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From: Tiffany, Bruce
Sent: Thursday, October 05, 2006 4:46 PM
To: Renaud, Rick; Stern, Jeff
Subject: Final: KCIA June 2006 Stormwater Vault Sediment Sampling Monitoring Report
Attachments: KCIA_Jun06_SW-Vault_Sed_Rpt.pdf

Rick and Jeff;

Here is the final version of the monitoring report for the June '06 sampling event at KCIA.

This report will be posted on our Duwamish source control web-page within the next couple of weeks.

Bruce

Lower Duwamish Waterway Source Control Project

King County International Airport

Slip 4 Early Action Site Source Control

Monitoring Report - June 2006 Stormwater Vault Sediment Sampling

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Prepared for the

King County Department of Transportation
Airport Division

by the

King County Department of Natural Resources and Parks
Wastewater Treatment Division

October 2006

King County

Lower Duwamish Waterway Source Control Project

King County International Airport
Slip 4 Early Action Site Source Control

Monitoring Report - June 2006 Stormwater Vault Sediment Sampling

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King County

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1. INTRODUCTION

In early 2007 a decision will be reached whether potential sources of chemicals of concern are sufficiently controlled to allow sediment remediation to proceed at the Slip 4 early action site. The most important pathway for chemicals to be transported to Slip 4 is through stormwater runoff from surfaces containing target chemicals originating from current or historic practices.

The stormwater basin that drains to Slip 4 includes properties leased or owned by Boeing, King County, and the City of Seattle.

In support of Lower Duwamish Waterway sediment remediation source control, this monitoring report covers the field and laboratory activities associated with sediment sampling of stormwater structures at the King County International Airport (KCIA). King County performed this work to evaluate if portions of KCIA contain target chemicals in sufficient amount to cause a concern for the potential recontamination of sediments at the Slip 4 early action site.

2. STUDY AREA

The KCIA portion of the Slip 4 drainage basin encompasses the northern portion of KCIA. The KCIA basin is further divided into several sub-basins that drain to individual stormwater vaults. These vaults are large underground concrete structures that are designed as oil-water separators. However, due to their size, they also slow the linear velocity of stormwater and provide a degree of particle settling. The oil retention feature of these structures also can result in increased levels of petroleum hydrocarbons in the bottom sediments. Therefore, because of the particle settling and oil retention features of these structures, caution should be applied when evaluating vault sediment concentrations in the context of sediment transport to Slip 4.

The vaults are configured to allow stormwater to flow through them under low-flow conditions, but allow high-flow bypass to occur via upgradient manhole overflow weir configurations. These stormwater vaults are identified on **Figure 1**.

It is important to note that there are some portions of KCIA that are downgradient of the stormwater vaults; however, these sections of KCIA contain runways that are routinely swept or contain grassy portions. These areas are not expected to be significant sources of target chemicals.

3. STORMWATER SEDIMENT SAMPLING

From Jun 6, 2006 to June 8, 2006, King County Industrial Waste Program staff collected sediment samples from eight (8) stormwater vaults at KCIA. The sample locations are identified on **Figure 1** (according to KCIA Stormwater Structure No.):

- No. 1541
- No. 1640
- No. 1650

- No. 1657
- No. 1670
- No. 1680
- No. 1756
- No. 1757

3.1 Sampling Method

The sediment samples from the eight (8) stormwater vaults were collected by attaching a 4-liter stainless steel beaker to a long telescoping metal pole. The beaker was attached to the pole by use of a hole drilled into the beaker and a metal clip attached to the end of the pole. The beaker was lowered to the bottom of the vault and scraped along the bottom in order to draw sediment into the beaker. When full, the beaker was raised to the surface and the contents allowed to settle. A second 4-liter stainless steel beaker was attached to the metal pole and the process repeated. After some settling of the first beaker, the top water layer was decanted back into the vault, with the remaining sediment transferred to a pre-cleaned stainless steel mixing bowl with stainless steel spoon. This process was repeated between the two (2) beakers until enough sediment was sampled.

The sediment in the mixing bowl was thoroughly homogenized by mixing with the stainless steel spoon. If present, particles greater than ¼-inch were removed from the mixing bowl with the stainless steel spoon. The homogenized sediment mixture was then transferred to pre-cleaned laboratory sample containers. The sample containers were then placed into Ziploc bags and placed in a chilled laboratory cooler.

The hierarchy for sampling location within each vault gave hierarchy to collecting sediments as close to the final (outflow) chamber as possible. Since the outflow chamber of a vault is expected to have a greater percentage of fines in the sediment than in the first (inflow) chamber, this sample location was selected to get "worst case" sediment concentrations of target chemicals.

3.2 Sampling Equipment Decontamination

All of the stainless steel sampling equipment was precleaned at the King County Environmental Laboratory (KCEL) and wrapped in aluminum foil prior to use in the field. The only decontamination required was rinsing of the telescoping metal pole between sampling stations. The pole was rinsed by using a polypropylene squeeze bottle containing laboratory reverse osmosis (RO) water.

3.3 Sample Containers and Preservation

The following containers were used for each sample location:

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- Polychlorinated Biphenyls (PCBs) – 8oz glass jar
- Semivolatile Organic Compounds (SVOCs) – 8oz glass jar
- Total Solids(TS)/Total Organic Carbon (TOC) – 4oz wide-mouth glass jar
- Metals (As/Cu/Pb/Hg/Zn) – 8oz HDPE jar
- Total Petroleum Hydrocarbons (TPH)/Diesel- and Oil-Range – 8oz glass jar

Upon collection, all samples were preserved by being placed in an insulated, chilled cooler containing ice. The samples were stored in the chilled cooler until delivery to KCEL.

3.4 Field Duplicate

One field duplicate sample was collected from Vault 1680 during the sampling event. This vault was selected because of the ease of collecting sufficient sample. The field duplicate sample was collected from the same homogenized mixing bowl as the original sample and was submitted for PCB analysis and Total Solids analysis only.

4. CHEMICAL ANALYSIS

The following analyses were conducted on each sample at KCEL:

- PCBs – EPA Method 8082
- SVOCs (PAH and Phthalates) – EPA Method 8270
- Total Solids – Standard Methods No. 2540-G
- TOC – EPA Method 9060
- Metals (As/Cu/Pb/Hg/Zn) – EPA Methods 200.8 & 245.1
- Diesel- and Oil-Range TPH – Method NWTPH-Dx

5. CHEMICAL RESULTS

The full chemical results from the stormwater sediment sampling event are provided in **Appendix A**. These results are further summarized into tabular format for target chemicals based on dry-weight results (**Table 1**) or results normalized to organic carbon (**Table 2**).

5.1 Dry-Weight Results

The dry-weight chemical results are presented in **Table 1**.

It should be noted that two samples were collected from Vault 1757. These samples were collected because of the different appearance of sediments from the middle and final (outflow) vault chambers. However, because of the nature of the sample collected from the outflow chamber (see Note "(c)" in **Table 1**), it is not considered representative of the sediment originating from KCIA runoff. The results from this particular sample are presented for the sake of completeness; however, the data from this sample will not be included in the discussions to

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follow. The sediment collected from the middle chamber (see Note "(b)" in **Table 1**) is considered representative of the sediment originating from KCIA runoff.

PCBs:

Total PCB concentrations were all below 1,000 µg/kg, with the exception of the sample from Vault 1680. The original and duplicate sample values for this vault were 1,922 µg/kg and 2,108 µg/kg, respectively. The relative percent difference between these two values is 9% indicating good analytical and field precision.

The total PCB results for Vaults 1541, and 1640 were non-detect and 252 µg/kg, respectively. These vaults drain to a KCIA manhole where Seattle Public Utilities collected a sediment trap sample in March to August 2005. The result from this sediment trap sample (T5A) was 106 µg/kg (King County/Seattle, 2006).

The total PCB results for Vaults 1650, and 1657 were 717 and 243 µg/kg, respectively. These vaults drain to a KCIA manhole where Seattle Public Utilities collected a sediment trap sample in March to August 2005. The result from this sediment trap sample (T4A) was 450 µg/kg (King County/Seattle, 2006).

The total PCB results for Vaults 1670, 1680, 1756, and 1757 were 287, 1,922/2,108, 539, and 757 µg/kg, respectively. These vaults drain to two (2) KCIA manholes where Seattle Public Utilities collected sediment trap samples in March to August 2005. The results from these two sediment trap samples (T2A and T3A) were 177 and 38 µg/kg, respectively (King County/Seattle, 2006).

Phthalates:

Bis(2-ethylhexyl)phthalate: Bis(2-ethylhexyl)phthalate (BEHP) concentrations ranged from 29,400 µg/kg (Vault 1657) to 232,000 µg/kg (Vault 1757).

BEHP concentrations were generally higher toward the central portion of the airport (Vaults 1680 to 1757), with values ranging from 56,900 to 232,000 µg/kg and at the northern portion of the airport (Vaults 1541 and 1640), with values of 53,100 and 73,200 µg/kg, respectively.

BEHP concentrations were generally lower toward the north-central portion of the airport (Vaults 1650 to 1670), with values ranging from 29,400 to 39,000 µg/kg.

As a point of comparison, Seattle Public Utilities conducted sediment testing in 2003 through 2005 at private catch basins of commercial and industrial businesses in the Lower Duwamish and East Waterway drainage basins. Results for BEHP varied from a low of 88 µg/kg to a high of 160,000 µg/kg (King County/Seattle, 2005).

In November 2005, Seattle Public Utilities collected sediment samples from a stormwater oil/water separator (CB79) and a stormwater catch basin (CB80) on the Emerald Services property that abuts Slip 4. The BEHP results for these samples were 120,000 and 38,000 µg/kg, respectively (King County/Seattle, 2006).

Butylbenzylphthalate: Butylbenzylphthalate (BBzP) concentrations ranged from less than 700 µg/kg (Vault 1541) to 4,090 µg/kg (Vault 1757).

