Attachment 3:

2013 HTRW Updates for South Fork South Branch (Bubbly Creek) Memorandum for Record, September 2013

CELRC-TS-DH

MEMORANDUM FOR RECORD

SUBJECT: 2013 HTRW Updates for South Fork South Branch (Bubbly Creek)

1. This memorandum provides an update to the HTRW report prepared in May 2006 for the Bubbly Creek project. The memorandum includes resolution of an issue identified in the 2006 HTRW report and developments since the 2006 report associated with recognized environmental conditions (RECs) which may impact the Bubbly Creek ecosystem restoration project. Per ASTM E1527-05 – Standard Practice for Environmental Site Assessments, the term recognized environmental conditions (REC) means "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions."

Bubbly Creek Sediment Hazardous Characterization

2. USACE Chicago District contracted with CDM in 2004 to perform sediment core sampling and analysis of the bottom sediments in the SFSB. Thirteen core samples and five grab samples along the entire length of Bubbly Creek were collected and analyzed. Results from the analysis concluded that the material was not found to be characteristically toxic, corrosive or reactive under RCRA, but further analysis of ignitability was required at one sampling location. (According to 40 CFR 261.21, a liquid that has a flashpoint less than 140 degrees Fahrenheit when determined by a Pensky-Martens Closed Cup Tester exceeds USEPA "ignitability" (flash point) standard.) Ignitability was identified in one sample: SF-2004-B02 (collected just south of the Bubbly Creek Turning Basin) at 124 degrees Fahrenheit, out of 13 sampling locations. According to the CDM report, this is an isolated case and appears to be an anomaly. The report recommended further investigation before drawing conclusions on whether this material exceeds USEPA ignitability standard (USACE 2005).

3. On 24 September 2010, USACE collected five samples in the vicinity the CDM sampling location SF-2004-B02. The goal was to analyze the samples for ignitability characteristic, and to confirm or discount the finding in the 2004 sampling. For the 2010 sampling, one sample was collected in the area where Sample SF-2004-B02 was taken and four samples just upstream and downstream of the original sampling point, between the original sampling point and the two adjacent sampling locations where samples were collected in 2004 that did not exceed the ignitability criteria. Core samples were collected to approximately 11 to 15 foot depth, and homogenized prior to analysis (USACE 2010).

4. **Table 1** lists the samples and the analytical results. None of the samples tested positive for ignitability. Based on this follow-up investigation, results from the analysis concluded that the material was <u>not</u> found to be characteristically toxic, corrosive or reactive under RCRA.

Table 1. 2010 Sample Collection and Results

SAMPLE ID	WATER DEPTH (Feet)	SAMPLE RECOVERY (Feet)	NOTES	*FLASH POINT UP TO 212° F
BC-2010-B01	7.17	14.75		No
BC-2010-B02	12	11		No
BC-2010-B03	9.17	11.17		No
BC-2010-B04	5.17	14.58	Original Sample Location	No
BC-2010-B05	11.5	11.08		No

*According to 40 CFR 261.21, a liquid that has a flash point less than 140 °F as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D 93–79 or D 93–80 (incorporated by reference, see §260.11), or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D 3278–78, exceeds USEPA's ignitability standard.

Bubbly Creek Adjacent Parcels Phase 1 Environmental Site Assessment

5. The City of Chicago contracted with Terracon to conduct a Phase 1 Environmental Site Assessment (ESA) for land parcels adjacent to Bubbly Creek in 2011 (Terracon 2011). The purpose of the project was to identify the presence of REC on the land adjacent to the Bubbly Creek channel, in support of the ecosystem restoration feasibility study effort. The ESA included a field reconnaissance (restricted to public right-of-ways), a regulatory database search, historical data review (topographic maps, aerial photographs, city directories, Sanborn Maps, chain-of-title and environmental lien search).

6. The Phase 1 ESA revealed various evidences of Recognized Environmental Conditions associated with land parcels adjacent to Bubbly Creek that are described below. A copy of the Phase 1 ESA is included as an appendix to the Bubbly Creek Feasibility Study Document.

    - Soil located in the Bubbly Creek adjacent parcels was identified as urban fill in the City of Chicago, which typically contains detectable concentrations of PAHs and metals and constitute a REC.
    - Various industrial/manufacturing (including gasoline, metal, iron, paint, and coal manufacturing plants and lumber, railroad, shipping, freight, and storage yards) were depicted on the adjacent parcels. Based on the limited available information of these identified properties, these site uses constitute RECs.
    - The adjacent properties reviewed in the historic document depict current/historic activities including heavy industrial/manufacturing (tire, rubber, metal, and iron manufacturing); underground and above ground storage tank usage; manufacturing gas plants; service stations; retail manufacturing/warehouse; auto-repair facilities; freight/railroad warehouses and shipping yards; various food processing/manufacturing warehouses; meatpacking plants; and, illegal dumping. Based on the limited available information of these identified properties, these site uses constitute RECs.

7. The Phase 1 ESA identified a list of properties adjacent to Bubbly Creek that constitute Recognized Environmental Conditions (Terracon 2011). This information was used during the restoration plan formulation process.

Plan Formulation Incorporating Recognized Environment Conditions

8. Given the former industrial history of the Bubbly Creek channel and neighboring parcels, a risk-based approach has been used toward plan formulation informed through data collected on historic and current uses and field sampling and analysis. Various ecosystem restoration measures were formulated and evaluated for different portions of the study area. In formulating restoration plans, areas with RECs were either avoided or only measures that minimize disturbance to existing lands selected as described below:

   a. Channel: Includes the restoration of natural substrates, submerged aquatic vegetation and large woody debris. As noted above, the first round of sediment sampling identified an anomaly in one sediment sample. The team resampled the area of and surrounding the anomaly and confirmed the sediment is not classified as a hazardous waste, per RCRA. The Preferred Plan will improve sediment conditions by placing sand topped with a mixture of rounded river rock and sandy silt on the channel bottom. Sediment dredging/removal is not a retained measure.

   b. Bank Areas: Includes removal of invasive plants and restoration with native species. A stretch of the channel bank was avoided because it is located in an area containing numerous underground storage tanks. In addition, implementation of this measure will be done in a way that minimizes disturbance to soils along the banks. Non-native and invasive vegetation would first be removed by hand cutting and herbiciding. Soil amendments consisting of leaf compost would then be incorporated into the area to be planted. Finally, native plant community establishment would be accomplished by planting native plugs and seeding.

   c. Cutback Areas: Includes contouring of the banks along three areas to provide for varied channel habitat. Based on Phase I Environmental Site Assessment and the local sponsor's (City of Chicago) knowledge of the project area, the properties were selected because these parcels did not have a recognized environmental condition. All areas that are identified to be cut back will be subjected to subsurface investigation to evaluate actual potential for contamination prior to actual work.

9. The following documents were used as references, providing details on the above discussion:

   a. USACE 2005. Collection and Analysis of Sediment Samples from the South Fork South Branch, Chicago River, Final Report, March 2005.

   b. USACE 2010. South Fork South Branch, Chicago River, Collection and Flashpoint Analysis of Sediment Samples. October 8, 2010.

   c. Terracon 2011. Phase 1 Environmental Site Assessment, Bubbly Creek – South Fork of the South Branch of the Chicago River, Chicago, Cook County, Illinois. November 3, 2011.

10. Based on the findings of the original HTRW investigation, the updated sampling, and the Bubbly Creek Adjacent Parcel Phase 1 ESA, along with ecosystem restoration measures retained for formulating restoration plans, it is recommended that stream bank cutback areas be subjected to

subsurface investigation to evaluate actual potential for potential for contamination during the design phase. However, it must be emphasized that no investigation can completely eliminate the potential that environmental issues are present at the site beyond what is identified by the scope of the investigation.

11. The point of contact for this memorandum is Le Thai at Extension 5508.

9/10/2013

JAY A. SEMMLER, P.E.
Chief, Hydraulics and Environmental Engineering Section

Attachment 4:

Review of Potential Environmental Issues for Bubbly Creek (South Fork South Branch Chicago River) Memorandum for Record, September 2014

CELRC-TS-DH 12 September 2014

MEMORANDUM FOR PM-PL-E

SUBJECT: Review of Potential Environmental Issues for Bubbly Creek (South Fork South Branch Chicago River)

1. The Bubbly Creek Feasibility Report includes documentation from multiple HTRW Phase I investigations, sediment investigations, and other environmentally related investigations and data reviews. These data span more than a decade of information. As data have been compiled for this study report, it has become apparent that some past documents appear to conflict or present contradictory information. Additionally, the status of many sites has changed over the last several years. The purpose of this document is to summarize the current status of potential environmental issues that may have been identified during past investigations.

2. Two main "phase I" investigations were conducted. One, in 2006, was conducted by USACE LRC personnel. A second report was prepared by Terracon, a contractor for the Local Sponsor, in 2011. Both of these investigations identified "Peoples Gas" facilities, although in different locations and under different regulatory status, as potential environmental issues for the project site. Because of the apparent contradiction, the current status of all known "Peoples Gas" facilities near the project area was reviewed using USEPA's Facility Registration Service. The search resulted in the identification of 6 separate addresses, with 5 separate EPA identification numbers. These sites are all identified under various versions of the name "Peoples Gas" and the nomenclature appears to be the source of confusion and apparent contradiction between the reports.

3. Table 1 lists the identified "Peoples Gas" sites in the area of the project, and also gives the USEPA identification number and the current status. Three of the addresses are adjacent to the South Fork of the South Branch. These properties are CERCLIS listed, but in the Facility Registry Service are listed as "cleaned up" or as having a "No Further Remediation" letter, with a date given. Because the environmental conditions at these sites have been addressed, and because the project has been formulated to avoid these parcels (the Pitney addresses, in particular), the sites represent a very low risk to the project.

4. Also identified as potential environmental risks to the project are the presence of unaddressed "Leaking Underground Storage Tanks" (LUSTs). In 2006, two LUSTs were identified; one had been remediated and thus represents a very low risk. A second site, LEVCO properties at 1300 W. 35th Street, is adjacent to Bubbly Creek and was not at the time addressed. The status of the site was reviewed using the USEPA Facility Registry Service. LEVCO properties is listed as an inactive RCRA site. In the Illinois EPA Agency Inventory Search, the property shows up at "Chrystal Windows & Doors". The site is listed under the LUST database as having a LUST in

1998. A “No Further Remediation” letter was issued on 8/12/2013. Because the identified issue, a LUST, appears to have been remediated and the current operation does not appear to have any environmental permitting or violations, the site appears to represent a low risk. The second site at 1301 W. 35th Street has a similar status and is discussed further, below.

5. The 2011 report listed a series of parcels that were identified through the database search process, and that were identifed as RECs or potential RECs. Table 2 summarizes these addresses and the current status. All of these properties are adjacent to the project area. The list of properties was compared to the proposed riparian planting areas, shown in Figures 1, 2, and 3. A few of the properties have either an unresolved status or have possible existing conditions that could present a risk. These properties were avoided or are outside the riparian planting area. No other upland earth disturbing work is planned for this project, so that avoiding riparian planting in areas with known or suspected RECs is an effective means to minimize risk to the project. Because the project area is a commercial/industrial area and these sites represent a higher potential for RECs, it is recommended that the status of the sites for riparian planting be reviewed during design phase. Based on the status of any issues identified, the riparian planting areas could be modified at that time to avoid RECs and minimize risk.

6. A significant environmental issue is the condition of the sediment in Bubbly Creek. The condition of the substrates reflects the anthropogenic impacts to the environment. Figure 4 shows sediment sampling locations from a comprehensive sampling event in 2004. Table 3 gives the summary analytical results. Only metals, PCBs, PAHs, and common parameters are shown; SVOC and VOC analyses returned negligible detections. Highlighted in red in the tables are measurements that exceed TACO Residential or Industrial ingestion values. The presence of concentrations of compounds in the sediment above metropolitan background concentrations constitutes a REC. However, the risk to the project from these materials is low since the sediment will be isolated and ingestion will not be possible. In addition, the selected placement method of broadcasting a thin layer of cover material over the sediment will result in minimal disturbance to the existing conditions. Minimizing the disturbance of sediment lowers the risk of a release to the environment. Although the sediment condition represents a REC, the risk to the project has been minimized to the extent possible and the extent of sediment related work has been minimized to control costs.

7. No investigation can completely eliminate the risk posed by existing environmental conditions. This review has been undertaken to ensure that the identified RECs have been avoided to the maximum extent possible and to ensure that information is consistent and complete. It is recommended that a future review of the regulatory status and existing conditions be conducted prior to design, to document the minimization of risks and any cost impacts to the project that are identified at that time.

8. Questions regarding this memo should be addressed to the undersigned, at 312-846-5505 or jennifer.miller@usace.army.mil.

JENNIFER MILLER, PhD, PE
Chief, Environmental Engineering Team

Table 1: Summary of “Peoples Gas” facilities near project area

Site name	**Site Address**	**USEPA ID Number**	**Proximity to South Fork, South Branch of Chicago River**	**Site Status**
Peoples Gas Light & Coke – 22nd Street	2200 South Racine and Cermak	ILD982074767	Not adjacent; this property is north of the South Branch.	CERCLIS listed; “cleaned up” as of 12/14/2009.
Peoples Gas Light & Coke Co	2600 S. Loomis	ILR000108514	Adjacent to South Branch, but not to project area along the South Fork.	Operating facility with RCRA SQG status, biennial hazardous waste reporting.
Peoples Gas Throop Street Former MGP (also listed as Peoples Gas - Throop St. Station)	2625 Loomis Avenue (also listed as intersection of Throop and Eleanor and Loomis)	ILN000510194	South of South branch, not adjacent to project.	CERCLIS listed, referred for further assessment, but no action since 2009.
Peoples Gas Light & Coke Co	3050 S. Pitney Ct	ILN000510196	Adjacent to project area.	This address returns no listings in the FRS database, but the same facility number is shown for an adjacent address, below.
Peoples Gas Light & Coke Co (also listed as Peoples Gas Pitney Court Former MGP)	3052 S. Pitney Ct	ILN000510196	Adjacent to project area.	CERCLIS listed; “cleaned up” as of 08/01/2009
Peoples Gas South Station Former MGP (also listed as Peoples Gas – South Station)	N of Eleanor St. at Loomis	ILN000510191	At the end of the project area, where the South Fork splits from the South Branch.	CERCLIS listed, No Further Remediation Letter 4/12/2013. Site had comprehensive clean-up and is approved for residential use. Institutional control = groundwater use restriction; engineered barrier = clean soil barrier

Table 2: Potential RECs

Site address	Site name	EPA ID number (if available)	Site issues	Riparian Planting Area? High Risk?
1201 W 37th Street	Kentex Corp Unichem Corp (listed at 1201 W 37th St –b)	ILD047025697 (for Kentex)	RCRA SQG, no violations	Yes. Low risk due to current lack of violations.
1215 W 37th Street	Unichem WL Jackson Manufacturing Co (listed at 1215 W 37th St B)	ILD057864944 (for Jackson Manufacturing)	Jackson Manufacturing is a past RCRA generator, currently inactive and with no violations.	No; not adjacent to waterway. Low risk because not included in project.
2808 S Eleanor Street	Speedway Wrecking Co	NA	LUST, NFR letter dated 04/12/2013	No; outside project area. Low risk because not included in project.
2841 South Ashland Avenue	Compass Rose Boat Club	ILD0479075555	• Listed as a LUST (non-petroleum) with an owner of Valspar. NFR letter dated 10/26/1990 (no other details available). • Listed under the Site Remediation Program as "Federal International Chemical" with an NFR letter dated 2/7/2003. The site had an comprehensive cleanup, and is approved for industrial/commercial use. There is a groundwater use restriction, and an engineered barrier consisting of asphalt/concrete/building foundation. • As "Engineered Polymer Solutions Inc (DBA Valspar Coatings)" the site is listed as an inactive RCRA generator, and an inactive CWA permitted facility.	No riparian planting on this property. Low risk due to avoiding work on the property.

Site address	Site name	EPA ID number (if available)	Site issues	Riparian Planting Area? High Risk?
1400 W 32nd Street	Prairie Material Sales, Inc	ILR000023531	Listed as having a diesel LUST, with an NFR letter dated 12/21/2004 (no additional details available). This site is also a RCRA CESQG with no violations.	Yes. Low risk due to current lack of violations.
3615 S Iron Street	Midwest Cargo	ILR000000596	RACRA SQG with no violations.	Yes. Low risk due to current lack of violations.
1200 W 37th Street	Midland Metals	ILD005120118	RCRA CESQG with no violations. This facility is also an air emitter apparently in violation of the State Implementation Plan.	Yes. Low risk due to current lack of land violations.
2733 S Ashland Avenue	Chicago Origin Site – I&M Canal	NA	This site is listed as having had various underground storage tanks for diesel fuel, gasoline, and other substances. Although the tanks are reported as being 'removed', there has been no closure of these tanks and the conditions and status are not known.	No riparian work planned on this parcel. Low risk due to avoiding work on this property.
3333 S Iron Street	Iron St Urban Farm Compost Factory	ILR000135160	Listed under Acme Motor Freight Service at the same address, this site had a LUST with a NFR letter dated 5/7/1996. Listed as a RCRA SQG with no violations. This facility composts organic (plant based) wastes and is listed with IEPA final solid waste permit action dates of 06/20/2013 and 08/29/2013.	Yes. Low risk due to current lack of violations.
1300 W 35th Street	Chyrstal Windows and Doors (LEVCO Properties)	ILR000030320	With an owner listed as LEVCO Associated Properties, this property had a LUST with a NFR letter dated 8/12/2013. The site is also listed as an inactive RCRA generator site, with no violations.	Yes. Low risk due to current lack of violations.

Site address	Site name	EPA ID number (if available)	Site issues	Riparian Planting Area? High Risk?
2828 S Lock Street	Jefferson Smurfit Corp	ILD984917823	This site had a fuel oil tank, which was removed and has a NFR letter dated 1/29/1998. The site is an active RCRA SQG with no violations. The site may be enrolled in the Illinois Site Remediation Program, but no facility information was available.	No; not adjacent to waterway. Low risk because not included in project.
1200 W 35th Street	Chicago Trade Show Leasing Inc South Branch (1200 W 35th St-a)	ILD982635674	Chicago Trade Show Leasing is listed as a RCRA SQG and air emitter. No violations are listed.	Yes. Low risk due to current lack of violations.
3800 – 3802 S Racine Avenue	Acme Reinfing Co Inc	ILR000020917	This facility is a RCRA SQG with no violations.	Yes. Low risk due to current lack of violations.
2600 – 2640 S Loomis Street	Peoples Gas	ILR000108514 ILN000510194 ILN000510191	RCRA generator, CERCLIS listed (See Table 1 for details)	No; not adjacent to project. Low risk because not included in project.

Site address	Site name	EPA ID number (if available)	Site issues	Riparian Planting Area? High Risk?
3105 – 3145 S Ashland Avenue	Southwest Transit Group (3105 S Ashland Ave) Dominicks Store 1100 (3145 S Ashland Ave) FW IL-Riverside/Rivers Edge (3125-3145 S Ashland Ave) Riverside Square (3145 S Ashland Ave – B) Riverside-Riversedge (3145 S Ashland Ave – A)	ILD984774380 (Southwest Transit) ILR000180398 (Dominicks) ILR000021352 and ILR000162263 (Riverside/Rivers Edge) ILR000029785 (Riverside Square)	This address range pertains to a stripmall, so multiple operator/owners are returned during a database search. Southwest Transit Group is listed as an inactive RCRA generator with no violations. Dominicks Store is a closed grocery store, listed as a RCRA SQG with no violations. As Riverside/Rivers Edge the site is listed in the Site Remediation Program with a NFR letter dated 3/30/2012. The site is approved for industrial/commercial use and has groundwater restrictions and an engineered barrier consisting of asphaslt and a building foundation. Under this name the site is an inactive RCRA generator. As Riverside Square the site is listed as an active RCRA SQG with no violations. As Riverside-Riversedge, the site is included in the Site Remediation Program with an NFR letter dated 5/10/2010.	Yes. Low risk due to current lack of violations.
1301 W 35th Street (This site is shown on the figures as 1300 W 35th Street.)	Ryservices	ILD089087787	Listed on the LUST database under the name Continental Envelope, with a NFR letters dated 10/14/1993 , 6/10/1999, and 11/29/1999. The site is also an inactive RCRA site with no violations.	Yes. Low risk due to current lack of violations.

Site address	Site name	EPA ID number (if available)	Site issues	Riparian Planting Area? High Risk?
1400 W 31st Street	Chicago Plating Inc	ILR000152843	This site is listed as having "unresolved violations" related to RCRA, including failing to meet permit, manifesting issues, lack of emergency preparedness, and other violations. This site is a metal electroplating site with a RCRA SQG permit that is not in compliance. It is not possible from the limited database information available to determine the extent of any site contamination that may be associated with the violations.	No, not adjacent to waterway. Low risk due to avoiding work on this property.
3000-3052 S Pitney Court	Peoples Gas	ILN000510196	CERCLIS listed, remediated (See Table 1 for details)	No. Low risk due to avoiding work on this property.
2800 South Lock Street	Earthgrains Co	NA	This site is listed as having one or more gasoline LUST. The site classification is high (additional corrective action is required), and the site remains unresolved.	No, not included in project area. Low risk due to avoiding work on this property.

