MDL	
Diethyl Phthalate	4	8	ug/Kg	<MDL	
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	
Hexachlorobenzene	.1	.2	ug/Kg	<MDL	
Pentachlorophenol	10	20	ug/Kg	<MDL	
Phenanthrene	2	4	ug/Kg	<MDL	
Anthracene	2	4	ug/Kg	<MDL	
Di-N-Butyl Phthalate	4	8	ug/Kg	<MDL	
Fluoranthene	2	4	ug/Kg	<MDL	
Pyrene	2	4	ug/Kg	<MDL	
Benzyl Butyl Phthalate	1	2	ug/Kg	<MDL	
Benzo(a)anthracene	2	4	ug/Kg	<MDL	
Chrysene	2	4	ug/Kg	<MDL	
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	5.4	B
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	
Benzo(b)fluoranthene	2	4	ug/Kg	<MDL	
Benzo(k)fluoranthene	2	4	ug/Kg	<MDL	
Benzo(a)pyrene	2	4	ug/Kg	<MDL	
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	<MDL	
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL	
Benzo(g,h,i)perylene	2	4	ug/Kg	<MDL	
Benzyl Alcohol	2	4	ug/Kg	<MDL	
2-Methylphenol	2	4	ug/Kg	<MDL	
4-Methylphenol	4	8	ug/Kg	<MDL	
Benzoic Acid	10	20	ug/Kg	<MDL	
2-Methylnaphthalene	2	4	ug/Kg	<MDL	
Dibenzofuran	2	4	ug/Kg	<MDL	
Carbazole	2	4	ug/Kg	<MDL	
Coprostanol	40	80	ug/Kg	<MDL	
Total LPAHs	2	4	ug/Kg	<MDL	
Total HPAHS	2	4	ug/Kg	<MDL	

SRM:WG90996-5 Matrix: SALTWTRSED Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-200-4 Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
Naphthalene	270	533	ug/Kg	1630	280	17		10-29
Phenanthrene	270	533	ug/Kg	5200	3450	66		51-106

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/02/07 07:43
Run ID: R119803 Workgroup: WG90996 (bs#242 bnasms)

SRM:WG90996-5 Matrix: SALTWTRSED Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-200-4 Pkey: SED
(Std Reference Material)

Parameter	Mdl	Rdl	Units	Truevalue	SRM Value	% Rec.	Qual	LabLimit
Anthracene	270	533	ug/Kg	1750	688	39		28-98
Fluoranthene	270	533	ug/Kg	8800	7230	82		45-126
Pyrene	270	533	ug/Kg	9570	6940	73		36-135
Benzo(a)anthracene	270	533	ug/Kg	4660	3640	78		66-124
Chrysene	270	533	ug/Kg	4800	4510	94		77-136
Benzo(b)fluoranthene	270	533	ug/Kg	3820	3970	104		52-190
Benzo(k)fluoranthene	270	533	ug/Kg	2270	1980	87		60-146
Benzo(a)pyrene	270	533	ug/Kg	4240	3130	74		60-116
Indeno(1,2,3-Cd)Pyrene	270	533	ug/Kg	2740	2360	86		33-121
Dibenzo(a,h)anthracene	270	533	ug/Kg	419.	641	153		10-200
Benzo(g,h,i)perylene	270	533	ug/Kg	2800	2220	79		15-121

LD:WG90996-6 L42274-2 Matrix: SALTWTRSED Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-200-4 Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimi
Phenol	4	8	ug/Kg	<MDL	<MDL			35
1,3-Dichlorobenzene	.2	.4	ug/Kg	<MDL	<MDL			35
1,4-Dichlorobenzene	.2	.4	ug/Kg	<MDL	<MDL			35
1,2-Dichlorobenzene	.2	.4	ug/Kg	<MDL	<MDL			35
Hexachloroethane	1	2	ug/Kg	<MDL	<MDL			35
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	<MDL			35
1,2,4-Trichlorobenzene	.1	.2	ug/Kg	<MDL	<MDL			35
Naphthalene	2	4	ug/Kg	<MDL	2.3			35
Hexachlorobutadiene	.5	1	ug/Kg	<MDL	<MDL			35
Acenaphthylene	2	4	ug/Kg	2.3	2.4			35
Dimethyl Phthalate	4	8	ug/Kg	<MDL	<MDL			35
Acenaphthene	2	4	ug/Kg	2.2	2.1			35
Fluorene	2	4	ug/Kg	2.8	3.9			35
Diethyl Phthalate	4	8	ug/Kg	<MDL	<MDL			35
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	<MDL			35
Hexachlorobenzene	.1	.2	ug/Kg	<MDL	<MDL			35
Pentachlorophenol	10	20	ug/Kg	<MDL	<MDL			35
Phenanthrene	2	4	ug/Kg	19.6	27			35
Anthracene	2	4	ug/Kg	8.94	12.8	32		35
Di-N-Butyl Phthalate	4	8	ug/Kg	4.6	4.9	35		35
Fluoranthene	2	4	ug/Kg	58.4	60.5			35
Pyrene	2	4	ug/Kg	45	52	4		35
Benzyl Butyl Phthalate	1	2	ug/Kg	11	11.6	14		35
Benzo(a)anthracene	2	4	ug/Kg	24.2	31.4	6		35
Chrysene	2	4	ug/Kg	34.9	41.7	26		35
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	64.6	80.1	18		35
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	<MDL	21		35
Benzo(b)fluoranthene	2	4	ug/Kg	40.9	52.9			35
Benzo(k)fluoranthene	2	4	ug/Kg	18.9	22.7	26		35
Benzo(a)pyrene	2	4	ug/Kg	24.1	31.1	18		35
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	17.9	22.6	25		35
Dibenzo(a,h)anthracene	2	4	ug/Kg	4.84	5.27	23		35
Benzo(g,h,i)perylene	2	4	ug/Kg	16.6	21.6	8		35
Benzyl Alcohol	2	4	ug/Kg	<MDL	<MDL	26		35

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/02/07 07:43
Run ID: R119803 Workgroup: WG90996 (bs#242 bnasms)

LD:WG90996-6 L42274-2 Matrix: SALTWTRSED Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-200-4 Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimi
2-Methylphenol	2	4	ug/Kg	<MDL	<MDL			35
4-Methylphenol	4	8	ug/Kg	<MDL	<MDL			35
Benzoic Acid	10	20	ug/Kg	45.9	57.9			35
2-Methylnaphthalene	2	4	ug/Kg	<MDL	2	23		35
Dibenzofuran	2	4	ug/Kg	2	2.2			35
Carbazole	2	4	ug/Kg	5.9	8.4			35
Coprostanol	40	80	ug/Kg	199	232	35		35
						15		35

SB:WG90996-7 MB:WG90996-1 Matrix: OTHR SOLID Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-200-4 Pkey: SED
(Spike Blank, Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Truevalue	SB Value	% Rec.	Qual	LabLimit
Phenol	4	8	ug/Kg	<MDL	300.	101	34		10-107
1,3-Dichlorobenzene	.2	.4	ug/Kg	<MDL	300.	107	36		18-95
1,4-Dichlorobenzene	.2	.4	ug/Kg	<MDL	300.	101	34		21-99
1,2-Dichlorobenzene	.2	.4	ug/Kg	<MDL	300.	106	35		10-116
Hexachloroethane	1	2	ug/Kg	<MDL	300.	94.6	32		17-92
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	300.	3.52	1	*	10-81
1,2,4-Trichlorobenzene	.1	.2	ug/Kg	<MDL	300.	102	34		13-110
Naphthalene	2	4	ug/Kg	<MDL	300.	104	35		17-94
Hexachlorobutadiene	.5	1	ug/Kg	<MDL	300.	93	31		10-97
Acenaphthylene	2	4	ug/Kg	<MDL	300.	119	40		31-101
Dimethyl Phthalate	4	8	ug/Kg	<MDL	300.	134	45		38-114
Acenaphthene	2	4	ug/Kg	<MDL	300.	128	43		29-102
Fluorene	2	4	ug/Kg	<MDL	300.	150	50		39-106
Diethyl Phthalate	4	8	ug/Kg	<MDL	300.	150	50	*	51-118
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	300.	133	44		11-148
Hexachlorobenzene	.1	.2	ug/Kg	<MDL	300.	145	48		40-111
Pentachlorophenol	10	20	ug/Kg	<MDL	300.	102	34	*	38-124
Phenanthrene	2	4	ug/Kg	<MDL	300.	162	54	*	57-104
Anthracene	2	4	ug/Kg	<MDL	300.	162	54		45-114
Di-N-Butyl Phthalate	4	8	ug/Kg	<MDL	300.	173	58		17-180
Fluoranthene	2	4	ug/Kg	<MDL	300.	193	64		55-132
Pyrene	2	4	ug/Kg	<MDL	300.	196	65		48-132
Benzyl Butyl Phthalate	1	2	ug/Kg	<MDL	300.	172	57		15-183
Benzo(a)anthracene	2	4	ug/Kg	<MDL	300.	188	63	*	69-117
Chrysene	2	4	ug/Kg	<MDL	300.	175	58	*	69-111
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	5.4	300.	169	55		10-182
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	300.	182	61		10-200
Benzo(b)fluoranthene	2	4	ug/Kg	<MDL	300.	190	63		50-121
Benzo(k)fluoranthene	2	4	ug/Kg	<MDL	300.	204	68		58-128
Benzo(a)pyrene	2	4	ug/Kg	<MDL	300.	163	54		15-137
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	<MDL	300.	176	59		51-132
Dibenzo(a,h)anthracene	2	4	ug/Kg	<MDL	300.	198	66		53-129
Benzo(g,h,i)perylene	2	4	ug/Kg	<MDL	300.	186	62		46-126
Benzyl Alcohol	2	4	ug/Kg	<MDL	300.	92.7	31		10-119
2-Methylphenol	2	4	ug/Kg	<MDL	300.	66.7	22		16-91
4-Methylphenol	4	8	ug/Kg	<MDL	300.	62.9	21		10-125
Benzoic Acid	10	20	ug/Kg	<MDL	300.	46.3	15		10-170
2-Methylnaphthalene	2	4	ug/Kg	<MDL	300.	103	34		22-99

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/02/07 07:43
Run ID: R119803 Workgroup: WG90996 (bs#242 bnasms)

SB:WG90996-7 MB:WG90996-1 Matrix: OTHR SOLID Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-200-4 Pkey: SED
(Spike Blank, Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Truevalue	SB Value	% Rec.	Qual	LabLimit
Dibenzofuran	2	4	ug/Kg	<MDL	300.	130	43		37-97
Carbazole	2	4	ug/Kg	<MDL	300.	307	102		44-179
Coprostanol	40	80	ug/Kg	<MDL	3000	3420	114		10-159
Total LPAHs	2	4	ug/Kg	<MDL	150.	926			
Total HPAHS	2	4	ug/Kg	<MDL	150.	1870			