PAH:

High molecular weight polycyclic aromatic hydrocarbon (HPAH) concentrations ranged from 37,390 µg/kg (Vault 1541) to 629,900 µg/kg (Vault 1757).

HPAH concentrations were generally higher toward the central portion of the airport (Vaults 1670 to 1757), with values ranging from 257,150 to 629,900 µg/kg.

HPAH concentrations were generally lower at the northern portion of the airport (Vaults 1541 to 1657), with values ranging from 37,390 to 156,860 µg/kg, respectively. These vaults drain to a common manhole where Seattle Public Utilities collected a sediment trap sample in March to August 2005. The result from this sediment trap sample (T1) was 17,590 µg/kg (King County/Seattle, 2006).

Metals:

Copper: Copper concentrations ranged from 204 mg/kg (Vault 1657) to 1,550 mg/kg (Vault 1541).

In December 2004, Seattle Public Utilities collected a sediment sample from a stormwater catch basin (CB46 – KCIA No. 1082) located between the King County Maintenance Facility and Show Quality Metal Finishing. This catch basin collects stormwater that drains to Vault 1541. The copper result for this sample was 5,660 mg/kg (King County/Seattle, 2006).

Lead: Lead concentrations ranged from 190 mg/kg (Vault 1541) to 744 mg/kg (Vault 1650).

Zinc: Zinc concentrations ranged from 574 mg/kg (Vault 1670) to 1,880 mg/kg (Vault 1541).

General Discussion: The dry-weight metal results were compared to criteria from the Washington State Sediment Management Standards (Ch. 173-204 WAC). This regulation contains criteria based on Sediment Quality Standards (SQS) and Cleanup Screening Levels (CSL) for marine sediment. One or more sample results presented in **Table 1** or **Table 2** exceeded the SQS or CSL for copper, lead, mercury, and zinc. However, for the sake of comparison, surface sediment sampling of Slip 4 conducted in 2004 resulted in a CSL exceedance for mercury in one (1) of the four (4) locations sampled. No other SQS or CSL

exceedances were reported for the metals regulated under the Washington State Sediment Management Standards (King County/Seattle, 2006).

TPH:

Diesel-range TPH concentrations ranged from non-detect (Vault 1650) to 16,000 mg/kg (Vault 1640).

Motor oil-range TPH concentrations ranged from 3,500 mg/kg (Vault 1657) to 81,000 mg/kg (Vault 1541).

Coprostanol:

The sediment samples from Vaults 1541, 1640, and 1757 had detects of coprostanol at concentrations of 34,000 µg/kg, 25,700 µg/kg, and 1,150 µg/kg, respectively. These results are presented in **Appendix A**.

Coprostanol is a sterol found in human feces and is used as a biomarker to indicate the presence of fecal contamination.

5.2 Carbon-Normalized Results

The organic carbon-normalized chemical results are presented in **Table 2**. These carbon-normalized results are compared to criteria from the Washington State Sediment Management Standards (Ch. 173-204 WAC). This regulation contains criteria based on Sediment Quality Standards (SQS) and Cleanup Screening Levels (CSL) for marine sediment.

PCBs:

Total PCB concentrations were all below the SQS limit of 12 mg/kg-OC, with the exception of the sample from Vault 1680 with a value of 29.2 mg/kg-OC. The CSL limit is 65 mg/kg-OC.

Phthalates:

Bis(2-ethylhexyl)phthalate: BEHP concentrations ranged from 453 mg/kg-OC (Vault 1650) to 2,805 mg/kg-OC (Vault 1757). The SQS limit for BEHP is 47 mg/kg-OC and the CSL limit is 78 mg/kg-OC.

As a point of comparison, surface sediment sampling of Slip 4 conducted in 2004 resulted in SQS or CSL exceedances in two (2) of the eight (8) locations sampled for BEHP, with values of 51 and 132 mg/kg-OC (King County/Seattle, 2006).

Butylbenzylphthalate: BBzP concentrations ranged from less than 8 mg/kg-OC (Vault 1541) to 67 mg/kg-OC (Vault 1756). The SQS limit for BBzP is 4.9 mg/kg-OC and the CSL limit is 64 mg/kg-OC.

PAH:

HPAH concentrations ranged from 432 mg/kg-OC (Vault 1541) to 10,484 mg/kg-OC (Vault 1756). The SQS limit for HPAH is 960 mg/kg-OC and the CSL limit is 5,300 mg/kg-OC.

Several individual PAH exceeded either the SQS or CSL limit. See **Table 2** for further detail.

Indeno(1,2,3-cd)pyrene: Indeno(1,2,3-cd)pyrene concentrations ranged from 30 mg/kg-OC (Vault 1541) to 763 mg/kg-OC (Vault 1756). The SQS limit for indeno(1,2,3-cd)pyrene is 34 mg/kg-OC and the CSL limit is 88 mg/kg-OC.

As a point of comparison, surface sediment sampling of Slip 4 conducted in 2004 resulted in a SQS exceedance for indeno(1,2,3-cd)pyrene for one (1) of the eight (8) locations sampled for PAH. The SQS exceedance for indeno(1,2,3-cd)pyrene was 35 mg/kg-OC (at Station SG06FR), which slightly exceeded the associated SQS limit (34 mg/kg-OC). There were no other reported PAH exceedances of SQS or CSL from the 2004 Slip 4 sampling event (King County/Seattle, 2006).

6. Summary

In June 2006, eight (8) stormwater vaults were sampled from the northern and central portions of KCIA that drain to Slip 4. The sediment samples collected from these vaults had concentrations of target chemicals that exceeded SQS or CSL limits of Washington State Sediment Management Standards.

The application of SQS or CSL limits to sediment in stormwater vaults is used as an aid to compare with historic surface sediment results from Slip 4. Although there were several values for metals, PAH, and phthalates that exceeded SQS or CSL limits in stormwater vault sediment samples, associated historic values in Slip 4 surface sediment samples displayed significantly lower concentrations. This could be partly accounted for by dilution from sediments from other Slip 4 sub-basins; however, another factor may be the sedimentation and oil retention features of the stormwater vaults. Therefore, caution should be applied when evaluating vault sediment concentrations in the context of sediment transport to Slip 4.

PCB concentrations in the stormwater vaults were all below SQS limits, with the exception of the sediment from one vault. As a point of comparison, historic PCB concentrations from downgradient sediment traps were generally less than the results from the stormwater vaults.

7. REFERENCES

King County/Seattle, 2005. *King County and Seattle Public Utilities Source Control Program for the Lower Duwamish – June 2005 Progress Report.* King County/Department of Natural Resources; Seattle, Washington and City of Seattle/Seattle Public Utilities; Seattle, Washington.

King County/Seattle, 2006. *Lower Duwamish Waterway Slip 4 Early Action Area –Engineering Evaluation/Cost Analysis.* Prepared by Integral Consulting, Inc. for King County/Department of Natural Resources; Seattle, Washington and City of Seattle/Seattle Public Utilities; Seattle, Washington.

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FIGURES

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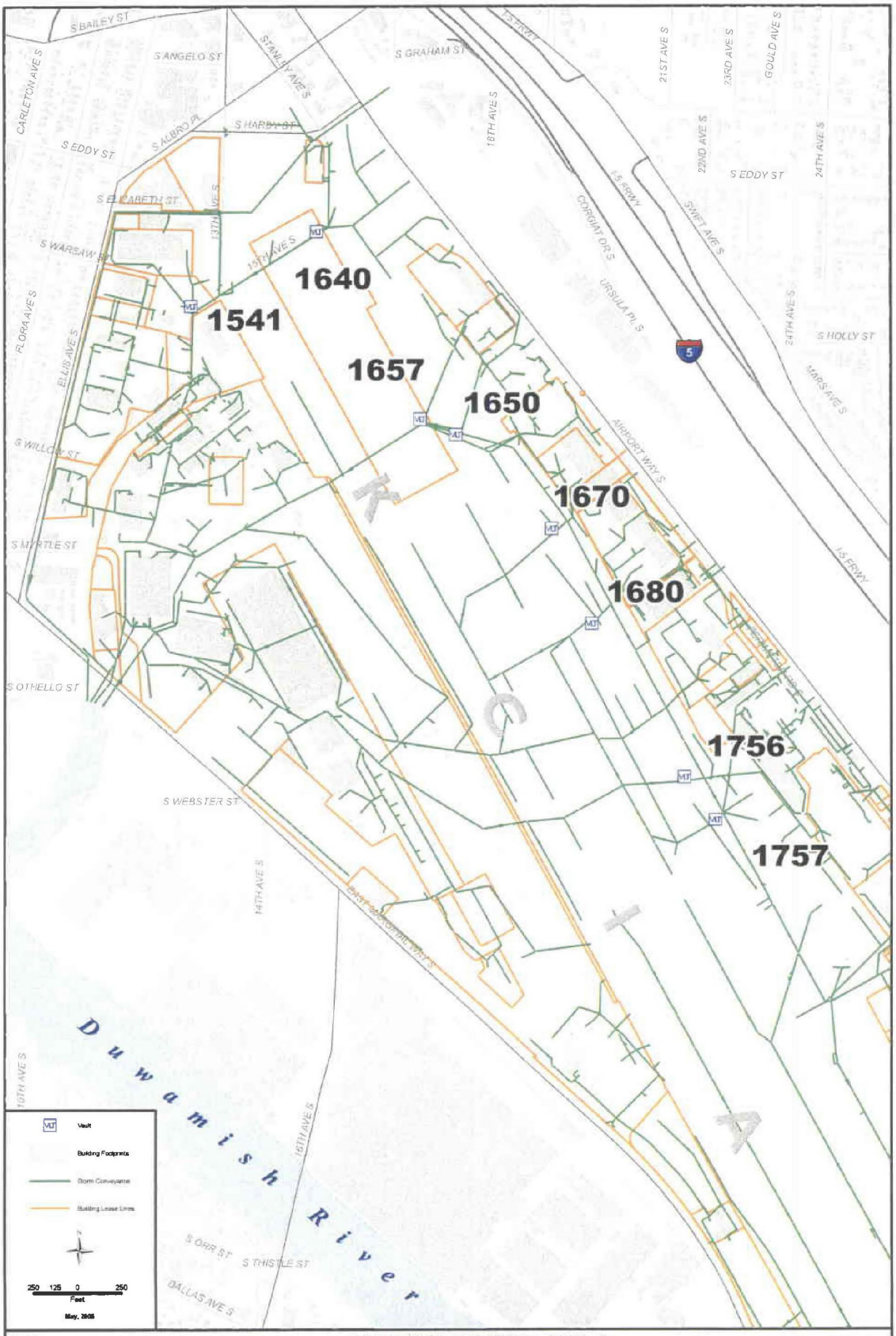