Figure 1: Upper Reach Riparian Plantings

Bubbly Creek Riparian Plantings

U.S. Army Corps of Engineers
Chicago District

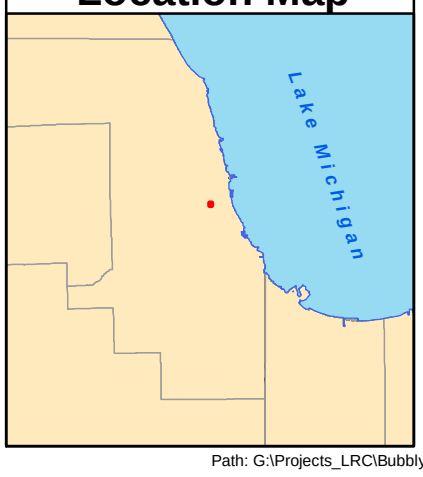
Legend

Parcels

Riparian Planting

*Ordinary High Water Mark is 577.1 Feet

Location Map



Date: 9/12/2014

N
W E
S

1 in = 150 feet

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum: North American 1983

Path: G:\Projects_LRC\Bubbly_Creek\MXD\Bubbly Creek Riparian Plantings.mxd

Figure 2: Middle Reach Riparian Plantings

Bubbly Creek Riparian Plantings

U.S. Army Corps of Engineers
Chicago District

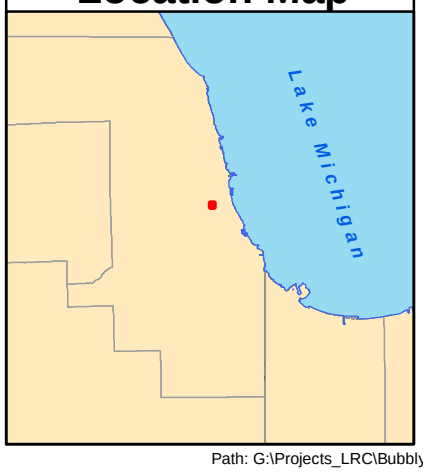
Legend

Parcels

Riparian Planting

*Ordinary High Water Mark is 577.1 Feet

Location Map



Date: 9/12/2014

N
W E
S

1 in = 250 feet

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum: North American 1983

Path: G:\Projects_LRC\Bubbly_Creek\MXD\Bubbly Creek Riparian Plantings.mxd

Figure 3: Lower Reach Riparian Plantings

Bubbly Creek Riparian Plantings

U.S. Army Corps of Engineers
Chicago District

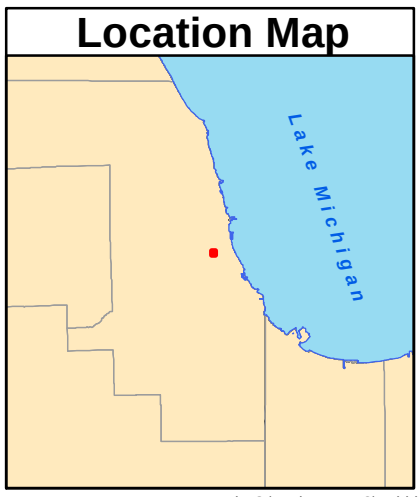
Legend

Parcels

Riparian Planting

*Ordinary High Water Mark is 577.1 Feet

Location Map



Date: 9/12/2014

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1 in = 250 feet

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Projection: Transverse Mercator
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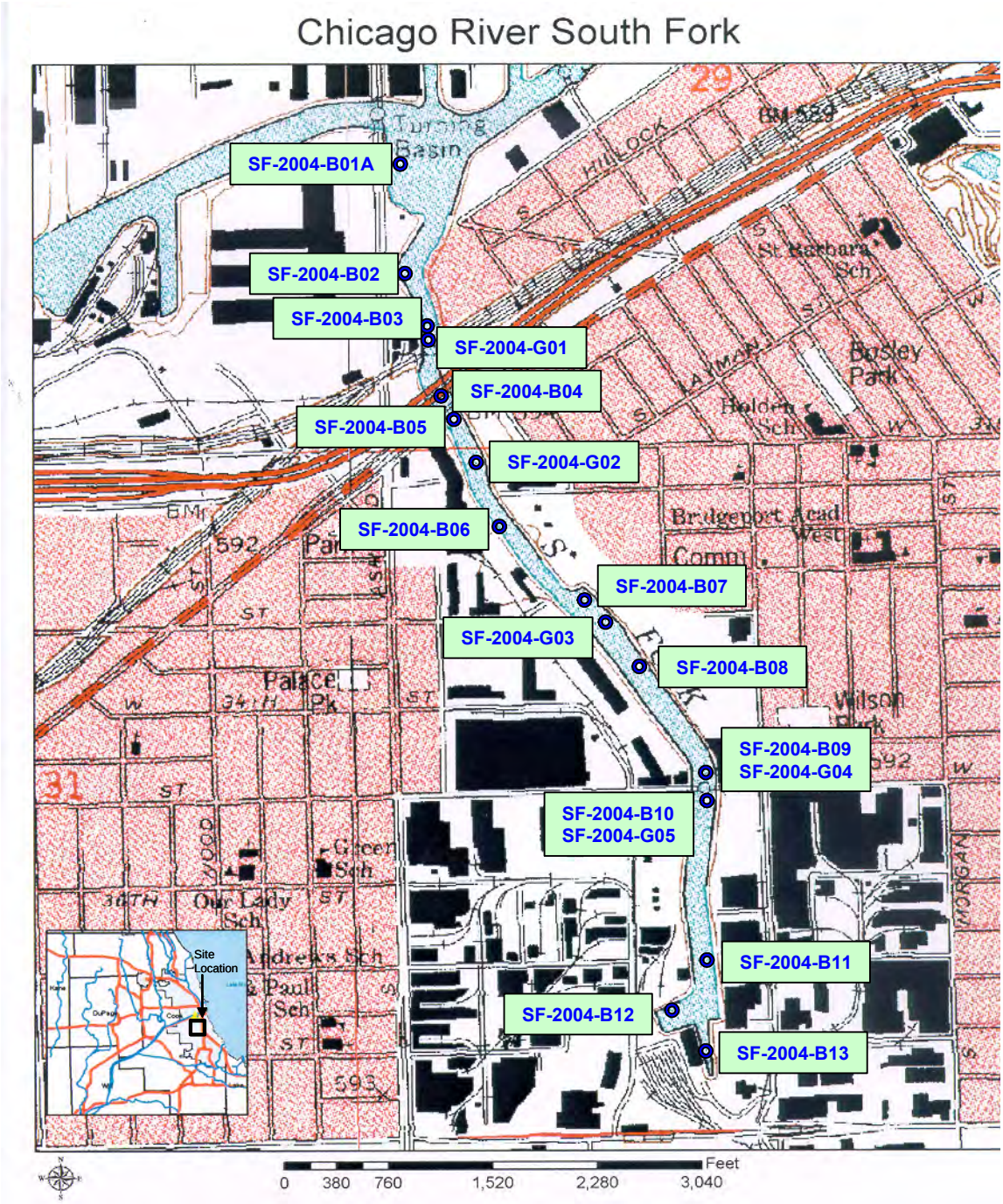
Figure 4

Sediment Sampling Locations, April 2004



Map Source: Topo Zone 2003

Table 3: Bubbly Creek Sediment Data - CDM 2005 Report

CAS Rn	Chemical	Analytic Metho	Sample Location Sample Matrix Unit Date:	TACO Residential Ingestion mg/kg	TACO Commercial/Indus Ingestion mg/kg	SF-2004-B01A Boring 01 Sediment 4/20/2004		SF-2004-B02 Boring 02 Sediment 4/21/2004		SF-2004-B03 Boring 03 Sediment 4/21/2004		SF-2004-B04 Boring 04 Sediment 4/20/2004		SF-2004-B05 Boring 05 Sediment 4/21/2004		SF-2004-D05 Boring 05 Dup Sed. (Duplicate 4/21/2004		SF-2004-B06 Boring 06 Sediment 4/21/2004	
Metals																			
7440-38-2	Arsenic	SW6010B-S	mg/Kg	750 (Inhalation)	1200 (Inhalation)	24.4		28.4		26.8		25.2		26		34.1		13.9	
7440-39-3	Barium	SW6010B-S	mg/Kg	5500	140000	418		502		554		499		424		572		180	
7440-43-9	Cadmium	SW6010B-S	mg/Kg	78	2000	28.5		20.6		20.2		20.3		17.2		24.6		1.9	
7440-47-3	*Chromium*	SW6010B-S	mg/Kg	230 (Total)	6100 (Total)	*2930*	N	*4440*	N	*436*	N	*474*	N	*769*	N	*1490*	N	*413*	N
7440-50-8	Copper	SW6010B-S	mg/Kg	2900	82000	361		473		444		434		396		534		104	
7439-92-1	Lead	SW6010B-S	mg/Kg	400	800	891		1640		2420		2060		1740		2290		253	
7440-02-0	Nickel	SW6010B-S	mg/Kg	1600	41000	111		167		145		149		162		247		26.2	
7782-49-2	Selenium	SW6010B-S	mg/Kg	390	10000	5.3		6.4		4.6		4.5		4.8		6.8		4.6	
7440-22-4	Silver	SW6010B-S	mg/Kg	390	10000	9		14.9		36.4		29.8		28.5		35.6		0.12	U
7440-66-6	Zinc	SW6010B-S	mg/Kg	23000	610000	6210		6260		4930		3810		4450		4830		559	
7439-97-6	Mercury	SW7471A-S	mg/Kg	23	610	5.9		13.9		10.2		8.6		6.9		8.7		2.2	
57-12-5	Cyanide	SW9012B-S	mg/Kg	1600 (Amenable)	41000 (Amenable	1.2	BN	9.3	N	8.1	N	6.3	N	3.1	N	5.6	N	0.69	BN
Total						10995		13576		9035		7521		8028		10078		1559	

Notes:
B = Boring/Core sample
G = Grab sample
SF = South Fork South Branch Chicago River
mg/Kg = milligrams per kilogram

Data Qualifiers:
U - Compound was analyzed for but not detected (Undetected)
B - reported value is less than reporting limit, but greater than instrument detection limit
N - Presumptive evidence of the identity of the analyte

2930 Exceeds TACO Residential Ingestion
891 Exceeds TACO Commercial/Industrial Ingestion

Bubbly Creek Sediment Data - CDM 2005 Report

CAS Rn	Chemical	Analytic Metho	Sample Location Sample Matrix Unit Date:	TACO Residential Ingestion mg/kg	TACO Commercial/Indus Ingestion mg/kg	SF-2004-B07 Boring 07 Sediment 4/21/2004		SF-2004-B08 Boring 08 Sediment 4/21/2004		SF-2004-B09 Boring 09 Sediment 4/21/2004		SF-2004-B10 Boring 10 Sediment 4/22/2004		SF-2004-B11 Boring 11 Sediment 4/22/2004		SF-2004-B12 Boring 12 Sediment 4/22/2004		SF-2004-B13 Boring 13 Sediment 4/22/2004	
Metals																			
7440-38-2	Arsenic	SW6010B-S	mg/Kg	750 (Inhalation)	1200 (Inhalation)	19.7		13.5		35.2		12.7		8.4		25.4		12.7	
7440-39-3	Barium	SW6010B-S	mg/Kg	5500	140000	467		287		656		397		379		659		108	
7440-43-9	Cadmium	SW6010B-S	mg/Kg	78	2000	12.2		8		23.4		10.9		5.6		17.1		0.89	
7440-47-3	*Chromium*	SW6010B-S	mg/Kg	230 (Total)	6100 (Total)	*353*	N	196	N	*537*	N	*277*	N	142	N	*336*	N	55.1	N
7440-50-8	Copper	SW6010B-S	mg/Kg	2900	82000	363		273		486		419		238		526		92	
7439-92-1	Lead	SW6010B-S	mg/Kg	400	800	2460		1140		2820		1270		906		2140		263	
7440-02-0	Nickel	SW6010B-S	mg/Kg	1600	41000	106		75		175		101		56		119		39	
7782-49-2	Selenium	SW6010B-S	mg/Kg	390	10000	4		2.6	B	6		3.2		2.3	B	5.1		1.4	B
7440-22-4	Silver	SW6010B-S	mg/Kg	390	10000	70.4		31.9		28.6		30.7		10		66.1		2.3	
7440-66-6	Zinc	SW6010B-S	mg/Kg	23000	610000	2240		1410		6600		1590		940		5170		207	
7439-97-6	Mercury	SW7471A-S	mg/Kg	23	610	7.3		5		12		15.9		2.6		11.7		2.6	
57-12-5	Cyanide	SW9012B-S	mg/Kg	1600 (Amenable)	41000 (Amenable	5.5	N	5.6	N	9.3	N	1.1	BN	0.49	BN	2.1	BN	0.84	BN
Total						6108		3448		11389		4129		2690		9078		785	

Notes:
B = Boring/Core sample
G = Grab sample
SF = South Fork South Branch Chicago River
mg/Kg = milligrams per kilogram

Data Qualifiers:
U - Compound was analyzed for but not detected (Undetected)
B - reported value is less than reporting limit, but greater than instrument detection limit
N - Presumptive evidence of the identity of the analyte

2930 Exceeds TACO Residential Ingestion
891 Exceeds TACO Commercial/Industrial Ingestion

Bubbly Creek Sediment Data - CDM 2005 Report

CAS Rn	Chemical	Analytic Metho	Sample Location Sample Matrix Unit Date:	TACO Residential Ingestion mg/kg	TACO Commercial/Indus Ingestion mg/kg	SF-2004-G01 Grab 01 Sediment 4/22/2004		SF-2004-G02 Grab 02 Sediment 4/22/2004		SF-2004-G03 Grab 03 Sediment 4/21/2004		SF-2004-G04 Grab 04 Sediment 4/21/2004		SF-2004-G05 Grab 05 Sediment 4/22/2004	
Metals															
7440-38-2	Arsenic	SW6010B-S	mg/Kg	750 (Inhalation)	1200 (Inhalation)	5.6		7.4		4.3		3.3		2.6	
7440-39-3	Barium	SW6010B-S	mg/Kg	5500	140000	122		153		117		98.1		43	
7440-43-9	Cadmium	SW6010B-S	mg/Kg	78	2000	2.1		2.4		1.4		2.1		1.5	
7440-47-3	*Chromium*	SW6010B-S	mg/Kg	230 (Total)	6100 (Total)	58.1	N	71.3	N	40	N	31.1	N	30.8	N
7440-50-8	Copper	SW6010B-S	mg/Kg	2900	82000	139		164		138		79.8		106	
7439-92-1	Lead	SW6010B-S	mg/Kg	400	800	326		285		232		165		136	
7440-02-0	Nickel	SW6010B-S	mg/Kg	1600	41000	22.2		25.5		19.3		66.7		11.4	
7782-49-2	Selenium	SW6010B-S	mg/Kg	390	10000	1.6	B	2.3	B	1.3	B	0.91	B	0.63	B
7440-22-4	Silver	SW6010B-S	mg/Kg	390	10000	6.8		4.1		7.5		4.7		3.8	
7440-66-6	Zinc	SW6010B-S	mg/Kg	23000	610000	395		512		383		329		291	
7439-97-6	Mercury	SW7471A-S	mg/Kg	23	610	0.72		1		0.72		3		1.6	
57-12-5	Cyanide	SW9012B-S	mg/Kg	1600 (Amenable)	41000 (Amenable	0.72	BN	0.86	BN	0.56	BN	0.33	UN	0.33	UN
Total						1080									

Notes:
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Data Qualifiers:
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2930 Exceeds TACO Residential Ingestion
891 Exceeds TACO Commercial/Industrial Ingestion

Bubbly Creek Sediment Data - CDM 2005 Report

CAS Rn	Chemical Name	Analytic Method	Sample Location Sample Matrix Unit Date:	TACO Residential Ingestion ug/kg	TACO Commercial/Indus Ingestion ug/kg	SF-2004-B01A Boring 01 Sediment 4/21/2004		SF-2004-B02 Boring 02 Sediment 4/20/2004		SF-2004-B03 Boring 03 Sediment 4/20/2004		SF-2004-B04 Boring 04 Sediment 4/21/2004		SF-2004-B05 Boring 05 Sediment 4/21/2004		SF-2004-D05 Boring 05 Dup Sed. (Duplicate 4/21/2004		SF-2004-B06 Boring 06 Sediment 4/21/2004	
PAH-SIM																			
91-20-3	Naphthalene	PAH_SIM	UG/KG	1600000	41000000	4600		2100		1000		600		1700		3100		870	
91-57-6	2-Methylnaphthalene	PAH_SIM	UG/KG			5500		1300		8000	E	10000	E	13000	E	21000	E	4600	E
208-96-8	Acenaphthylene	PAH_SIM	UG/KG			2600		350		500		740		630		1300		280	
83-32-9	Acenaphthene	PAH_SIM	UG/KG	4700000	12000000	3500		3600		1500		2300		1700		3300		1500	
86-73-7	Fluorene	PAH_SIM	UG/KG	3100000	82000000	5100		4100		2700		3600		2800		4700		1900	
85-01-8	Phenanthrene	PAH_SIM	UG/KG			23000	E	46000	E	12000	E	14000	E	12000	E	24000	E	8100	E
120-12-7	Anthracene	PAH_SIM	UG/KG	23000000	610000000	6800		8100		1800		2100		1800		4100		880	
206-44-0	Fluoranthene	PAH_SIM	UG/KG	3100000	82000000	28000	E	64000	E	14000	E	15000	E	11000	E	20000	E	10000	E
129-00-0	Pyrene	PAH_SIM	UG/KG	2300000	61000000	24000	E	46000	E	12000	E	16000	E	8800	E	17000	E	7700	E
56-55-3	Benzo(a)anthracene	PAH_SIM	UG/KG	900	8000	12000	E	22000	E	*4900*		*5000*		*3800*		*7700*		*4000*	
218-01-9	Chrysene	PAH_SIM	UG/KG	88000	780000	14000	E	24000	E	6900		9200	E	4800		10000		4300	
205-99-2	Benzo(b)fluoranthene	PAH_SIM	UG/KG	900	8000	15000	E	20000	E	8500	E	8400	E	5600		9800		5800	E
207-08-9	*Benzo(k)fluoranthene*	PAH_SIM	UG/KG	9000	78000	4900		*10000*	E	3400		3700		2600		3000		*1800*	
50-32-8	Benzo(a)pyrene	PAH_SIM	UG/KG	90	800	13000	E	17000	E	4600		4900		3700		5800		3400	
193-39-5	Indeno(1,2,3-cd)pyrene	PAH_SIM	UG/KG	900	8000	*3000*		*7000*		*2200*		*1500*		*1300*		*2100*		*940*	
53-70-3	Dibenz(a,h)anthracene	PAH_SIM	UG/KG	90	800	1200		2600		870		*570*		*500*		*680*		*290*	
191-24-2	Benzo(g,h,i)perylene	PAH_SIM	UG/KG			2800		8200		2200		1700		1400		2100		1000	
Total						169,000		286,350		87,070		99,310		77,130		139,680		57,360	
LMW-PAHs						79,100		129,550		41,500		48,340		44,630		81,500		28,130	
HMW-PAHs						89,900		156,800		45,570		50,970		32,500		58,180		29,230	

Notes:
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DL = Dilution
G = Grab sample
SF = South Fork South Branch Chicago River
UG/KG = micrograms per kilogram
PAH-SIM = Polynuclear Aromatic Hydrocarbons - Selective Ion Monitoring

Data Qualifiers:
U - Compound was analyzed for but not detected (Undetected)
J - Estimated concentration
D - Compound is identified at a secondary dilution factor
E = Above calibration range

570 Exceeds TACO Residential Ingestion
12000 Exceeds TACO Commercial/Industrial Ingestion

LMW-PAHs: Naphthalene, 2-Methynaphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene
HMW-PAHs: Pyrene, Benzo(a)fluoranthene, Benzo(k)Fluoranthene, Benzo(a)pyrene, Indeno(123-cd)pyrene, Dibenz(ah)anthracene, Benzo(ghi)perylene

Bubbly Creek Sediment Data - CDM 2005 Report

CAS Rn	Chemical Name	Analytic Method	Sample Location Sample Matrix Unit Date:	TACO Residential Ingestion ug/kg	TACO Commercial/Indus Ingestion ug/kg	SF-2004-B07 Boring 07 Sediment 4/21/2004		SF-2004-B08 Boring 08 Sediment 4/21/2004		SF-2004-B09 Boring 09 Sediment 4/21/2004		SF-2004-B10 Boring 10 Sediment 4/22/2004		SF-2004-B11 Boring 11 Sediment 4/22/2004		SF-2004-B12 Boring 12 Sediment 4/22/2004		SF-2004-B13 Boring 13 Sediment 4/22/2004	
PAH-SIM																			
91-20-3	Naphthalene	PAH_SIM	UG/KG	1600000	41000000	480		1400		1900		4900		5600		1400		10000	E
91-57-6	2-Methylnaphthalene	PAH_SIM	UG/KG			430		9400	E	18000	E	14000	E	4100		12000	E	4200	E
208-96-8	Acenaphthylene	PAH_SIM	UG/KG			220		440		780		720		430		580		620	
83-32-9	Acenaphthene	PAH_SIM	UG/KG	4700000	12000000	1400		2100		2900		4000		6800	E	2600		9100	E
86-73-7	Fluorene	PAH_SIM	UG/KG	3100000	82000000	1800		3600		5600		5800		7100	E	3600		11000	E
85-01-8	Phenanthrene	PAH_SIM	UG/KG			23000	E	17000	E	33000	E	48000	E	96000	E	18000	E	130000	E
120-12-7	Anthracene	PAH_SIM	UG/KG	23000000	610000000	13000	E	2000		5300		6000		13000	E	1900		18000	E
206-44-0	Fluoranthene	PAH_SIM	UG/KG	3100000	82000000	71000	E	20000	E	38000	E	54000	E	110000	E	17000	E	140000	E
129-00-0	Pyrene	PAH_SIM	UG/KG	2300000	61000000	40000	E	15000	E	25000	E	35000	E	72000	E	13000	E	100000	E
56-55-3	Benzo(a)anthracene	PAH_SIM	UG/KG	900	8000	14000	E	*7400*	E	13000	E	18000	E	26000	E	*7200*		40000	E
218-01-9	Chrysene	PAH_SIM	UG/KG	88000	780000	9800	E	9600	E	13000	E	17000	E	25000	E	7000		41000	E
205-99-2	Benzo(b)fluoranthene	PAH_SIM	UG/KG	900	8000	12000	E	8900	E	21000	E	26000	E	61000	E	11000	E	96000	E
207-08-9	*Benzo(k)fluoranthene*	PAH_SIM	UG/KG	9000	78000	4000		3100		5700		*11000*	E	*19000*	E	5000		*36000*	E
50-32-8	Benzo(a)pyrene	PAH_SIM	UG/KG	90	800	7200	E	6000		12000	E	18000	E	30000	E	5100		50000	E
193-39-5	Indeno(1,2,3-cd)pyrene	PAH_SIM	UG/KG	900	8000	*1400*		*1700*		*3200*		*5800*		*5800*	E	*1100*		11000	E
53-70-3	Dibenz(a,h)anthracene	PAH_SIM	UG/KG	90	800	*630*		*660*		1000		1700		2200		*440*		3800	
191-24-2	Benzo(g,h,i)perylene	PAH_SIM	UG/KG			1200		2000		3500		5300		5000		1300		9100	E
Total						201,560		110,300		202,880		275,220		489,030		108,220		709,820	
LMW-PAHs						111,330		55,940		105,480		137,420		243,030		57,080		322,920	
HMW-PAHs						90,230		54,360		97,400		137,800		246,000		51,140		386,900	

Notes:
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UG/KG = micrograms per kilogram
PAH-SIM = Polynuclear Aromatic Hydrocarbons - Selective Ion Monitoring

Data Qualifiers:
U - Compound was analyzed for but not detected (Undetected)
J - Estimated concentration
D - Compound is identified at a secondary dilution factor
E = Above calibration range

570 Exceeds TACO Residential Ingestion
12000 Exceeds TACO Commercial/Industrial Ingestion

LMW-PAHs: Naphthalene, 2-Methynaphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrer
HMW-PAHs: Pyrene, Benzo(a)fluoranthene, Benzo(k)Fluoranthene, Benzo(a)pyrene, Indeno(123-cd)pyre