MSD:WG90996-9 MS:WG90996-8 L42274-3 Matrix: SALTWTRSED Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-200-4 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	4	8	ug/Kg	<MDL	300.	149	50		10-127	300.	114	38		27		35
1,3-Dichlorobenzene	.2	.4	ug/Kg	<MDL	300.	112	37		10-103	300.	96.3	32		14		35
1,4-Dichlorobenzene	.2	.4	ug/Kg	<MDL	300.	107	36		10-104	300.	92.5	31		15		35
1,2-Dichlorobenzene	.2	.4	ug/Kg	<MDL	300.	115	38		10-105	300.	95.5	32		17		35
Hexachloroethane	1	2	ug/Kg	<MDL	300.	106	35		10-89	300.	86.8	29		19		35
2,4-Dimethylphenol	1	2	ug/Kg	<MDL	300.	85.3	28		10-150	300.	53.2	18		43	*	35
1,2,4-Trichlorobenzene	.1	.2	ug/Kg	<MDL	300.	131	44		10-115	300.	108	36		20		35
Naphthalene	2	4	ug/Kg	<MDL	300.	138	46		12-97	300.	113	38		19		35
Hexachlorobutadiene	.5	1	ug/Kg	<MDL	300.	127	42		10-97	300.	103	34		21		35
Acenaphthylene	2	4	ug/Kg	<MDL	300.	164	55		27-132	300.	130	43		24		35
Dimethyl Phthalate	4	8	ug/Kg	<MDL	300.	177	59		13-162	300.	139	46		25		35
Acenaphthene	2	4	ug/Kg	<MDL	300.	177	59		25-130	300.	141	47		23		35
Fluorene	2	4	ug/Kg	2.1	300.	204	67		22-147	300.	163	54		21		35
Diethyl Phthalate	4	8	ug/Kg	<MDL	300.	191	64		31-150	300.	150	50		25		35
N-Nitrosodiphenylamine	4	8	ug/Kg	<MDL	300.	190	63		10-169	300.	149	50		23		35
Hexachlorobenzene	.1	.2	ug/Kg	<MDL	300.	187	62		18-151	300.	151	50		21		35
Pentachlorophenol	10	20	ug/Kg	<MDL	300.	156	52		17-170	300.	124	41		24		35
Phenanthrene	2	4	ug/Kg	16.1	300.	219	68		10-200	300.	176	53		25		35
Anthracene	2	4	ug/Kg	7.29	300.	205	66		10-181	300.	166	53		22		35
Di-N-Butyl Phthalate	4	8	ug/Kg	4.6	300.	225	73		10-194	300.	170	55		28		35
Fluoranthene	2	4	ug/Kg	64.1	300.	291	76		12-188	300.	225	54		34		35
Pyrene	2	4	ug/Kg	43.7	300.	280	79		20-174	300.	211	56		34		35
Benzyl Butyl Phthalate	1	2	ug/Kg	12.4	300.	231	73		41-145	300.	171	53		32		35
Benzo(a)anthracene	2	4	ug/Kg	29.2	300.	261	77		32-168	300.	195	55		33		35
Chrysene	2	4	ug/Kg	40.7	300.	259	73		14-184	300.	192	50		37	*	35
Bis(2-Ethylhexyl)Phthalate	4	8	ug/Kg	60	300.	294	78		10-189	300.	229	56		33		35
Di-N-Octyl Phthalate	4	8	ug/Kg	<MDL	300.	235	78		52-151	300.	174	58		29		35
Benzo(b)fluoranthene	2	4	ug/Kg	48	300.	266	73		10-199	300.	201	51		35		35
Benzo(k)fluoranthene	2	4	ug/Kg	24.3	300.	257	78		10-192	300.	198	58		29		35
Benzo(a)pyrene	2	4	ug/Kg	30.7	300.	214	61		10-200	300.	164	44		32		35
Indeno(1,2,3-Cd)Pyrene	2	4	ug/Kg	20.6	300.	258	79		10-177	300.	200	60		27		35
Dibenzo(a,h)anthracene	2	4	ug/Kg	6.28	300.	238	77		10-166	300.	183	59		26		35
Benzo(g,h,i)perylene	2	4	ug/Kg	19.4	300.	240	74		10-173	300.	177	53		33		35
Benzyl Alcohol	2	4	ug/Kg	<MDL	300.	134	45		10-138	300.	108	36		22		35
2-Methylphenol	2	4	ug/Kg	<MDL	300.	144	48		10-142	300.	110	37		26		35
4-Methylphenol	4	8	ug/Kg	<MDL	300.	139	46		10-163	300.	108	36		24		35

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/02/07 07:43
Run ID: R119803 Workgroup: WG90996 (bs#242 bnasms)

Matrix Spike Duplicate Report
MSD:WG90996-9 MS:WG90996-8 L42274-3 Matrix: SALTWTRSED Listtype: ORBNASMS Method: EPA 3550B/8270C (7-3-01-004) Project: 423062-200-4 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
Benzoic Acid	10	20	ug/Kg	50.2	300.	128	26		10-158	300.	96	15		54	*	35
2-Methylnaphthalene	2	4	ug/Kg	<MDL	300.	150	50		22-112	300.	124	41		20		35
Dibenzofuran	2	4	ug/Kg	<MDL	300.	180	60		21-134	300.	147	49		20		35
Carbazole	2	4	ug/Kg	4.18	300.	372	123		16-200	300.	299	98		23		35
Coprostanol	40	80	ug/Kg	211	3000	4350	138		10-183	3000	3180	99		33		35
Total LPAHs	2	4	ug/Kg	28.7	150.	1260				150.	1010					
Total HPAHS	2	4	ug/Kg	327	150.	2560				150.	1950					

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 05/02/07 07:43
Run ID: R119803 Workgroup: WG90996 (bs#242 bnasms)

Sample #	2-Fluorophenol-	d5-Phenol	d5-Nitrobenzen-	d4-2-Chlorophe-	d4-1,2-Dichlor-	2-Fluorobiphen-	2,4,6-Tribromo-	d14-Terphenyl
			e	nol	obenzene	yl	phenol	
(Lab Limits)	10-112	10-106	28-94	11-105	24-91	31-101	29-112	51-130
L42274-1	40	44	48	47	38	51	85	79
L42274-2	38	46	45	48	36	56	75	76
L42274-3	42	50	49	50	39	57	73	81
L42274-4	37	45	46	45	36	56	76	78
L42274-5	45	48	52	49	42	57	80	84
L42274-6	43	51	56	53	43	54	80	82
L42274-7	42	47	51	50	39	60	87	81
L42274-8	43	48	53	50	40	53	72	79
L42275-1	46	56	59	58	44	65	76	73
L42275-2	42	49	53	52	40	59	73	74
L42275-3	41	48	58	52	42	56	85	82
L42275-4	39	41	46	44	38	50	79	77
L42275-5	37	38	47	43	39	49	71	68
L42275-6	35	47	44	47	34	53	78	79
L42275-7	46	55	57	59	48	60	73	80
L42275-8	45	57	60	59	43	65	87	92
L42275-9	30	38	39	38	30	46	77	78
L42276-1	51	64	60	66	51	76	75	83
L42276-2	43	57	53	57	43	68	78	80
L42276-3	40	50	51	51	38	56	73	78
WG90996-1	31	34	37	36	34	37	28 G	54
WG90996-5	65	73	77	77	62	83	87	91
WG90996-6	42	49	49	50	42	50	66	72
WG90996-7	34	37	37	35	36	36	36	66
WG90996-8	45	53	47	49	39	53	61	80
WG90996-9	34	41	39	39	33	42	48	61

If the following parameters are reported, values in the RPD column are their Absolute Differences:
pH
pH, Field
Salinity
Salinity, Field
Sample Depth
Sample Temperature, Field

Trace Organics Data Anomaly Form

Date(s) Occurred: *07/04/23, 07/04/24, 07/04/26*

WG #(s): *WG90996*

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

Project #(s): *423589-090-001*

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. WG90996-1 MB - the extraction blank had a quantitatable level of Bis(2EH)phthalate at 5.4 ug/Kg which was greater than the MDL (4 ug/KG) but less than the RDL (8 ug/Kg). This nominal level is at "normal" lab background contamination for this project . The source of the contamination is most likely from the extraction lab, as the instrument blanks indicated no phthalates were detected.

2. WG90996-2 SB - the spike blank recoveries for 6 of the 41 analytes were asterisked for being outside of the established lad limits. The analyte recoveries and lab limits are presented in the accompanying workgroup QC report. It has been observed in past data sets that the SB recoveries are lower that the MS and MSD recoveries because of an absence of a matrix and samples concentration to 0.5 mls. The lab derived limits for the SB should take this phenomena in to account, however, it's possible to lower recoveries by vigorous concentration, not concentrating to exactly 0.5 mls, or addition of slightly to much ISTD prior to injection.

7. L42275-6, -7, -8, -9, L42276-1, -2, -3 exceeded %ISTD limits compared to the daily calibration standard. All the samples were re-analyzed on 07/04/26 and passed % ISTD difference.

8. WG90996-1 MB - had a low recovery for surrogate spike 2,4,6-Tribromophenol (28 % recovery vs. lab limit of 29% recovery). Lower surrogate recoveries are typical for blank extractions with absence of matrix. Occasionally a few recoveries exceed low lab limits most likely due to concentration of extract to 0.5 ml final volume. With the absence of sediment matrix, the surrogates are more susceptible to loss during extract concentration.

17. L42274-1 was doubled spiked with ISTDs. 20 ul was added to the extract instead of 10 ul prior to injection. The amount of ISTD was changed to 8 ng and the analytes and surrogates were quantitated and reported.

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 current SAP MDL/RDLs are higher due to concentration calculations using 30 grams as the nominal starting amount. The current extraction scheme for QA1 sediments using the BNASAM product is 40 grams as the staring nominal amount. The resulting MDL/ RDLs are lower than in the current SAP.*

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: *B*
☒ Other

Corrective Action Description: *The SAP will be updated to reflect the current MDL/ RDLs*

VI. Potential Effects on Data Quality:

☒ None; corrective action entirely corrected anomaly (explanation optional):

1. Past phthalate "spikes" have been documented with no real definitive source identified. The sample concentrations of Bis(2EH)phthalate ranged from 10 to 100 times the blank level. Generally, if a value is 10 times or greater than the blank, it should be considered "real" and the data used without bias. All samples were flagged "B" as per QA1 protocols.

2. Since the MS/MSD recoveries and %RPDs were all within QA1 limits with no flags being generated, low recoveries in the SB have no affect on the data and should be used without bias.

8. This has been very typical for sediment projects in the pass. The surrogate was flagged "G" as per QA1 protocols.

☐ Potential effect explanation (explanation mandatory):

	Signatures	Signature Dates
Reported By: *M. Doubrava*		5/22/07
Reviewer:		
Supervisor: *Dana Walker*	Dana Walker	5/22/07
QA Officer: *Colin Elliott* (For QA1 only)		
cc: LPM:		

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

May 15 2007, 01:33 pm

Work Group: WG91148 (pplls#61 pcbll) for Department: 7 - Organics, Trace

Created: 19-APR-07 PrepDate: 19-APR-07 Due: Operator: km

Sample	Project Number	Project Description	fKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L42274-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	18-APR-07	19-MAY-07
L42274-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	18-APR-07	19-MAY-07
L42274-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	18-APR-07	19-MAY-07
L42275-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PCBLL	SALTWTRSED	PREP	U	18-APR-07	19-MAY-07
L42276-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PCBLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42276-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PCBLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42276-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PCBLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
WG91148-1	MB			S	PCBLL	OTHR SOLID	PREP	U	19-APR-07	
WG91148-2	SB			S	PCBLL	OTHR SOLID	PREP	U	19-APR-07	
WG91148-3	MS		SED	S	PCBLL	SALTWTRSED	PREP	U	19-APR-07	
WG91148-4	MSD		SED	S	PCBLL	SALTWTRSED	PREP	U	19-APR-07	
WG91148-5	SRM			S	PCBLL	OTHR SOLID	PREP	U	19-APR-07	
WG91148-6	LD		SED	S	PCBLL	SALTWTRSED	PREP	U	19-APR-07	

Comments:

L42274-1	Take Minimum Casts
L42274-2	Take Minimum Casts, AREP
L42274-3	Take Minimum Casts, FREP
L42274-4	Take Minimum Casts
L42274-6	Take Minimum Casts
L42274-7	Take Minimum Casts
L42274-8	Take Minimum Casts
L42275-1	10 Grab Comp, 0-10 cm
L42275-2	10 Grab Comp, 0-10 cm
L42275-3	10 Grab Comp, AREP
L42275-4	10 Grab Comp, FREP
L42275-5	10 Grab Comp, 0-10 cm
L42275-6	10 Grab Comp, 0-10 cm
L42275-7	10 Grab Comp, 0-10 cm
L42275-8	10 Grab Comp, 0-10 cm
L42275-9	10 Grab Comp, 0-10 cm
L42276-1	3 grab comp, 0-10 cm
L42276-2	3 grab comp, 0-10 cm
L42276-3	3 grab comp, 0-10 cm
WG91148-1	MB070419
WG91148-2	WG91148-1
WG91148-3	L42274-5
WG91148-4	WG91148-3 L42274-5
WG91148-5	HS2
WG91148-6	L42276-1

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

1:1 MeCL2:ACETONE

QC BATCH NO.: PPLLS #61 pest11 | pcb11

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

2.0 ml PCB extract split from 2.5 ml total

PEST-LL WORKGROUP NO.: WG-91145
PCB-LL WORKGROUP NO.: WG-91145
PESTICIDE SURROGATE SPIKE I.D. # 1372
PESTICIDE MATRIX SPIKE I.D. # 1310.1
PCB MATRIX SPIKE I.D. # 1402

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
KM 4/15/07	WG91147-1	QC	MB		30.0	Pest	1372 100µl	2.5	ALL		KM	5/1/07			
	WG91147-1					PCB		0.5		H+			KM	5/2/07	
	WG91147-2		SB (Pest11)		30.0	Pest	1310.1 100µl	2.5							
			SB			PCB		/		/					
	WG91148-2		SB (PCB11)		24.0	Pest	1402 ul 200µl	/							
			pest11			PCB		0.5		H+					
	WG91147-3		MS (L42274-4)		30.0	Pest	1310.1 100µl	2.5							
			MS			PCB		/		H+					
	WG91147-4		pest11 MSD (L42274-4)		30.0	Pest		2.5							
						PCB		/		/					
	WG91148-3		pcb11 MS (L42274-5)		24.0	Pest	1402 200 ul	/							
						PCB		0.5		H+					
	WG91148-4		MSD (L42274-5)		24.0	Pest		/							
						PCB		0.5		H+					
	WG91147-5		pest11 SRM 1944		3.0	Pest		2.0							
						PCB		/		/					
	WG91148-5		pcb SRM HS2		7.5	Pest		/							
						PCB		0.5		H+					
	WG91147 WG91148 6		LD (L42276-1)		30.0	Pest		2.5							
						PCB		0.5		H+					
	L42274-1	423062	DW/DI THN LAYER		30.0	Pest		2.5							
			20°-04°C			PCB		0.5		H+	/	/	/		