King County
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Wastewater Treatment Division

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Shaun O'Neill 20050858

Figure 1:
King County International Airport
Stormwater Structures

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TABLES

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Table 1
King County International Airport - Stormwater Vault Sediment Results - Dry Weight Values

	1541 KCIA L39363-1	1640 KCIA L39363-2	1650 KCIA L39363-3	1657 KCIA L39363-4	1670[a] KCIA L39363-5	1680 KCIA L39363-6	1680(FD) KCIA L39361-10	1756 KCIA L39363-7	1757[b] KCIA L39363-8	1757[c] KCIA L39396-1
Date Sampled	6/8/2006	6/7/2006	6/7/2006	6/7/2006	6/6/2006	6/6/2006	6/6/2006	6/6/2006	6/6/2006	6/6/2006
TOC (percent)	8.65	7.2	6.98	3.98	6.27	6.59	-	5.27	8.27	0.45
Metals (mg/kg DW)										
As	**9.4**	**23**	**34.4**	**14**	**9.3**	**29.3**	-	**12**	**16**	4 U
Cu	**1,550**	**233**	**567**	**204**	**227**	**284**	-	**286**	**301**	**31**
Pb	**190**	**463**	**744**	**263**	**396**	**420**	-	**237**	**385**	**10**
Hg	**0.13**	**0.21**	**0.24**	**0.20**	**0.30**	**0.24**	-	**0.54**	**0.24**	0.04 U
Zn	**1,880**	**1,250**	**1,810**	**1,620**	**574**	**1,240**	-	**1,580**	**813**	**40**
LPAH (µg/kg DW)										
Acenaphthene	820 U	1,100 U	1,600 U	870 U	**1,000**	1,500 U	-	1,600 U	1,300 U	49 U
Acenaphthylene	1,800 U	2,300 U	3,500 U	1,900 U	1,300 U	3,300 U	-	3,500 U	2,800 U	100 U
Anthracene	470 U	**1,200**	**990**	**840**	**4,170**	**1,910**	-	**4,390**	**6,360**	**53**
Fluorene	1,500 U	2,000 U	3,000 U	1,600 U	**1,700**	2,900 U	-	3,000 U	2,400 U	90 U
2-Methylnaphthalene	1,600 U	2,200 U	3,300 U	1,700 U	1,200 U	3,100 U	-	3,300 U	2,600 U	97 U
Naphthalene	1,600 U	2,200 U	3,300 U	1,700 U	1,200 U	3,100 U	-	3,300 U	2,600 U	97 U
Phenanthrene	**3,260**	**13,700**	**6,980**	**6,580**	**20,900**	**19,100**	-	**33,700**	**47,200**	**703**
Total LPAH	**3,260**	**14,900**	**7,970**	**7,420**	**27,770**	**21,010**	-	**38,090**	**53,560**	**756**
HPAH (µg/kg DW)										
Benzo(a)anthracene	**2,230**	**7,160**	**4,530**	**3,730**	**19,600**	**11,600**	-	**30,800**	**35,500**	**495**
Benzo(a)pyrene	**2,770**	**11,500**	**7,150**	**6,240**	**26,100**	**19,000**	-	**42,600**	**50,000**	**741**
Benzo(b)fluoranthene	**4,520**	**20,500**	**10,000**	**10,400**	**40,700**	**30,500**	-	**77,800**	**83,200**	**1,310**
Benzo(k)fluoranthene	**3,280**	**13,900**	**10,600**	**9,910**	**26,700**	**30,400**	-	**58,200**	**58,900**	**861**
Benzo(g,h,i)perylene	**3,140**	**11,900**	**7,270**	**6,610**	**25,000**	**20,300**	-	**42,600**	**44,800**	**736**
Chrysene	**4,690**	**18,900**	**10,800**	**9,970**	**32,200**	**31,300**	-	**67,300**	**70,100**	**1,010**
Dibenzo(a,h)anthracene	820 U	**3,100**	**2,300**	**1,600**	**7,480**	**4,050**	-	**10,400**	**12,900**	**184**
Fluoranthene	**7,420**	**33,600**	**18,000**	**17,100**	**52,500**	**53,300**	-	**106,000**	**132,000**	**1,910**
Indeno(1,2,3-cd)pyrene	**2,570**	**10,300**	**6,570**	**5,810**	**23,300**	**18,200**	-	**40,200**	**42,500**	**684**
Pyrene	**6,770**	**26,000**	**14,100**	**12,800**	**44,500**	**38,500**	-	**76,600**	**100,000**	**1,450**
Total HPAH	**37,390**	**156,860**	**91,320**	**84,170**	**298,080**	**257,150**	-	**552,500**	**629,900**	**9,381**
Phthalates (µg/kg DW)										
Bis(2-ethylhexyl)phthalate	**53,100**	**73,200**	**31,600**	**29,400**	**39,000**	**64,300**	-	**56,900**	**232,000**	**63,900**
Butylbenzylphthalate	700 U	**2,040**	**3,130**	**1,490**	**2,610**	**3,040**	-	**3,510**	**4,090**	**115**
Diethylphthalate	700 U	930 U	1,400 U	750 U	510 U	1,300 U	-	1,400 U	1,100 U	42 U
Dimethylphthalate	1,300 U	1,700 U	2,600 U	1,400 U	930 U	2,400 U	-	2,600 U	2,100 U	76 U
Di-n-butylphthalate	590 U	780 U	**3,150**	**710**	420 U	**2,810**	-	1,200 U	930 U	35 U
Di-n-octylphthalate	940 U	1,200 U	1,900 U	990 U	680 U	1,800 U	-	1,900 U	1,500 U	**110**
PCBs (µg/kg DW)										
Aroclor 1016	40 U	51 U	73 U	40 U	31 U	71 U	70 U	80 U	60 U	22 U
Aroclor 1221	40 U	51 U	73 U	40 U	31 U	71 U	70 U	80 U	60 U	22 U
Aroclor 1232	40 U	51 U	73 U	40 U	31 U	71 U	70 U	80 U	60 U	22 U
Aroclor 1242	40 U	51 U	73 U	40 U	31 U	71 U	70 U	80 U	60 U	22 U
Aroclor 1248	40 U	51 U	**248**	**71**	31 U	**725**	**795**	80 U	**97**	22 U
Aroclor 1254	40 U	**152**	**203**	**75**	**115**	**1,040**	**1,150**	**274**	**328**	22 U
Aroclor 1260	40 U	**100**	**266**	**97**	**172**	**157**	**163**	**265**	**332**	22 U
Total PCBs	ND	**252**	**717**	**243**	**287**	**1,922**	**2,108**	**539**	**757**	ND
TPH (mg/kg)										
Diesel	**11,000**	**16,000**	ND	**940**	**2,000**	**2,100**	-	**8,100**	**6,300**	**1,600**
Motor Oil	**81,000**	**8,800**	**10,000**	**3,500**	**8,500**	**8,200**	-	**25,000**	**13,000**	ND

Notes:
Detected values shown in bold.
Except where noted, all samples collected from final (outflow) chamber of vault.
(a) = Sample collected from first (inflow) chamber of a two-chamber vault. Insufficient sediment in second (outflow) chamber.
(b) = Sample collected from the middle chamber of vault. Sediment sample appeared normal.
(c) = Sample collected from the last (outflow) chamber of vault. Sediment sample appeared to be a greyish-colored slurry.
DW = Dry weight
FD = Field duplicate
ND = Not detected
U = Chemical not detected at reported concentration.

Table 2
King County International Airport - Stormwater Vault Sediment Results - Comparison to Sediment Management Standards