Bubbly Creek Sediment Data - CDM 2005 Report

CAS Rn	Chemical Name	Analytic Method	Sample Location Sample Matrix Unit Date:	TACO Residential Ingestion ug/kg	TACO Commercial/Indus Ingestion ug/kg	SF-2004-B13DL Boring 13 (Dilution Sediment 4/22/2004		SF-2004-G01 Grab 01 Sediment 4/20/2004		SF-2004-G02 Grab 02 Sediment 4/20/2004		SF-2004-G03 Grab 03 Sediment 4/21/2004		SF-2004-G04 Grab 04 Sediment 4/22/2004		SF-2004-G05 Grab 05 Sediment 4/22/2004	
PAH-SIM																	
91-20-3	Naphthalene	PAH_SIM	UG/KG	1600000	41000000	8600	D	870		660		780		300		120	
91-57-6	2-Methylnaphthalene	PAH_SIM	UG/KG			4100	D	730		810		5100		320		170	
208-96-8	Acenaphthylene	PAH_SIM	UG/KG			650	D	780		260		240		56		47	
83-32-9	Acenaphthene	PAH_SIM	UG/KG	4700000	12000000	8100	D	1200		920		940		320		180	
86-73-7	Fluorene	PAH_SIM	UG/KG	3100000	82000000	9100	D	1500		1200		1500		400		220	
85-01-8	Phenanthrene	PAH_SIM	UG/KG			94000	DE	11000	E	10000	E	8200	E	3700		2000	
120-12-7	Anthracene	PAH_SIM	UG/KG	23000000	610000000	14000	DE	3100		2600		1200		770		370	
206-44-0	Fluoranthene	PAH_SIM	UG/KG	3100000	82000000	110000	DE	20000	E	18000	E	11000	E	6900	E	3800	
129-00-0	Pyrene	PAH_SIM	UG/KG	2300000	61000000	97000	DE	12000	E	13000	E	7500	E	5100	E	3100	
56-55-3	Benzo(a)anthracene	PAH_SIM	UG/KG	900	8000	31000	DE	*6000*	E	*6900*		*3500*		*2100*		*1100*	
218-01-9	Chrysene	PAH_SIM	UG/KG	88000	780000	42000	DE	7000	E	7000		5200		2600		1100	
205-99-2	Benzo(b)fluoranthene	PAH_SIM	UG/KG	900	8000	47000	DE	*7000*	E	9200	E	*5600*	E	*2700*		*1400*	
207-08-9	*Benzo(k)fluoranthene*	PAH_SIM	UG/KG	9000	78000	*21000*	DE	3200		2700		2300		1400		470	
50-32-8	Benzo(a)pyrene	PAH_SIM	UG/KG	90	800	36000	DE	5400		5700		3800		2100		1000	
193-39-5	Indeno(1,2,3-cd)pyrene	PAH_SIM	UG/KG	900	8000	13000	DE	*2400*		*2400*		*1100*		*720*		*450*	
53-70-3	Dibenz(a,h)anthracene	PAH_SIM	UG/KG	90	800	3700	D	840		*730*		*420*		*230*		*140*	
191-24-2	Benzo(g,h,i)perylene	PAH_SIM	UG/KG			14000	DE	2700		2600		1100		880		400	
Total						553,250		85,720		84,680		59,480		30,596		16,067	
LMW-PAHs						248,550		39,180		34,450		28,960		12,766		6,907	
HMW-PAHs						304,700		46,540		50,230		30,520		17,830		9,160	

Notes:
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UG/KG = micrograms per kilogram
PAH-SIM = Polynuclear Aromatic Hydrocarbons - Selective Ion Monitoring

Data Qualifiers:
U - Compound was analyzed for but not detected (Undetected)
J - Estimated concentration
D - Compound is identified at a secondary dilution factor
E = Above calibration range

570 Exceeds TACO Residential Ingestion
12000 Exceeds TACO Commercial/Industrial Ingestion

LMW-PAHs: Naphthalene, 2-Methynaphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrer
HMW-PAHs: Pyrene, Benzo(a)fluoranthene, Benzo(k)Fluoranthene, Benzo(a)pyrene, Indeno(123-cd)pyre

Bubbly Creek Sediment Data - CDM 2005 Report

CAS Rn	Chemical Name	Analytic Me	Sample Location Matrix Unit	Date	TACO Residentia Ingestion ug/kg	TACO Commercia Ingestion ug/kg	SF-2004-B01A Boring 01 Sediment 4/21/2004		SF-2004-B02 Boring 02 Sediment 4/20/2004		SF-2004-B03 Boring 03 Sediment 4/20/2004		SF-2004-B04 Boring 04 Sediment 4/21/2004		SF-2004-B05 Boring 05 Sediment 4/21/2004		SF-2004-D05 Dup Boring 05 Sed. (Duplicate 4/21/2004		SF-2004-B06 Boring 06 Sediment 4/21/2004		SF-2004-B07 Boring 07 Sediment 4/21/2004		SF-2004-B08 Boring 08 Sediment 4/21/2004		SF-2004-B09 Boring 09 Sediment 4/21/2004	
PCBs																										
12674-11-2	Aroclor-1016	SW8082	UG/KG		1000	1000	72	U	460	U	760	U	630	U	670	U	99	U	43	U	680	U	680	U	800	U
11104-28-2	Aroclor-1221	SW8082	UG/KG		1000	1000	72	U	460	U	760	U	630	U	670	U	99	U	43	U	680	U	680	U	800	U
11141-16-5	Aroclor-1232	SW8082	UG/KG		1000	1000	72	U	460	U	760	U	630	U	670	U	99	U	43	U	680	U	680	U	800	U
53469-21-9	Aroclor-1242	SW8082	UG/KG		1000	1000	72	U	460	U	760	U	630	U	670	U	99	U	43	U	680	U	680	U	800	U
12672-29-6	Aroclor-1248	SW8082	UG/KG		1000	1000	1300		5200		5900		7700		4400		2300		43	U	4900		6700		7900	
11097-69-1	Aroclor-1254	SW8082	UG/KG		1000	1000	72	U	460	U	760	U	630	U	670	U	99	U	43	U	680	U	680	U	800	U
11096-82-5	Aroclor-1260	SW8082	UG/KG		1000	1000	600		2800		3300	P	3300	P	2500	P	1700	P	43	U	2400	P	2200	P	2400	P

Notes:
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UG/KG = micrograms per kilogram

Data Qualifiers:
U - Compound was analyzed for but not detected (Undetected)
P - difference between column and confirmation column is > 25%.

2930 Exceeds TACO Residential Ingestion
1300 Exceeds TACO Commercial/Industrial Ingestion

Bubbly Creek Sediment Data - CDM 2005 Report

CAS Rn	Chemical Name	Analytic Me	Sample Location Matrix Unit	Date	TACO Residentia Ingestion ug/kg	TACO Commerci Ingestion ug/kg	SF-2004-B10 Boring 10 Sediment 4/22/2004		SF-2004-B11 Boring 11 Sediment 4/22/2004		SF-2004-B12 Boring 12 Sediment 4/22/2004		SF-2004-B13 Boring 13 Sediment 4/22/2004		SF-2004-G01 Grab 01 Sediment 4/20/2004		SF-2004-G02 Grab 02 Sediment 4/20/2004		SF-2004-G03 Grab 03 Sediment 4/21/2004		SF-2004-G04 Grab 04 Sediment 4/21/2004		SF-2004-G05 Grab 05 Sediment 4/22/2004	
PCBs																								
12674-11-2	Aroclor-1016	SW8082	UG/KG		1000	1000	700	U	57	U	800	U	42	U	59	U	80	U	53	U	46	U	43	U
11104-28-2	Aroclor-1221	SW8082	UG/KG		1000	1000	700	U	57	U	800	U	42	U	59	U	80	U	53	U	46	U	43	U
11141-16-5	Aroclor-1232	SW8082	UG/KG		1000	1000	700	U	57	U	800	U	42	U	59	U	80	U	53	U	46	U	43	U
53469-21-9	Aroclor-1242	SW8082	UG/KG		1000	1000	700	U	57	U	800	U	42	U	59	U	80	U	53	U	46	U	43	U
12672-29-6	Aroclor-1248	SW8082	UG/KG		1000	1000	8000		870		4900		310		280		460		53	U	100	P	110	P
11097-69-1	Aroclor-1254	SW8082	UG/KG		1000	1000	700	U	57	U	800	U	42	U	59	U	80	U	53	U	46	U	43	U
11096-82-5	Aroclor-1260	SW8082	UG/KG		1000	1000	2200	P	1000		2500	P	840		490		910		510		360		480	

Notes:
B = Boring/Core sample
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SF = South Fork South Branch Chicago River
UG/KG = micrograms per kilogram

2930 Exceeds TACO Residential Ingestion
1300 Exceeds TACO Commercial/Industrial Ingestion

Data Qualifiers:
U - Compound was analyzed for but not detected (Undetected)
P - difference between column and confirmation column is > 25%.

Bubbly Creek Sediment Data - CDM 2005 Report

CAS Rn	Chemical Name	Analytic Metho	Sample Location Sample Matr Unit Date:	SF-2004-B01A Boring 01 Sediment 4/21/2004		SF-2004-B02 Boring 02 Sediment 4/20/2004		SF-2004-B03 Boring 03 Sediment 4/20/2004		SF-2004-B04 Boring 04 Sediment 4/21/2004		SF-2004-B05 Boring 05 Sediment 4/21/2004		SF-2004-D05 Dup Boring 05 Sed. (Duplicate 4/21/2004		SF-2004-B06 Boring 06 Sediment 4/21/2004		SF-2004-B07 Boring 07 Sediment 4/21/2004		SF-2004-B08 Boring 08 Sediment 4/21/2004		SF-2004-B09 Boring 09 Sediment 4/21/2004	
Wetchem																							
TVS	Total Volatile Solids	E160.4	wt%	22	B	20	B	26	B	26	B	12	B	26	B	11	B	22	B	6.8	B	46	B
7723-14-0	Phosphorus, Total (As P)	E365.2	mg/Kg	610		11000		540		5900		11000		17000		1600		3100		7100		4700	
TOC	Total Organic Carbon	E415.1	mg/Kg	120000		150000		140000		140000		160000		170000		44000		160000		84000		170000	
NH3	Nitrogen, Ammonia	SM4500-NH3	mg/Kg	3200		13000		4100		3900		4700		6700		170		2800		730		3600	
COD	Chemical, Oxygen Demand	SM5220	mg/Kg	2200		3400		4100		1700		1300		6600		390	U	2900		1300		4800	
IGNITB	Ignitibility	SW1010	deg F	No flash up to 119	U	Flash at 124		No flash up to 130	U	No flash up to 125	U	No flash up to 107	U			No flash up to 138	U	No flash up to 135	U	No flash up to 140	U	No flash up to 110	U
RECN	Reactive Cyanide	SW7.3.3.2	mg/Kg	2.2	U	2.8	U	2.3	U	1.9	U	2	U			1.2	U	2	U	2	U	2.3	U
RESF	Reactive Sulfide	SW7.3.4.2	mg/Kg	5200		8200		5000		4100		3200				730		1100		2200		3200	
7440-47-3H	Chromium (+6)	SW7196	mg/Kg	8.56	U	11	U	8.94	U	7.66	U	7.85	U	12.5	U	5.32	U	8.33	U	8.33	U	9.38	U
pH	pH	SW9045	S.U.	7.9		8.1		8.1		8		8		7.8		7.7		7.9		7.6		8.2	
FL	Free Liquid	SW9095	mL/100g	1	U	1	U	1	U	1	U	1	U			10		1	U	1	U	1	U
O&G	Oil & Grease, Total Recover	E1664	mg/Kg	14000		20000		9000		10000		15000		10000		2000		10000		8800		12000	

Notes:
B = Boring/Core sample
G = Grab sample
SF = South Fork South Branch Chicago River
mg/Kg = milligrams per kilogram
wt% = percent (weight basis)
deg F = degrees Fahrenheit
S.U. = standard units
mL/100g = milliliters per 100 grams

Data Qualifiers:
U - Compound was analyzed for but not detected (Undetected)
B - reported value is less than reporting limit, but greater than instrument detection limit

Bubbly Creek Sediment Data - CDM 2005 Report

CAS Rn	Chemical Name	Analytic Methc	Sample Location Sample Matr Unit Date:	SF-2004-B10 Boring 10 Sediment 4/22/2004		SF-2004-B11 Boring 11 Sediment 4/22/2004		SF-2004-B12 Boring 12 Sediment 4/22/2004		SF-2004-B13 Boring 13 Sediment		SF-2004-G01 Grab 01 Sediment		SF-2004-G02 Grab 02 Sediment		SF-2004-G03 Grab 03 Sediment		SF-2004-G04 Grab 04 Sediment		SF-2004-G05 Grab 05 Sediment	
Wetchem																					
TVS	Total Volatile Solids	E160.4	wt%	26	B	7.2	B	21	B	5.4	B	10	B	14	B	3	B	4.3	B	1.8	B
7723-14-0	Phosphorus, Total (As P)	E365.2	mg/Kg	11000		10000		7700		3500		1600	U	3400		1400	U	3000		5800	
TOC	Total Organic Carbon	E415.1	mg/Kg	140000		38000		130000		5900		87000		59000		23000		16000		10000	
NH3	Nitrogen, Ammonia	SM4500-NH3	mg/Kg	3800		800		4800		110		780		1400		160		120		62	
COD	Chemical, Oxygen Demand	SM5220	mg/Kg	4500		780		4900		380	U	540	U	870		680		430		430	
IGNITB	Ignitibility	SW1010	deg F	No flash up to 137	U	No flash up to 137	U	No flash up to 138	U	No flash up to 145	U										
RECN	Reactive Cyanide	SW7.3.3.2	mg/Kg	2	U	1.7	U	2.4	U	1.2	U										
RESF	Reactive Sulfide	SW7.3.4.2	mg/Kg	42		640		910		110											
7440-47-3H	Chromium (+6)	SW7196	mg/Kg	8.83	U	7.01	U	9.96	U	5.06	U	7.23	U	9.56	U	6.3	U	5.46	U	5.28	U
pH	pH	SW9045	S.U.	8.5		8.2		8.4		7.7											
FL	Free Liquid	SW9095	mL/100g	1	U	13		1	U	4											
O&G	Oil & Grease, Total Recover	E1664	mg/Kg	10000		5300		8500		3300		4700		3000		2200		2600		1300	

Notes:
B = Boring/Core sample
G = Grab sample
SF = South Fork South Branch Chicago River
mg/Kg = milligrams per kilogram
wt% = percent (weight basis)
deg F = degrees Fahrenheit
S.U. = standard units
mL/100g = milliliters per 100 grams

Data Qualifiers:
U - Compound was analyzed for but not detected (Undetected)
B - reported value is less than reporting limit, but greater than instrument detection limit

Attachment 5:

Sediment Gas Ebullition and Flux Studies Bubbly Creek, South Fork South Branch, Chicago River Volume 1 of 2: Report with Appendices A-D

UIC Department of Civil and Materials Engineering
UNIVERSITY OF ILLINOIS AT CHICAGO
COLLEGE OF ENGINEERING

SEDIMENT GAS EBULLITION AND FLUX STUDIES BUBBLY CREEK, SOUTH FORK SOUTH BRANCH, CHICAGO RIVER

VOLUME 1 OF 2: REPORT WITH APPENDICES A-D

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ACRONYMS

BCTB	Bubbly Creek turning basin
BC-CDM	Bubbly Creek – Sites from CDM report to USACE (March 2005)
CI	Confidence interval
DO	Dissolved Oxygen
DOC	Dissolved Organic Carbon
HMW	High molecular weight PAHs (5-6 rings)
LMW	Low molecular weight PAHs (2-4 rings)
MWRD	Metropolitan Water Reclamation District
NAPL	Non-aqueous phase liquid
NELAP	National Environmental Laboratory Accreditation Program
OC	Organic carbon
OM	Organic matter
PAH	Polycyclic aromatic hydrocarbons
PVC	Polyvinyl chloride
QA	Quality assurance
QC	quality control
RAPS	Racine Avenue Pump Station
SG	Surface grab
SOD	Sediment oxygen demand
SOP	Standard Operating Procedure
TFP	Total Filtered Phosphorous
T-PAH	Sum 16 USEPA priority pollutant polycyclic aromatic hydrocarbons
UIC	University of Illinois at Chicago
USEPA	United States Environmental Protection Agency
USACE	United States Army Corps of Engineers

EXECUTIVE SUMMARY

Metal contaminant and polycyclic aromatic hydrocarbon (PAH) transport to the water column by gas ebullition and direct benthic flux was determined at Bubbly Creek, in the Chicago River, Chicago, IL. Sediment characterization, gas ebullition and benthic chamber studies were performed in four sediment locations in the turning basin and five locations in the creek proper. The gas flux in Bubbly Creek sediment could be predicted from the following regression equation: $Gas\ Flux(L\ m^2\ d^{-1})=0.25xT(°C)-0.25$. Correlations between *in situ* ebullition-facilitated contaminant fluxes and gas ebullition fluxes, temperature, sediment organic carbon (OC), organic matter, and sediment contaminant concentrations were performed. Gas ebullition was measured in the field with gas collector systems with integral glass wool traps to collect bubble-entrained particulates and non aqueous phase liquids for measuring the ebullition-facilitated contaminant transport. Principle component and multivariate analysis demonstrates that the mechanisms governing flux of metal contaminants due to gas ebullition may be different from those governing PAH flux. Ebullition-facilitated total heavy metal fluxes were statistically significantly increased with field gas flux, resulting in the following equation specific for Bubbly Creek: $Metal\ Flux(mg\ m^2\ d^{-1})=63xGas\ Flux(L\ m^2\ d^{-1})-55$. In contrast to the case with metals, PAH fluxes followed a more complex relationship with temperature and gas flux. Ebullition-facilitated organic contaminant transport likely takes place due to both organic contaminant partitioning and sorption into/onto the gas bubbles from sediment pore water and due to organic particle re-suspension. Thus, it cannot be explained only by temperature and field gas flux. Sediment organic carbon re-suspended by gas ebullition may play a more significant role than total particle re-suspension on ebullition-facilitated PAH flux. Spring and summer ebullition-facilitated metal fluxes were surprisingly large, with resultant fluxes up to 18, 2, 5, 20 and 450 mg m^{-2} d^{-1} for Pb, Cr, Ba, Zn and Fe, respectively. Spring and summer ebullition-facilitated PAH fluxes were up to 0.3, 7.3, 0.4, 0.9 and 5.7 mg m^{-2} d^{-1} for anthracene, fluoranthene, naphthalene, phenanthrene and pyrene, respectively. A benthic flux study was also conducted at each sample site and metal fluxes varied between -0.336 to 1.92, -0.072 to 0.432, -0.360 to 0.624, and -0.384 to 2.21 mg m^{-2} d^{-1} for Pb, Ba, Zn, and Fe, respectively. Although T-PAH flux was up to 0.07 mg m^{-2} d^{-1}, sediment-to-water flux of PAHs at many sites was non-detectable over the flux study time period. Sulfide, ammonia, nitrate, dissolved organic carbon (DOC) and total filtered phosphorous (TFP) flux varied from -0.696 to 1.78, 0.648 to 3.34, -2.95 to 0.336, -0.168 to 0.816 and -1.75 to 0.288 mg m^{-2} d^{-1}, respectively. Sediment oxygen demand (SOD) was statistically significantly higher in the

turning basin compared to the creek proper, with SOD up to 5 mg m^2 d^{-1} at site BCTB13. Total annual flux of T-PAHs from the sediments to the water column by gas ebullition is predicted to exceed 450 mg m^{-2} study at site BCTB5. By comparison, T-PAH flux was <25 mg m^{-2} for T-PAHs on an annual basis at BCTB5 computed from the benthic flux study, demonstrating the relative magnitude of gas ebullition facilitated transport.

1.0 INTRODUCTION

Gas ebullition due to methanogenic and, potentially, denitrifying activity in sediments is an important mechanism of contaminant transport in sediments *(1-5)*. Because gas bubbles are hydrophobic, hydrophobic contaminants from sediment pore water tend to partition into the bulk gas phase and to sorb onto the bubble interface, leading to contaminant transport from the sediment to the water column and atmosphere. Gas bubbles also facilitate the transport of contaminants to the water column by causing sediment re-suspension. Ebullition-facilitated sediment re-suspension may be a more significant mechanism of contaminant transport than the bubble-pore water contaminant partitioning process *(3,4)*. Although extensive research has been done to quantify contaminant transport from sediments by diffusion and advection, relatively little is known about ebullition-facilitated contaminant transport. Understanding and quantifying this contaminant transport mechanism is important to predict the total contaminant transport from sediments to the water column.

Ebullition-facilitated contaminant transport has also been investigated due to its effects on capping performance. Several recent capping projects have been implemented for remediation of contaminated sediments in numerous sites as an alternative to dredging, such as in Anacostia River, Washington, D. C. *(6)*, McCormick and Baxter Creosoting Superfund Site, Portland, OR *(7)*, Grasse River, Massena, NY *(8)* and Stryker Bay, St. Louis River/Interlake/Duluth Tar superfund site, Duluth, MN *(9)*. Although it has been proved that capping is efficient to minimize the release of contaminants to the water column *(10-13)*, gas bubble migration may cause cap damage and even rupture the cap, particularly in unconsolidated surface layers, providing additional pathways for contaminant release *(2,6)*. Thus, understanding and quantifying gas ebullition fluxes and ebullition-facilitated contaminant fluxes is important to correctly account for gas ebullition effects on capping design projects.

Several studies have quantified sediment gas production in the field, with substantially different gas production fluxes reported due to site heterogeneity. Tanner et al. *(14)* observed a methane flux varying from 0.07 to 0.67 L m^{-2} d^{-1} for a wetlands used to treat wastewater. Sovik et al. *(15)* measured gas production in ten constructed wetlands in Europe, with measured gas fluxes of methane and carbon dioxide up to 53 and 47 L m^{-2} d^{-1}, respectively. Hughes et al. *(16)* observed gas

production fluxes of 2.7 L m^{-2} d^{-1} on a laboratory study with sediment from the Anacostia River, Washington, D.C.

There are a limited number of studies investigating organic contaminant transport due to gas ebullition, and even fewer studies investigating the possible transport of metal contaminants due to gas ebullition. Yuan et al. *(4)* found that significant amounts of both solid particulate matter and organic contaminants can be transported from the sediment to the water column by gas migration. The authors observed that the amount of organic contaminant and solid particulate transported is related to the volume of gas released. Hulls and Costello *(17)* observed in bench tests with sediment from Stryker Bay, Minnesota, that polycyclic aromatic hydrocarbons (PAHs) are transported to the water column due to groundwater advection and gas ebullition. The authors concluded that a sand cap can be effective to minimize contaminant release and to prevent gas from forming due to sediment insulation by decreasing biological kinetics during higher-temperature summer months. However, a study by McLinn and Stolzenburg *(2)* showed that sand caps may not be effective to control NAPL migration from sediments in the presence of ebullition. Moreover, sediment insulation may not prevent gas production in sites with high organic matter content and sites with high fluctuation in air temperatures.

Fendinger et al. *(18)* noted that sediment contaminant transport may be a function of gas ebullition rate, Henry's law constant, and porewater contaminant concentration. According to the authors, organic contaminant partitioning occurs mainly between sediment gas and porewater; organic contaminant partitioning between the sediment solid material and gas bubbles is probably negligible due to the high liquid water content of many sediments. However, this study did not consider the transport of contaminants due to sediment re-suspension caused by gas ebullition.

Finally, no studies to date have investigated the role ebullition plays in facilitating metal release from sediments. The scarcity of such field data and model verification on ebullition-facilitated contaminant release is problematic from a sediment management perspective. In addition, the possibility that ebullition can transport contaminants from deeper, more highly polluted sediment layers may render thin caps and "natural recovery" remedial options less effective in removing risk.

In the present report, organic and metal contaminant facilitated transport due to gas ebullition and benthic flux measurements in Bubbly Creek and the Bubbly Creek turning basin are discussed. The

objective of the study was to complete the following three tasks:

1- Conduct a set of gas production measurements at selected sites in Bubbly Creek and Bubbly Creek Turning Basin, to provide a better understanding of low temperature gas production;

2- Analyze the filter trap samples that were collected from the previous gas ebullition sampling trips (described in section 1.2 Scope of Work);

3- Construct a benthic flux chamber and conduct a benthic flux study to provide measurements of PAH, metals, and other dissolved constituent flux from the sediments, as well as dissolved oxygen flux into the sediments with time.