CONTIN. NEXT PAGE

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

1:1 MeCL2:ACETONE

pestll/pcbll

QC BATCH NO.: PPLLS~~#~~61

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

2.0 ml PCB extract split from 2.5 ml total

PEST-LL WORKGROUP NO.: WG 91147
PCB-LL WORKGROUP NO.: WG 91148
PESTICIDE SURROGATE SPIKE I.D. # 1372
PESTICIDE MATRIX SPIKE I.D. # 1310.1
PCB MATRIX SPIKE I.D. # 1402

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.	Pest-LL turn in anlyst	Pest-LL Date	PCB-LL conc.	PCB-LL turn in anlyst	PCB-LL Date	Comments
KW 4/19/07	L42274-2	423062	Bwl Di DIAC				Pest	1372 100µl	2.5	ALL		KW		5/1/07				* possible double scrr
		200 gal	TOP LAYER C				PCB		0.5		H+	KW		5/2/07				~~LOST SAMPLE BROKEN TUBE~~
	-3						Pest		2.5									
							PCB		0.5		H+							
	-4						Pest		2.5									
							PCB		0.5		H+							
	-5						Pest		2.5									~~LOST SAMPLE~~ BROKEN C-TUBE
							PCB		0.5		H+							
	-6						Pest		2.5									
							PCB		0.5		H+							
	-7						Pest		2.5									
							PCB		0.5		H+							
	-8						Pest		2.5									
							PCB		0.5		H+							
	L42275-1						Pest		2.5									
							PCB		0.5		H+							
	-2						Pest		2.5									
							PCB		0.5		H+							
	-3						Pest		2.5									
							PCB		0.5		H+							
	-4						Pest		2.5									
							PCB		0.5		H+							

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

1:1 MeCL2:ACETONE

pcshl / pcbll

QC BATCH NO.: PPLLS #61

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

2.0 ml PCB extract split from 2.5 ml total

PEST-LL WORKGROUP NO.: WG-91467
PCB-LL WORKGROUP NO.: WG-91148
PESTICIDE SURROGATE SPIKE I.D. # 1372
PESTICIDE MATRIX SPIKE I.D. # 1310-1
PCB MATRIX SPIKE I.D. # 1402

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
Kim 4/19/07	L42275-5	423062	DW/DI DIAGONAL		30.0	Pest	1372 100µl	2.5	ALL		Ve	5/1/07			
		200 400	TRIPLICATE C			PCB		0.5		H+			Ve	5/2/07	
	-6				30.0	Pest		2.5							
						PCB		0.5		H+					
	-7				30.0	Pest		2.5							
						PCB		0.5		H+					
	-8				30.0	Pest		2.5							
						PCB		0.5		H+					
	-9				30.0	Pest		2.5							
						PCB		0.5		H+					
	L42276-1	423092	DW/DI DIAGONAL		30.0	Pest		2.5							
		200 400	CHF MONIT.			PCB		0.5		H+					
	-2				30.0	Pest		2.5							
						PCB		0.5		H+					
	-3				30.0	Pest		2.5							
						PCB		0.5		H+					
						Pest									
						PCB									
						Pest									
						PCB									
						Pest									
						PCB									

Data File Name	Sample Name	Date Acquired	Vial Number	Sample Amount	Sample Multiplier	Isodrin (RT)	Isodrin (Height)	Leptophos (RT)	Leptophos (Height)	Isodrin #2 (RT)	Isodrin #2 (Height)	Leptophos #2 (RT)	Leptophos #2 (Height)	Misc Info	Data File Path
COND-01.D	conditioner	5/17/2007 13:17	1	0	1										
BLANK-01.D	blank	5/17/2007 13:54	2	0	1										R:\MSDCHEM\1\DATA\070517\
PCB-01.D	1366D 1016/1260 500/50	5/17/2007 14:31	3	0	1	12.607	620447128	19.639	1055508012	16.720	85971427	26.571	95104283		R:\MSDCHEM\1\DATA\070517\
PCB-02.D	1378.1 1248 500/50	5/17/2007 15:07	4	0	1	12.608	591691343	19.641	1019916190	16.720	84804734	26.571	94766391		R:\MSDCHEM\1\DATA\070517\
PCB-03.D	1210.2 1254 500/50	5/17/2007 15:44	5	0	1	12.609	560981935	19.640	944750574	16.721	81098122	26.572	89657265		R:\MSDCHEM\1\DATA\070517\
PCB-04.D	1206.2 1221 500/50	5/17/2007 16:21	6	0	1	12.609	673034847	19.645	1492194081	16.721	94234826	26.572	105521876		R:\MSDCHEM\1\DATA\070517\
PCB-05.D	1207.2 1232 500/50	5/17/2007 16:57	7	0	1	12.609	668912910	19.636	1484396538	16.720	95280503	26.572	104243703		R:\MSDCHEM\1\DATA\070517\
PCB-06.D	1208.2 1242 500/50	5/17/2007 17:34	8	0	1	12.610	680672275	19.647	1486168133	16.720	98637795	26.572	108562823		R:\MSDCHEM\1\DATA\070517\
WG91148-1.D	MB	5/17/2007 18:11	9	15	0.5	12.610	497840018	19.641	844880051	16.719	70306205	26.570	80715708	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
WG91148-2.D	SB	5/17/2007 18:47	10	15	0.5	12.610	532355184	19.646	969017207	16.722	75535653	26.571	85342182	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
WG91148-3.D	MS L42274-5	5/17/2007 19:24	11	15	0.5	12.617	378548265	19.662	817650910	16.723	62175409	26.579	75562249	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
WG91148-4.D	MSD L42274-5	5/17/2007 20:01	12	15	0.5	12.616	430513705	19.661	822062151	16.723	70556260	26.578	83425551	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
WG91148-5.D	SRM HS2	5/17/2007 20:38	13	4.6875	0.5	12.632	286375456	19.689	595651972	16.733	44388141	26.594	62865337	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
WG91148-6.D	LD L42276-1	5/17/2007 21:14	14	15	0.5	12.639	289638296	19.745	570757714	16.739	49440764	26.627	67611781	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42274-1.D	L42274-1	5/17/2007 21:51	15	15	0.5	12.621	348463079	19.673	669201991	16.728	58244983	26.588	72645007	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42274-2.D	L42274-2	5/17/2007 22:28	16	15	0.5	12.619	376404683	19.667	721804696	16.728	62870873	26.584	76427879	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42274-3.D	L42274-3	5/17/2007 23:04	17	15	0.5	12.619	393184328	19.666	746232244	16.727	66020976	26.585	77987215	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
BLANK-02.D	blank	5/17/2007 23:41	2	0	1										R:\MSDCHEM\1\DATA\070517\
PCB-07.D	1366D 1016/1260 500/50	5/18/2007 12:18	3	0	1	12.617	524979208	19.654	862125768	16.725	80422468	26.579	93809399		R:\MSDCHEM\1\DATA\070517\
PCB-08.D	1378.1 1248 500/50	5/18/2007 12:55	4	0	1	12.617	552127099	19.654	890458188	16.725	78146703	26.577	91615576		R:\MSDCHEM\1\DATA\070517\
L42274-4.D	L42274-4	5/18/2007 1:31	18	15	0.5	12.619	397519101	19.664	731594362	16.725	61752312	26.580	74644976	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42274-6.D	L42274-6	5/18/2007 2:08	19	15	0.5	12.619	402486884	19.667	767683929	16.726	64396965	26.583	79903930	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42274-7.D	L42274-7	5/18/2007 2:45	20	15	0.5	12.621	383049172	19.675	777824041	16.727	63411659	26.587	78384580	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42274-8.D	L42274-8	5/18/2007 3:21	21	15	0.5	12.619	346722292	19.664	655094013	16.725	54894032	26.580	70596110	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42275-1.D	L42275-1	5/18/2007 3:58	22	15	0.5	12.629	303740432	19.703	609701943	16.732	52281575	26.601	68225355	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42275-2.D	L42275-2	5/18/2007 4:35	23	15	0.5	12.625	335238185	19.691	681896556	16.729	55868981	26.595	74304161	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42275-3.D	L42275-3 2X	5/18/2007 5:11	24	15	1	12.621	357082414	19.669	738189666	16.728	56253727	26.584	75845289	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42275-4.D	L42275-4 2X	5/18/2007 5:48	25	15	1	12.622	372784468	19.672	761857746	16.726	54914578	26.582	79432158	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
BLANK-03.D	blank	5/18/2007 6:25	2	0	1										R:\MSDCHEM\1\DATA\070517\
PCB-09.D	1366D 1016/1260 500/50	5/18/2007 7:01	3	0	1	12.611	569052149	19.645	1030229073	16.719	82120895	26.569	97957768		R:\MSDCHEM\1\DATA\070517\
PCB-10.D	1210.2 1254 500/50	5/18/2007 7:38	5	0	1	12.611	537691327	19.645	833578326	16.719	78947364	26.568	89425603		R:\MSDCHEM\1\DATA\070517\
L42275-5.D	L42275-5 2X	5/18/2007 8:15	26	15	1	12.615	388148708	19.659	797702979	16.722	61185295	26.577	77970987	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42275-6.D	L42275-6	5/18/2007 8:51	27	15	0.5	12.615	367238045	19.665	717921134	16.723	59939000	26.581	75518489	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42275-7.D	L42275-7	5/18/2007 9:28	28	15	0.5	12.620	355099223	19.687	687508536	16.726	47993707	26.593	74182641	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42275-8.D	L42275-8 2X	5/18/2007 10:05	29	15	1	12.619	356330348	19.675	714808648	16.724	54798937	26.586	75975619	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42275-9.D	L42275-9	5/18/2007 10:41	30	15	0.5	12.622	364947973	19.681	788596646	16.728	48582274	26.591	78658731	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42276-1.D	L42276-1	5/18/2007 11:18	31	15	0.5	12.639	289386552	19.758	586702085	16.741	51890104	26.635	73423983	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42276-2.D	L42276-2	5/18/2007 11:55	32	15	0.5	12.628	286369980	19.712	572790684	16.734	50718507	26.608	66249843	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDCHEM\1\DATA\070517\
L42276-3.D	L42276-3	5/18/2007 12:31	33	15	0.5	12.619	346571331	19.674	679439011	16.728	57921570	26.588	73347444	PPLLS61 PCBLL DUWAMISH SOIL	R:\MSDChem\1\data\070517\
BLANK-04.D	blank	5/18/2007 13:08	2	0	1										R:\MSDCHEM\1\DATA\070517\
PCB-11.D	1366D 1016/1260 500/50	5/18/2007 13:45	3	0	1	12.612	557206320	19.649	990736163	16.723	83215169	26.575	96343900		R:\MSDCHEM\1\DATA\070517\
PCB-12.D	1378.1 1248 500/50	5/18/2007 14:22	4	0	1	12.613	545299349	19.649	873403187	16.723	80764657	26.574	94474972		R:\MSDCHEM\1\DATA\070517\
					Ave.	12.617	450734072	19.664	859451957	16.725	68403198	26.581	82741869		
					Std. Dev.	0.007	121089933	0.023	246838441	0.005	14750329	0.012	11818593		
					%RSD		27%		29%		22%		14%		

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 06/11/07 01:02
Run ID: R120224 Workgroup: WG91148 (pplls#61 pcbll)

MB:WG91148-1 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	.83	1.67	ug/Kg	<MDL	
Aroclor 1221	1.7	3.33	ug/Kg	<MDL	
Aroclor 1232	1.7	3.33	ug/Kg	<MDL	
Aroclor 1242	.83	1.67	ug/Kg	<MDL	
Aroclor 1248	.83	1.67	ug/Kg	<MDL	
Aroclor 1254	.83	1.67	ug/Kg	<MDL	
Aroclor 1260	.83	1.67	ug/Kg	<MDL	

SB:WG91148-2 MB:WG91148-1 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	.83	1.67	ug/Kg	<MDL	25.0	13.9	56		39-121
Aroclor 1260	.83	1.67	ug/Kg	<MDL	25.0	27.9	112		53-140

MSD:WG91148-4 MS:WG91148-3 L42274-5 Matrix: SALTWTRSED Listtype: ORPCBLL Method: EPA 8081A/8082 (7-3-03-002) Project: 423062-200-4 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
Aroclor 1016	.83	1.67	ug/Kg	<MDL	25.0	32.2	129		32-164	25.0	21.6	86		40	*	35
Aroclor 1260	.83	1.67	ug/Kg	7.48	25.0	78.4	284	L	28-144	25.0	33.5	104		93	*	35

SRM:WG91148-5 Matrix: OTHR SOLID 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.	105	94		57-139

LD:WG91148-6 L42276-1 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	12	24.9	ug/Kg	<MDL	<MDL			35
Aroclor 1221	1.7	3.33	ug/Kg	<MDL	<MDL			35
Aroclor 1232	1.7	3.33	ug/Kg	<MDL	<MDL			35
Aroclor 1242	30	59.4	ug/Kg	<MDL	<MDL			35
Aroclor 1248	.83	1.67	ug/Kg	18.8	20.3			35
Aroclor 1254	.83	1.67	ug/Kg	55.7	39	7		35
Aroclor 1260	.83	1.67	ug/Kg	35.6	22.4	46	E	35