	SQS	CSL	1541 KCIA L39363-1	1640 KCIA L39363-2	1650 KCIA L39363-3	1657 KCIA L39363-4	1670[a] KCIA L39363-5	1680 KCIA L39363-6	1756 KCIA L39363-7	1757[b] KCIA L39363-8	1757[c] KCIA L39396-1
Date Sampled			6/8/2006	6/7/2006	6/7/2006	6/7/2006	6/6/2006	6/6/2006	6/6/2006	6/6/2006	6/6/2006
TOC (percent)			8.65	7.2	6.98	3.98	6.27	6.59	5.27	8.27	0.45
Metals (mg/kg DW)											
As	57	93	**9.4**	**23**	**34.4**	**14**	**9.3**	**29.3**	**12**	**16**	4 U
Cu	390	390	**1,550**	**233**	**567**	**204**	**227**	**284**	**286**	**301**	**31**
Pb	450	530	**190**	**463**	**744**	**263**	**396**	**420**	**237**	**385**	**10**
Hg	0.41	0.59	**0.13**	**0.21**	**0.24**	**0.20**	**0.30**	**0.24**	**0.54**	**0.24**	0.04 U
Zn	410	960	**1,880**	**1,250**	**1,810**	**1,620**	**574**	**1,240**	**1,580**	**813**	**40**
LPAH (mg/kg OC)											
Acenaphthene	16	57	9 U	15 U	23 U	22 U	**16**	23 U	30 U	16 U	11 U
Acenaphthylene	66	66	21 U	32 U	50 U	48 U	21 U	50 U	66 U	34 U	22 U
Anthracene	220	1,200	5 U	**17**	**14**	**21**	**67**	**29**	**83**	**77**	**14**
Fluorene	23	79	17 U	28 U	43 U	40 U	**27**	44 U	57 U	29 U	20 U
2-Methylnaphthalene	38	64	18 U	31 U	47 U	43 U	19 U	47 U	63 U	31 U	22 U
Naphthalene	99	170	18 U	31 U	47 U	43 U	19 U	47 U	63 U	31 U	22 U
Phenanthrene	100	480	**38**	**190**	**100**	**165**	**333**	**290**	**639**	**571**	**156**
Total LPAH	370	780	**38**	**207**	**114**	**186**	**443**	**319**	**723**	**648**	**170**
HPAH (mg/kg OC)											
Benzo(a)anthracene	110	270	**26**	**99**	**65**	**94**	**313**	**176**	**584**	**429**	**110**
Benzo(a)pyrene	99	210	**32**	**160**	**102**	**157**	**416**	**288**	**808**	**605**	**164**
Benzo(b)fluoranthene[d]	230	450	**52**	**285**	**143**	**261**	**849**	**463**	**1,476**	**1,006**	**290**
Benzo(k)fluoranthene	-	-	**38**	**193**	**152**	**249**	**426**	**461**	**1,104**	**712**	**191**
Benzo(g,h,i)perylene	31	78	**36**	**165**	**104**	**166**	**399**	**308**	**808**	**542**	**163**
Chrysene	110	460	**54**	**263**	**155**	**251**	**514**	**475**	**1,277**	**848**	**224**
Dibenzo(a,h)anthracene	12	33	9 U	**43**	**33**	**40**	**119**	**61**	**197**	**156**	**41**
Fluoranthene	160	1,200	**86**	**467**	**258**	**430**	**837**	**809**	**2,011**	**1,596**	**424**
Indeno(1,2,3-cd)pyrene	34	88	**30**	**143**	**94**	**146**	**372**	**276**	**763**	**514**	**152**
Pyrene	1,000	1,400	**78**	**361**	**202**	**322**	**710**	**584**	**1,454**	**1,209**	**322**
Total HPAH	960	5,300	**432**	**2,179**	**1,308**	**2,115**	**4,754**	**3,902**	**10,484**	**7,617**	**2,080**
Phthalates (mg/kg OC)											
Bis(2-ethylhexyl)phthalate	47	78	**614**	**1,017**	**453**	**739**	**622**	**976**	**1,080**	**2,805**	**14,169**
Butylbenzylphthalate	4.9	64	8 U	**28**	**45**	**37**	**42**	**46**	**67**	**49**	**25**
Diethylphthalate	61	110	8 U	13 U	20 U	19 U	8 U	20 U	27 U	13 U	9 U
Dimethylphthalate	53	53	15 U	24 U	37 U	35 U	15 U	36 U	49 U	25 U	17 U
Di-n-butylphthalate	220	1,700	7 U	11 U	**45**	**18**	7 U	**43**	23 U	11 U	8 U
Di-n-octylphthalate	58	4,500	11 U	17 U	27 U	25 U	11 U	27 U	36 U	18 U	**24**
PCBs (mg/kg OC)											
Aroclor 1016	-	-	0.5 U	0.7 U	1.0 U	1.0 U	0.5 U	1.1 U	1.5 U	0.7 U	4.9 U
Aroclor 1221	-	-	0.5 U	0.7 U	1.0 U	1.0 U	0.5 U	1.1 U	1.5 U	0.7 U	4.9 U
Aroclor 1232	-	-	0.5 U	0.7 U	1.0 U	1.0 U	0.5 U	1.1 U	1.5 U	0.7 U	4.9 U
Aroclor 1242	-	-	0.5 U	0.7 U	1.0 U	1.0 U	0.5 U	1.1 U	1.5 U	0.7 U	4.9 U
Aroclor 1248	-	-	0.5 U	0.7 U	**3.6**	**1.8**	0.5 U	**11.0**	1.5 U	**1.2**	4.9 U
Aroclor 1254	-	-	0.5 U	**2.1**	**2.9**	**1.9**	**1.8**	**15.8**	**5.2**	**4.0**	4.9 U
Aroclor 1260	-	-	0.5 U	**1.4**	**3.8**	**2.4**	**2.7**	**2.4**	**5.0**	**4.0**	4.9 U
Total PCBs	12	65	ND	**3.5**	**10.3**	**6.1**	**4.6**	**29.2**	**10.2**	**9.2**	ND
TPH (mg/kg)	*MTCA A*										
Diesel		2,000	**11,000**	**16,000**	ND	**940**	**2,000**	**2,100**	**8,100**	**6,300**	**1,600**
Motor Oil		2,000	**81,000**	**8,800**	**10,000**	**3,500**	**8,500**	**8,200**	**25,000**	**13,000**	ND

Notes: Detected values shown in **bold**.
Except where noted, all samples collected from final (outflow) chamber of vault.
(a) = Sample collected from first (inflow) chamber of a two-chamber vault. Insufficient sediment in second (outflow) chamber.
(b) = Sample collected from the middle chamber of vault. Sediment sample appeared normal.
(c) = Sample collected from the last (outflow) chamber of vault. Sediment sample appeared to be a greyish-colored slurry.
(d) = Standard based on total benzofluoranthenes
DW = Dry weight
FD = Field duplicate
ND = Not detected
OC = Organic carbon
U = Chemical not detected at reported concentration.
= Exceeds Sediment Quality Standards (SQS).
= Exceeds Cleanup Screening Levels (CSL) or MTCA Method A soil cleanup level for industrial use.

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APPENDIX A
ANALYTICAL DATA

King County Environmental Lab Analytical Report

PROJECT: 421168-40

Locator:	KCIA_V_1541	KCIA_V_1640	KCIA_V_1650	KCIA_V_1657
Descrip:	KC AIRPORT STORM W	KC AIRPORT STORM W	KC AIRPORT STORM W	KC AIRPORT STORM W
Sampled:	Jun 08, 2006	Jun 07, 2006	Jun 07, 2006	Jun 07, 2006
Lab ID:	L39361-1	L39361-2	L39361-3	L39361-4
Matrix:	IN-LINESED	IN-LINESED	IN-LINESED	IN-LINESED
% Solids:	32.3	25.4	17.8	32.2

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 SM2540-G (03-01-007-002)																				
Total Solids *	32.3		0.005	0.01	%	25.4		0.005	0.01	%	17.8		0.005	0.01	%	32.2		0.005	0.01	%
M=OR EPA 3550B/8082 (7-J-03-002)																				
Aroclor 1016		<MDL	40	82.7	ug/Kg		<MDL	51	105	ug/Kg		<MDL	73	150	ug/Kg		<MDL	40	82.9	ug/Kg
Aroclor 1221		<MDL	40	82.7	ug/Kg		<MDL	51	105	ug/Kg		<MDL	73	150	ug/Kg		<MDL	40	82.9	ug/Kg
Aroclor 1232		<MDL	40	82.7	ug/Kg		<MDL	51	105	ug/Kg		<MDL	73	150	ug/Kg		<MDL	40	82.9	ug/Kg
Aroclor 1242		<MDL	40	82.7	ug/Kg		<MDL	51	105	ug/Kg		<MDL	73	150	ug/Kg		<MDL	40	82.9	ug/Kg
Aroclor 1248		<MDL	40	82.7	ug/Kg		<MDL	51	105	ug/Kg	248		73	150	ug/Kg	71	<RDL	40	82.9	ug/Kg
Aroclor 1254		<MDL	40	82.7	ug/Kg	152		51	105	ug/Kg	203		73	150	ug/Kg	75	<RDL	40	82.9	ug/Kg
Aroclor 1260		<MDL	40	82.7	ug/Kg	100	<RDL	51	105	ug/Kg	266		73	150	ug/Kg	97.2		40	82.9	ug/Kg

* Not converted to dry weight basis for this parameter

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King County Environmental Lab Analytical Report

PROJECT: 421168-40

Locator:	KCIA_V_1670	KCIA_V_1680	KCIA_V_1756	KCIA_V_1757
Descrip:	KC AIRPORT STORM W	KC AIRPORT STORM W	KC AIRPORT STORM W	KC AIRPORT STORM W
Sampled:	Jun 06, 2006	Jun 06, 2006	Jun 06, 2006	Jun 06, 2006
Lab ID:	L39361-5	L39361-6	L39361-7	L39361-8
Matrix:	IN-LINESED	IN-LINESED	IN-LINESED	IN-LINESED
% Solids:	42.2	18.2	16.2	21.6

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
	- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis					- Dry Weight Basis				
COMBINED LABS																				
M=CV SM2540-G (03-01-007-002)																				
Total Solids *	42.2		0.005	0.01	%	18.2		0.005	0.01	%	16.2		0.005	0.01	%	21.6		0.005	0.01	%
M=OR EPA 3550B/8082 (7-3-03-002)																				
Aroclor 1016		<MDL	31	63.3	ug/Kg		<MDL	71	147	ug/Kg		<MDL	80	165	ug/Kg		<MDL	60	124	ug/Kg
Aroclor 1221		<MDL	31	63.3	ug/Kg		<MDL	71	147	ug/Kg		<MDL	80	165	ug/Kg		<MDL	60	124	ug/Kg
Aroclor 1232		<MDL	31	63.3	ug/Kg		<MDL	71	147	ug/Kg		<MDL	80	165	ug/Kg		<MDL	60	124	ug/Kg
Aroclor 1242		<MDL	31	63.3	ug/Kg		<MDL	71	147	ug/Kg		<MDL	80	165	ug/Kg		<MDL	60	124	ug/Kg
Aroclor 1248		<MDL	31	63.3	ug/Kg	725		71	147	ug/Kg		<MDL	80	165	ug/Kg	97	<RDL	60	124	ug/Kg
Aroclor 1254	115		31	63.3	ug/Kg	1040		71	147	ug/Kg	274		80	165	ug/Kg	328		60	124	ug/Kg
Aroclor 1260	172		31	63.3	ug/Kg	157		71	147	ug/Kg	265		80	165	ug/Kg	332		60	124	ug/Kg