1.1 Site description and History

The site of the present study is known as "Bubbly Creek." Bubbly Creek is the south fork of the south branch of the Chicago River, connecting with the main south branch of the Chicago River at the turning basin. In the early-1900's, Bubbly Creek was a sewer for industrial effluents and wastes from the adjacent stock yards *(19)*. Although direct wastewater discharge is prohibited now, the creek still is impacted by combined sewer outflow (CSO) effluent on an approximately monthly basis from the Racine Avenue pumping station (RAPS), the largest sewage pumping station in the world. Although these flows can be quite large, up to 6000 $ft^3\ s^{-1}$ (175 $m^3\ s^{-1}$) in the 150 ft (46 m) wide creek, the water in Bubbly Creek is normally stagnant when there is no RAPS discharge events and the quiescent sediments are susceptible to gas ebullition events.

Benthic flux and gas ebullition studies were performed by University of Illinois-Chicago (UIC) with assistance from the Metropolitan Water Reclamation District of Great Chicago (MWRD) in 2008 - 2009. A total of nine sample locations (four in the Turning Basin and five in the Creek) were selected for the flux studies (Figures 1.1 and 1.2). Tables 1.1 and 1.2 show the coordinates for the sampling sites.

Figure 1.1. Aerial view at the turning basin of Bubbly Creek. The turning basin lies at the northern terminus of Bubbly Creek at its confluence with the Chicago River (running right-to-left in the map). Shown are locations that have been characterized by UIC.

Table 1.1. Sampling coordinates for BCTB sample sites.

Sample	Latitude (Decimal °N)	Longitude (Decimal °W)	Water depth (m)	Sed depth (m)
BCTB 2	41.844262	87.665200	2.2	5.7
BCTB 5	41.843447	87.665219	1.5	6.5
BCTB 10	41.844406	87.664667	3.2	4.8
BCTB 13	41.843417	87.664667	2.5	5.5

Figure 1.2. Aerial view of Bubbly Creek. Shown are site locations that were sampled for benthic gas ebullition and benthic flux studies. Sites are at the exact location of sediment core sites from the USACE 2005 report prepared by CDM *(19)* (identical site numbering has been maintained). The turning basin shown in Figure 1.1 lies immediately north of this map.

Table 1.2. Sampling coordinates for BC-CDM sample sites.

Sample	Latitude (Decimal °N)	Longitude (Decimal °W)	Water depth (m)	Sed depth (m)
BC-CDM4	41.839481	87. 664440	3.5	3.2
BC-CDM8	41.832538	87.658447	2.1	2.5
BC-CDM9	41.830881	87.662924	3.1	3.0
BC-CDM11	41.827138	87.657503	1.2	3.6
BC-CDM13	41.825048	87.657362	4.6	2.1

1.2 Scope of Work

This Scope of Work covers the service of University of Illinois at Chicago (UIC) Department of Civil and Materials Engineering for the Bubbly Creek sediment ebullition and flux studies. The studies

provide data to support the modeling effort by USACE Engineer Research and Development Center (ERDC) in the design of the ecosystem restoration project at Bubbly Creek.

UIC has been conducting sediment gas ebullition studies from 2005 through the present time in Bubbly Creek under a National Science Foundation grant. As part of these studies, UIC collected sediment biogenic gas production data over three seasons (spring, summer, and fall) at nine separate sites in Bubbly Creek and the Bubbly Creek Turning Basin. Existing data previous to the work for the USACE include field gas flux, gas composition (N_2/CO_2/CH_4), and correlations with sediment organic content parameters. Though not in the current SOW with USACE, this data is provided in this report for completeness. From these studies, UIC also collected glass fiber filter trap samples that were analyzed under this work for chemical composition in the trapped gas produced in the sediment.

The following tasks were performed under this Scope of Work:

1) Task 1 - One additional set of gas production measurements was performed at the previously selected sites in Bubbly Creek and Bubbly Creek Turning Basin in early 2009 at a colder temperature to provide a better understanding of low temperature gas production. The Metropolitan Water Reclamation District (MWRD) provided UIC personnel with the boat for access to the sampling sites. This task included the analysis of the filter trap samples collected during this sampling excursion. The sample analyses complied with the reporting limits as specified in the USACE SOW (Reporting Limits and Test Methods are included in Appendix A), and utilized USEPA methods, with specific quality control procedures and method procedures as required for the specific analyses.

2) Task 2 - Filter trap samples collected from the previous gas ebullition sampling trips were analyzed for metals and 16 EPA priority pollutant PAHs in compliance with the detection limits described above.

3) Task 3 - A benthic flux study was conducted to provide measurements of metals, PAH, sulfide, ammonia, nitrate, dissolved organic carbon (DOC) and total filtered phosphorous (TFP) flux from the sediments and dissolved oxygen (DO) flux into the sediments with time (rates), and water pH. This task included the construction of a benthic flux chamber to collect up to ten samples at each of the nine sampling locations previously used in the gas ebullition studies, and chemical analysis

of the samples collected during the studies. The reporting limit requirements and analytical method requirements complied with the USACE SOW as discussed previously (Reporting Limits and Test Methods are included in Appendix A).

4) Task 4 – Prepared a report of the gas ebullition and benthic flux studies, including a brief description of the data collection setup and procedures, and a reporting data package including the following:

- Analytical results, including QA/QC documentation
- Narrative report on the project, including background, methods, and results
- Narrative description of the gas ebullition and benthic flux studies, including brief summary of equipment setup and sample collection activities
- Map of actual sampling locations, with table of sampling locations including GPS coordinates, water depth at each sampling location

The data spreadsheet in an electronic format compatible with Microsoft Excel® was supplied to the USACE and ERDC. All aspects of data quality were guided by the *Great Lakes Dredged Material Testing and Evaluation Manual (20)* and *EM 200-1-10 Guidance for Evaluating Performance-Based Chemical Data (21)*. Sampling and analytical procedures were documented in writing as standard operating procedures, which include the minimum QC requirements for the procedures.

UIC used a NELAP accredited laboratory for the sample analyses. The laboratory met the QA/QC requirements described in the analyses' respective laboratory procedures (found in USEPA methods, Standard Methods, etc.). The analytical data package from the laboratory is a data level two package (Appendix E) and includes, but is not limited to, cover letter with project chemist sign-off, analytical results, statement of data qualifications, batch quality control results, and field chain-of-custody forms.

2.0 METHODS

Sampling of core samples in the Bubbly Creek turning basin (BCTB) was performed onboard the MWRD RV *PC1* in October and November 2005. A total of 15 sediment cores and 13 surface grabs were collected, but we present here only the results for the four sites chosen to perform the gas ebullition and flux studies (Figure 1.1). Four of the cores were full depth to the clay/hardpan layer at a mean depth of 26.2 ft (8 m) below water surface and the remainder were partial cores to a depth of 6.5 ft (2 m) below the sediment-water interface. A field technician pushed a 2 m x 5 cm diameter plastic core tube into the sediment *in situ* to retrieve intact cores. The cores were sectioned in the field into 20 cm intervals and placed in clean 8 oz (250 ml) glass sample jars with Teflon® caps (Fisher Scientific, Pittsburgh, PA). The grab samples were obtained using a 9 in (23 cm) stainless steel dredge and placed in gasketed plastic buckets (5 L, Fisher Scientific, Pittsburgh, PA) and stored in the refrigerator (4 °C) until analysis.

Sediment samples were volumetrically sampled from thoroughly homogenized interval segments using a 3 cm^3 syringe as described by Buckley et al. *(22)*. Sediment samples were weighed on a tared, clean disposable aluminum tray and dried (105 °C, 48 hr). Wet bulk density, percent moisture, dry bulk density, percent solids, organic carbon (OC) and organic matter (OM) were analyzed *(23)*. Anion concentrations in filtered (0.45 μm) pore water were measured by ion chromatography (Dionex IC25, Sunnyvale, CA) as described previously by Rockne and Brezonik *(24)*.

The 16 EPA priority-pollutant PAHs were extracted from the sediments using a modified Soxhlet extraction method. Wet sediment was ground with anhydrous Na_2SO_4 to complete dryness. The dehydrated sample was transferred to a Whatman cellulose thimble (33 mm x 94 mm, Fisher Scientific, Pittsburgh, PA) and spiked with known amounts of PAH surrogate phenanthrene-D10 (Supelco, Bellefonte, PA). The sediment was then extracted as described in Zhao et al. *(25)* in a Soxhlet extractor (Fisher Scientific, Pittsburgh, PA) for 24 h in 150 mL 1:1 (v/v) hexane:acetone mixture. The extract was then cleaned-up by elution through a glass column (30 cm, 1.9 cm i.d. with 250 mL reservoir, Fisher Scientific, Pittsburgh, PA) filled with 20 g of fully activated silica gel (100-200 mesh, Fisher Scientific, Pittsburgh, PA) and dichloromethane to obtain a 1:1 (v/v) hexane:dichloromethane mixture in the column. Extracts were concentrated on a Kuderna-Danish (K-D) concentrator (Fisher Scientific, Pittsburgh, PA) to approximately 5 ml. The volume of sample was then brought up to 10 mL by adding

clean solvent. PAH internal standards anthracene-D10, triphenylmethane, benz(a)anthracene-D12 and perylene-D12 (Supelco, Bellefonte, PA) were added to the sample before analysis by gas chromatography mass spectrometry (GC/MS) in EI mode on an Agilent 6890 GC coupled to an Agilent 5973 mass selective detector. Separation was achieved using an HP-5 MS fused silica capillary column (30 m x 0.25 mm i.d.; 0.25 μm film thickness) and a 5 μL injection volume. The injector temperature was 250° C. The initial column temperature was 50° C, followed by a temperature increase of 10° C min^{-1} to a temperature of 180° C, a temperature increase of 6° C min^{-1} to a temperature of 250° C and a temperature increase of 3° C min^{-1} to a temperature of 300° C and kept for 5 min. Helium was used as the carrier gas.

Surface grab samples for the Bubbly Creek were collected in the same sites (Figure 1.2) described in the CDM report to the USACE from March 2005 *(19)*. Sampling was performed in July 2008 and sample analysis followed the same methodology as described above. Core samples were not collected in Bubbly Creek and results from the CDM report were used for all core data for the Bubby Creek sites (BC-CDM) reported in this work.

Gas production was determined in both laboratory and field experiments. Laboratory experiments consisted of surface sediment grabs brought to the laboratory and incubated in serum bottles at various temperatures. Volumetric gas production was thus reported on a per volume sediment basis (mL gas mL^{-1} d^{-1}). Samples were homogenized and a 100 mL subsample was added to serum bottles, sparged with nitrogen gas, sealed and incubated upside down quiescently at 5°, 20°, 25° or 35° C. Volumetric gas production was monitored with a calibrated syringe in duplicates and killed controls. Methane and carbon dioxide were quantified by gas chromatography with thermal conductivity detection (9300B, SRI instruments).

Field measurements were done with the gas sampling apparatus over multiple days. Gas production was measured over time and the results reported as a flux based upon the area of the gas collector funnel and sampling time (L m^{-2} d^{-1}). Gas collection systems (Figure 2.1) were based upon a design by Huttunen et al. *(26)* that was modified to provide a more robust sampler valve system with most parts available from a hardware store. Each collector consists of an inverted funnel (2.5 cm external diameter), connected to a 1” PVC tube (2.5 cm x 75 cm long). The tube length was shortened when necessary to prevent the funnel from touching the sediment in shallow areas. A steel flange was placed

on the tube to maintain a vertical position in the water column. A PVC connection with a rubber stopper was used to facilitate collection of gas samples. Each collector was attached to a float and anchor. MWRD boats and personnel assisted our group during sampling. Total gas volume was measured by displacement of water in graduated cylinders from the collector in the field.

Clean glass wool (pre-combusted 375 °C, 24 h) was placed inside the funnel to trap contaminants transported with gas bubbles and outside the funnels as controls. The difference between these two values is the metal flux due to gas ebullition reported in this report. T-tests comparing these samples showed that they were statistically significantly different at the 95%. Metal analyses were performed by Inductively Coupled Plasma Mass Spectrometry (ICP-MS) and PAH by gas chromatography (GC-MS) using standard methods by the NELAP-certified laboratory Stat Analysis, Inc. (Chicago, IL).

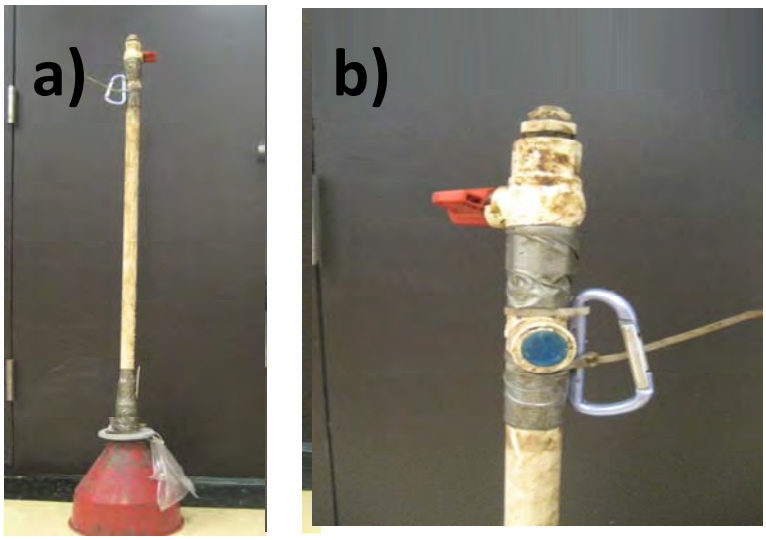

Figure 2.1. Gas collector system. Shown are a) complete collectors and b) detail of the collector valve.

Two benthic chambers were built to measure *in situ* PAH, metals, sulfide, ammonia, nitrate, dissolved organic carbon (DOC) and total filtered phosphorous (TFP) flux from the sediments and dissolved oxygen (DO) flux into the sediments with time (rates), and water pH (Figure 2.2). A polycarbonate funnel was attached to PVC pipes of various lengths to allow the sampler to sit approximately 50 cm above the water surface (Figure 2.3 a). Strong threaded female/female couplers were placed between each pipe section for stability. The samplers had steel rod stabilizers (three total) connected from the

cylinder part to the PVC pipe to help hold the weight. Nylon ropes (approximately 12 m long) were attached to the top pipe section and tied to high density foam floats placed on the water surface. These floats were also tied to anchors to help keep the samplers in place. A single stirrer was located inside each chamber. A motor for the stirrer was attached to the top of the sampling system (Figure 2.3 b) and connected to a battery installed on the float top. Batteries were replaced every 24 h during sampling and recharged (Figures 2.3 a-d). Sample analyses were performed using standard methods at the NELAP-certified laboratory Stat Analysis, Inc. (Chicago, IL) as described in the scope of work (section 1.3).

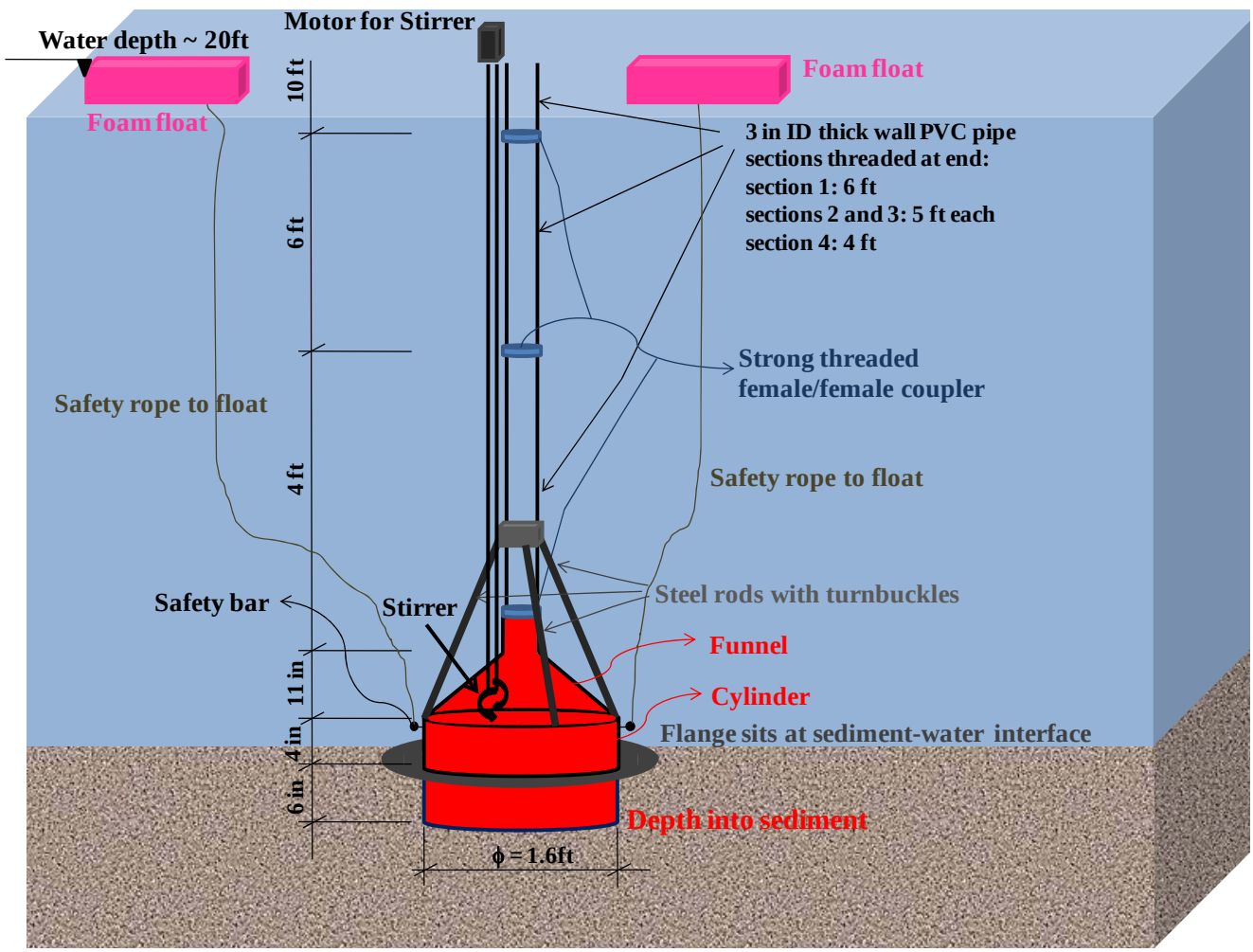

Figure 2.2. Benthic chamber build for the flux study in the nine sites at Bubbly Creek.

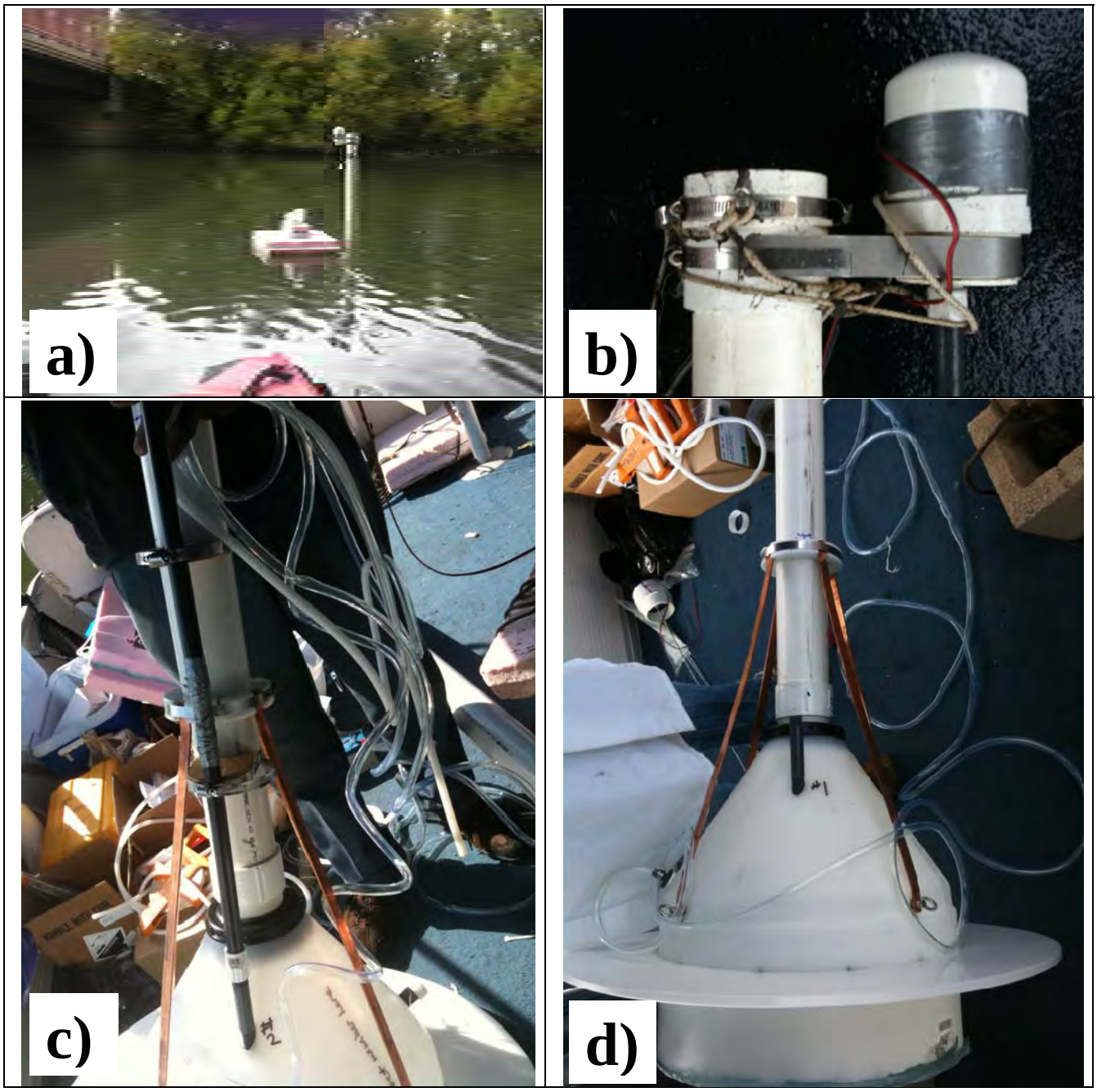

Figure 2.3. Photographs of a) sampler used to measure contaminant fluxes from and into the sediment, b) details of the top of the sampler with the motor for the stirrer covered by a PVC cap, c) funnel connected to PVC pipe and stirrer rod protection pipe, and d) funnel connected to steel rod stabilizers.

Sediment PAH flux from the benthic flux study was measured by comparing the PAH mass on Tenax® traps (a highly effective sorbent for removing hydrophobic organic compounds from aqueous solution)

inside the benthic flux chamber to those placed outside the chamber. Water from inside and outside the chamber was passed through the trap at the end of the sampling campaign at each site. The difference in PAH mass in the Tenax® traps was normalized to the sample volume passed through each trap, and then normalized to the sample time to arrive at the total PAH flux to/from the sediment.

No sample was collected for BCTB10 for the benthic chamber study due to high creek velocities knocking the station over on the first and second sampling attempts, as well as a RAPS discharge during the third attempt. After the third attempt, MWRD had to remove their vessels from the Chicago River for the season, thus ending the sampling campaign.