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 06/11/07 01:02
Run ID: R120224 Workgroup: WG91148 (pplls#61 pcbll)

MB:WG91191-1 Matrix: Listtype: ORPCBLL Method: EPA 8081A/8082 (7-3-03-002) Project: Pkey: SED
(Method Blank)

Parameter	Mdl	Rdl	Units	MB Value	Qual
Aroclor 1016	.83	1.67	ug/Kg	<MDL	
Aroclor 1221	1.7	3.33	ug/Kg	<MDL	
Aroclor 1232	1.7	3.33	ug/Kg	<MDL	
Aroclor 1242	.83	1.67	ug/Kg	<MDL	
Aroclor 1248	.83	1.67	ug/Kg	<MDL	
Aroclor 1254	.83	1.67	ug/Kg	<MDL	
Aroclor 1260	.83	1.67	ug/Kg	<MDL	

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 06/11/07 01:02
Run ID: R120224 Workgroup: WG91148 (pplls#61 pcbll)

Sample #	2,4,5,6-Tetrac-hloro-m-xylene	Decachlorobiph-enyl
(Lab Limits)	30-134	15-155
L42274-1	65	87
L42274-2	107	167 L
L42274-3	52	79
L42274-4	52	76
L42274-5	80	91
L42274-6	70	92
L42274-7	63	86
L42274-8	66	90
L42275-1	78	93
L42275-2	86	101
L42275-3	75	98
L42275-4	83	102
L42275-5	76	93
L42275-6	71	93
L42275-7	90	97
L42275-8	82	96
L42275-9	103	121
L42276-1	99	87
L42276-2	76	97
L42276-3	70	95
WG91148-1	31	87
WG91148-2	43	111
WG91148-3	67	109
WG91148-4	60	107
WG91148-5	117	134
WG91148-6	88	81

==========

If the following parameters are reported, values in the RPD column are their Absolute Differences:

- pH
- pH, Field
- Salinity
- Salinity, Field
- Sample Depth
- Sample Temperature, Field

Trace Organics Data Anomaly Form

Date(s) Occurred: *4/9/07,4/4/17/07,4/23/07*

WG #(s): *WG90996, WG91147/48, WG91190/91*

☐ **All samples in WKGP(s)** or ☒ **Sample #(s):** *L42274-1 to-3 L42274-6 to -8, L42275-1 to -9, L42276-2,L42276-4 to -9*

Project #(s):

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

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,PESTLL,PCBLL*

☐ 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: *16: Sample jar L42275-1 cracked upon freezing,samples thawed 4/09/07. Bnasms*

Sample jars L42274-1 to -3, L42274-6 to -8, L42275-1 to -9, L42276-2 cracked upon freezing,samples thawed 4/17/07. pestll/pcbll
Sample jars L42276-4 to -9 cracked upon freezing,samples thawed 4/23/07. pestll/pcbll

17. Sample L42274-5 lost 4/23/07, broken concentrater tube post GPC.

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:
☒ Other

Corrective Action Description: *16. I transferred samples from the broken jars to new clean containers. Results should be flagged with an H. Instrument analyst will make this decision. Problem has been discussed with both TC's and PM.*
17. *Sample L42274-5 was re-extracted in the next workgroup, WG91190/91 pestll/pcbll only. The sample was kept in WG91148 because of limitations within LIMS. Samples can not be linked between workgroups.*

VI. Potential Effects on Data Quality:

☒ None; corrective action entirely corrected anomaly (explanation optional):

☐ Potential effect explanation (explanation mandatory):

	Signatures	Signature Dates
Reported By:		
Reviewer: VSE		6/12/07
Supervisor: *Dana Walker*		6.12.07
QA Officer: *Colin Elliott* (For QA1 only)		6/12/07
cc: LPM:		

Trace Organics Data Anomaly Form

Date(s) Occurred: *5/17/2007*

WG #(s): *WG91148*

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

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:			
☐ 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 value for Aroclor 1260 is above the limits off 28%-144%, at 284%. 8. Sample L42274-2 had the DCB surrogate outside the acceptance limits of 15-155%, at 167%. 10. The MS/MSD RPD for both Aroclor 1016 and Aroclor 1260 are outside the lab limits of 35%, at 40% and 93% respectively. 11. The LD and corresponding sample had and RPD outside the acceptance window of 35%, at 46% for Aroclor 1260. 16. Several samples were "H" flagged due to the jars*

cracking upon freezing (see associated prep. DAF). 17. Several MDL/RDL values were raised due to overlapping PCB congeners, these samples had text and TA flags added.

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 extraction procedure was changed from an initial 20g sample to a 30g sample. This was done for all NPDES sediments extracted for pesticides and PCBs, due to the large water content of the sample matrix. In order to consistently achieve the project MDLs after correction for dry weight and TOC, a larger initial amount of sample is needed for extraction. The current 2003 SAP is out of date and is due for an update; these new MDL and RDL values will be included in the re-write.*

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: *H & L & TA & E*
☐ Other

Corrective Action Description: *3. The MS is "L" flagged on the QC report. All other MS and MSD values are within the acceptance limits. All samples had Aroclor 1260 "L" flagged. This sample was previously analyzed on 5/16/2007 with similar results showing an interferent. 8. This is due to a conflicting peak in the sample at the same retention time. The QC report is "L" flagged for this sample's surrogate. This doesn't affect the sample as the method states that only one surrogate recovery must be within limits and the other surrogate is within limits. 10. The MS/MSD RPD being out is due to the non-homogeneity of the sample, which presents and obvious and unavoidable matrix interference. 11. The LD high RPD was due to non-homogeneity in the sample matrix. All samples (except L42274-5) were flagged with an "E" for Aroclor 1260.*

VI. Potential Effects on Data Quality:

☐ None; corrective action entirely corrected anomaly (explanation optional):

☒ Potential effect explanation (explanation mandatory): *Due to the high recovery in the MS and high RPD in the LD for Aroclor 1260, all data is flagged with an "L" and an "E" on Aroclor 1260. The sample matrix is difficult and non-homogeneous, which is evident in the QC results.*

	Signatures	Signature Dates
Reported By: *Gretchen Nerlin*		6/12/07
Reviewer: *Jim Fiscus*		6-14-07
Supervisor: *Dana Walker*		6/12/07
QA Officer: *Colin Elliott* (For QA1 only)		

cc: LPM: Fritz Grothkopp

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

May 15 2007, 01:19 pm

Work Group: WG91147 (pplls#61 pestll) for Department: 7 - Organics, Trace

Created: 19-APR-07 PrepDate: 19-APR-07 Due: Operator: km

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L42274-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42274-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	18-APR-07	19-MAY-07
L42274-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	18-APR-07	19-MAY-07
L42274-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	18-APR-07	19-MAY-07
L42275-1	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-2	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-3	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-4	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-6	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-7	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-8	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	16-APR-07	19-MAY-07
L42275-9	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	PREP	U	18-APR-07	19-MAY-07
L42276-1	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42276-2	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42276-3	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
WG91147-1	MB			S	PESTLL	OTHR SOLID	PREP	U	19-APR-07	
WG91147-2	SB			S	PESTLL	OTHR SOLID	PREP	U	19-APR-07	
WG91147-3	MS		SED	S	PESTLL	SALTWTRSED	PREP	U	19-APR-07	
WG91147-4	MSD		SED	S	PESTLL	SALTWTRSED	PREP	U	19-APR-07	
WG91147-5	SRM			S	PESTLL	OTHR SOLID	PREP	U	19-APR-07	
WG91147-6	LD		SED	S	PESTLL	SALTWTRSED	PREP	U	19-APR-07	

Comments:

L42274-1	Take Minimum Casts
L42274-2	Take Minimum Casts, AREP
L42274-3	Take Minimum Casts, FREP
L42274-4	Take Minimum Casts
L42274-6	Take Minimum Casts
L42274-7	Take Minimum Casts
L42274-8	Take Minimum Casts
L42275-1	10 Grab Comp, 0-10 cm
L42275-2	10 Grab Comp, 0-10 cm
L42275-3	10 Grab Comp, AREP
L42275-4	10 Grab Comp, FREP
L42275-5	10 Grab Comp, 0-10 cm
L42275-6	10 Grab Comp, 0-10 cm
L42275-7	10 Grab Comp, 0-10 cm
L42275-8	10 Grab Comp, 0-10 cm
L42275-9	10 Grab Comp, 0-10 cm
L42276-1	3 grab comp, 0-10 cm
L42276-2	3 grab comp, 0-10 cm
L42276-3	3 grab comp, 0-10 cm
WG91147-1	MB070419
WG91147-2	WG91147-1
WG91147-3	L42274-4
WG91147-4	WG91147-3 L42274-4
WG91147-5	1944
WG91147-6	L42276-1

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

1:1 MeCL2:ACETONE

QC BATCH NO.: PPLLS #61 pestll | pcbll

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

2.0 ml PCB extract split from 2.5 ml total

PEST-LL WORKGROUP NO.: [illegible]
PCB-LL WORKGROUP NO.: [illegible]
PESTICIDE SURROGATE SPIKE I.D. # 1372
PESTICIDE MATRIX SPIKE I.D. # 1310.1
PCB MATRIX SPIKE I.D. # 1402

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.	Pest-LL turn in anlyst	Pest-LL turn in Date	PCB-LL conc.	PCB-LL turn in anlyst	PCB-LL turn in Date	Comments
Kim 4/9/07	WG91147-1	QC	MB		30.0	Pest		1372 100µl	2.5	ALL			VL	5/1/07				
	WG91147-1					PCB			0.5		H+							
	WG91147-2		SB (Pestll)		30.0	Pest		1310.1 100µl	2.5									
	WG91148-2		SB (PCBLL)		24.0	Pest		1402 ul 200µl	/									
	WG91147-3		MS (L42274-4)		30.0	Pest		1310.1 100µl	2.5									
	WG91147-4		MSD (L42274-4)		30.0	Pest			2.5									
	WG91148-3		MS (L42274-5)		24.0	Pest		1402 200 ul	/									
	WG91148-4		MSD (L42274-5)		24.0	Pest			/									
	WG91147-5		SRM 1944		30.0	Pest			2.0									
	WG91148-5		SRM HS2		7.5	Pest			/									
	WG91147-6 WG91148-6		LD (L42276-1)		30.0	Pest			2.5									
	L42274-1	423062	DW/DI TAN LAYER		30.0	Pest			2.5									
			20% 60% C			PCB			0.5		H+							

CONTIN. NEXT PAGE

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

1:1 MeCL2:ACETONE

QC BATCH NO.: PPLLS#61 pestll/pcbll

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

2.0 ml PCB extract split from 2.5 ml total

PEST-LL WORKGROUP NO.: WG 91147
PCB-LL WORKGROUP NO.: WG 91148
PESTICIDE SURROGATE SPIKE I.D. # 1372
PESTICIDE MATRIX SPIKE I.D. # 1310.1
PCB MATRIX SPIKE I.D. # 1402

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. turn in anlyst	Pest-LL Date	PCB-LL conc. turn in anlyst	PCB-LL Date	Comments
Kw 4/19/07	L42274-2	423062	Blk Di DIAC.				Pest	1372 100µl	2.5	ALL		KW	5/1/07			* Possible double s
		200 gpc	THIN LAYER CL				PCB		0.5		H+					~~LOST SAMPLE BROKE~~
	-3						Pest		2.5							
							PCB		0.5		H+					
	-4						Pest		2.5							
							PCB		0.5		H+					
	-5						Pest		2.5							** LOST SAMPLE 13
							PCB		0.5		H+					C
	-6						Pest		2.5							
							PCB		0.5		H+					
	-7						Pest		2.5							
							PCB		0.5		H+					
	-8						Pest		2.5							
							PCB		0.5		H+					
	L42275-1						Pest		2.5							
							PCB		0.5		H+					
	-2						Pest		2.5							
							PCB		0.5		H+					
	-3						Pest		2.5							
							PCB		0.5		H+					
	-4						Pest		2.5							
							PCB		0.5		H+					

CONT. NEXT PAGE

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

1:1 MeCL2:ACETONE

pest11 / pcb11

QC BATCH NO.: PPLLS #61

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

2.0 ml PCB extract split from 2.5 ml total

PEST-LL WORKGROUP NO.: WG 91147
PCB-LL WORKGROUP NO.: WG 91148
PESTICIDE SURROGATE SPIKE I.D. # 1372
PESTICIDE MATRIX SPIKE I.D. # 1310.1
PCB MATRIX SPIKE I.D. # 1402