* Not converted to dry weight basis for this parameter

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King County Environmental Lab Analytical Report

PROJECT: 421168-40

Locator:	KCIA_V_1680	KCIA_V_1757
Descrip:	KC AIRPORT STORM W	KC AIRPORT STORM W
Sampled:	Jun 06, 2006	Jun 06, 2006
Lab ID:	L39361-10	L39395-1
Matrix:	IN-LINESED	IN-LINESED
% Solids:	18.5	58.6

Parameters	Value	Qual	MDL	RDL	Units	Value	Qual	MDL	RDL	Units
		- Dry Weight Basis					- Dry Weight Basis			
COMBINED LABS										
M=CV SM2540-G (03-01-007-002)										
Total Solids *	18.5		0.005	0.01	%	58.6		0.005	0.01	%
M=OR EPA 3550B/8082 (7-3-03-002)										
Aroclor 1016		<MDL	70	144	ug/Kg		<MDL	22	45.6	ug/Kg
Aroclor 1221		<MDL	70	144	ug/Kg		<MDL	22	45.6	ug/Kg
Aroclor 1232		<MDL	70	144	ug/Kg		<MDL	22	45.6	ug/Kg
Aroclor 1242		<MDL	70	144	ug/Kg		<MDL	22	45.6	ug/Kg
Aroclor 1248	795		70	144	ug/Kg		<MDL	22	45.6	ug/Kg
Aroclor 1254	1150		70	144	ug/Kg		<MDL	22	45.6	ug/Kg
Aroclor 1260	163		70	144	ug/Kg		<MDL	22	45.6	ug/Kg

* Not converted to dry weight basis for this parameter

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King County Environmental Lab Analytical Report

PROJECT: 421168-40

Locator:	KCIA_V_1541	KCIA_V_1640	KCIA_V_1650	KCIA_V_1657
Descrip:	KC AIRPORT STORM W	KC AIRPORT STORM W	KC AIRPORT STORM W	KC AIRPORT STORM W
Client Loc:	KCIA-1541-060806	KCIA-1640-060706	KCIA-1650-060706	KCIA-1657-060706
Sampled:	Jun 08, 2006	Jun 07, 2006	Jun 07, 2006	Jun 07, 2006
Lab ID:	L39363-1	L39363-2	L39363-3	L39363-4
Matrix:	IN-LINESED	IN-LINESED	IN-LINESED	IN-LINESED
% Solids:	34.1	25.7	17.2	32.2

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 EPA 9060-PSEP98 (03-04-002-003)																				
Total Organic Carbon	86500		7900	16000	mg/Kg	72000		7400	14600	mg/Kg	69800		7000	14100	mg/Kg	39800		5000	10200	mg/Kg
M=CV SM2540-G (03-01-007-002)																				
Total Solids *	34.1		0.005	0.01	%	25.7		0.005	0.01	%	17.2		0.005	0.01	%	32.2		0.005	0.01	%
M=MT EPA 7471A (06-01-004-003)																				
Mercury, Total, CVAA	0.13	<RDL	0.059	0.578	mg/Kg	0.21	<RDL	0.078	0.782	mg/Kg	0.24	<RDL	0.12	1.16	mg/Kg	0.2	<RDL	0.062	0.624	mg/Kg
M=MT EPA3050A/6010B (06-02-004-002)																				
Arsenic, Total, ICP	9.4	<RDL	4.7	23.8	mg/Kg	23	<RDL	5.1	24.8	mg/Kg	34.4		4.8	24.1	mg/Kg	14	<RDL	5	25.5	mg/Kg
Copper, Total, ICP	1550		0.38	1.91	mg/Kg	233		0.39	1.98	mg/Kg	567		0.38	1.93	mg/Kg	204		0.4	2.04	mg/Kg
Lead, Total, ICP	190		2.8	14.3	mg/Kg	463		3	14.9	mg/Kg	744		2.9	14.5	mg/Kg	263		3.1	15.3	mg/Kg
Zinc, Total, ICP	1880		0.47	2.38	mg/Kg	1250		0.51	2.48	mg/Kg	1810		0.48	2.41	mg/Kg	1620		0.5	2.55	mg/Kg
M=OR EPA 3550B/8270C (7-3-01-004)																				
1,2,4-Trichlorobenzene		<MDL	32	62.2	ug/Kg		<MDL	43	82.5	ug/Kg		<MDL	64	123	ug/Kg		<MDL	34	65.8	ug/Kg
1,2-Dichlorobenzene		<MDL	32	62.2	ug/Kg		<MDL	43	82.5	ug/Kg		<MDL	64	123	ug/Kg		<MDL	34	65.8	ug/Kg
1,2-Diphenylhydrazine		<MDL	1200	2350	ug/Kg		<MDL	1600	3110	ug/Kg		<MDL	2300	4650	ug/Kg		<MDL	1200	2480	ug/Kg
1,3-Dichlorobenzene		<MDL	32	62.2	ug/Kg		<MDL	43	82.5	ug/Kg		<MDL	64	123	ug/Kg		<MDL	34	65.8	ug/Kg
1,4-Dichlorobenzene		<MDL	16	31.1	ug/Kg		<MDL	21	41.2	ug/Kg		<MDL	31	61.6	ug/Kg		<MDL	16	32.9	ug/Kg
2,4,5-Trichlorophenol		<MDL	1400	2820	ug/Kg		<MDL	1900	3740	ug/Kg		<MDL	2800	5580	ug/Kg		<MDL	1500	2980	ug/Kg
2,4,6-Trichlorophenol		<MDL	1500	3050	ug/Kg		<MDL	2000	4050	ug/Kg		<MDL	3000	6050	ug/Kg		<MDL	1600	3230	ug/Kg
2,4-Dichlorophenol		<MDL	1900	3750	ug/Kg		<MDL	2500	4980	ug/Kg		<MDL	3700	7440	ug/Kg		<MDL	2000	3980	ug/Kg
2,4-Dimethylphenol		<MDL	820	1640	ug/Kg		<MDL	1100	2180	ug/Kg		<MDL	1600	3260	ug/Kg		<MDL	870	1740	ug/Kg
2,4-Dinitrotoluene		<MDL	350	704	ug/Kg		<MDL	470	934	ug/Kg		<MDL	700	1400	ug/Kg		<MDL	370	745	ug/Kg
2,6-Dinitrotoluene		<MDL	1200	2350	ug/Kg		<MDL	1600	3110	ug/Kg		<MDL	2300	4650	ug/Kg		<MDL	1200	2480	ug/Kg
2-Chloronaphthalene		<MDL	1900	3750	ug/Kg		<MDL	2500	4980	ug/Kg		<MDL	3700	7440	ug/Kg		<MDL	2000	3980	ug/Kg
2-Chlorophenol		<MDL	940	1880	ug/Kg		<MDL	1200	2490	ug/Kg		<MDL	1900	3720	ug/Kg		<MDL	990	1990	ug/Kg
2-Methylnaphthalene		<MDL	1600	3280	ug/Kg		<MDL	2200	4360	ug/Kg		<MDL	3300	6510	ug/Kg		<MDL	1700	3480	ug/Kg
2-Methylphenol		<MDL	1900	3750	ug/Kg		<MDL	2500	4980	ug/Kg		<MDL	3700	7440	ug/Kg		<MDL	2000	3980	ug/Kg
2-Nitrophenol		<MDL	1800	3520	ug/Kg		<MDL	2300	4670	ug/Kg		<MDL	3500	6980	ug/Kg		<MDL	1900	3730	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	1100	2110	ug/Kg		<MDL	1400	2800	ug/Kg		<MDL	2100	4190	ug/Kg		<MDL	1100	2240	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	1500	3050	ug/Kg		<MDL	2000	4050	ug/Kg		<MDL	3000	6050	ug/Kg		<MDL	1600	3230	ug/Kg
4-Methylphenol		<MDL	1900	3750	ug/Kg	2800	<RDL	2500	4980	ug/Kg		<MDL	3700	7440	ug/Kg		<MDL	2000	3980	ug/Kg
Acenaphthene		<MDL	820	1640	ug/Kg		<MDL	1100	2180	ug/Kg		<MDL	1600	3260	ug/Kg		<MDL	870	1740	ug/Kg
Acenaphthylene		<MDL	1800	3520	ug/Kg		<MDL	2300	4670	ug/Kg		<MDL	3500	6980	ug/Kg		<MDL	1900	3730	ug/Kg
Aniline		<MDL	2200	4460	ug/Kg		<MDL	3000	5910	ug/Kg		<MDL	4400	8840	ug/Kg		<MDL	2400	4720	ug/Kg
Anthracene		<MDL	470	938	ug/Kg	1200	<RDL	620	1250	ug/Kg	990	<RDL	930	1860	ug/Kg	840	<RDL	500	994	ug/Kg
Benzo(a)anthracene	2230		230	469	ug/Kg	7160		310	623	ug/Kg	4530		470	930	ug/Kg	3730		250	497	ug/Kg
Benzo(a)pyrene	2770		350	704	ug/Kg	11500		470	934	ug/Kg	7150		700	1400	ug/Kg	6240		370	745	ug/Kg
Benzo(b)fluoranthene	4520		350	704	ug/Kg	20500		470	934	ug/Kg	10000		700	1400	ug/Kg	10400		370	745	ug/Kg
Benzo(g,h,i)perylene	3140		940	1880	ug/Kg	11900		1200	2490	ug/Kg	7270		1900	3720	ug/Kg	6610		990	1990	ug/Kg
Benzo(k)fluoranthene	3280		350	704	ug/Kg	13900		470	934	ug/Kg	10600		700	1400	ug/Kg	9910		370	745	ug/Kg

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King County Environmental Lab Analytical Report