3.0 RESULTS

3.1 Sediment Characterization Results

The sediments are very heterogeneous, with surface grab organic matter (OM) content varying from 1.5 to 16.5%, core OM from 5.5 to 46%, SG organic carbon content (OC) from 1.8 to 12% (Figure 3.1). Whole core mean OC ranged from 0.6 to 17%, and SG pore water nitrate concentrations from 0.05 to 0.5 mg L^{-1}. Field sediment temperature during sampling varied from 7 to 27 °C. Concentrations of PAHs in the surficial sediment layer varied from 20 to 440 mg kg^{-1} and PAH mean core concentrations from 60 to 1230 mg kg^{-1} (Figure 3.2). In six of nine sites, surficial PAH levels were similar to or even higher than the whole core mean values, particularly in the non-turning basin sites. This indicates that PAH-impacted sediments exist at the sediment-water interface. A complete set of descriptive statistics for the sediment properties and contaminant fluxes can be found in Appendix C (Tables C1–C5).

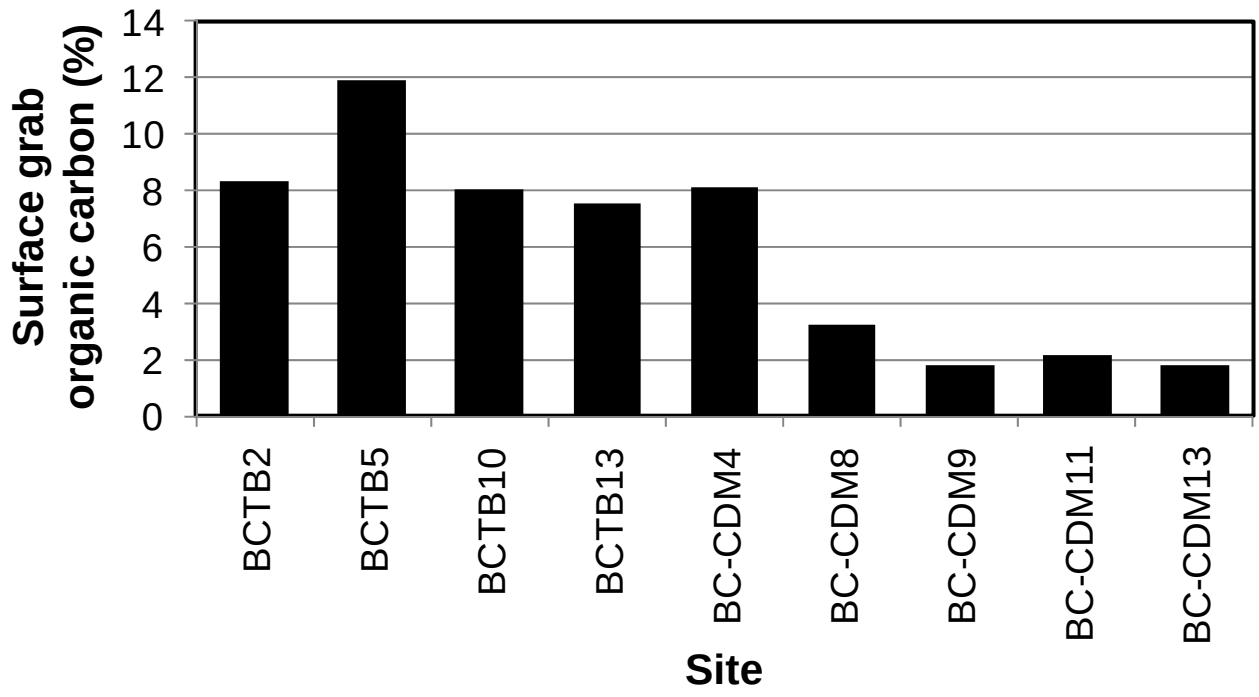

Figure 3.1. Surface grab organic carbon content in the nine sampled sites at Bubbly Creek and the turning basin of Bubbly Creek.

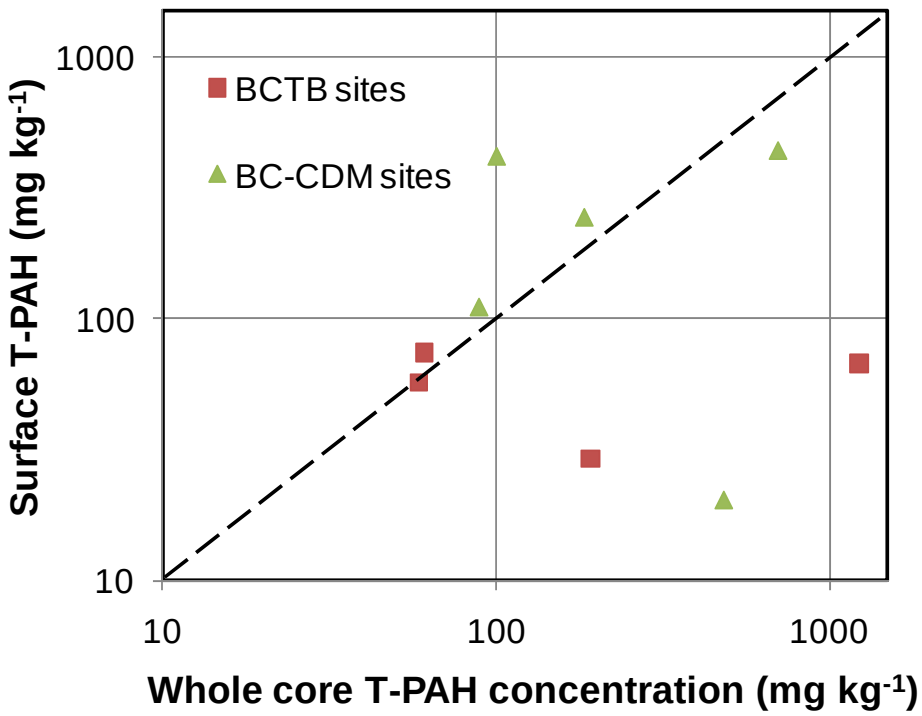

Figure 3.2. Surface T-PAH concentration versus whole core T-PAH concentration in the sediments of the nine sampled sites.

3.2 Gas Ebullition Flux Results

The measured total field gas fluxes varied from 0.05 up to 11 L m^{-2} d^{-1} (Figure 3.3). Overall, CH_4, N_2, and CO_2 comprised 58±19%, 36±18%, and 3±2% of the gas by volume, respectively. The gas composition varied by season but not in a statistically significant manner. The gas composition was higher in N_2 in the summer compared to the winter, with summer/winter compositions of 57%/62%, 40%/24%, and 3%/4% for CH_4, N_2, and CO_2, respectively. The fluxes measured in Bubbly Creek are consistent with values reported in the literature, which range from 0.07 up to 53 L m^{-2} d^{-1} *(14,15)*. Almost all sample sites had higher gas fluxes during summer (Figure 3.3) than those observed by Hughes et al. *(16)*, which is not surprising as their study site (Anacostia River) had OC levels <6% *(27)*. These results demonstrate that substantial ebullition is observed even under the cold conditions of the winter sampling period at all but the lowest OM content sites BC-CDM11 and 13. It is not

readily apparent why very low rates were observed at site BC-CDM4 in the winter, as it has relatively high surface OM content and also had high gas fluxes in the other sampling periods (Figures 3.1 and 3.3).

A comparison of the methanogenic gas production rates as a function of temperature can be used to obtain the activation energy (E_a) using the Arrhenius relationship. These values can be used to calculate methanogenic rates at any temperature for the entire year. E_a values can also be viewed as a measure of the biodegradability of the sediment organic matter; with lower E_a values indicative of more easily biodegradable OM. In general, Bubbly Creek methanogenic E_a values (from 12 up to 146 kJ mol^{-1}) are consistent with scientific literature-reported values for OM, which range from 27 to 138 kJ mol^{-1} (*28-29*); lower values were observed with simple substrates and higher values were observed with complex organic compounds like fulvic and humic acids in peat soil.

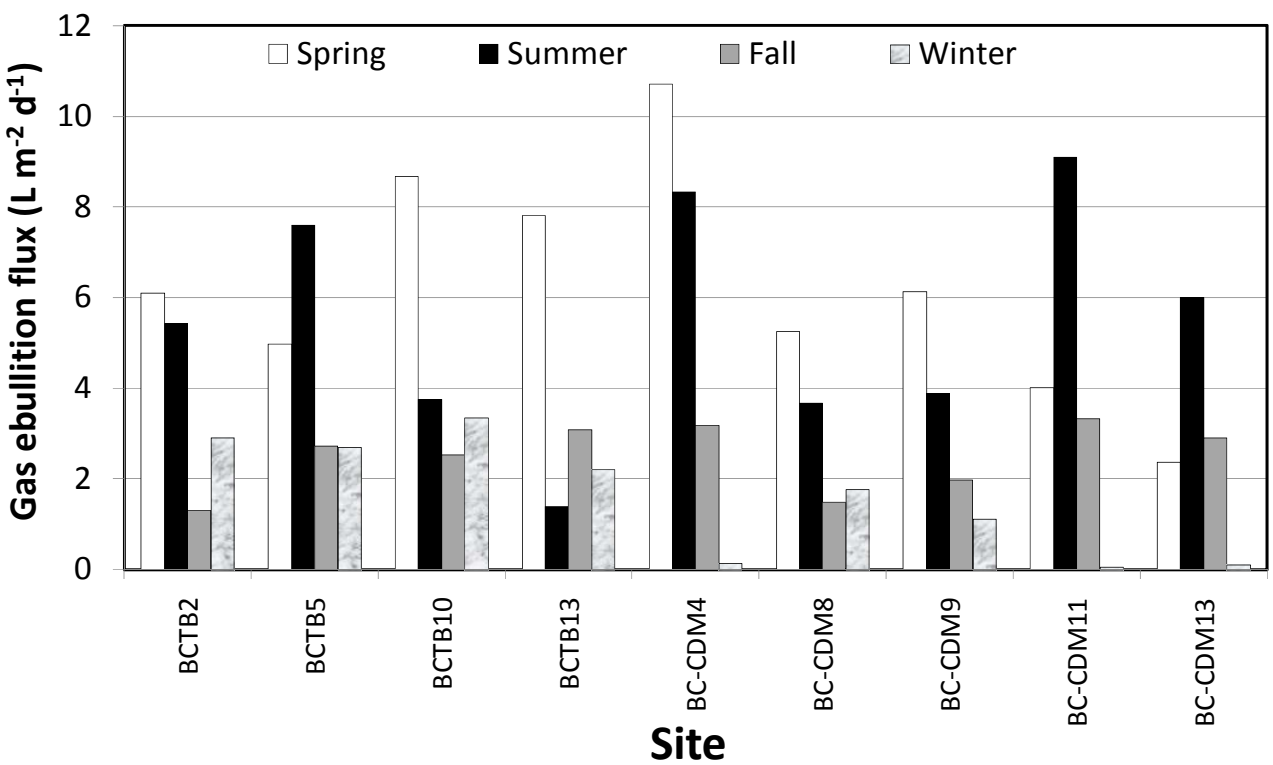

Figure 3.3. Measured total field gas fluxes in the nine sampled sites by season. Overall, CH_4, N_2, and CO_2 comprised 58±19%, 36±18%, and 3±2% of the gas by volume, respectively.

The yearly volume of gas that may evolve at each site was estimated based on the annual temperature variations on site and on field gas ebullition results using the Arrhenius equation (Figure 3.4). The laboratory measured gas production rates presented in Figure 3.4 were highly statistically significantly correlated (95% CI) with the field measured fluxes presented in Figure 3.3. A third of the sites had almost no gas flux during the winter sampling period. Interestingly, in many instances the spring gas fluxes were as high or even higher than those measured during the summer sampling at the same sites. In general, sites with higher organic carbon content (Figure 3.1) had higher gas fluxes with the exception of site BC-CDM11, which had very high fall and summer fluxes compared to other sites, even though it had lower OC content.

These fluxes are a realistic prediction of in situ rates as the sediments were undisturbed during the field gas ebullition sampling. However, these values should be considered with care under a capping scenario, as the amount of gas produced will change during cap installation and consolidation due to sediment disturbance and pressure change, and also due to the temperature isolation layer provided by the capping.

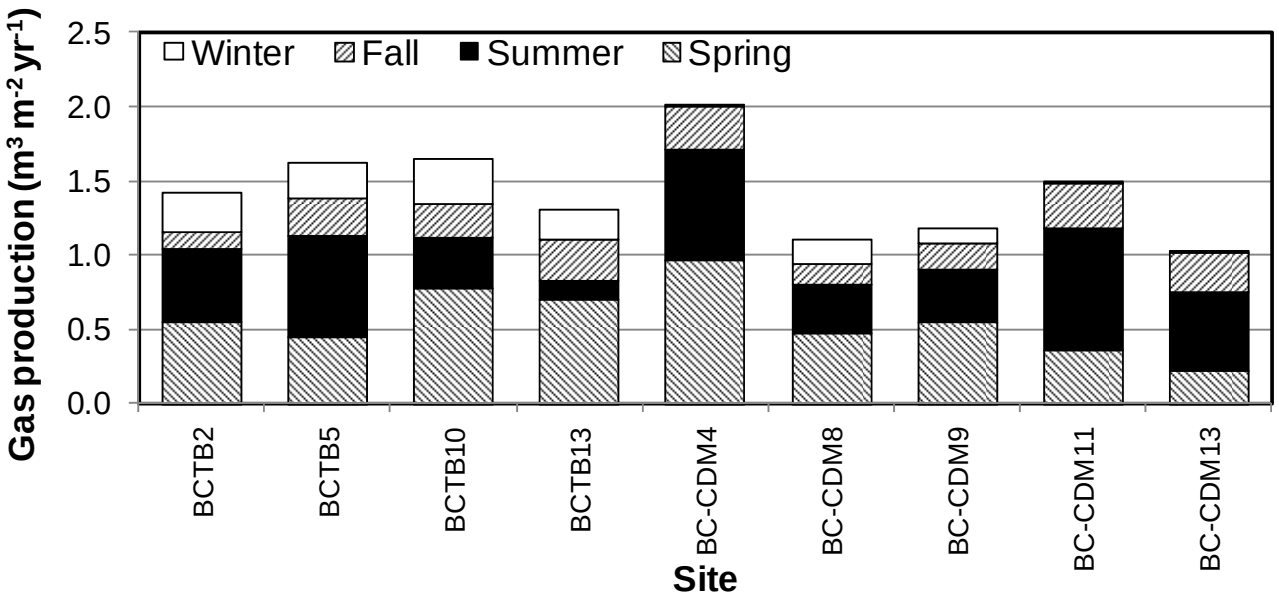

Figure 3.4. Estimated volumetric gas ebullition per square meter of sediment on an annual basis for the nine sample sites with surface grab organic carbon content varying from 1.8 (BC-CDM 13) to 12% (BCTB 5).

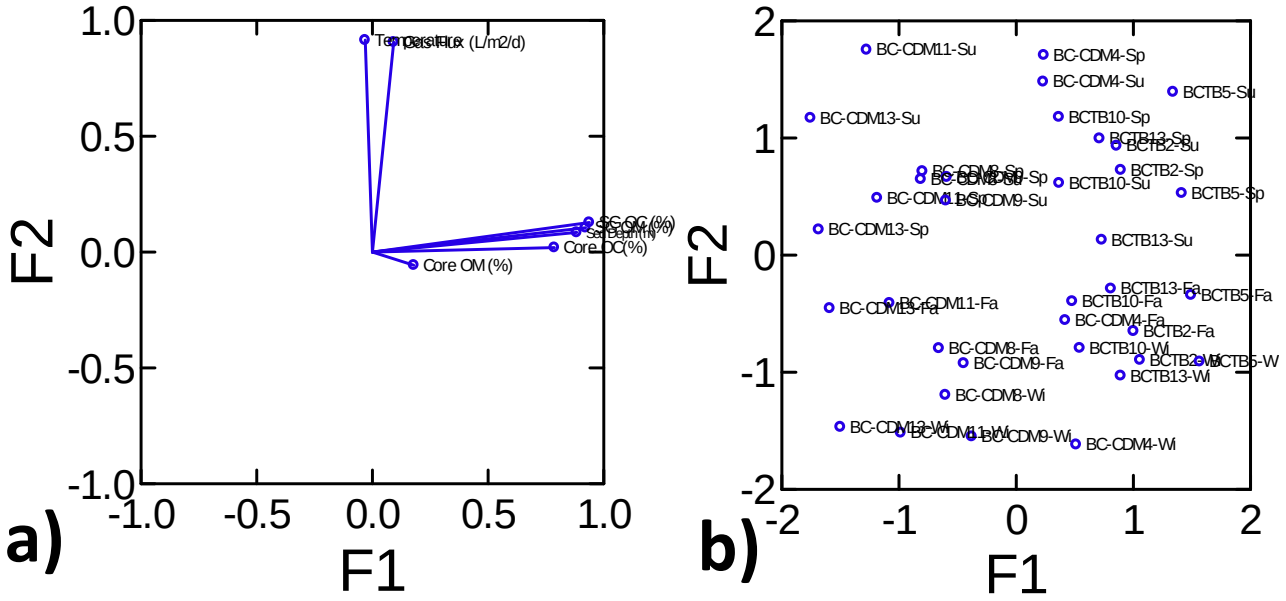

Figure 3.5. Principle component analysis of measured field gas flux, sediment temperature, sediment depth and sediment organic content parameters. Shown are a) the factor score plot and b) the factor loading plot for all sites and with seasonal identification (Sp=spring, Su=summer, Fa=fall, Wi=winter). Temperature and gas flux comprise F2 and sediment parameters comprise F1.

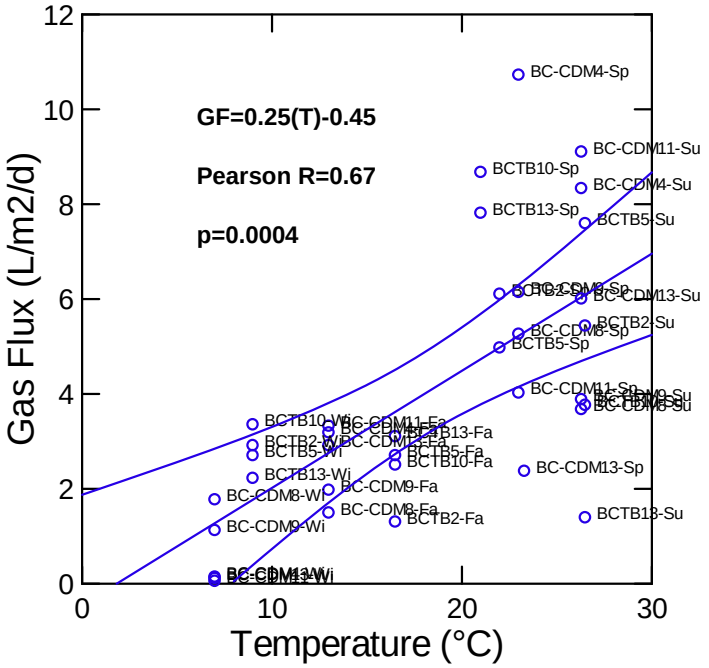

Figure 3.6. Measured field gas flux as a function of sediment temperature. The sloped lines represent the upper and lower limits of the straight line linear regression prediction at the 95% CI.

Principle component analysis of the variance in sediment physical and chemical properties, temperature and gas fluxes produced a two factor solution with clearly demarcated predictive capabilities (Figure 3.5a). There is no trend or clustering of sites based on a scatterplot of Factors 1 and 2 (Figure 3.5b). Factor 2 consisted of gas flux and temperature, indicating that temperature was best able to predict field gas fluxes. Based on a total number of 36 measurements in the nine sites, we observed a highly statistically significant increase in gas ebullition with increased sediment temperature (Figure 3.6). The gas flux in Bubbly Creek sediment can be predicted from the following equation: $Gas\ Flux(L\ m^2\ d^{-1})=0.25xT(°C)-0.25$ (Pearson R=0.667, p-value = 0.0004). The regression thus predicts that no gas flux occurs at temperatures below 2 °C. It should be noted that there is considerable scatter in the data at summer and spring temperatures. These results suggest that the increase in gas flux has an upper bound at high spring temperatures followed by a leveling off at the higher sediment temperatures of summer. This finding is consistent with the observed higher gas fluxes at several sites in spring (Figures 3.3 and 3.4).

3.3 Ebullition-Facilitated Flux

Particulate matter was found in the glass wool samples located inside the gas collector systems. This is in contrast to the control glass wool on the exterior of the collector, which was largely devoid of particulate matter. The solids resulted from gas bubbles transporting solid particulates into the trap, consistent with observations reported by Yuan et al. *(4)*. ICP-MS analysis of the glass wool traps demonstrated that for many sites As, Ag, Be, Cd, Co, Mo, Ni and Se were below the detection limit (DL). In contrast, Ba, Cr, Cu, Fe, Mg, Mn, Pb, and Zn were all present above the DL for most glass wool samples collected from inside the gas collectors, and we focus our discussion primarily on these metals (as well as Hg due to its toxicity). Fluxes varied substantially by season (Figure 3.7). Surprisingly both metal and PAH fluxes were typically higher in the spring than in summer (Figure 3.7; and see also Figure 3.8). However, recall the discussion in the previous section that the gas fluxes were not always appreciably higher in the summer than the spring. Several sites had significant ebullition-facilitated metal contaminant fluxes during winter and fall, although these fluxes were considerably smaller than summer contaminant fluxes.

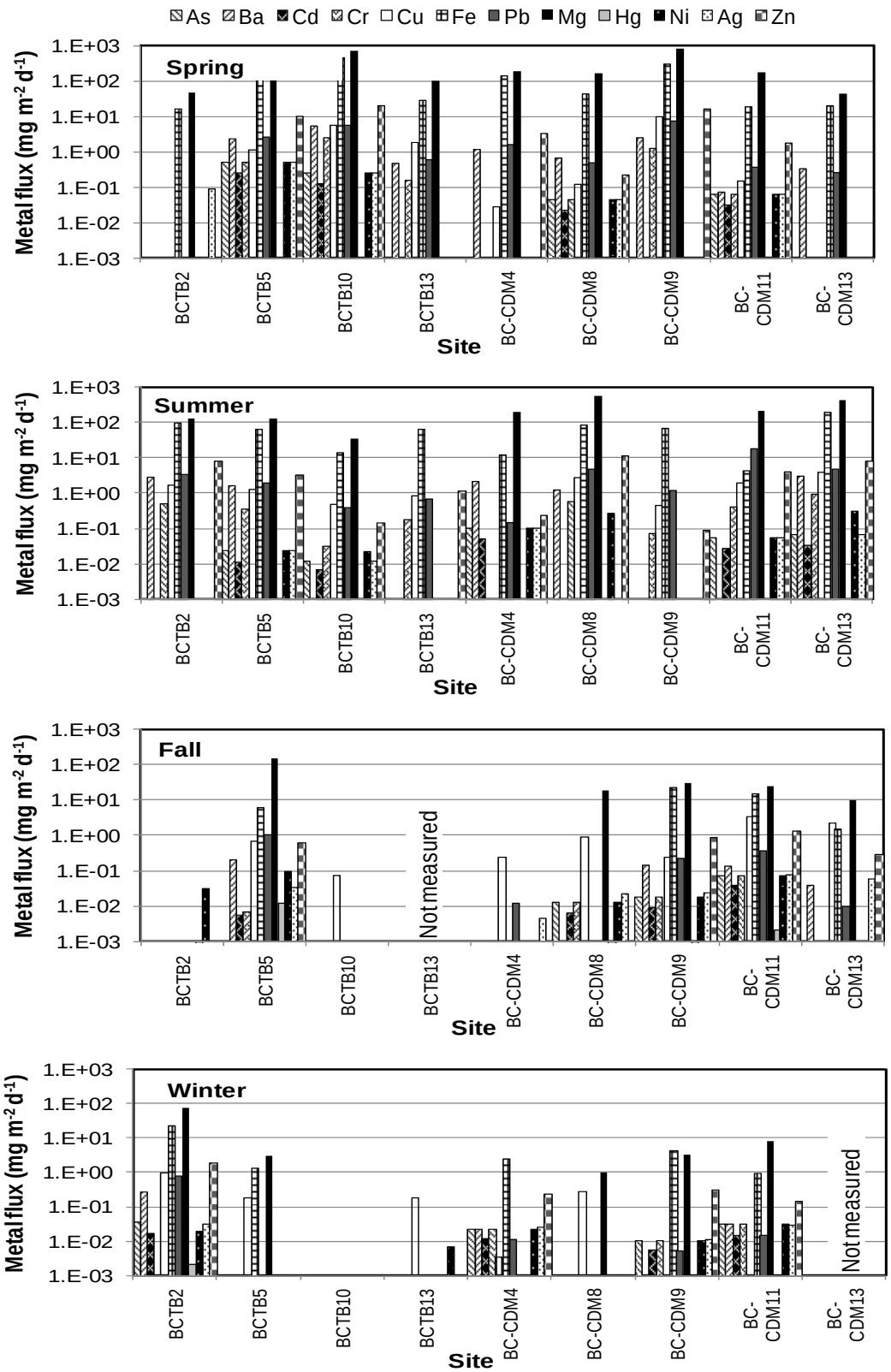

Figure 3.7. Ebullition-facilitated metal flux to the water column by season.