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.	Pest-LL turn in anlyst	Pest-LL turn in Date	PCB-LL conc.	PCB-LL turn in anlyst	PCB-LL turn in Date	Comments
KM 4/19/07	L42275-5	423062	DW/DI DIAGONAL		30.0	Pest		1372 100µl	2.5	ALL			VG	5/1/07				
	200 µl		FILTRATE C			PCB			0.5		H+							
	-6				30.0	Pest			2.5									
						PCB			0.5		H+							
	-7				30.0	Pest			2.5									
						PCB			0.5		H+							
	-8				30.0	Pest			2.5									
						PCB			0.5		H+							
	-9				30.0	Pest			2.5									
						PCB			0.5		H+							
	L42276-1	423092	DW/DI DIAGONAL		30.0	Pest			2.5									
	100 µl		CMP MONITOR			PCB			0.5		H+							
	-2				30.0	Pest			2.5									
						PCB			0.5		H+							
	-3				30.0	Pest			2.5									
						PCB			0.5		H+							
						Pest												
						PCB												
						Pest												
						PCB												
						Pest												
						PCB												

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	18 May 2007 10:00 am	1	0	1										S:\MSDCHEM\2\DATA\070518\
BLANK-01.D	blank	18 May 2007 10:37 am	2	0	1										S:\MSDCHEM\2\DATA\070518\
PPES-01.D	1358 PPES 20 PPB (BREAKDOWWN)	18 May 2007 11:13 am	3	0	1	15.232	99570630	23.562	165536302	12.786	263319671	19.117	403742337		S:\MSDChem\2\data\070518\
PEST-01.D	1328D PEST 50/100 PPB (DAILY CAL)	18 May 2007 11:50 am	4	0	1	15.229	129006013	23.557	217437378	12.785	338704124	19.116	523257450		S:\MSDCHEM\2\DATA\070518\
TOX-01.D	1367.1 TOXAPHENE 1000 PPB (DAILY	18 May 2007 12:27 pm	5	0	1	15.230	103520012	23.559	182684192	12.786	283843063	19.117	442785550		S:\MSDCHEM\2\DATA\070518\
WG91147-1.D	MB	18 May 2007 1:03 pm	6	18.75	2.5	15.231	105266155	23.561	171443196	12.785	274672624	19.117	438450121	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
WG91147-2.D	SB	18 May 2007 1:40 pm	7	18.75	2.5	15.230	99973567	23.559	172600815	12.786	268926510	19.118	414887856	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
WG91147-3.D	MS L42274-4	18 May 2007 2:17 pm	8	18.75	2.5	15.232	90772574	23.563	179214194	12.784	247291338	19.121	415545531	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
WG91147-4.D	MSD L42274-4	18 May 2007 2:54 pm	9	18.75	2.5	15.231	86498185	23.563	171359562	12.785	231290438	19.119	400267630	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
WG91147-5.D	SRM 1944	18 May 2007 3:30 pm	10	1.875	2	15.242	77851668	23.580	163798589	12.794	172227805	19.144	342740394	PPLLS61 PESTLL DUDI SOIL	S:\MSDChem\2\data\070518\
WG91147-6.D	LD L42276-1	18 May 2007 4:07 pm	11	18.75	2.5	15.238	64798323	23.583	156261880	12.792	162880862	19.149	330943602	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42274-1.D	L42274-1	18 May 2007 4:44 pm	12	18.75	2.5	15.234	69237225	23.566	148693123	12.784	189071765	19.121	336769744	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42274-2.D	L42274-2	18 May 2007 5:20 pm	13	18.75	2.5	15.232	72830527	23.563	154823025	12.784	198961098	19.119	331520298	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42274-3.D	L42274-3	18 May 2007 5:57 pm	14	18.75	2.5	15.233	73372323	23.565	157421373	12.783	210899946	19.116	352171016	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
COND-02.D	conditioner	18 May 2007 6:34 pm	1	0	1										S:\MSDCHEM\2\DATA\070518\
PPES-02.D	1358 PPES 20 PPB (BREAKDOWWN)	18 May 2007 7:10 pm	3	0	1	15.229	90792151	23.556	168059433	12.783	264964964	19.112	412927094		S:\MSDCHEM\2\DATA\070518\
PEST-02.D	1328D PEST 50/100 PPB (DAILY CAL)	18 May 2007 7:47 pm	4	0	1	15.228	119965697	23.558	210735624	12.781	343784281	19.110	534710304		S:\MSDChem\2\data\070518\
L42274-4.D	L42274-4	18 May 2007 8:24 pm	15	18.75	2.5	15.229	81230335	23.558	162412787	12.780	224940276	19.112	363326363	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42274-6.D	L42274-6	18 May 2007 9:00 pm	16	18.75	2.5	15.228	84251298	23.557	172176467	12.781	227549603	19.112	393378663	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42274-7.D	L42274-7	18 May 2007 9:37 pm	17	18.75	2.5	15.228	75144057	23.559	160880936	12.780	206809048	19.114	358445366	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42274-8.D	L42274-8	18 May 2007 10:14 pm	18	18.75	2.5	15.228	82492881	23.558	166321178	12.780	225242008	19.111	382892803	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42275-1.D	L42275-1	18 May 2007 10:50 pm	19	18.75	2.5	15.231	66269660	23.564	162131118	12.782	188051315	19.123	356834511	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42275-2.D	L42275-2	18 May 2007 11:27 pm	20	18.75	2.5	15.231	72599031	23.564	155784777	12.782	188300878	19.118	340143675	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42275-3.D	L42275-3	19 May 2007 12:04 am	21	18.75	2.5	15.230	66271056	23.561	150020806	12.782	171775737	19.117	318423939	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42275-4.D	L42275-4	19 May 2007 12:41 am	22	18.75	2.5	15.231	66034968	23.563	152413094	12.783	168113727	19.119	324654210	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42275-5.D	L42275-5	19 May 2007 1:17 am	23	18.75	2.5	15.231	71497943	23.562	157763022	12.782	190877388	19.116	356454773	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
COND-03.D	conditioner	19 May 2007 1:54 am	1	0	1										S:\MSDCHEM\2\DATA\070518\
PPES-03.D	1358 PPES 20 PPB (BREAKDOWWN)	19 May 2007 2:31 am	3	0	1	15.229	89004126	23.558	165460266	12.781	256431328	19.109	385291858		S:\MSDChem\2\data\070518\
PEST-03.D	1328D PEST 50/100 PPB (DAILY CAL)	19 May 2007 3:07 am	4	0	1	15.226	123142552	23.555	219624076	12.780	332184331	19.109	506953192		S:\MSDCHEM\2\DATA\070518\
L42275-6.D	L42275-6	19 May 2007 3:44 am	24	18.75	2.5	15.230	79123860	23.561	165391431	12.780	205322657	19.112	356717131	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42275-7.D	L42275-7	19 May 2007 4:21 am	25	18.75	2.5	15.232	73405287	23.567	159470676	12.783	185260434	19.122	340213825	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42275-8.D	L42275-8	19 May 2007 4:57 am	26	18.75	2.5	15.233	71670041	23.569	161433432	12.783	184645024	19.124	341775105	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42275-9.D	L42275-9	19 May 2007 5:34 am	27	18.75	2.5	15.231	69659219	23.564	135932884	12.782	158009211	19.119	284838890	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42276-1.D	L42276-1	19 May 2007 6:11 am	28	18.75	2.5	15.236	67655787	23.580	142027523	12.787	144990772	19.144	283681969	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42276-2.D	L42276-2	19 May 2007 6:47 am	29	18.75	2.5	15.234	69739281	23.572	146839005	12.783	154961525	19.128	297500632	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
L42276-3.D	L42276-3	19 May 2007 7:24 am	30	18.75	2.5	15.231	70845518	23.563	156419113	12.781	189218854	19.115	329075349	PPLLS61 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070518\
COND-04.D	conditioner	19 May 2007 8:01 am	1	0	1										S:\MSDCHEM\2\DATA\070518\
PPES-04.D	1358 PPES 20 PPB (BREAKDOWWN)	19 May 2007 8:38 am	3	0	1	15.228	86578536	23.556	159700089	12.781	247792568	19.108	377510770		S:\MSDCHEM\2\DATA\070518\
PEST-04.D	1328D PEST 50/100 PPB (DAILY CAL)	19 May 2007 9:14 am	4	0	1	15.227	121565690	23.555	211395782	12.781	326190069	19.108	503559195		S:\MSDCHEM\2\DATA\070518\
					Ave.	15.231	84459887	23.563	167186093	12.783	224279566	19.119	378887975		
					Std. Dev.	0.003	18291873	0.007	20181274	0.003	55407518	0.010	64740110		
					%RSD		22%		12%		25%		17%		

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 07/13/07 04:05
Run ID: R121029 Workgroup: WG91147 (pplls#61 pestll)

MB:WG91147-1 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	.33	.667	ug/Kg	<MDL	
Beta-BHC	.33	.667	ug/Kg	<MDL	
Delta-BHC	.33	.667	ug/Kg	<MDL	
Gamma-BHC (Lindane)	.33	.667	ug/Kg	<MDL	
Heptachlor	.33	.667	ug/Kg	<MDL	
Aldrin	.67	1.33	ug/Kg	<MDL	
Heptachlor Epoxide	.33	.667	ug/Kg	<MDL	
Endosulfan I	.67	1.33	ug/Kg	<MDL	
Dieldrin	.67	1.33	ug/Kg	<MDL	
4,4'-DDE	.67	1.33	ug/Kg	<MDL	
Endrin	.67	1.33	ug/Kg	<MDL	
Endosulfan II	.67	1.33	ug/Kg	<MDL	
4,4'-DDD	.67	1.33	ug/Kg	<MDL	
Endrin Aldehyde	.67	1.33	ug/Kg	<MDL	
Endosulfan Sulfate	.67	1.33	ug/Kg	<MDL	
4,4'-DDT	.67	1.33	ug/Kg	<MDL	
Methoxychlor	3.3	6.67	ug/Kg	<MDL	
Gamma-Chlordane	.33	.667	ug/Kg	<MDL	
Alpha-Chlordane	.33	.667	ug/Kg	<MDL	
Toxaphene	6.7	13.3	ug/Kg	<MDL	

SB:WG91147-2 MB:WG91147-1 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	.33	.667	ug/Kg	<MDL	6.67	3.69	55		20-99
Beta-BHC	.33	.667	ug/Kg	<MDL	6.67	5.53	83		66-102
Delta-BHC	.33	.667	ug/Kg	<MDL	6.67	5.56	83		63-108
Gamma-BHC (Lindane)	.33	.667	ug/Kg	<MDL	6.67	4.05	61		27-130
Heptachlor	.33	.667	ug/Kg	<MDL	6.67	3.7	55		20-137
Aldrin	.67	1.33	ug/Kg	<MDL	6.67	3.41	51		28-113
Heptachlor Epoxide	.33	.667	ug/Kg	<MDL	6.67	5.13	77		59-107
Endosulfan I	.67	1.33	ug/Kg	<MDL	6.67	5.45	82		62-104
Dieldrin	.67	1.33	ug/Kg	<MDL	6.67	6.24	94		58-139
4,4'-DDE	.67	1.33	ug/Kg	<MDL	6.67	6.16	92		75-111
Endrin	.67	1.33	ug/Kg	<MDL	6.67	7.04	106		60-160
Endosulfan II	.67	1.33	ug/Kg	<MDL	6.67	6.2	93		72-109
4,4'-DDD	.67	1.33	ug/Kg	<MDL	6.67	6.9	104		78-121
Endrin Aldehyde	.67	1.33	ug/Kg	<MDL	6.67	1.1	17		10-77
Endosulfan Sulfate	.67	1.33	ug/Kg	<MDL	6.67	5.57	84		61-104
4,4'-DDT	.67	1.33	ug/Kg	<MDL	6.67	6.93	104		57-145
Methoxychlor	3.3	6.67	ug/Kg	<MDL	6.67	7.94	119		72-131

Matrix Spike Duplicate Report
MSD:WG91147-4 MS:WG91147-3 L42274-4 Matrix: SALTWTRSED Listtype: ORPESTLL Method: EPA 8081A/8082 (7-3-03-002) Project: 423062-200-4 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
Alpha-BHC	.33	.667	ug/Kg	<MDL	6.67	6	90		59-111	6.67	5.57	83		8		35
Beta-BHC	.33	.667	ug/Kg	<MDL	6.67	5.9	89		60-119	6.67	6.05	91		2		35
Delta-BHC	.33	.667	ug/Kg	<MDL	6.67	6.24	94		54-126	6.67	6.14	92		2		35
Gamma-BHC (Lindane)	.33	.667	ug/Kg	<MDL	6.67	6.15	92		61-135	6.67	5.99	90		2		35
Heptachlor	.33	.667	ug/Kg	<MDL	6.67	6.06	91		52-157	6.67	5.88	88		3		35
Aldrin	.67	1.33	ug/Kg	<MDL	6.67	5.88	88		61-119	6.67	5.74	86		2		35
Heptachlor Epoxide	.33	.667	ug/Kg	<MDL	6.67	6.92	104		61-118	6.67	6.62	99		5		35
Endosulfan I	.67	1.33	ug/Kg	<MDL	6.67	6.17	93		64-118	6.67	6.3	94		1		35
Dieldrin	.67	1.33	ug/Kg	<MDL	6.67	6.69	100		60-139	6.67	6.88	103		3		35
4,4'-DDE	.67	1.33	ug/Kg	<MDL	6.67	6.61	99		59-125	6.67	6.67	100		1		35
Endrin	.67	1.33	ug/Kg	<MDL	6.67	7.22	108		62-166	6.67	7.34	110		2		35
Endosulfan II	.67	1.33	ug/Kg	<MDL	6.67	5.93	89		36-146	6.67	5.75	86		3		35
4,4'-DDD	.67	1.33	ug/Kg	<MDL	6.67	6.74	101		41-157	6.67	7.01	105		4		35
Endrin Aldehyde	.67	1.33	ug/Kg	<MDL	6.67	1.1	16		10-66	6.67	.75	11		37	*	35
Endosulfan Sulfate	.67	1.33	ug/Kg	<MDL	6.67	5.69	85		46-113	6.67	5.31	80		6		35
4,4'-DDT	.67	1.33	ug/Kg	<MDL	6.67	8.61	129		50-144	6.67	7.63	115		11		35
Methoxychlor	3.3	6.67	ug/Kg	<MDL	6.67	7.64	115		53-129	6.67	7.85	118		3		35