PROJECT: 421168-40

Locator:	KCIA_V_1541	KCIA_V_1640	KCIA_V_1650	KCIA_V_1657
Descrip:	KC AIRPORT STORM W	KC AIRPORT STORM W	KC AIRPORT STORM W	KC AIRPORT STORM W
Client Loc:	KCIA-1541-060806	KCIA-1640-060706	KCIA-1650-060706	KCIA-1657-060706
Sampled:	Jun 08, 2006	Jun 07, 2006	Jun 07, 2006	Jun 07, 2006
Lab ID:	L39363-1	L39363-2	L39363-3	L39363-4
Matrix:	IN-LINESED	IN-LINESED	IN-LINESED	IN-LINESED
% Solids:	34.1	25.7	17.2	32.2

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																				
Benzoic Acid		<MDL	1600	7830	ug/Kg		<MDL	2100	10400	ug/Kg		<MDL	3100	15500	ug/Kg		<MDL	1600	8290	ug/Kg
Benzyl Alcohol		<MDL	700	1410	ug/Kg		<MDL	930	1870	ug/Kg		<MDL	1400	2790	ug/Kg		<MDL	750	1490	ug/Kg
Benzyl Butyl Phthalate		<MDL	700	1410	ug/Kg	2040		930	1870	ug/Kg	3130		1400	2790	ug/Kg	1490	<RDL	750	1490	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	2000	3990	ug/Kg		<MDL	2600	5290	ug/Kg		<MDL	4000	7910	ug/Kg		<MDL	2100	4220	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	1800	3520	ug/Kg		<MDL	2300	4670	ug/Kg		<MDL	3500	6980	ug/Kg		<MDL	1900	3730	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	1800	3520	ug/Kg		<MDL	2300	4670	ug/Kg		<MDL	3500	6980	ug/Kg		<MDL	1900	3730	ug/Kg
Bis(2-Ethylhexyl)Phthalate	53100		790	1640	ug/Kg	73200		1100	2180	ug/Kg	31600		1600	3260	ug/Kg	29400		840	1740	ug/Kg
Caffeine		<MDL	700	1410	ug/Kg		<MDL	930	1870	ug/Kg		<MDL	1400	2790	ug/Kg		<MDL	750	1490	ug/Kg
Carbazole		<MDL	820	1640	ug/Kg	3320		1100	2180	ug/Kg	2000	<RDL	1600	3260	ug/Kg	1700	<RDL	870	1740	ug/Kg
Chrysene	4690		470	938	ug/Kg	18900		620	1250	ug/Kg	10800		930	1860	ug/Kg	9970		500	994	ug/Kg
Coprostanol	34000		1600	3280	ug/Kg	25700		2200	4360	ug/Kg		<MDL	3300	6510	ug/Kg		<MDL	1700	3480	ug/Kg
Dibenzo(a,h)anthracene		<MDL	820	1640	ug/Kg	3100		1100	2180	ug/Kg	2300	<RDL	1600	3260	ug/Kg	1600	<RDL	870	1740	ug/Kg
Dibenzofuran		<MDL	1600	3280	ug/Kg		<MDL	2200	4360	ug/Kg		<MDL	3300	6510	ug/Kg		<MDL	1700	3480	ug/Kg
Diethyl Phthalate		<MDL	700	1410	ug/Kg		<MDL	930	1870	ug/Kg		<MDL	1400	2790	ug/Kg		<MDL	750	1490	ug/Kg
Dimethyl Phthalate		<MDL	1300	2580	ug/Kg		<MDL	1700	3420	ug/Kg		<MDL	2600	5120	ug/Kg		<MDL	1400	2730	ug/Kg
Di-N-Butyl Phthalate		<MDL	590	1170	ug/Kg		<MDL	780	1560	ug/Kg	3150		1200	2330	ug/Kg	710	<RDL	620	1240	ug/Kg
Di-N-Octyl Phthalate		<MDL	940	1880	ug/Kg		<MDL	1200	2490	ug/Kg		<MDL	1900	3720	ug/Kg		<MDL	990	1990	ug/Kg
Fluoranthene	7420		940	1880	ug/Kg	33600		1200	2490	ug/Kg	18000		1900	3720	ug/Kg	17100		990	1990	ug/Kg
Fluorene		<MDL	1500	2580	ug/Kg		<MDL	2000	3420	ug/Kg		<MDL	3000	5120	ug/Kg		<MDL	1600	2730	ug/Kg
Hexachlorobenzene		<MDL	79	156	ug/Kg		<MDL	110	207	ug/Kg		<MDL	160	309	ug/Kg		<MDL	84	165	ug/Kg
Hexachlorobutadiene		<MDL	88	176	ug/Kg		<MDL	120	233	ug/Kg		<MDL	170	349	ug/Kg		<MDL	93	186	ug/Kg
Hexachloroethane		<MDL	1800	3520	ug/Kg		<MDL	2300	4670	ug/Kg		<MDL	3500	6980	ug/Kg		<MDL	1900	3730	ug/Kg
Indeno(1,2,3-Cd)Pyrene	2570		1100	2110	ug/Kg	10300		1400	2800	ug/Kg	6570		2100	4190	ug/Kg	5810		1100	2240	ug/Kg
Isophorone		<MDL	2200	4460	ug/Kg		<MDL	3000	5910	ug/Kg		<MDL	4400	8840	ug/Kg		<MDL	2400	4720	ug/Kg
Naphthalene		<MDL	1600	3280	ug/Kg		<MDL	2200	4360	ug/Kg		<MDL	3300	6510	ug/Kg		<MDL	1700	3480	ug/Kg
Nitrobenzene		<MDL	1900	3750	ug/Kg		<MDL	2500	4980	ug/Kg		<MDL	3700	7440	ug/Kg		<MDL	2000	3980	ug/Kg
N-Nitrosodimethylamine		<MDL	2300	4690	ug/Kg		<MDL	3100	6230	ug/Kg		<MDL	4700	9300	ug/Kg		<MDL	2500	4970	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	1100	2110	ug/Kg		<MDL	1400	2800	ug/Kg		<MDL	2100	4190	ug/Kg		<MDL	1100	2240	ug/Kg
N-Nitrosodiphenylamine		<MDL	2300	4690	ug/Kg		<MDL	3100	6230	ug/Kg		<MDL	4700	9300	ug/Kg		<MDL	2500	4970	ug/Kg
Pentachlorophenol		<MDL	790	3140	ug/Kg		<MDL	1100	4160	ug/Kg		<MDL	1600	6220	ug/Kg		<MDL	840	3320	ug/Kg
Phenanthrene	3260		470	938	ug/Kg	13700		620	1250	ug/Kg	6980		930	1860	ug/Kg	6580		500	994	ug/Kg
Phenol		<MDL	1100	2110	ug/Kg		<MDL	1400	2800	ug/Kg		<MDL	2100	4190	ug/Kg		<MDL	1100	2240	ug/Kg
Pyrene	6770		470	938	ug/Kg	26000		620	1250	ug/Kg	14100		930	1860	ug/Kg	12800		500	994	ug/Kg
Pyridine		<MDL	3200	6250	ug/Kg		<MDL	4300	8290	ug/Kg		<MDL	6400	12400	ug/Kg		<MDL	3400	6610	ug/Kg
M=OR WDOE NWTPH-DX (7-3-06-001)																				
Diesel Range (>C12-C24)	11000	H,TA	73	73	mg/Kg	16000	H,TA	97	97	mg/Kg						940	H,TA	78	78	mg/Kg
Lube Oil Range (>C24)	81000	H,TA	73	73	mg/Kg	8800	H,TA	97	97	mg/Kg	10000	H,TA	150	150	mg/Kg	3500	H,TA	78	78	mg/Kg

* Not converted to dry weight basis for this parameter

KCSlip4 56804

SEA423116

King County Environmental Lab Analytical Report

PROJECT: 421168-40

Locator:	KCIA_V_1670	KCIA_V_1680	KCIA_V_1756	KCIA_V_1757
Descrip:	KC AIRPORT STORM W	KC AIRPORT STORM W	KC AIRPORT STORM W	KC AIRPORT STORM W
Client Loc:	KCIA-1670-060606	KCIA-1680-060606	KCIA-1756-060606	KCIA-1757-060606M
Sampled:	Jun 06, 2006	Jun 06, 2006	Jun 06, 2006	Jun 06, 2006
Lab ID:	L39363-5	L39363-6	L39363-7	L39363-8
Matrix:	IN-LINESED	IN-LINESED	IN-LINESED	IN-LINESED
% Solids:	47.2	18.2	17.1	21.4