Fe and Pb fluxes varied from 0-450 mg m^{-2} d^{-1} and 0-18 mg m^{-2} d^{-1}, respectively. Ba, Cr and Zn fluxes ranged from 0-5.2 mg m^{-2} d^{-1}, 0-2.4 mg m^{-2} d^{-1} and 0-20 mg m^{-2} d^{-1}, respectively (Figure 3.7, Table C2). Sediment metal concentrations were 230-26,000 mg kg^{-1}, 1.8-3400 mg kg^{-1}, 3.4-390 mg kg^{-1}, 2.6-730 mg kg^{-1}, 6.0-1,300 mg kg^{-1}, and 0.07-1.8 mg kg^{-1} for Fe, Pb, Ba, Cr, Zn, and Hg, respectively (Table C3). The higher Fe, Pb and Zn metal fluxes due to gas ebullition are consistent with their higher sediment concentrations.

All ebullition-facilitated fluxes for all metals that had measurable release rates increased (statistically significant at 95% CI) with both temperature and gas ebullition fluxes (Figures 3.9 and 3.10). In all cases, these trends were statistically significant at the 95% CI or higher, except Cu versus temperature (92% CI). This is an important finding as the variables temperature and field gas flux may be used to predict ebullition-facilitated metal fluxes to the water column. The total metal flux (on a mass basis) regressed with the ebullition flux gives the following equation specific for Bubbly Creek: *Total Metal Flux(mg* m^2 d^{-1}*)=63xGas Flux(L* m^2 d^{-1}*)-55*.

These results suggest a mechanism where ebullition facilitated metal fluxes occur due to sediment particle re-suspension by bubble transport entraining metals on the solid phase. This is supported by the fact that metals do not partition into the gas bubbles. Higher gas ebullition fluxes result in more sediment re-suspension and thus lead to higher release of metal contaminants. The slope of the metal flux regression (discussed above) would thus give a mean metal mass re-suspended to bubble volume ratio of 63 mg L^{-1}.

PAHs in extracts of the glass wool traps inside the gas collectors were above the DL for the majority of PAHs, thus allowing measurement of their ebullition-facilitated fluxes. Anthracene, benzo(a)pyrene, chrysene, fluoranthene and fluorene fluxes varied from 0-0.3 mg m^{-2} d^{-1}, 0-1.6 mg m^{-2} d^{-1}, 0-1.7 mg m^{-2} d^{-1}, 0-7.3 mg m^{-2} d^{-1} and 0-0.4 mg m^{-2} d^{-1}, respectively. Naphthalene, phenanthrene and pyrene fluxes ranged from 0-0.4 mg m^{-2} d^{-1}, 0-0.9 mg m^{-2} d^{-1} and 0-5.7 mg m^{-2} d^{-1}, respectively. Sediment concentrations of these PAHs were highly variable, ranging from 0.3-12 mg kg^{-1}, 1.2-39 mg kg^{-1}, 0.3-1.1 mg kg^{-1}, 1.5-37 mg kg^{-1}, 4.5-86 mg kg^{-1}, 0.3-7 mg kg^{-1}, 2.3-64 mg kg^{-1}, and 3.5-73 mg kg^{-1} for anthracene, benzo(a)pyrene, chrysene, fluoranthene, fluorene, naphthalene, phenanthrene and pyrene, respectively (Figure 3.8, Table C5).

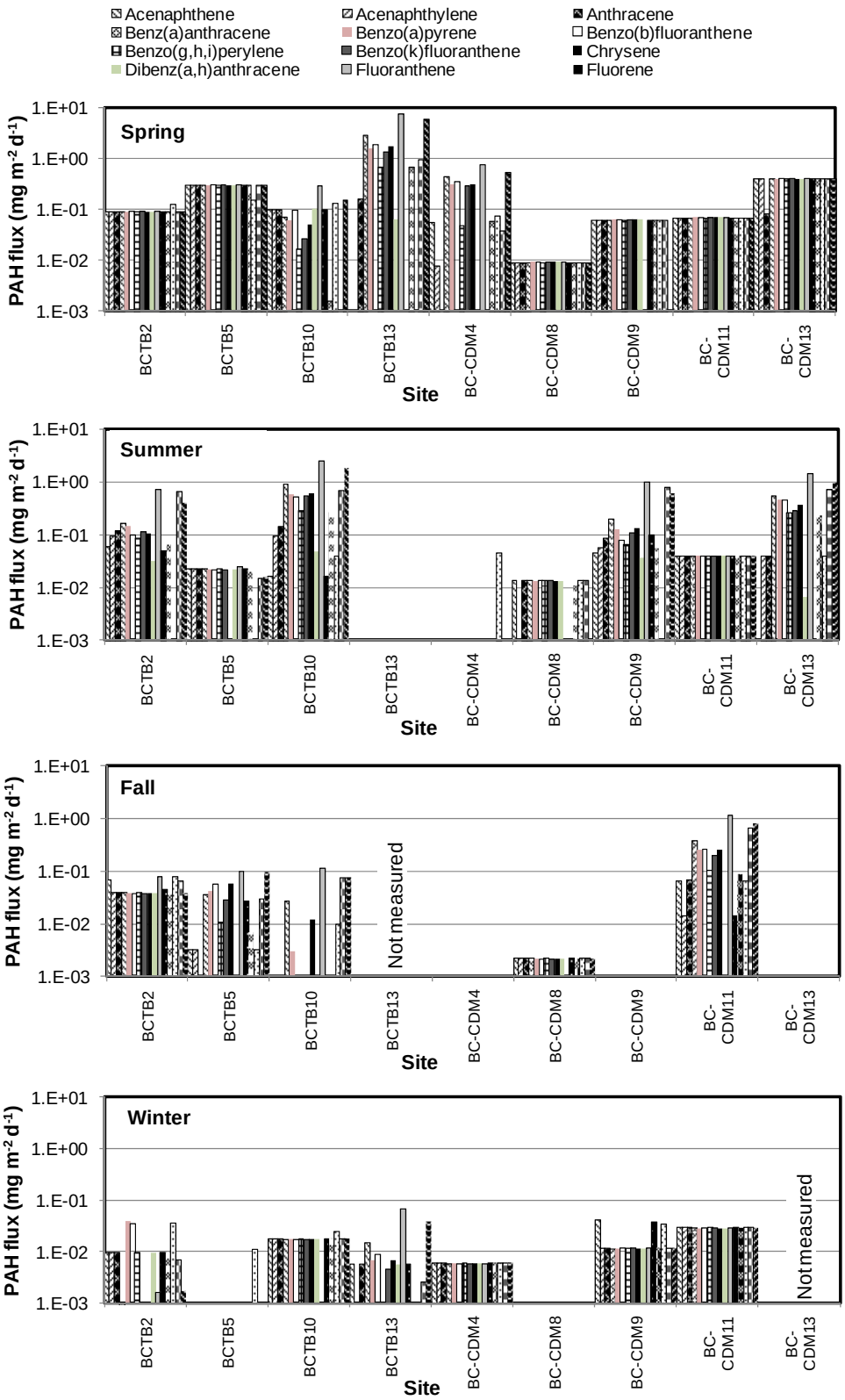

FIGURE 3.8. Ebullition-facilitated PAH flux to the water column by season. Detection limit values are shown where PAHs were measured but not significantly different from exterior trap.

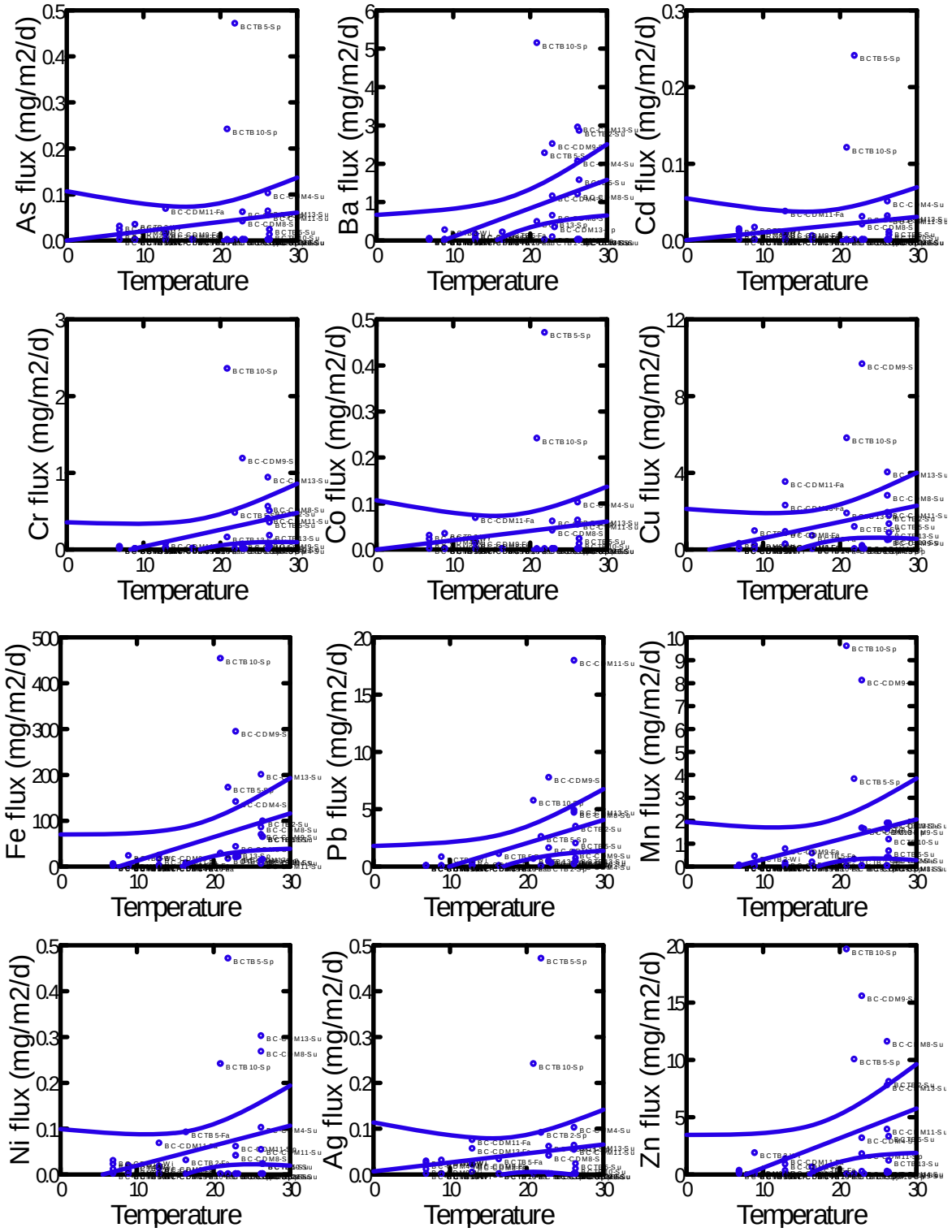

Figure 3.9. Correlation between temperature and metal contaminant flux. Curved lines represent the 95% confidence interval of the least squares linear regressions. Hg, Se, and Mg were not plotted due to low levels of Hg and Se, and lack of trend for Mg.

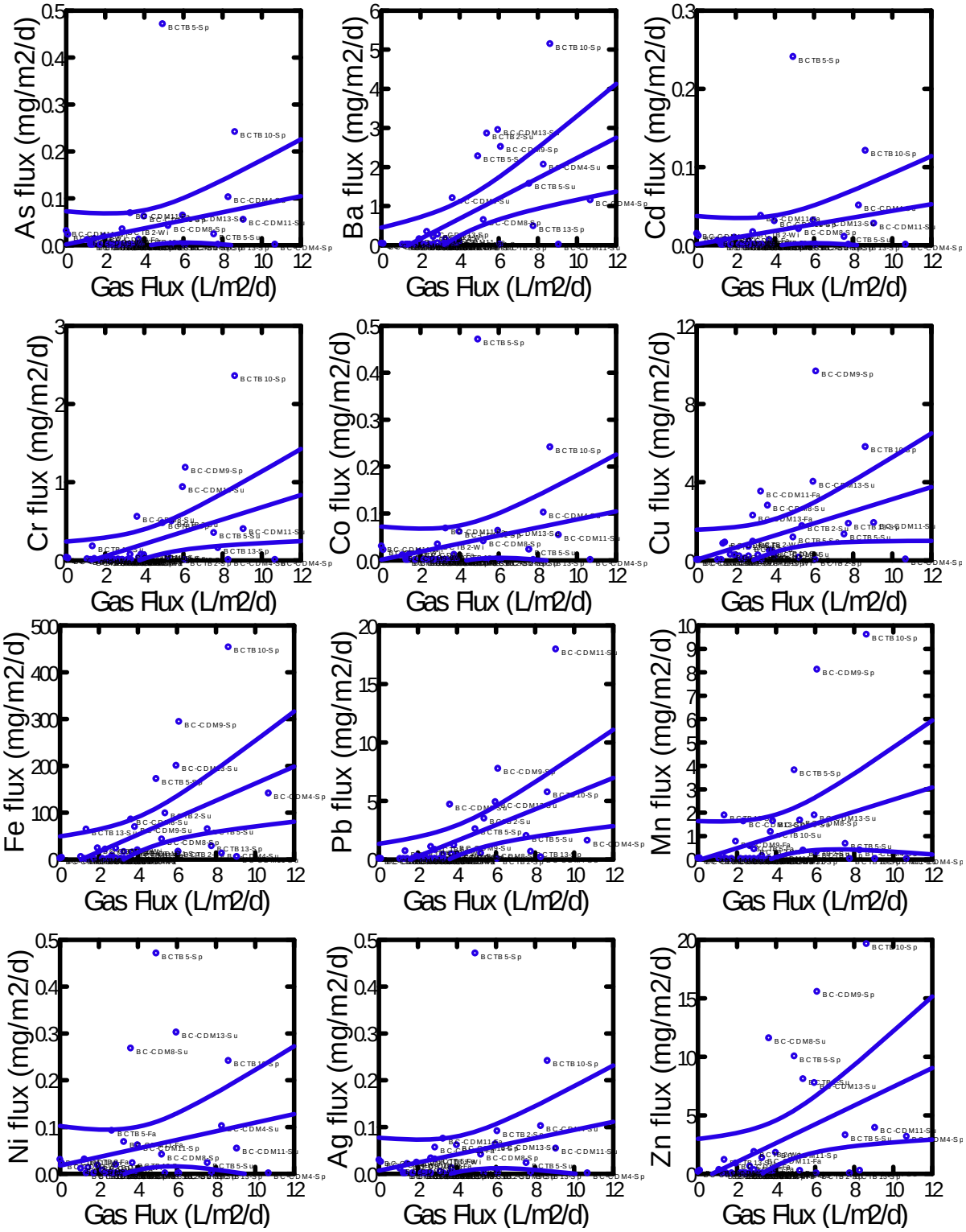

Figure 3.10. Correlation between gas flux and metal contaminant flux. Curved lines represent the 95% confidence interval of the least squares linear regressions. Hg, Se, and Mg were not plotted due to low levels of Hg and Se, and lack of trend for Mg.

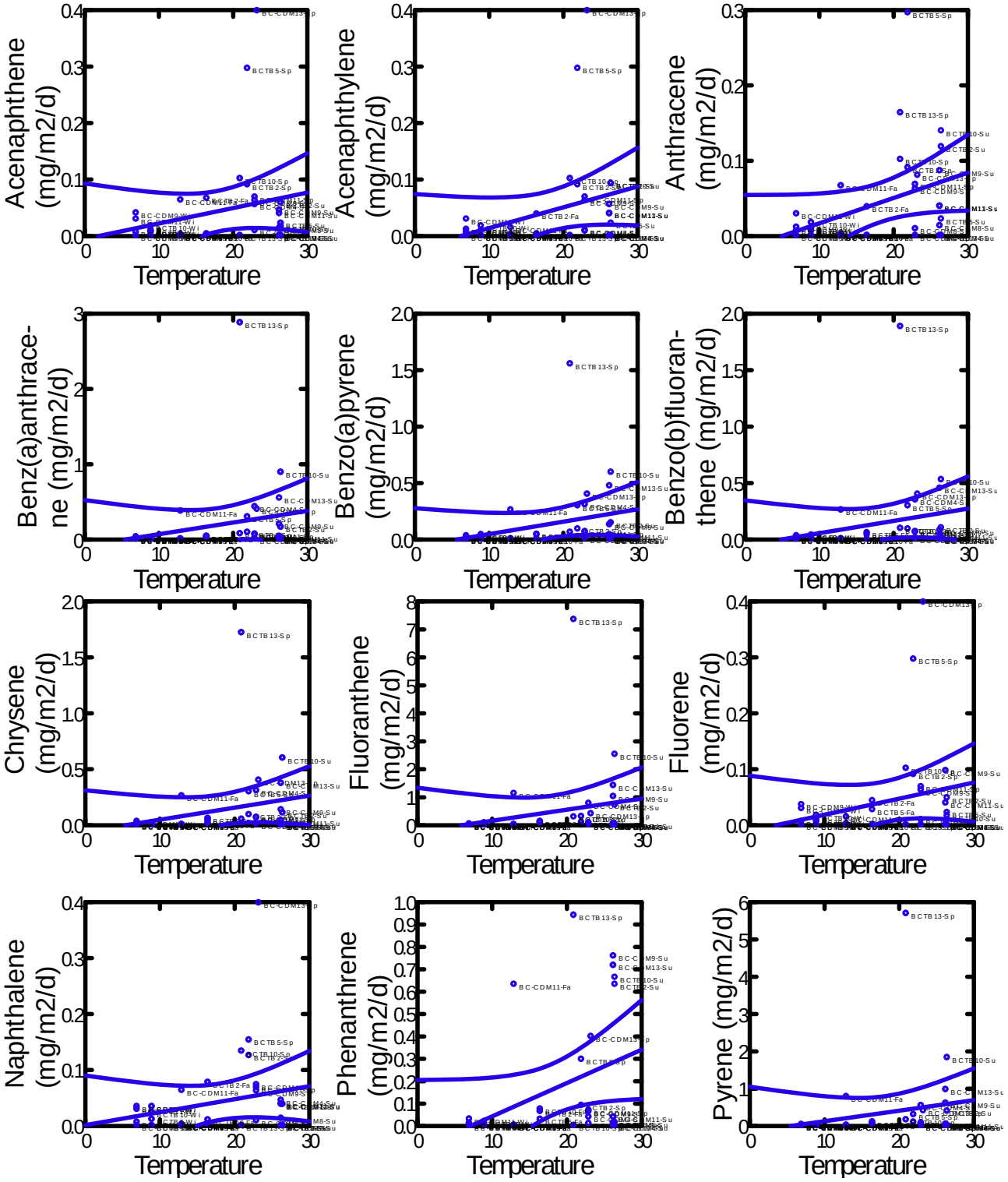

Figure 3.11. Correlation between temperature and PAH flux. Curved lines represent the 95% confidence interval of the least squares linear regressions. Benzo(ghi)perylene, dibenzo(ah)anthracene, and benzo(k)fluoranthene were not shown due to lack of correlation.

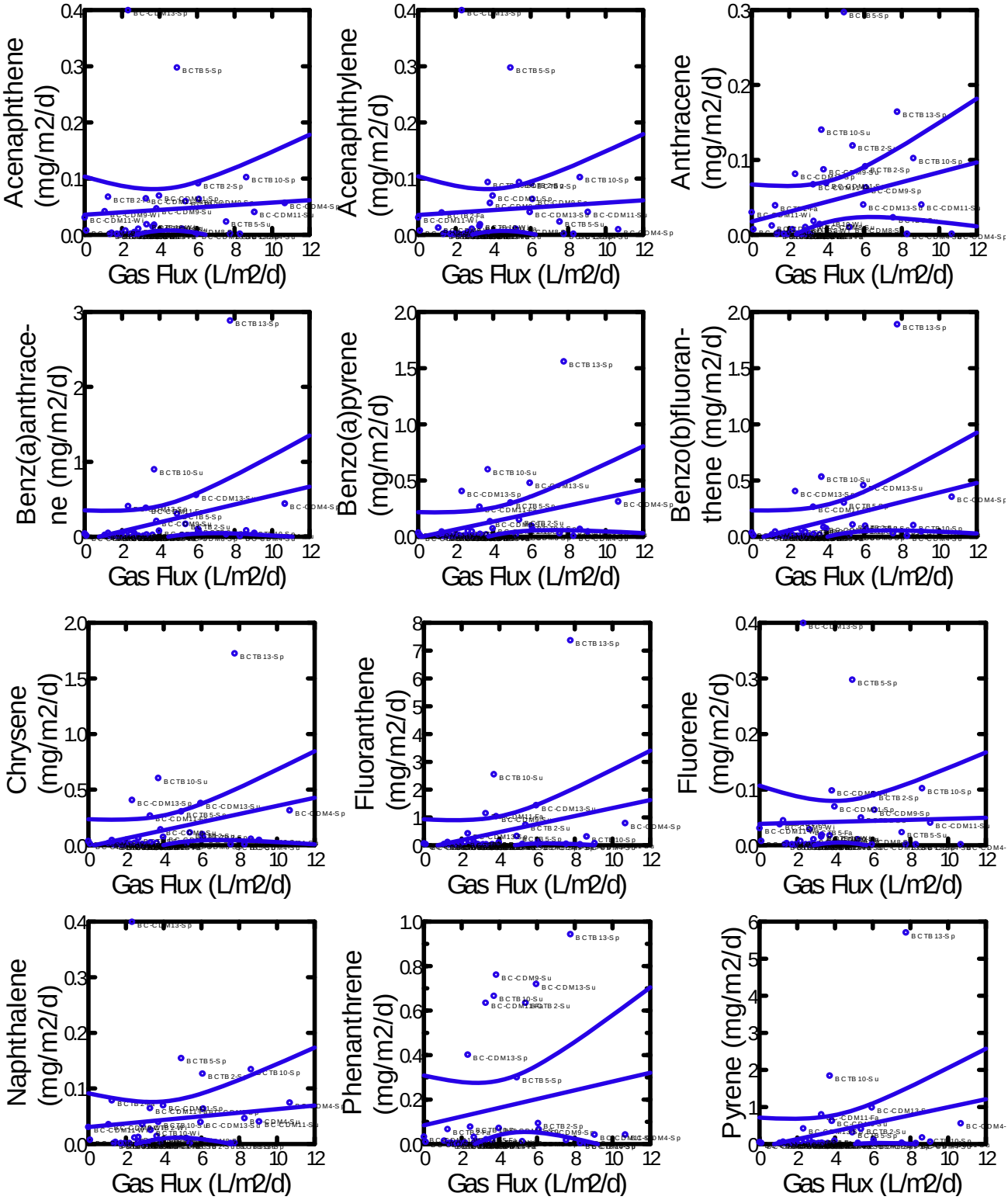

Figure 3.12. Correlation between gas flux and ebullition facilitated PAH flux. Curved lines represent the 95% confidence interval of the least squares linear regressions. Benzo(ghi)perylene, dibenzo(ah)anthracene, and benzo(k)fluoranthene were not shown due to lack of correlation.