SRM:WG91147-5 Matrix: OTHR SOLID 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	174	146		10-200
Alpha-Chlordane	2.7	5.33	ug/Kg	16.5	23.6	143		48-144

LD:WG91147-6 L42276-1 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	.33	.667	ug/Kg	<MDL	<MDL			35
Beta-BHC	.33	.667	ug/Kg	<MDL	<MDL			35
Delta-BHC	.33	.667	ug/Kg	<MDL	<MDL			35
Gamma-BHC (Lindane)	.33	.667	ug/Kg	<MDL	<MDL			35
Heptachlor	.33	.667	ug/Kg	<MDL	<MDL			35
Aldrin	.67	1.33	ug/Kg	<MDL	<MDL			35
Heptachlor Epoxide	.33	.667	ug/Kg	<MDL	<MDL			35
Endosulfan I	.67	1.33	ug/Kg	<MDL	<MDL			35
Dieldrin	.67	1.33	ug/Kg	<MDL	<MDL			35
4,4'-DDE	.67	1.33	ug/Kg	<MDL	<MDL			35
Endrin	.67	1.33	ug/Kg	<MDL	<MDL			35
Endosulfan II	.67	1.33	ug/Kg	<MDL	<MDL			35
4,4'-DDD	.67	1.33	ug/Kg	<MDL	<MDL			35
Endrin Aldehyde	.67	1.33	ug/Kg	<MDL	<MDL			35
Endosulfan Sulfate	.67	1.33	ug/Kg	<MDL	<MDL			35
4,4'-DDT	.67	1.33	ug/Kg	<MDL	<MDL			35
Methoxychlor	3.3	6.67	ug/Kg	<MDL	<MDL			35
Gamma-Chlordane	.33	.667	ug/Kg	<MDL	<MDL			35
Alpha-Chlordane	.33	.667	ug/Kg	<MDL	<MDL			35

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 07/13/07 04:05
Run ID: R121029 Workgroup: WG91147 (pplls#61 pestll)

LD:WG91147-6 L42276-1 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	LabLimi
Toxaphene	6.7	13.3	ug/Kg	<MDL	<MDL			35

Sample #	2,4,5,6-Tetrac-hloro-m-xylene	Decachlorobiph-enyl
(Lab Limits)	30-134	15-155
L42274-1	90	80
L42274-2	141 L	143
L42274-3	73	78
L42274-4	72	84
L42274-6	77	80
L42274-7	85	83
L42274-8	79	77
L42275-1	95	83
L42275-2	96	86
L42275-3	97	93
L42275-4	103	95
L42275-5	91	85
L42275-6	84	84
L42275-7	109	91
L42275-8	94	80
L42275-9	116	100
L42276-1	127	105
L42276-2	112	99
L42276-3	83	81
WG91147-1	37	92
WG91147-2	42	89
WG91147-3	72	82
WG91147-4	59	83
WG91147-5	87	100
WG91147-6	123	90

If the following parameters are reported, values in the RPD column are their Absolute Differences:

- pH
- pH, Field
- Salinity
- Salinity, Field
- Sample Depth
- Sample Temperature, Field

Trace Organics Data Anomaly Form

Date(s) Occurred: *5-18-07*

WG #(s): *91147*

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

Project #(s): *423062*

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

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: *PESTLL*

☐ 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: *8. The TCX surrogate for L42274-2 had a recovery of 141% (limits 30-134%). 10. The RPD for endrin aldehyde in the MS and MSD (WG91147-3&4) is 37% (limit 35%). 12. Both DDT and methoxyclor had recoveries <85% in the final CCAL (PEST-04).*

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

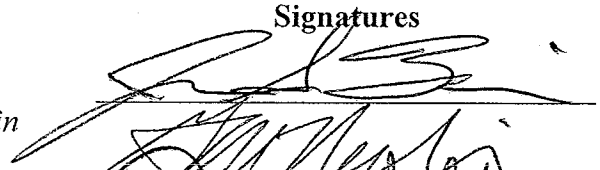
☐ Sample(s) re-analyzed ☐ Sample(s) re-prepared and re-analyzed
☒ Sample(s) reported "AS IS"
☒ Data qualified with the following flags: *L,E*
☐ Other

Corrective Action Description: *8. It appears that the sample was most likely double spiked for the surrogate. The DCB surrogate has a 143% recovery (limits 15-155%) which is within range, but like the TCX is approximately double the recoveries of the other samples in the workgroup. All parameters for L42274-2 are flagged with an "L". 10. The recoveries for endrin aldehyde are typically low (limits 10-66%). These are 16% and 11% respectively, resulting in the high RPD. The only qualifier is an asterisk on the QC report. 12. It is not unusual for either of these 2 parameters to have recovery problems, especially with this matrix. Samples L42275-(6-9) and L42276-(1-3) are flagged with an "E" and the text: "Estimate due to CCAL failure".*

VI. Potential Effects on Data Quality:

☒ None; corrective action entirely corrected anomaly (explanation optional):

☐ Potential effect explanation (explanation mandatory):

	Signatures	Signature Dates
Reported By: *JSF*		7.17.07
Reviewer: *Gretchen Nerlin*		7/17/07
Supervisor: *Dana Walker*	Dana Walker	7/17/07
QA Officer: *Colin Elliott* (For QA1 only)	Not available	
cc: LPM:		

Trace Organics Data Anomaly Form

Date(s) Occurred: *4/9/07,4/4/17/07,4/23/07*

WG #(s): *WG90996, WG91147/48, WG91190/91*

☐ **All samples in WKGP(s)** or ☒ **Sample #(s):** *L42274-1 to-3 L42274-6 to -8, L42275-1 to -9, L42276-2,L42276-4 to -9*

Project #(s):

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

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

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

Anomaly Description: *16: Sample jar L42275-1 cracked upon freezing,samples thawed 4/09/07. Bnasms*

Sample jars L42274-1 to -3, L42274-6 to -8, L42275-1 to -9, L42276-2 cracked upon freezing,samples thawed 4/17/07. pestll/pcbll
Sample jars L42276-4 to -9 cracked upon freezing,samples thawed 4/23/07. pestll/pcbll

17. Sample L42274-5 lost 4/23/07, broken concentrater tube post GPC.

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:
- ☒ Other

Corrective Action Description: *16. I transferred samples from the broken jars to new clean containers. Results should be flagged with an H. Instrument analyst will make this decision. Problem has been discussed with both TC's and PM.*
17. *Sample L42274-5 was re-extracted in the next workgroup, WG91190/91 pestll/pcbll only. The sample was kept in WG91148 because of limitations within LIMS. Samples can not be linked between workgroups.*

VI. Potential Effects on Data Quality:

- ☒ None; corrective action entirely corrected anomaly (explanation optional):

- ☐ Potential effect explanation (explanation mandatory):

	Signatures	Signature Dates
Reported By:		
Reviewer: VSE		6/12/07
Supervisor: *Dana Walker*		6-12-07
QA Officer: *Colin Elliott* (For QA1 only)		6/12/07
cc: LPM:		

King County Environmental Laboratory

WORK GROUP REPORT (wk02)

May 15 2007, 01:21 pm

Work Group: WG91190 (pplls#62 pestll) for Department: 7 - Organics, Trace

Created: 24-APR-07 PrepDate: 24-APR-07 Due: Operator: km

Sample	Project Number	Project Description	PKey	C	Product	Matrix	Stat	UA	Workdate	Duedate
L42274-5	423062-200-4	Duwamish Diagonal Thin Layer Cap	SED	S	PESTLL	SALTWTRSED	WKGP	U	17-APR-07	19-MAY-07
L42276-4	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42276-5	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42276-6	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42276-7	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42276-8	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
L42276-9	423062-100-4	Duwamish Diagonal Cap Monitoring	SED	S	PESTLL	SALTWTRSED	PREP	U	17-APR-07	19-MAY-07
WG91190-1	MB			S	PESTLL	OTHR SOLID	PREP	U	24-APR-07	
WG91190-2	SB			S	PESTLL	OTHR SOLID	PREP	U	24-APR-07	
WG91190-3	MS		SED	S	PESTLL	SALTWTRSED	PREP	U	24-APR-07	
WG91190-4	MSD		SED	S	PESTLL	SALTWTRSED	PREP	U	24-APR-07	
WG91190-5	SRM			S	PESTLL	OTHR SOLID	PREP	U	24-APR-07	
WG91190-6	LD		SED	S	PESTLL	SALTWTRSED	PREP	U	24-APR-07	

Comments:

L42274-5	Take Minimum Casts
L42276-4	3 grab comp, 0-10 cm
L42276-5	0-10 cm, AREP
L42276-6	0-10 cm, FREP
L42276-7	3 grab comp, 0-10 cm
L42276-8	3 grab comp, 0-10 cm
L42276-9	3 grab comp, 0-10 cm
WG91190-1	MB070424
WG91190-2	WG91190-1
WG91190-3	L42276-4
WG91190-4	WG91190-3 L42276-4
WG91190-5	1944
WG91190-6	L42276-6

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

1:1 MeCL2:ACETONE

PEST-LL WORKGROUP NO.: WG-91190
PCB-LL WORKGROUP NO.: WG-91191
PESTICIDE SURROGATE SPIKE I.D. #1372
PESTICIDE MATRIX SPIKE I.D. #1310.1
PCB MATRIX SPIKE I.D. # ~~1375~~ 1402

QC BATCH NO.: PPLLS 462 pestll/pcbll

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.	Pest-LL turn in anlyst	Pest-LL turn in Date	PCB-LL conc.	PCB-LL turn in anlyst	PCB-LL turn in Date	Comments
FM 4/24/07	WG91190-1	QC	MB		30.0g	Pest		1372 100µl	2.5	4ES			JW	5/3/07				
	WG91190-1		MB			PCB			0.5		H+							
	WG91190-2		SB (pestll)		30.0g	Pest		1310.1 100µl	2.5									
	WG91190-2		SB (pestll)			PCB			/		/							
	WG91191-2		SB (PCB)		24.0g	Pest		1402 200µl	/									
	WG91191-2		SB (PCB)			PCB			0.5		H+							
	WG91190-3		MS (L42276-4)		30.0g	Pest		1310.1 100µl	2.5									
	WG91190-3		MS (L42276-4)			PCB			/		/							
	WG91190-4		MSD (L42276-4)		30.0g	Pest			2.5									
	WG91190-4		MSD (L42276-4)			PCB			/		/							
	WG91191-3		MS (L42276-5)		24.0g	Pest		1402 200µl	/									
	WG91191-3		MS (L42276-5)			PCB			0.5									
	WG91191-4		MSD (L42276-5)		24.0g	Pest			/									
	WG91191-4		MSD (L42276-5)			PCB			0.5									
	WG91190-5		pestll SRM 1944		3.0g	Pest			2.0									
	WG91190-5		SRM 1944			PCB			/									
	WG91191-5		pestll SRM HS2		7.5g	Pest			/									
	WG91191-5		SRM HS2			PCB			0.5									
	WG91190/91-6	✓	LD (L42276-6)		30.0	Pest			2.5									
	WG91190/91-6		LD (L42276-6)			PCB			0.5									
	L42276-4	423062	DUP/DI CHIP		30.0	Pest			2.5									
	L42276-4	423062	DUP/DI CHIP			PCB		/	0.5	/								