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 EPA 9060-PSEP96 (03-04-002-003																				
Total Organic Carbon	62700		4900	9640	mg/Kg	65900		5400	10800	mg/Kg	52700		6400	12900	mg/Kg	82700		7000	14300	mg/Kg
M=CV SM2540-G (03-01-007-002)																				
Total Solids *	47.2		0.005	0.01	%	18.2		0.005	0.01	%	17.1		0.005	0.01	%	21.4		0.005	0.01	%
M=MT EPA 7471A (06-01-004-003)																				
Mercury, Total, CVAA	0.3	<RDL	0.042	0.428	mg/Kg	0.24	<RDL	0.11	1.12	mg/Kg	0.54	<RDL	0.12	1.19	mg/Kg	0.24	<RDL	0.093	0.925	mg/Kg
M=MT EPA3050A/6010B (06-02-004-002)																				
Arsenic, Total, ICP	9.3	<RDL	3.6	17.6	mg/Kg	29.3		4.6	22.7	mg/Kg	12	<RDL	4.8	24	mg/Kg	16	<RDL	4.7	23.3	mg/Kg
Copper, Total, ICP	227		0.28	1.41	mg/Kg	284		0.36	1.81	mg/Kg	286		0.39	1.92	mg/Kg	301		0.37	1.86	mg/Kg
Lead, Total, ICP	396		2.1	10.6	mg/Kg	420		2.7	13.6	mg/Kg	237		2.9	14.4	mg/Kg	385		2.8	14	mg/Kg
Zinc, Total, ICP	574		0.36	1.76	mg/Kg	1240		0.46	2.27	mg/Kg	1580		0.48	2.4	mg/Kg	813		0.47	2.33	mg/Kg
M=OR EPA 3550B/8270C (7-3-01-004)																				
1,2,4-Trichlorobenzene		<MDL	23	44.9	ug/Kg		<MDL	60	116	ug/Kg		<MDL	64	124	ug/Kg		<MDL	51	99.1	ug/Kg
1,2-Dichlorobenzene		<MDL	23	44.9	ug/Kg		<MDL	60	116	ug/Kg		<MDL	64	124	ug/Kg		<MDL	51	99.1	ug/Kg
1,2-Diphenylhydrazine		<MDL	850	1690	ug/Kg		<MDL	2200	4400	ug/Kg		<MDL	2300	4680	ug/Kg		<MDL	1900	3740	ug/Kg
1,3-Dichlorobenzene		<MDL	23	44.9	ug/Kg		<MDL	60	116	ug/Kg		<MDL	64	124	ug/Kg		<MDL	51	99.1	ug/Kg
1,4-Dichlorobenzene		<MDL	11	22.5	ug/Kg		<MDL	29	58.2	ug/Kg		<MDL	31	62	ug/Kg		<MDL	25	49.5	ug/Kg
2,4,5-Trichlorophenol		<MDL	1000	2030	ug/Kg		<MDL	2600	5270	ug/Kg		<MDL	2800	5610	ug/Kg		<MDL	2200	4490	ug/Kg
2,4,6-Trichlorophenol		<MDL	1100	2200	ug/Kg		<MDL	2900	5710	ug/Kg		<MDL	3000	6080	ug/Kg		<MDL	2400	4860	ug/Kg
2,4-Dichlorophenol		<MDL	1400	2710	ug/Kg		<MDL	3500	7030	ug/Kg		<MDL	3700	7490	ug/Kg		<MDL	3000	5980	ug/Kg
2,4-Dimethylphenol		<MDL	590	1190	ug/Kg		<MDL	1500	3080	ug/Kg		<MDL	1600	3270	ug/Kg		<MDL	1300	2620	ug/Kg
2,4-Dinitrotoluene		<MDL	250	508	ug/Kg		<MDL	660	1320	ug/Kg		<MDL	700	1400	ug/Kg		<MDL	560	1120	ug/Kg
2,6-Dinitrotoluene		<MDL	850	1690	ug/Kg		<MDL	2200	4400	ug/Kg		<MDL	2300	4680	ug/Kg		<MDL	1900	3740	ug/Kg
2-Chloronaphthalene		<MDL	1400	2710	ug/Kg		<MDL	3500	7030	ug/Kg		<MDL	3700	7490	ug/Kg		<MDL	3000	5980	ug/Kg
2-Chlorophenol		<MDL	680	1360	ug/Kg		<MDL	1800	3520	ug/Kg		<MDL	1900	3740	ug/Kg		<MDL	1500	2990	ug/Kg
2-Methylnaphthalene		<MDL	1200	2370	ug/Kg		<MDL	3100	6150	ug/Kg		<MDL	3300	6550	ug/Kg		<MDL	2600	5230	ug/Kg
2-Methylphenol		<MDL	1400	2710	ug/Kg		<MDL	3500	7030	ug/Kg		<MDL	3700	7490	ug/Kg		<MDL	3000	5980	ug/Kg
2-Nitrophenol		<MDL	1300	2540	ug/Kg		<MDL	3300	6590	ug/Kg		<MDL	3500	7020	ug/Kg		<MDL	2800	5610	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	760	1530	ug/Kg		<MDL	2000	3960	ug/Kg		<MDL	2100	4210	ug/Kg		<MDL	1700	3360	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	1100	2200	ug/Kg		<MDL	2900	5710	ug/Kg		<MDL	3000	6080	ug/Kg		<MDL	2400	4860	ug/Kg
4-Methylphenol	1700	<RDL	1400	2710	ug/Kg		<MDL	3500	7030	ug/Kg		<MDL	3700	7490	ug/Kg		<MDL	3000	5980	ug/Kg
Acenaphthene	1000	<RDL	590	1190	ug/Kg		<MDL	1500	3080	ug/Kg		<MDL	1600	3270	ug/Kg		<MDL	1300	2620	ug/Kg
Acenaphthylene		<MDL	1300	2540	ug/Kg		<MDL	3300	6590	ug/Kg		<MDL	3500	7020	ug/Kg		<MDL	2800	5510	ug/Kg
Aniline		<MDL	1600	3220	ug/Kg		<MDL	4200	8350	ug/Kg		<MDL	4400	8890	ug/Kg		<MDL	3600	7100	ug/Kg
Anthracene	4170		340	678	ug/Kg	1910		880	1760	ug/Kg	4390		940	1870	ug/Kg	6360		750	1500	ug/Kg
Benzo(a)anthracene	19600		170	339	ug/Kg	11600		440	879	ug/Kg	30800		470	936	ug/Kg	35500		370	748	ug/Kg
Benzo(a)pyrene	26100		250	508	ug/Kg	19000		660	1320	ug/Kg	42600		700	1400	ug/Kg	50000		560	1120	ug/Kg
Benzo(b)fluoranthene	40700		250	508	ug/Kg	30500		660	1320	ug/Kg	77800		700	1400	ug/Kg	83200		560	1120	ug/Kg
Benzo(g,h,i)perylene	25000		680	1360	ug/Kg	20300		1800	3520	ug/Kg	42600		1900	3740	ug/Kg	44800		1500	2990	ug/Kg
Benzo(k)fluoranthene	26700		250	508	ug/Kg	30400		660	1320	ug/Kg	58200		700	1400	ug/Kg	58900		560	1120	ug/Kg

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SEA423117

King County Environmental Lab Analytical Report

PROJECT: 421168-40

Locator:	KCIA_V_1670					Locator:	KCIA_V_1680				Locator:	KCIA_V_1756				Locator:	KCIA_V_1757			
Descrip:	KC AIRPORT STORM W					Descrip:	KC AIRPORT STORM W				Descrip:	KC AIRPORT STORM W				Descrip:	KC AIRPORT STORM W			
Client Loc:	KCIA-1670-060606					Client Loc:	KCIA-1680-060606				Client Loc:	KCIA-1756-060606				Client Loc:	KCIA-1757-060606M			
Sampled:	Jun 06, 2006					Sampled:	Jun 06, 2006				Sampled:	Jun 06, 2006				Sampled:	Jun 06, 2006			
Lab ID:	L39363-5					Lab ID:	L39363-6				Lab ID:	L39363-7				Lab ID:	L39363-8			
Matrix:	IN-LINESED					Matrix:	IN-LINESED				Matrix:	IN-LINESED				Matrix:	IN-LINESED			
% Solids:	47.2					% Solids:	18.2				% Solids:	17.1				% Solids:	21.4			
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																				
Benzoic Acid		<MDL	1100	5660	ug/Kg		<MDL	2900	14700	ug/Kg		<MDL	3100	15600	ug/Kg		<MDL	2500	12500	ug/Kg
Benzyl Alcohol		<MDL	510	1020	ug/Kg		<MDL	1300	2640	ug/Kg		<MDL	1400	2810	ug/Kg		<MDL	1100	2240	ug/Kg
Benzyl Butyl Phthalate	2610		510	1020	ug/Kg	3040		1300	2640	ug/Kg	3510		1400	2810	ug/Kg	4090		1100	2240	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	1400	2880	ug/Kg		<MDL	3700	7470	ug/Kg		<MDL	4000	7950	ug/Kg		<MDL	3200	6360	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	1300	2540	ug/Kg		<MDL	3300	6590	ug/Kg		<MDL	3500	7020	ug/Kg		<MDL	2800	5610	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	1300	2540	ug/Kg		<MDL	3300	6590	ug/Kg		<MDL	3500	7020	ug/Kg		<MDL	2800	5610	ug/Kg
Bis(2-Ethylhexyl)Phthalate	39000		570	1190	ug/Kg	64300		1500	3080	ug/Kg	56900		1600	3270	ug/Kg	232000		1300	2620	ug/Kg
Caffeine		<MDL	510	1020	ug/Kg		<MDL	1300	2640	ug/Kg		<MDL	1400	2810	ug/Kg		<MDL	1100	2240	ug/Kg
Carbazole	5610		590	1190	ug/Kg	4750		1500	3080	ug/Kg	7950		1600	3270	ug/Kg	10500		1300	2620	ug/Kg
Chrysene	32200		340	678	ug/Kg	31300		880	1760	ug/Kg	67300		940	1870	ug/Kg	70100		750	1500	ug/Kg
Coprostanol		<MDL	1200	2370	ug/Kg		<MDL	3100	6150	ug/Kg		<MDL	3300	6550	ug/Kg		<MDL	2600	5230	ug/Kg
Dibenzo(a,h)anthracene	7480		590	1190	ug/Kg	4050		1500	3080	ug/Kg	10400		1600	3270	ug/Kg	12900		1300	2620	ug/Kg
Dibenzofuran	1400	<RDL	1200	2370	ug/Kg		<MDL	3100	6150	ug/Kg		<MDL	3300	6550	ug/Kg		<MDL	2600	5230	ug/Kg
Diethyl Phthalate		<MDL	510	1020	ug/Kg		<MDL	1300	2640	ug/Kg		<MDL	1400	2810	ug/Kg		<MDL	1100	2240	ug/Kg
Dimethyl Phthalate		<MDL	930	1860	ug/Kg		<MDL	2400	4840	ug/Kg		<MDL	2600	5150	ug/Kg		<MDL	2100	4110	ug/Kg
Di-N-Butyl Phthalate		<MDL	420	847	ug/Kg	2810		1100	2200	ug/Kg		<MDL	1200	2340	ug/Kg		<MDL	930	1870	ug/Kg
Di-N-Octyl Phthalate		<MDL	680	1360	ug/Kg		<MDL	1800	3520	ug/Kg		<MDL	1900	3740	ug/Kg		<MDL	1500	2990	ug/Kg
Fluoranthene	52500		680	1360	ug/Kg	53300		1800	3520	ug/Kg	106000		1900	3740	ug/Kg	132000		1500	2990	ug/Kg
Fluorene	1700	<RDL	1100	1860	ug/Kg		<MDL	2900	4840	ug/Kg		<MDL	3000	5150	ug/Kg		<MDL	2400	4110	ug/Kg
Hexachlorobenzene		<MDL	57	113	ug/Kg		<MDL	150	292	ug/Kg		<MDL	160	311	ug/Kg		<MDL	130	249	ug/Kg
Hexachlorobutadiene		<MDL	64	127	ug/Kg		<MDL	160	330	ug/Kg		<MDL	180	351	ug/Kg		<MDL	140	280	ug/Kg
Hexachloroethane		<MDL	1300	2540	ug/Kg		<MDL	3300	6590	ug/Kg		<MDL	3500	7020	ug/Kg		<MDL	2800	5610	ug/Kg
Indeno(1,2,3-Cd)Pyrene	23300		760	1530	ug/Kg	18200		2000	3960	ug/Kg	40200		2100	4210	ug/Kg	42500		1700	3360	ug/Kg
Isophorone		<MDL	1600	3220	ug/Kg		<MDL	4200	8350	ug/Kg		<MDL	4400	8890	ug/Kg		<MDL	3600	7100	ug/Kg
Naphthalene		<MDL	1200	2370	ug/Kg		<MDL	3100	6150	ug/Kg		<MDL	3300	6550	ug/Kg		<MDL	2600	5230	ug/Kg
Nitrobenzene		<MDL	1400	2710	ug/Kg		<MDL	3500	7030	ug/Kg		<MDL	3700	7490	ug/Kg		<MDL	3000	5980	ug/Kg
N-Nitrosodimethylamine		<MDL	1700	3390	ug/Kg		<MDL	4400	8790	ug/Kg		<MDL	4700	9360	ug/Kg		<MDL	3700	7480	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	760	1530	ug/Kg		<MDL	2000	3960	ug/Kg		<MDL	2100	4210	ug/Kg		<MDL	1700	3360	ug/Kg
N-Nitrosodiphenylamine		<MDL	1700	3390	ug/Kg		<MDL	4400	8790	ug/Kg		<MDL	4700	9360	ug/Kg		<MDL	3700	7480	ug/Kg
Pentachlorophenol		<MDL	570	2270	ug/Kg		<MDL	1500	5880	ug/Kg		<MDL	1600	6260	ug/Kg		<MDL	1300	5000	ug/Kg
Phenanthrene	20900		340	678	ug/Kg	19100		880	1760	ug/Kg	33700		940	1870	ug/Kg	47200		750	1500	ug/Kg
Phenol		<MDL	760	1530	ug/Kg		<MDL	2000	3960	ug/Kg		<MDL	2100	4210	ug/Kg		<MDL	1700	3360	ug/Kg
Pyrene	44500		340	678	ug/Kg	38500		880	1760	ug/Kg	76600		940	1870	ug/Kg	100000		750	1500	ug/Kg
Pyridine		<MDL	2300	4510	ug/Kg		<MDL	6000	11700	ug/Kg		<MDL	6400	12500	ug/Kg		<MDL	5100	9950	ug/Kg
M=OR WDOE NWTPH-DX (7-3-06-001)																				
Diesel Range (>C12-C24)	2000	H,TA	53	53	mg/Kg	2100	H,TA	140	140	mg/Kg	8100	H,TA	150	150	mg/Kg	6300	H,TA	120	120	mg/Kg
Lube Oil Range (>C24)	8500	H,TA	53	53	mg/Kg	8200	H,TA	140	140	mg/Kg	25000	H,TA	150	150	mg/Kg	13000	H,TA	120	120	mg/Kg