The relative magnitude of the PAH fluxes do not follow a trend based on PAH solubility (naphthalene is highest at ~30 mg L^{-1} in freshwater). For example, naphthalene fluxes in summer were 0.4 mg m^2 d^{-1}, as compared to 5.7 mg m^2 d^{-1} for pyrene, which has a solubility of ~0.1 mg L^{-1}. The ebullition facilitated fluxes do follow a slight trend based on hydrophobicity, with the more hydrophobic PAHs having higher ebullition facilitated fluxes. Ebullition facilitated PAH fluxes were also correlated with temperature and gas flux, but not at the same CI that was observed in the case of ebullition facilitated metal flux (Figures 3.11 and 3.12). In contrast, ebullition facilitated PAH fluxes were not statistically significantly correlated (95% CI) with SG OC and SG OM, unlike the case with gas flux (data not shown). Further, whole core OC and OM content is not statistically significantly correlated with ebullition-facilitated PAH fluxes. This result is consistent with the hypothesis that surface sediment surficial particle re-suspension by gas ebullition is the main mechanism of contaminant release.

These results indicate that ebullition facilitated PAH flux may be more difficult to predict than metal fluxes as they are only partially correlated with total gas fluxes. The nature of the sediment organic carbon and amount of organic content in the re-suspended particles, rather than in the bulk sediment as a whole, as well as the presence of NAPL formation, likely play an important role in PAH flux.

The metal contaminant fluxes from the summer sampling period were regressed with the metal contaminant concentrations in sediments to remove temperature as a variable and isolate the effect of variable sediment contaminant concentration (Figure 3.13a). The results demonstrate that ebullition-facilitated metal contaminant fluxes were statistically significantly correlated with increases in metal contaminant concentrations in the sediments (p-value=5.4E-06). The variation within each contaminant is insufficient to generate a good correlation and thus we confined our discussion to the whole set of metal contaminants in the regression. A similar regression for T-PAHs (Figure 3.13b) also demonstrated a statistically significant increase in ebullition-facilitated T-PAH contaminant flux with increasing T-PAH contaminant concentration in the sediments (p-value=0.003). These results demonstrate that sediment concentration is also an important determinant of contaminant flux, but not to as great an extent as the ebullition rate within the relatively highly polluted Bubbly Creek.

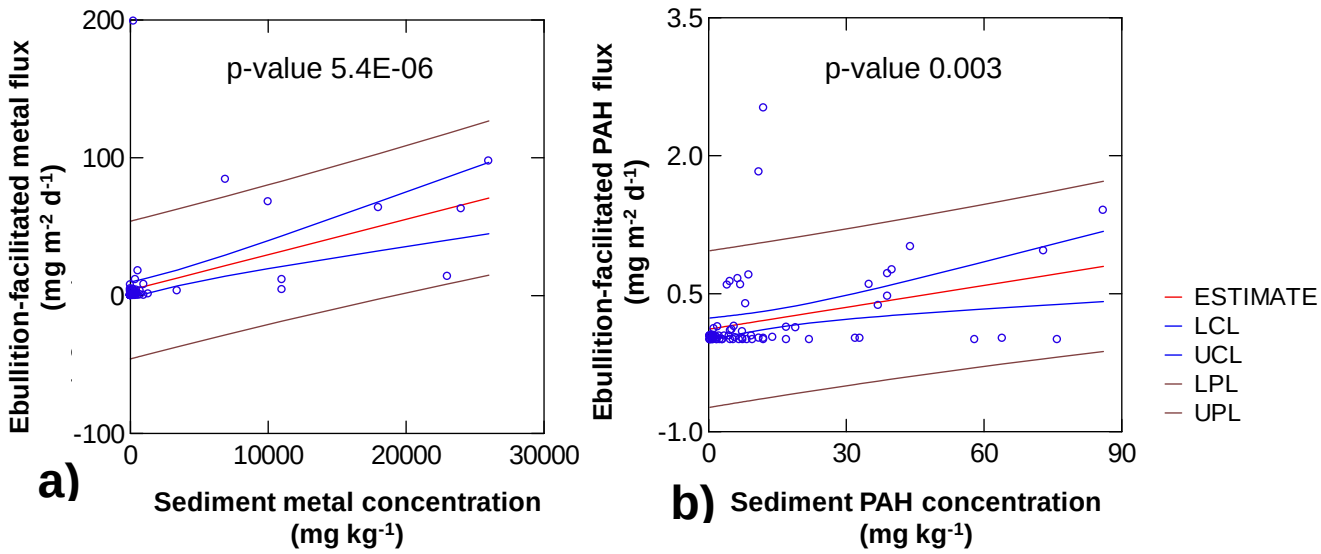

Figure 3.13. Measured a) metal and b) PAH contaminant fluxes versus sediment contaminant concentration in the nine sampled sites during summer.

The ebullition-facilitated metal and PAH fluxes were surprisingly large in spring and summer. To provide context, we compared these fluxes to predicted porewater release under diffusion in response to a sediment porewater-water column concentration gradient as in Yin et al. *(30)*. This model assumes a maximal concentration gradient generated by a porewater concentration at saturation for a given PAH or heavy metal and zero in the overlying water column, resulting in a maximal flux under diffusion. The observed fluxes in the present study are 1-3 orders of magnitude higher than the predicted fluxes resultant from porewater diffusion. The measured fluxes would be on the order of advective pore water metal flux under a hydraulic gradient of 0.05 m m^{-1} for some contaminants. A comprehensive piezometric examination of the sediment would be necessary to determine whether sediment to water column advection occurs in Bubbly Creek, and to our knowledge this has not been performed.

There are two main findings from this study. Both metal and organic contaminants are transported from the sediment into the water column by gas ebullition at levels that represent a significant contribution on the total contaminant flux to the water column. However, the mechanisms responsible for the transport of metals and PAHs may be different. Ebullition-facilitated organic contaminant transport likely occurs by contaminant partitioning and sorption into or onto the gas bubbles from the sediment porewater, as well as by sorption to organic particles that are re-suspended

by bubble ebullition. These mechanisms are in agreement with the finding that ebullition facilitated flux of PAHs cannot be explained by temperature and field gas flux alone. In contrast, metal contaminant transport likely is caused by particle re-suspension due to gas bubble ebullition; in agreement with the observed statistically significant correlation between metal flux and total gas flux. Higher gas ebullition fluxes result in more sediment re-suspension and thus lead to higher release of metal contaminants. The rate limiting factor for metal flux is likely the flux of bubbles released from the sediment, which directly impacts sediment re-suspension. In the case of PAH ebullition facilitated flux, the rate is also influenced by the amount of organic carbon.

3.4 Sediment-to-Water Flux

A benthic flux study was also conducted in the Creek and Turning Basin in October 2009 using the flux apparatus described in the *Materials and Methods* section. Metal fluxes resultant from this study varied between -0.072 to 0.432, -0.384 to 2.21, -0.336 to 1.92 and -0.360 to 0.624 mg m^{-2} d^{-1} for Ba, Fe, Pb and Zn, respectively (Figure 3.14). Benthic release of T-PAHs was frequently below the detection limit, with significant fluxes observed at only five sites. The observed T-PAH fluxes from the sediment were <0.0005, 0.002, and 0.003 mg m^{-2} d^{-1} at sites BC-CDM11, BCTB5, and BC-CDM13, respectively (Figure 3.15). Negative fluxes of PAHs (i.e. into the sediment) were observed at sites BC-CDM8 and BC-CDM13, although these T-PAH fluxes were very close to the DL (Figure 3.15). For sites BC-CDM13 and BCTB5 (which had the PAH highest PAH fluxes), 2-3 ring PAH release was similar to that of 5-6 ring PAHs. Sulfide, ammonia, nitrate, dissolved organic carbon (DOC) and total filtered phosphorous (TFP) flux varied from -0.696 to 1.78, 0.648 to 3.34, -2.95 to 0.336, -0.168 to 0.816 and -1.75 to 0.288 mg m^{-2} d^{-1}, respectively (Figure 3.16). Sediment oxygen demand (SOD) was statistically significantly higher (95% CI, Student's t-test) in the turning basin (2.7±1.7 mg m^{-2} d^{-1}) compared to the creek proper (0.65±0.38 mg m^{-2} d^{-1}).

The benthic fluxes can be compared on an annual basis to the magnitude of the ebullition facilitated fluxes (with some simplifying assumptions) to provide a point of comparison of the magnitude of each process. Although the benthic flux was measured only during one season, the rate can be extrapolated for the entire year to a first approximation if we assume that the release is due to a diffusive process (with no bioturbation). In Fickian diffusion, transport in response to a concentration gradient is controlled by the apparent diffusivity D_{app}. Although D_{app} is affected by temperature, it is

not as sensitive as the rate of gas ebullition is to the annual temperature variation in Bubbly Creek sediment temperature (*12*). Thus, if we assume the benthic flux measured in fall 2009 is largely representative of the average benthic flux observed throughout the year, we can compute the total areal mass release over time and compare it to the cumulative mass release by gas ebullition (assuming a constant rate as measured for each season in the current study). The results for BCTB5 are presented in Figure 3.17a,b (metals) and Figure 3.18 (PAHs). BCTB5 was chosen for comparison because it has the greatest number of metals and PAHs that are released at significant levels among all the sediment sites.

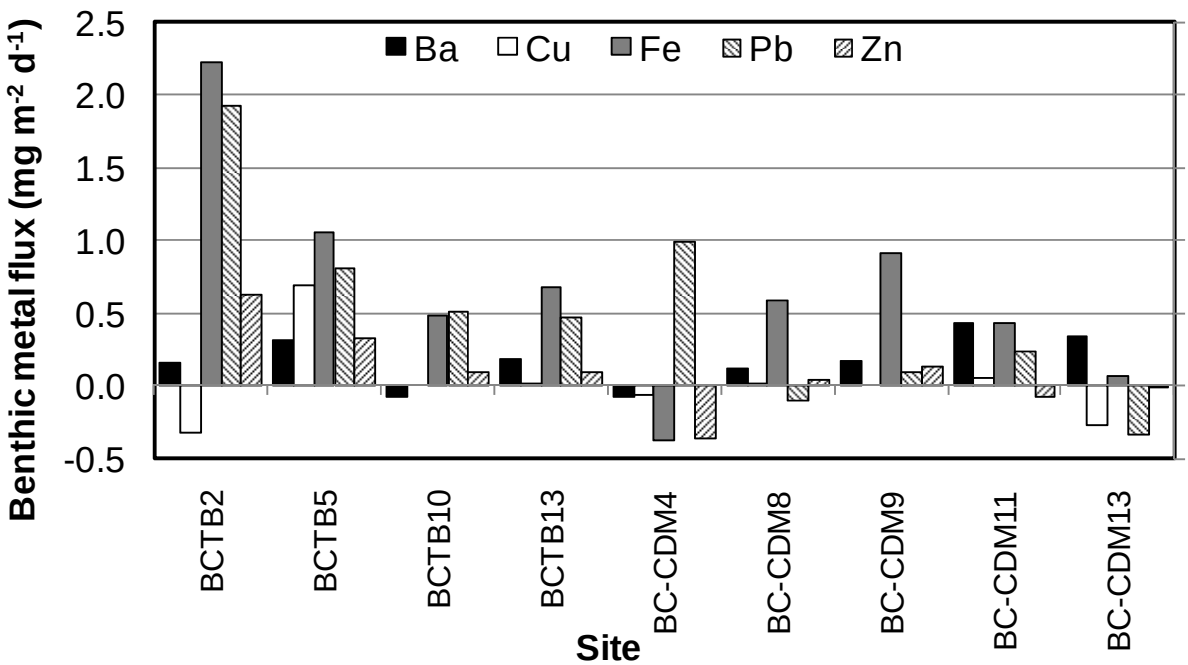

Figure 3.14. Metal flux to the water column measured during the benthic chamber study in the nine sampled sites at Bubbly Creek and the turning basin of Bubbly Creek.

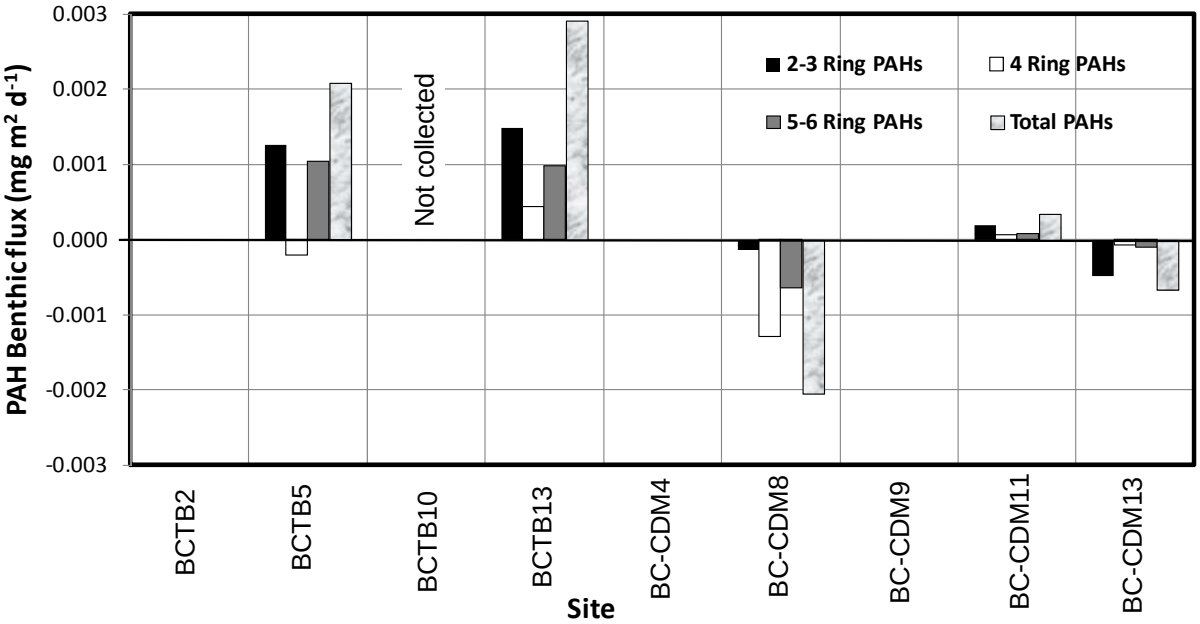

Figure 3.15. PAH fluxes to the water column measured during the benthic chamber study in the nine sampled sites at Bubbly Creek and the turning basin of Bubbly Creek. BCTB2, BC-CDM4, and BC-CDM9 all had non-detectable PAH fluxes.

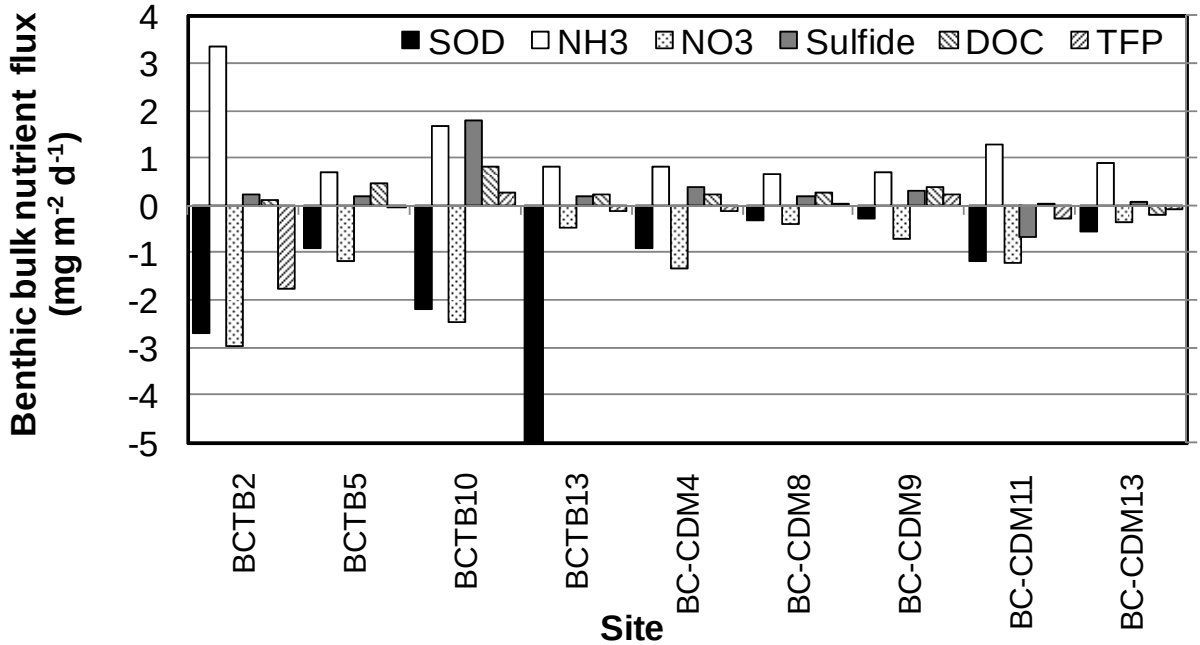

Figure 3.16. Sediment oxygen demand (SOD), ammonia, nitrate, sulfide, dissolved organic carbon (DOC) and total filtered phosphorous (TFP) fluxes to the water column measured during the benthic chamber study in the nine sampled sites at Bubbly Creek and the turning basin of Bubbly Creek.

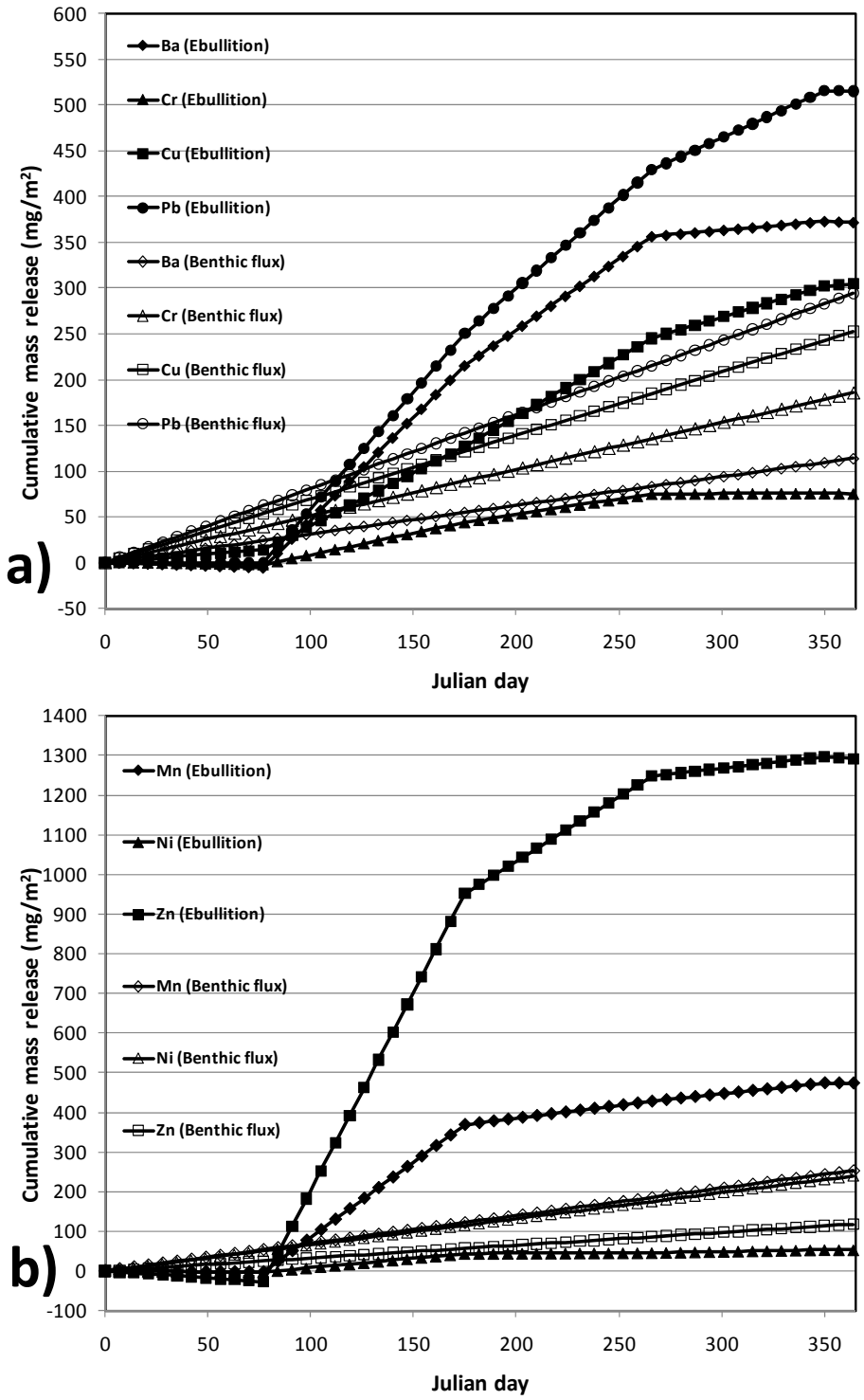

Figure 3.17. Cumulative annual metal release at site BCTB5. Shown are a) Ba, Cr, Cu, and Pb; and b) Mn, Ni, and Zn mass release to the water column per m2 of sediment on an annual basis by gas ebullition (closed symbols) and direct benthic flux (open symbols). Julian day 1=January 1. Benthic flux mass release assumes constant rate of flux throughout year.