CONT. NEXT PAGE

Data File Name	Sample Name	Date Acquired	Vial Numb	Sample Amount	Sample Multiple	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	09 May 2007 9:39 am	1	0	1										S:\MSDCHEM\2\DATA\070509\
BLANK-01.D	blank	09 May 2007 10:16 am	2	0	1										S:\MSDCHEM\2\DATA\070509\
PPES-01.D	1358 PPES 20 PPB (BREAKDOWWN)	09 May 2007 10:53 am	3	0	1	15.220	121465677	23.544	203105563	12.900	341758537	19.275	557541112		S:\MSDCHEM\2\DATA\070509\
PEST-01.D	1328D PEST 50/100 PPB (DAILY CAL)	09 May 2007 11:29 am	4	0	1	15.218	114574426	23.543	189619712	12.897	331394740	19.272	532584469		S:\MSDCHEM\2\DATA\070509\
TOX-01.D	1367.1 TOXAPHENE 1000 PPB (DAILY	09 May 2007 12:06 pm	5	0	1	15.216	103542834	23.539	175214100	12.899	305395551	19.275	513047118		S:\MSDCHEM\2\DATA\070509\
WG91190-1.D	MB	09 May 2007 12:43 pm	6	18.75	2.5	15.218	81937249	23.542	138522632	12.898	231195129	19.273	375124855	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
WG91190-2.D	SB	09 May 2007 1:19 pm	7	18.75	2.5	15.217	84334710	23.540	141150059	12.898	233648381	19.273	364662163	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
WG91190-3.D	MS L42276-4	09 May 2007 1:56 pm	8	18.75	2.5	15.220	69335437	23.549	140942114	12.899	191995375	19.283	361591832	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
WG91190-4.D	MSD L42276-4	09 May 2007 2:32 pm	9	18.75	2.5	15.221	64824389	23.554	132642731	12.901	174382548	19.291	321272705	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
WG91190-5.D	SRM 1944	09 May 2007 3:09 pm	10	1.875	2	15.228	56525253	23.559	135254336	12.907	167183704	19.301	331212198	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
WG91190-6.D	LD L42276-6	09 May 2007 3:46 pm	11	18.75	2.5	15.219	70111824	23.545	149035121	12.898	207711436	19.275	357570267	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
L42276-4.D	L42276-4	09 May 2007 4:22 pm	12	18.75	2.5	15.220	69178254	23.551	140534938	12.901	183527450	19.288	360096990	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
L42276-5.D	L42276-5	09 May 2007 4:59 pm	13	18.75	2.5	15.220	66534659	23.549	140132452	12.899	197863700	19.281	351653697	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
L42276-6.D	L42276-6	09 May 2007 5:36 pm	14	18.75	2.5	15.219	70042611	23.545	142186928	12.899	213419261	19.277	362477689	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
L42276-7.D	L42276-7	09 May 2007 6:12 pm	15	18.75	2.5	15.220	71308745	23.549	153351408	12.899	202697175	19.281	379241340	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
COND-02.D	conditioner	09 May 2007 6:49 pm	1	0	1										S:\MSDCHEM\2\DATA\070509\
PPES-02.D	1358 PPES 20 PPB (BREAKDOWWN)	09 May 2007 7:25 pm	3	0	1	15.218	102514529	23.543	185034300	12.896	315419999	19.271	499631853		S:\MSDCHEM\2\DATA\070509\
PEST-02.D	1328D PEST 50/100 PPB (DAILY CAL)	09 May 2007 8:02 pm	4	0	1	15.219	108131649	23.543	190830688	12.896	311377723	19.272	513973322		S:\MSDCHEM\2\DATA\070509\
L42276-8.D	L42276-8	09 May 2007 8:39 pm	16	18.75	2.5	15.218	65750130	23.546	137293468	12.897	182344889	19.277	332646796	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
L42276-9.D	L42276-9	09 May 2007 9:15 pm	17	18.75	2.5	15.220	73357152	23.547	153150216	12.897	198362361	19.278	373151197	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
L42276-0.D	L42274-5	09 May 2007 9:52 pm	18	18.75	2.5	15.219	72806781	23.544	149000114	12.895	197916823	19.272	349766716	PPLLS62 PESTLL DUDI SOIL	S:\MSDCHEM\2\DATA\070509\
COND-03.D	conditioner	09 May 2007 10:29 pm	1	0	1										S:\MSDCHEM\2\DATA\070509\
PPES-03.D	1358 PPES 20 PPB (BREAKDOWWN)	09 May 2007 11:06 pm	3	0	1	15.218	114029271	23.541	206422175	12.895	314002417	19.269	507783889		S:\MSDCHEM\2\DATA\070509\
PEST-03.D	1328D PEST 50/100 PPB (DAILY CAL)	09 May 2007 11:42 pm	4	0	1	15.218	112478188	23.540	198484880	12.895	305347711	19.271	481344224		S:\MSDCHEM\2\DATA\070509\
					Ave.	15.219	84639188	23.546	160095396	12.898	240347245	19.278	411318732		
					Std. Dev.	0.002	20947542	0.005	25812555	0.003	60903625	0.008	80585941		
					%RSD		25%		16%		25%		20%		

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 07/09/07 01:21
Run ID: R120526 Workgroup: WG91190 (pp11s#62 pest11)

MB:WG91190-1 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	.33	.667	ug/Kg	<MDL	
Beta-BHC	.33	.667	ug/Kg	<MDL	
Delta-BHC	.33	.667	ug/Kg	<MDL	
Gamma-BHC (Lindane)	.33	.667	ug/Kg	<MDL	
Heptachlor	.33	.667	ug/Kg	<MDL	
Aldrin	.67	1.33	ug/Kg	<MDL	
Heptachlor Epoxide	.33	.667	ug/Kg	<MDL	
Endosulfan I	.67	1.33	ug/Kg	<MDL	
Dieldrin	.67	1.33	ug/Kg	<MDL	
4,4'-DDE	.67	1.33	ug/Kg	<MDL	
Endrin	.67	1.33	ug/Kg	<MDL	
Endosulfan II	.67	1.33	ug/Kg	<MDL	
4,4'-DDD	.67	1.33	ug/Kg	<MDL	
Endrin Aldehyde	.67	1.33	ug/Kg	<MDL	
Endosulfan Sulfate	.67	1.33	ug/Kg	<MDL	
4,4'-DDT	.67	1.33	ug/Kg	<MDL	
Methoxychlor	3.3	6.67	ug/Kg	<MDL	
Gamma-Chlordane	.33	.667	ug/Kg	<MDL	
Alpha-Chlordane	.33	.667	ug/Kg	<MDL	
Toxaphene	6.7	13.3	ug/Kg	<MDL	

SB:WG91190-2 MB:WG91190-1 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	.33	.667	ug/Kg	<MDL	6.67	4.76	71		20-99
Beta-BHC	.33	.667	ug/Kg	<MDL	6.67	6.25	94		66-102
Delta-BHC	.33	.667	ug/Kg	<MDL	6.67	6.44	97		63-108
Gamma-BHC (Lindane)	.33	.667	ug/Kg	<MDL	6.67	5.24	79		27-130
Heptachlor	.33	.667	ug/Kg	<MDL	6.67	5.1	76		20-137
Aldrin	.67	1.33	ug/Kg	<MDL	6.67	4.76	71		28-113
Heptachlor Epoxide	.33	.667	ug/Kg	<MDL	6.67	6.25	94		59-107
Endosulfan I	.67	1.33	ug/Kg	<MDL	6.67	6.56	98		62-104
Dieldrin	.67	1.33	ug/Kg	<MDL	6.67	7.03	105		58-139
4,4'-DDE	.67	1.33	ug/Kg	<MDL	6.67	6.64	100		75-111
Endrin	.67	1.33	ug/Kg	<MDL	6.67	7.78	117		60-160
Endosulfan II	.67	1.33	ug/Kg	<MDL	6.67	6.7	101		72-109
4,4'-DDD	.67	1.33	ug/Kg	<MDL	6.67	7.03	105		78-121
Endrin Aldehyde	.67	1.33	ug/Kg	<MDL	6.67	1.1	16		10-77
Endosulfan Sulfate	.67	1.33	ug/Kg	<MDL	6.67	5.8	87		61-104
4,4'-DDT	.67	1.33	ug/Kg	<MDL	6.67	7.39	111		57-145
Methoxychlor	3.3	6.67	ug/Kg	<MDL	6.67	8.54	128		72-131

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 07/09/07 01:21
Run ID: R120526 Workgroup: WG91190 (pplls#62 pestll)

Matrix Spike Duplicate Report

MSD:WG91190-4 MS:WG91190-3 L42276-4 Matrix: SALTWTRSED Listtype: ORPESTLL Method: EPA 8081A/8082 (7-3-03-002) 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
Alpha-BHC	.33	.667	ug/Kg	<MDL	6.67	6.84	103		59-111	6.67	6.98	105		2		35
Beta-BHC	.33	.667	ug/Kg	<MDL	6.67	6.12	92		60-119	6.67	6.23	93		1		35
Delta-BHC	.33	.667	ug/Kg	<MDL	6.67	6.1	92		54-126	6.67	6.34	95		3		35
Gamma-BHC (Lindane)	.33	.667	ug/Kg	<MDL	6.67	6.56	98		61-135	6.67	6.64	100		2		35
Heptachlor	.33	.667	ug/Kg	<MDL	6.67	6.56	98		52-157	6.67	6.8	102		4		35
Aldrin	.67	1.33	ug/Kg	<MDL	6.67	6.25	94		61-119	6.67	6.25	94		0		35
Heptachlor Epoxide	.33	.667	ug/Kg	.704	6.67	6.59	88		61-118	6.67	6.99	94		7		35
Endosulfan I	.67	1.33	ug/Kg	<MDL	6.67	6.45	97		64-118	6.67	6.51	98		1		35
Dieldrin	.67	1.33	ug/Kg	<MDL	6.67	6.66	100		60-139	6.67	6.87	103		3		35
4,4'-DDE	.67	1.33	ug/Kg	<MDL	6.67	6.68	100		59-125	6.67	6.75	101		1		35
Endrin	.67	1.33	ug/Kg	<MDL	6.67	7.56	113		62-166	6.67	7.82	117		3		35
Endosulfan II	.67	1.33	ug/Kg	<MDL	6.67	5.73	86		36-146	6.67	5.96	89		3		35
4,4'-DDD	.67	1.33	ug/Kg	<MDL	6.67	6.65	100		41-157	6.67	7.15	107		7		35
Endrin Aldehyde	.67	1.33	ug/Kg	<MDL	6.67	1.1	16		10-66	6.67	1.1	17		6		35
Endosulfan Sulfate	.67	1.33	ug/Kg	<MDL	6.67	5.32	80		46-113	6.67	5.25	79		1		35
4,4'-DDT	.67	1.33	ug/Kg	<MDL	6.67	8.1	121		50-144	6.67	8.78	132		9		35
Methoxychlor	3.3	6.67	ug/Kg	<MDL	6.67	8.3	125		53-129	6.67	7.47	112		11		35

SRM:WG91190-5 Matrix: OTHR SOLID 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	195	164		10-200
Alpha-Chlordane	2.7	5.33	ug/Kg	16.5	23.7	143		48-144

LD:WG91190-6 L42276-6 Matrix: SALTWTRSED Listtype: ORPESTLL Method: EPA 8081A/8082 (7-3-03-002) Project: Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimi
Alpha-BHC	.33	.667	ug/Kg	<MDL	<MDL			35
Beta-BHC	.33	.667	ug/Kg	<MDL	<MDL			35
Delta-BHC	.33	.667	ug/Kg	<MDL	<MDL			35
Gamma-BHC (Lindane)	.33	.667	ug/Kg	<MDL	<MDL			35
Heptachlor	.33	.667	ug/Kg	<MDL	<MDL			35
Aldrin	.67	1.33	ug/Kg	<MDL	<MDL			35
Heptachlor Epoxide	.33	.667	ug/Kg	<MDL	<MDL			35
Endosulfan I	.67	1.33	ug/Kg	<MDL	<MDL			35
Dieldrin	.67	1.33	ug/Kg	<MDL	<MDL			35
4,4'-DDE	.67	1.33	ug/Kg	<MDL	<MDL			35
Endrin	.67	1.33	ug/Kg	<MDL	<MDL			35
Endosulfan II	.67	1.33	ug/Kg	<MDL	<MDL			35
4,4'-DDD	.67	1.33	ug/Kg	<MDL	<MDL			35
Endrin Aldehyde	.67	1.33	ug/Kg	<MDL	<MDL			35
Endosulfan Sulfate	.67	1.33	ug/Kg	<MDL	<MDL			35
4,4'-DDT	.67	1.33	ug/Kg	<MDL	<MDL			35
Methoxychlor	3.3	6.67	ug/Kg	<MDL	<MDL			35
Gamma-Chlordane	.33	.667	ug/Kg	<MDL	<MDL			35
Alpha-Chlordane	.33	.667	ug/Kg	<MDL	<MDL			35

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 07/09/07 01:21
Run ID: R120526 Workgroup: WG91190 (pplls#62 pestll)

LD:WG91190-6 L42276-6 Matrix: SALTWTRSED Listtype: ORPESTLL Method: EPA 8081A/8082 (7-3-03-002) Project: Pkey: SED
(Lab Duplicate)

Parameter	Mdl	Rdl	Units	SampValue	LD Value	RPD	Qual	LabLimi
Toxaphene	6.7	13.3	ug/Kg	<MDL	<MDL			35

KING COUNTY METRO ENVIRONMENTAL LABORATORY
Lab QC Report - 07/09/07 01:21
Run ID: R120526 Workgroup: WG91190 (ppl1s#62 pestl1)