* Not converted to dry weight basis for this parameter

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SEA423118

King County Environmental Lab Analytical Report

PROJECT: 421168-40

Locator:	KCIA_V_1757
Descrip:	KC AIRPORT STORM W
Client Loc:	KCIA-1757-060606E
Sampled:	Jun 06, 2006
Lab ID:	L39396-1
Matrix:	IN-LINESED
% Solids:	57.6

Parameters	Value	Qual	MDL	RDL	Units
			- Dry Weight Basis		
COMBINED LABS					
M=CV EPA 9060-PSEP96 (03-04-002-003)					
Total Organic Carbon	4510		1000	2080	mg/Kg
M=CV SM2540-G (03-01-007-002)					
Total Solids *	57.6		0.005	0.01	%
M=MT EPA 7471A (06-01-004-003)					
Mercury, Total, CVAA		<MDL	0.035	0.345	mg/Kg
M=MT EPA3050A/6010B (06-02-004-002)					
Arsenic, Total, ICP		<MDL	4.3	21.9	mg/Kg
Copper, Total, ICP	30.6		0.35	1.74	mg/Kg
Lead, Total, ICP	9.5	<RDL	2.6	13.1	mg/Kg
Zinc, Total, ICP	40.3		0.43	2.19	mg/Kg
M=OR EPA 3550B/8270C (7-3-01-004)					
1,2,4-Trichlorobenzene		<MDL	1.9	3.68	ug/Kg
1,2-Dichlorobenzene		<MDL	1.9	3.68	ug/Kg
1,2-Diphenylhydrazine		<MDL	69	139	ug/Kg
1,3-Dichlorobenzene		<MDL	1.9	3.68	ug/Kg
1,4-Dichlorobenzene		<MDL	0.92	1.84	ug/Kg
2,4,5-Trichlorophenol		<MDL	83	167	ug/Kg
2,4,6-Trichlorophenol		<MDL	90	181	ug/Kg
2,4-Dichlorophenol		<MDL	110	222	ug/Kg
2,4-Dimethylphenol		<MDL	49	97.2	ug/Kg
2,4-Dinitrotoluene		<MDL	21	41.7	ug/Kg
2,6-Dinitrotoluene		<MDL	69	139	ug/Kg
2-Chloronaphthalene		<MDL	110	222	ug/Kg
2-Chlorophenol		<MDL	56	111	ug/Kg
2-Methylnaphthalene		<MDL	97	194	ug/Kg
2-Methylphenol		<MDL	110	222	ug/Kg
2-Nitrophenol		<MDL	100	208	ug/Kg
4-Bromophenyl Phenyl Ether		<MDL	63	125	ug/Kg
4-Chlorophenyl Phenyl Ether		<MDL	90	181	ug/Kg
4-Methylphenol		<MDL	110	222	ug/Kg
Acenaphthene		<MDL	49	97.2	ug/Kg
Acenaphthylene		<MDL	100	208	ug/Kg
Aniline		<MDL	130	264	ug/Kg
Anthracene	62.8		28	55.6	ug/Kg
Benzo(a)anthracene	495		14	27.8	ug/Kg
Benzo(a)pyrene	741		21	41.7	ug/Kg
Benzo(b)fluoranthene	1310		21	41.7	ug/Kg
Benzo(g,h,i)perylene	736		56	111	ug/Kg
Benzo(k)fluoranthene	861		21	41.7	ug/Kg

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King County Environmental Lab Analytical Report

PROJECT: 421168-40

Locator:	KCIA_V_1757
Descrip:	KC AIRPORT STORM W
Client Loc:	KCIA-1757-060606E
Sampled:	Jun 06, 2006
Lab ID:	L39396-1
Matrix:	IN-LINESED
% Solids:	57.6

Parameters	Value	Qual	MDL	RDL	Units
		- Dry Weight Basis			
COMBINED LABS					
Benzoic Acid	280	<RDL	92	464	ug/Kg
Benzyl Alcohol		<MDL	42	83.3	ug/Kg
Benzyl Butyl Phthalate	115		42	83.3	ug/Kg
Bis(2-Chloroethoxy)Methane		<MDL	120	236	ug/Kg
Bis(2-Chloroethyl)Ether		<MDL	100	208	ug/Kg
Bis(2-Chloroisopropyl)Ether		<MDL	100	208	ug/Kg
Bis(2-Ethylhexyl)Phthalate	63900		47	97.2	ug/Kg
Caffeine		<MDL	42	83.3	ug/Kg
Carbazole	132		49	97.2	ug/Kg
Chrysene	1010		28	55.6	ug/Kg
Coprostanol	1150		97	194	ug/Kg
Dibenzo(a,h)anthracene	184		49	97.2	ug/Kg
Dibenzofuran		<MDL	97	194	ug/Kg
Diethyl Phthalate		<MDL	42	83.3	ug/Kg
Dimethyl Phthalate		<MDL	76	153	ug/Kg
Di-N-Butyl Phthalate		<MDL	35	69.4	ug/Kg
Di-N-Octyl Phthalate	110	<RDL	56	111	ug/Kg
Fluoranthene	1910		56	111	ug/Kg
Fluorene		<MDL	90	153	ug/Kg
Hexachlorobenzene		<MDL	4.7	9.24	ug/Kg
Hexachlorobutadiene		<MDL	5.2	10.4	ug/Kg
Hexachloroethane		<MDL	100	208	ug/Kg
Indeno(1,2,3-Cd)Pyrene	684		63	125	ug/Kg
Isophorone		<MDL	130	264	ug/Kg
Naphthalene		<MDL	97	194	ug/Kg
Nitrobenzene		<MDL	110	222	ug/Kg
N-Nitrosodimethylamine		<MDL	140	278	ug/Kg
N-Nitrosodi-N-Propylamine		<MDL	63	125	ug/Kg
N-Nitrosodiphenylamine		<MDL	140	278	ug/Kg
Pentachlorophenol		<MDL	47	186	ug/Kg
Phenanthrene	703		28	55.6	ug/Kg
Phenol		<MDL	63	125	ug/Kg
Pyrene	1450		28	55.6	ug/Kg
Pyridine		<MDL	190	370	ug/Kg
M=OR WDOE NWTPH-DX (7-3-06-001)					
Diesel Range (>C12-C24)	1600	H,TA	43	43	mg/Kg
Lube Oil Range (>C24)					

* Not converted to dry weight basis for this parameter

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