Sample #	2,4,5,6-Tetrac-hloro-m-xylene	Decachlorobiph-enyl
(Lab Limits)	30-134	15-155
L42274-5	110	93
L42276-4	104	98
L42276-5	99	97
L42276-6	98	87
L42276-7	104	93
L42276-8	115	103
L42276-9	93	87
WG91190-1	54	106
WG91190-2	61	107
WG91190-3	105	92
WG91190-4	99	88
WG91190-5	98	107
WG91190-6	100	92

If the following parameters are reported, values in the RPD column are their Absolute Differences:
pH
pH, Field
Salinity
Salinity, Field
Sample Depth
Sample Temperature, Field

Trace Organics Data Anomaly Form

Date(s) Occurred: *4/9/07,4/4/17/07,4/23/07*

WG #(s): *WG90996, WG91147/48, WG91190/91*

☐ **All samples in WKGP(s)** **or** ☒ **Sample #(s):** *L42274-1 to-3 L42274-6 to -8, L42275-1 to -9, L42276-2,L42276-4 to -9*

Project #(s):

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

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

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

Anomaly Description: *16: Sample jar L42275-1 cracked upon freezing,samples thawed 4/09/07. Bnasms*

Sample jars L42274-1 to -3, L42274-6 to -8, L42275-1 to -9, L42276-2 cracked upon freezing,samples thawed 4/17/07. pestll/pcbll
Sample jars L42276-4 to -9 cracked upon freezing,samples thawed 4/23/07. pestll/pcbll

17. Sample L42274-5 lost 4/23/07, broken concentrater tube post GPC.

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:
☒ Other

Corrective Action Description: *16. I transferred samples from the broken jars to new clean containers. Results should be flagged with an H. Instrument analyst will make this decision. Problem has been discussed with both TC's and PM.*
17. *Sample L42274-5 was re-extracted in the next workgroup, WG91190/91 pestll/pcbll only. The sample was kept in WG91148 because of limitations within LIMS. Samples can not be linked between workgroups.*

VI. Potential Effects on Data Quality:

☒ None; corrective action entirely corrected anomaly (explanation optional):

☐ Potential effect explanation (explanation mandatory):

	Signatures	Signature Dates
Reported By:		
Reviewer: JSE		6/12/07
Supervisor: *Dana Walker*		6.12.07
QA Officer: *Colin Elliott* (For QA1 only)		6/12/07
cc: LPM:		

CHAIN OF CUSTODY FORMS

Login Number: P42274

T_DUD,STAC,THIN

DUDI SEDS, STAS. C, THIN

Project Number: 423062-200-4

Personnel: _____

Sample Number	P42274-1	P42274-2	P42274-3
Locator	DUD_3C	DUD_4C	DUD_4C
Short Loc. Desc.	DUD_3C	DUD_4C	DUD_4C
Locator Desc.	CLEANUP AREA PERIMETER ASSESSMENT	CLEANUP AREA PERIMETER ASSESSMENT	CLEANUP AREA PERIMETER ASSESSMENT
Site	DUWAMISH RIVER	DUWAMISH RIVER	DUWAMISH RIVER
Start Date/Time			
End Date/Time			
Sample Depth	9	8	8
Collect Date	4/3/07	4/3/07	4/3/07
Comments	Take Minimum Casts 17,17 ~3cm of mud/silt on cap	Take Minimum Casts, AREP 10	Take Minimum Casts, FREP 12
PERSONNEL	JB, SH, JO, JDD	→	→
SAMP METH	20042		
SED DEPTH	14	10	12
SED SAMP RANGE	0-10	0-9	0-10
SED TYPE	32N20	32N20	32N20
TIDE COND	F	F	→
TIDE HT	7	6.5	→
TIME	1320	1335	1335
SAMP FUNC	**********	**********	FREP @ C42274-2
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

CHAIN OF CUSTODY

RELINQUISHED BY	Date	Time
John Blaine	4/3/07	1530
RECEIVED BY	Date	Time
[illegible]	4/4/07	1530

Sam[illegible]mber(s)

(All)

Data

WG91294

Aaron AB 5/2/07

Coords

WG91241

Aaron RB 4/26/07

continue ...

DUDI SEDS, STAS. C, THIN

Project Number: 423062-200-4 Personnel: _____

Sample Number	P42274-4	P42274-5	P42274-6
Locator	DUD_5C	DUD_6C	DUD_7C
Short Loc. Desc.	DUD_5C	DUD_6C	DUD_7C
Locator Desc.	CLEANUP AREA PERIMETER ASSESSMENT	CLEANUP AREA PERIMETER ASSESSMENT	CLEANUP AREA PERIMETER ASSESSMENT
Site	DUWAMISH RIVER	DUWAMISH RIVER	DUWAMISH RIVER
Start Date/Time			
End Date/Time			
Sample Depth	11	11	11
Collect Date	4/3/07	4/3/07	4/4/07
Comments	Take Minimum Casts 8,9	Take Minimum Casts 7	Take Minimum Casts 9, 11
PERSONNEL	JB, SH, JO, JDD	JB, SH, JO, JDD	JB, BK, SH, DR
SAMP METH	20043		
SED DEPTH	8	7	10
SED SAMP RANGE	0-7	0-6	0-9
SED TYPE	32N20	32N20	23N21
TIDE COND	F	F	E
TIDE HT	8.2	2.5	5
TIME	1350	1408	0952
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

~1 cm silt/mud on top of cap material

RELINQUISHED BY	Date	Time
[signature]	4.4.07	1145
RECEIVED BY	Date	Time

Sam... number(s)

5 cm deposit overlying cap

continue ...

DUDI SEDS, STAS. C, THIN

Project Number: 423062-200-4

Personnel: _____

Sample Number	P42274-7	P42274-8	
Locator	DUD_14C	DUD_15C	
Short Loc. Desc.	DUD_14C	DUD_15C	
Locator Desc.	PERIMETER LOCATION 14C	DUDI PERIMETER LOCATION 15C	
Site	DUWAMISH RIVER	DUWAMISH RIVER	
Start Date/Time			
End Date/Time			
Sample Depth	10	12	
Collect Date	4 Apr 04	4 Apr 04	
Comments	Take Minimum Casts	Take Minimum Casts	
PERSONNEL	JB, BK, SH, DR →		
SAMP METH	20042 →		
SED DEPTH	12, 14 (13)	8, 12 (10)	
SED SAMP RANGE	0-10	0-9	
SED TYPE	23N21	24N21	
TIDE COND	E	E	
TIDE HT	5.5	6	
TIME	0937	0922	
Dept., Matrix, Prod			
	3 SALTWTRSED PSD	3 SALTWTRSED PSD	
	3 SALTWTRSED TOC	3 SALTWTRSED TOC	
	3 SALTWTRSED TOTS	3 SALTWTRSED TOTS	
	6 SALTWTRSED AL-ICP	6 SALTWTRSED AL-ICP	
	6 SALTWTRSED FE-ICP	6 SALTWTRSED FE-ICP	
	6 SALTWTRSED HG-CVAA	6 SALTWTRSED HG-CVAA	
	6 SALTWTRSED MN-ICP	6 SALTWTRSED MN-ICP	
	6 SALTWTRSED PP ICP	6 SALTWTRSED PP ICP	

3 cm of depos. over. cap

6 cm of deposition overlying cap

continue ...

LABORATORY WORK ORDER
Chain of Custody

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

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

Note: Use only one Login No. per sheet.				Analyses																
Sample Number	Client Locator	Collect Date	Collect Time	TOC/TOTS	PSD	Metals-ICP/HG-CVAA	BNASMS/PESTLL/PCBLL												Number of Containers	Comments
L 42274-1	DUD_3C	03-Apr-07	1320	1	2	1	1												5	extra PSD
L 42274-2	DUD_4C	↓	1335	1	1	1	1												4	
L 42274-3	DUD_7C		~~1350~~ 1355	1	1	1	1												4	FREP
L 42274-4	DUD_5C		~~1408~~ 1350	1	1	1	1												4	
L 42274-5	DUD_6C		1408	1	1	1	1												4	
L -																				
L -																				
L -																				
L -																				
L -																				
L -																				

Additional Comments:

Total Number of Containers 21

Sampled By: JO, JDD, SH, JB

Relinquished By:
Signature: John Blaine
Printed Name: John Blaine
Organization: King County Environmental Laboratory
Date: 4-3-07
Time: 15:30

Received By:
Signature: [illegible]
Printed Name: Lynne Coit
Organization: King County Environmental Laboratory
Date: 4-3-07
Time: 4-3-07

LABORATORY WORK ORDER
Chain of Custody

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

Project Name: Duwamish/Diagonal Sediments, ~~Perimeter C Stations~~
Project Number: 423062-200-4
Laboratory Project Manager: Fritz Grothkopp/John Blaine
Telephone Number: 684 2327/2384

Note: Use only one Login No. per sheet. Sample Number	Client Locator	Collect Date	Collect Time	Analyses: TOC/TOTS	PSD	Metals-ICP/HG-CVAA	BNASMS/PESTLL/PCBLL	Number of Containers	Comments
L42274-6		4-4-07		1	1	1	1	4	
L -7		↓		1	1	1	1	4	
L -8		↓		1	1	1	1	4	
L42275-9		↓		1	1	1	1	4	
L -									
L -									
L -									
L -									
L -									
L -									
L -									

Additional Comments:

Total Number of Containers 16

Sampled By: JB, DR, SH

Relinquished By:
Signature: John Blaine
Printed Name: John Blaine
Organization: King County Environmental Laboratory
Date: 4-4-07
Time: 1145

Received By:
Signature:
Printed Name:
Organization: King County Environmental Laboratory
Date: 4/4/07
Time: 1145

SOLID SAMPLE RECEIPT RECORD

LOGIN NUMBER(S): 42274 1-5	PROJECT NUMBER: 423062-200-4	SAMPLE SUBCONTRACTING Y (N)
COLLECT DATE(S): 4/3/07	Date Received: 4/3/07	CHANGES: Y (N)

SAMPLE RECEIPT CONDITIONS

	ACCEPTABLE?		Comment ID
LABELS/FIELDSHEETS	Y	N	
CONTAINERS	Y	N	
TEMPERATURE	Y	N	
VOLUME	Y	N	
HOLDING TIMES	Y	N	
Delivery Location	Y	N	

PRESERVATION

TOTAL SULFIDE ZN ACETATE Y N

OTHER:

HEADSPACE

	ACCEPTABLE?		Comment ID
VOA	Y	N	
TOTAL SULFIDE	Y	N	

SAMPLE CONTAINER DESCRIPTION AND COUNT

#	DESCRIPTION AND SAMPLE NUMBERS	#	DESCRIPTION AND SAMPLE NUMBERS
	CONVENTIONALS		**METALS**
5	4oz GCWM 1-5	5	4oz PP CWM 1-5
	8oz GCWM		8oz PP CWM
6	16oz GCWM 1(2x), 2-5[1x]		Other
	Other		**MICROBIOLOGY**
			Specimen Cup
	ORGANICS		
	4oz GCWM		Other
	8oz GCWM		**AQUATIC TOXICOLOGY**
5	16oz GCWM 1-5		2L GCWM
	Other		Other

COMMENTS/NOTIFICATIONS

FORWARDED TO: CONVENTIONALS METALS ORGANICS AQUATOX MICROBIOLOGY

SIGNATURE: [signature]

DATE & TIME: 4/3/07 1555

SOLID SAMPLE RECEIPT RECORD

LOGIN NUMBER(S): 42274 6-8
COLLECT DATE(S): 4/4/07

PROJECT NUMBER: 423062-200-4
Date Received: 4/4/07

SAMPLE SUBCONTRACTING Y (N)
CHANGES: Y (N)

SAMPLE RECEIPT CONDITIONS

	ACCEPTABLE?		Comment ID
LABELS/FIELDSHEETS	(Y)	N	
CONTAINERS	Y	N	
TEMPERATURE	(Y)	N	
VOLUME	(Y)	N	
HOLDING TIMES	(Y)	N	
Delivery Location	(Y)	N	

PRESERVATION

TOTAL SULFIDE ZN ACETATE Y N
OTHER:

HEADSPACE

	ACCEPTABLE?		Comment ID
VOA	Y	N	
TOTAL SULFIDE	Y	N	

SAMPLE CONTAINER DESCRIPTION AND COUNT

#	DESCRIPTION AND SAMPLE NUMBERS
	CONVENTIONALS
3	4oz GCWM 6-8
	8oz GCWM
3	16oz GCWM 6-8
	Other
	ORGANICS
	4oz GCWM
	8oz GCWM
3	16oz GCWM 6-8
	Other

#	DESCRIPTION AND SAMPLE NUMBERS
	METALS
3	4oz PP CWM 6-8
	8oz PP CWM
	Other
	MICROBIOLOGY
	Specimen Cup
	Other
	AQUATIC TOXICOLOGY
	2L GCWM
	Other

COMMENTS/NOTIFICATIONS

FORWARDED TO: CONVENTIONALS METALS ORGANICS AQUATOX MICROBIOLOGY

SIGNATURE: [signature]
DATE & TIME: 4/4/07 1520