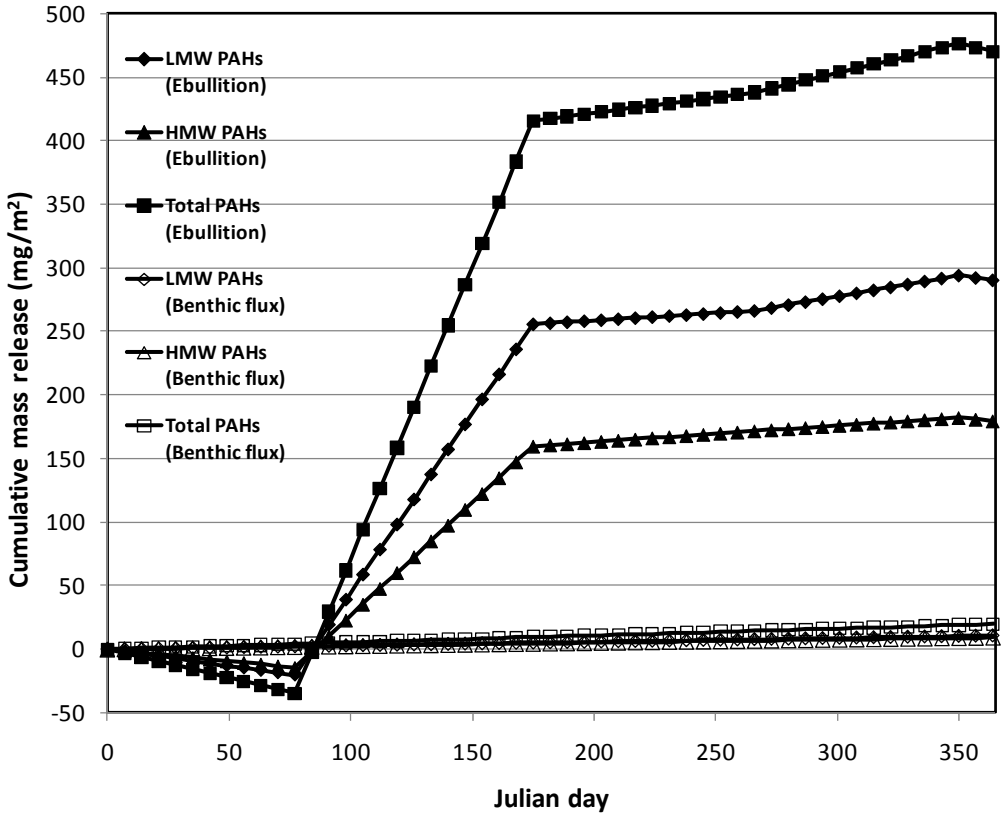

Figure 3.18. Cumulative annual PAH release at site BCTB5. Shown are LMW, HMW, and T-PAH mass release to the water column per m2 of sediment on an annual basis by gas ebullition (closed symbols) and direct benthic flux (open symbols). LMW PAHs have 2-4 rings and HMW PAHs have 5-6 rings. Julian day 1=January 1. Benthic flux mass release assumes constant rate of flux throughout year.

In general, the fluxes due to gas ebullition are significantly higher than the fluxes from the benthic flux study (Figures 3.17a,b and 3.18). Total annual areal mass release of metals due to gas ebullition followed the trend of (mass release in mg m^2 yr^{-1}): Zn(1300) >> Pb(500) ~ Mn (500) > Ba(370) > Cu(300) >> Cr(70) > Ni(40). A different trend was observed for direct benthic flux: Pb(300) > Cu(250) ~ Mn (250) ~ Ni(240) > Cr(180) >> Ba(100) > Zn(40). Interestingly, only Cr and Ni had higher annual areal mass releases by direct benthic release compared to ebullition facilitated release. Cr transport is known to be highly sensitive to redox state, with highly reducing conditions possibly mobilizing the metal (*12*). The highly reduced conditions in Bubbly Creek sediment might render Cr particularly mobile during the benthic flux study; although it should be emphasized that care was taken to cease the benthic flux measurement as the dissolved oxygen levels approached zero.

The difference between direct benthic flux release and ebullition facilitated release of PAHs was much greater than for metals (Figure 3.14). The ebullition facilitated release of PAHs on an annual basis is predicted to be ~180 mg m^2 for 5-6 ring PAHs and ~150 mg m^2 for 2-3 ring PAHs, with a T-PAH mass release of 480 mg m^2 on an annual basis. These levels were more than an order of magnitude greater than by direct benthic release.

3.4 Summary

These results in total demonstrate that gas ebullition is an important pathway for release of PAH and heavy metal pollutants to the water column of Bubbly Creek. Comparison of the direct benthic release rates to ebullition facilitated rates suggest that PAHs are released at >10 times greater rates by biogenic gas production. Although the increase in release rate is not as great for metals, ebullition facilitated release rates are frequently much greater.

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APPENDIX A. ANALYTICAL METHODS AND REPORTING LIMITS

Table A1. List of PAHs, analytical methods, and required reporting limits.

Contaminants of Concern	Test Method	Contract Required Quantitation Limits ($\mu g\ kg^{-1}$ dry)[a]
PAHs – SIM [a]		
Acenaphthene	SW8270C-SIM (SW3550B)	18,000
Anthracene	SW8270C-SIM (SW3550B)	6,600
Benz(a)anthracene	SW8270C-SIM (SW3550B)	660
Benzo(a)pyrene	SW8270C-SIM (SW3550B)	230
Benzo(b)fluoranthene	SW8270C-SIM (SW3550B)	660
Benzo(k)fluoranthene	SW8270C-SIM (SW3550B)	660
Chrysene	SW8270C-SIM (SW3550B)	1500
Dibenz(a,h)anthracene	SW8270C-SIM (SW3550B)	20
Fluoranthene	SW8270C-SIM (SW3550B)	2100
Fluorene	SW8270C-SIM (SW3550B)	2,100
Indeno(1,2,3-cd)pyrene	SW8270C-SIM (SW3550B)	660
Naphthalene	SW8270C-SIM (SW3550B)	660
Phenanthrene	SW8270C-SIM (SW3550B)	660
Pyrene	SW8270C-SIM (SW3550B)	660
Carbazole	SW8270C-SIM (SW3550B)	660

[a] SIM = Selective ion monitoring

Table A2. List of sediment phase metals, analytical methods, and required reporting limits.

Contaminants of Concern	Test Method	Contract Required Quantitation Limits ($\mu g\ kg^{-1}$ dry)[a]
Metals		
Arsenic	SW6020 (SW3050B)	3500
Barium	SW6020 (SW3050B)	100
Cadmium	SW6020 (SW3050B)	300
Chromium	SW6020 (SW3050B)	500
Copper	SW6020 (SW3050B)	400
Lead	SW6020 (SW3050B)	2,800
Nickel	SW6020 (SW3050B)	1,000
Selenium	SW6020 (SW3050B)	5,000
Silver	SW6020 (SW3050B)	500
Zinc	SW6020 (SW3050B)	200
Mercury	7470 / 7471	200

[a] SW-846 metals methods reference instrument detection limits (IDLs) instead of quantification limits. Therefore, for metals, an instrument detection limit is listed rather than a quantitation limit.

Table A3. List of aqueous phase metals, analytical methods, and required reporting limits.

Contaminants of Concern	Test Method	Contract Required Quantitation Limits ($mg\ L^{-1}$)
Metals		
Arsenic	SW6020	0.1
Barium	SW6020	0.1
Cadmium	SW6020	0.05
Chromium	SW6020	0.1
Copper	SW6020	0.25
Lead	SW6020	0.05
Nickel	SW6020	0.1
Selenium	SW6020	0.1
Silver	SW6020	0.1
Zinc	SW6020	0.5
Mercury	7470A	0.012

Table A4. List of aqueous phase analytes, analytical methods, and required reporting limits.

Analysis	Test Method	Contract Required Quantitation Limits (mg L^{-1})
Nitrate	353.2	0.5
Dissolved organic carbon	5310B	2
Total filtered phosphorous	4500P,B,E	0.03

APPENDIX B. DATA

Table B1. Bulk sediment characterization parameters.

Spring						
	SG OM (%)	SG OC (%)	Core OM (%)	Core OC (%)	SG COD (mg/kg)	Porewater NO3 (mg/L)
BCTB2	13.94	8.31	16.50	14.92	NM	0.49
BCTB5	16.28	11.87	13.68	14.13	7,617	0.49
BCTB10	9.01	8.06	14.65	14.16	28,050	0.39
BCTB13	13.19	7.56	16.16	14.36	NM	0.52
BC-CDM4	12.01	8.09	*26.00*	*14.00*	8,133	**0.05**
BC-CDM8	8.17	3.23	*6.80*	*8.40*	17,000	**0.05**
BC-CDM9	1.78	1.76	*46.00*	*17.00*	12,900	**0.05**
BC-CDM11	2.37	2.16	*7.20*	*3.80*	8,100	**0.05**
BC-CDM13	1.53	1.81	*5.40*	*0.59*	8,867	**0.05**
Summer						
	SG OM (%)	SG OC (%)	Core OM (%)	Core OC (%)	SG COD (mg/kg)	Porewater NO3 (mg/L)
BCTB2	13.94	8.31	16.50	14.92	NM	0.49
BCTB5	16.28	11.87	13.68	14.13	7,617	0.49
BCTB10	9.01	8.06	14.65	14.16	28,050	0.39
BCTB13	13.19	7.56	16.16	14.36	NM	0.52
BC-CDM4	12.01	8.09	*26.00*	*14.00*	8,133	**0.05**
BC-CDM8	8.17	3.23	*6.80*	*8.40*	17,000	**0.05**
BC-CDM9	1.78	1.76	*46.00*	*17.00*	12,900	**0.05**
BC-CDM11	2.37	2.16	*7.20*	*3.80*	8,100	**0.05**
BC-CDM13	1.53	1.81	*5.40*	*0.59*	8,867	**0.05**
Fall						
	SG OM (%)	SG OC (%)	Core OM (%)	Core OC (%)	SG COD (mg/kg)	Porewater NO3 (mg/L)
BCTB2	13.94	8.31	16.50	14.92	NM	0.49
BCTB5	16.28	11.87	13.68	14.13	7,617	0.49
BCTB10	9.01	8.06	14.65	14.16	28,050	0.39
BCTB13	13.19	7.56	16.16	14.36	NM	0.52
BC-CDM4	12.01	8.09	*26.00*	*14.00*	8,133	**0.05**
BC-CDM8	8.17	3.23	*6.80*	*8.40*	17,000	**0.05**
BC-CDM9	1.78	1.76	*46.00*	*17.00*	12,900	**0.05**
BC-CDM11	2.37	2.16	*7.20*	*3.80*	8,100	**0.05**
BC-CDM13	1.53	1.81	*5.40*	*0.59*	8,867	**0.05**
Winter						
	SG OM (%)	SG OC (%)	Core OM (%)	Core OC (%)	SG COD (mg/kg)	Porewater NO3 (mg/L)
BCTB2	13.94	8.31	16.50	14.92	NM	0.49
BCTB5	16.28	11.87	13.68	14.13	7,617	0.49
BCTB10	9.01	8.06	14.65	14.16	28,050	0.39
BCTB13	13.19	7.56	16.16	14.36	NM	0.52
BC-CDM4	12.01	8.09	*26.00*	*14.00*	8,133	**0.05**
BC-CDM8	8.17	3.23	*6.80*	*8.40*	17,000	**0.05**
BC-CDM9	1.78	1.76	*46.00*	*17.00*	12,900	**0.05**
BC-CDM11	2.37	2.16	*7.20*	*3.80*	8,100	**0.05**
BC-CDM13	1.53	1.81	*5.40*	*0.59*	8,867	**0.05**

Italics=data from USACE 2005 (*19*). **Bold**=below detection limit, SG=surface grab, NM=not measured.

Table B2. Metal concentrations in sediments.

Spring	Metals in sediments (mg/kg sed dry wt)														
	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
BCTB2	9.2	390	9.5	730	9.3	340	26,000	3,400	37,000	410	1.4	55	1.7	15	980
BCTB5	5.2	260	10	86	6.6	280	18,000	470	38,000	340	0.98	46	**0.95**	10	710
BCTB10	6.6	260	11	120	7.9	260	23,000	320	25,000	350	1.1	41	1.8	9.8	980
BCTB13	9.4	350	11	130	8.4	340	24,000	420	38,000	410	1.8	46	1.9	13	1300
BC-CDM4	3.4	100	0.82	26	1.3	110	11,000	110	9,000	250	0.28	13	**0.95**	3.1	260
BC-CDM8	3	170	1.1	25	2.5	67	6,900	190	19,000	150	0.87	14	0.62	3.5	370
BC-CDM9	3.6	160	1.8	51	5.1	290	10,000	460	21,000	170	1.1	23	**0.55**	5.3	550
BC-CDM11	4	170	1.1	40	4.2	450	11,000	560	29,000	190	0.36	20	**0.55**	7.8	440
BC-CDM13	**2.6**	3.4	**1.3**	**2.6**	**2.6**	**6.5**	230	1.8	880	6.7	**0.065**	**2.6**	**2.6**	**2.6**	6.0
Summer	Metals in sediments (mg/kg sed dry wt)														
	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
BCTB2	9.2	390	9.5	730	9.3	340	26,000	3,400	37,000	410	1.4	55	1.7	15	980
BCTB5	5.2	260	10	86	6.6	280	18,000	470	38,000	340	0.98	46	**0.95**	10	710
BCTB10	6.6	260	11	120	7.9	260	23,000	320	25,000	350	1.1	41	1.8	9.8	980
BCTB13	9.4	350	11	130	8.4	340	24,000	420	38,000	410	1.8	46	1.9	13	1300
BC-CDM4	3.4	100	0.82	26	1.3	110	11,000	110	9,000	250	0.28	13	**0.95**	3.1	260
BC-CDM8	3	170	1.1	25	2.5	67	6,900	190	19,000	150	0.87	14	0.62	3.5	370
BC-CDM9	3.6	160	1.8	51	5.1	290	10,000	460	21,000	170	1.1	23	**0.55**	5.3	550
BC-CDM11	4	170	1.1	40	4.2	450	11,000	560	29,000	190	0.36	20	**0.55**	7.8	440
BC-CDM13	**2.6**	3.4	**1.3**	**2.6**	**2.6**	**6.5**	230	1.8	880	6.7	**0.065**	**2.6**	**2.6**	**2.6**	6.0
Fall	Metals in sediments (mg/kg sed dry wt)														
	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
BCTB2	9.2	390	9.5	730	9.3	340	26,000	3,400	37,000	410	1.4	55	1.7	15	980
BCTB5	5.2	260	10	86	6.6	280	18,000	470	38,000	340	0.98	46	**0.95**	10	710
BCTB10	6.6	260	11	120	7.9	260	23,000	320	25,000	350	1.1	41	1.8	9.8	980
BCTB13	9.4	350	11	130	8.4	340	24,000	420	38,000	410	1.8	46	1.9	13	1300
BC-CDM4	3.4	100	0.82	26	1.3	110	11,000	110	9,000	250	0.28	13	**0.95**	3.1	260
BC-CDM8	3	170	1.1	25	2.5	67	6,900	190	19,000	150	0.87	14	0.62	3.5	370
BC-CDM9	3.6	160	1.8	51	5.1	290	10,000	460	21,000	170	1.1	23	**0.55**	5.3	550
BC-CDM11	4	170	1.1	40	4.2	450	11,000	560	29,000	190	0.36	20	**0.55**	7.8	440
BC-CDM13	**2.6**	3.4	**1.3**	**2.6**	**2.6**	**6.5**	230	1.8	880	6.7	**0.065**	**2.6**	**2.6**	**2.6**	6.0
Winter	Metals in sediments (mg/kg sed dry wt)														
	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
BCTB2	9.2	390	9.5	730	9.3	340	26,000	3,400	37,000	410	1.4	55	1.7	15	980
BCTB5	5.2	260	10	86	6.6	280	18,000	470	38,000	340	0.98	46	**0.95**	10	710
BCTB10	6.6	260	11	120	7.9	260	23,000	320	25,000	350	1.1	41	1.8	9.8	980
BCTB13	9.4	350	11	130	8.4	340	24,000	420	38,000	410	1.8	46	1.9	13	1300
BC-CDM4	3.4	100	0.82	26	1.3	110	11,000	110	9,000	250	0.28	13	**0.95**	3.1	260
BC-CDM8	3	170	1.1	25	2.5	67	6,900	190	19,000	150	0.87	14	0.62	3.5	370
BC-CDM9	3.6	160	1.8	51	5.1	290	10,000	460	21,000	170	1.1	23	**0.55**	5.3	550
BC-CDM11	4	170	1.1	40	4.2	450	11,000	560	29,000	190	0.36	20	**0.55**	7.8	440
BC-CDM13	**2.6**	3.4	**1.3**	**2.6**	**2.6**	**6.5**	230	1.8	880	6.7	**0.065**	**2.6**	**2.6**	**2.6**	6.0

Italics=data from USACE 2005 (*19*). **Bold**=below detection limit.

Table B3. PAH concentrations in sediments.

Spring	PAHs in sediments (mg/kg sed(dry))															
	Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
BCTB2	**0.13**	0.61	1.2	4.5	5.6	5.3	3.7	3.8	5.1	1.3	8.8	0.61	3.00	0.29	4.7	8.1
BCTB5	0.74	0.66	1.9	6.9	5.8	5.3	2.2	5.8	7.5	1.2	14	0.89	2.5	0.48	7.4	11
BCTB10	0.89	0.99	2.0	6.1	4.1	5.5	2.0	4.5	7.0	0.94	12	1.2	2.1	0.69	6.4	11
BCTB13	0.31	**0.14**	0.73	2.6	1.8	2.2	1.0	2.5	3.0	0.47	5.4	0.39	1.1	0.34	2.5	4.8
BC-CDM4	**1.1**	**1.1**	3.1	8.8	8.4	9.2	3.4	8.00	9.6	**1.1**	22	**1.1**	3.6	**1.1**	12	17
BC-CDM8	5.7	**0.85**	12	30	33	29	18	27	32	6.00	76	6.7	17	**0.85**	64	58
BC-CDM9	3.9	**0.3**	7.4	16	19	14	11	16	17	4.00	44	4.8	9.9	0.90	40	35
BC-CDM11	**0.32**	**0.32**	**0.32**	1.3	1.2	1.2	0.72	1.3	1.5	**0.32**	4.5	**0.32**	0.72	**0.32**	2.3	3.5
BC-CDM13	2.2	0.97	9.8	39	39	38	23	21	37	8.6	86	1.9	19	**0.3**	39	73
Summer	PAHs in sediments (mg/kg sed(dry))															
	Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
BCTB2	**0.13**	0.61	1.2	4.5	5.6	5.3	3.7	3.8	5.1	1.3	8.8	0.61	3	0.29	4.7	8.1
BCTB5	0.74	0.66	1.9	6.9	5.8	5.3	2.2	5.8	7.5	1.2	14	0.89	2.5	0.48	7.4	11
BCTB10	0.89	0.99	2.0	6.1	4.1	5.5	2.0	4.5	7.0	0.94	12	1.2	2.1	0.69	6.4	11
BCTB13	0.31	**0.14**	0.73	2.6	1.8	2.2	1.0	2.5	3.0	0.47	5.4	0.39	1.1	0.34	2.5	4.8
BC-CDM4	**1.1**	**1.1**	3.1	8.8	8.4	9.2	3.4	8.00	9.6	**1.1**	22	**1.1**	3.6	**1.1**	12	17
BC-CDM8	5.7	**0.85**	12	30	33	29	18	27	32	6.00	76	6.7	17	**0.85**	64	58
BC-CDM9	3.9	**0.3**	7.4	16	19	14	11	16	17	4.00	44	4.8	9.9	0.90	40	35
BC-CDM11	**0.32**	**0.32**	**0.32**	1.3	1.2	1.2	0.72	1.3	1.5	**0.32**	4.5	**0.32**	0.72	**0.32**	2.3	3.5
BC-CDM13	2.2	0.97	9.8	39	39	38	23	21	37	8.6	86	1.9	19	**0.3**	39	73
Fall	PAHs in sediments (mg/kg sed(dry))															
	Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
BCTB2	**0.13**	0.61	1.2	4.5	5.6	5.3	3.7	3.8	5.1	1.3	8.8	0.61	3	0.29	4.7	8.1
BCTB5	0.74	0.66	1.9	6.9	5.8	5.3	2.2	5.8	7.5	1.2	14	0.89	2.5	0.48	7.4	11
BCTB10	0.89	0.99	2.0	6.1	4.1	5.5	2.0	4.5	7.0	0.94	12	1.2	2.1	0.69	6.4	11
BCTB13	0.31	**0.14**	0.73	2.6	1.8	2.2	1.0	2.5	3.0	0.47	5.4	0.39	1.1	0.34	2.5	4.8
BC-CDM4	**1.1**	**1.1**	3.1	8.8	8.4	9.2	3.4	8.00	9.6	**1.1**	22	**1.1**	3.6	**1.1**	12	17
BC-CDM8	5.7	**0.85**	12	30	33	29	18	27	32	6.00	76	6.7	17	**0.85**	64	58
BC-CDM9	3.9	**0.3**	7.4	16	19	14	11	16	17	4.00	44	4.8	9.9	0.90	40	35
BC-CDM11	**0.32**	**0.32**	**0.32**	1.3	1.2	1.2	0.72	1.3	1.5	**0.32**	4.5	**0.32**	0.72	**0.32**	2.3	3.5
BC-CDM13	2.2	0.97	9.8	39	39	38	23	21	37	8.6	86	1.9	19	**0.3**	39	73
Winter	PAHs in sediments (mg/kg sed(dry))															
	Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
BCTB2	**0.13**	0.61	1.2	4.5	5.6	5.3	3.7	3.8	5.1	1.3	8.8	0.61	3	0.29	4.7	8.1
BCTB5	0.74	0.66	1.9	6.9	5.8	5.3	2.2	5.8	7.5	1.2	14	0.89	2.5	0.48	7.4	11
BCTB10	0.89	0.99	2.0	6.1	4.1	5.5	2.0	4.5	7.0	0.94	12	1.2	2.1	0.69	6.4	11
BCTB13	0.31	**0.14**	0.73	2.6	1.8	2.2	1.0	2.5	3.0	0.47	5.4	0.39	1.1	0.34	2.5	4.8
BC-CDM4	**1.1**	**1.1**	3.1	8.8	8.4	9.2	3.4	8.00	9.6	**1.1**	22	**1.1**	3.6	**1.1**	12	17
BC-CDM8	5.7	**0.85**	12	30	33	29	18	27	32	6.00	76	6.7	17	**0.85**	64	58
BC-CDM9	3.9	**0.3**	7.4	16	19	14	11	16	17	4.00	44	4.8	9.9	0.90	40	35
BC-CDM11	**0.32**	**0.32**	**0.32**	1.3	1.2	1.2	0.72	1.3	1.5	**0.32**	4.5	**0.32**	0.72	**0.32**	2.3	3.5
BC-CDM13	2.2	0.97	9.8	39	39	38	23	21	37	8.6	86	1.9	19	**0.3**	39	73

Italics=data from USACE 2005 (*19*). **Bold**=below detection limit.

Table B4. Field gas ebullition flux and laboratory volumetric gas production. Laboratory and field measurements converted assuming a 1 m sediment "ebullition active" zone for comparison purposes.

Spring	***Lab results****	**Field results**							
	Gas flux (L/m2/d)	Gas flux (L/m2/d)	Lab gas rate (L/m3/d)	Sed depth (m)	Depth calc/depth to hardpan	Field gas rate (L/m3/d)	*Lab 1m gas flux (L/m2/d)**	*Field 1m gas rate (L/m3/d)**	Field gas flux/lab gas rate
BCTB2	*34.05*	6.10	5.93	5.74	0.18	1.06	*5.93*	*6.10*	1.03
BCTB5	*13.39*	4.97	2.07	6.46	0.37	0.77	*2.07*	*4.97*	2.40
BCTB10	*14.70*	8.67	3.07	4.79	0.59	1.81	*3.07*	*8.67*	2.82
BCTB13	*22.85*	7.81	4.14	5.52	0.34	1.42	*4.14*	*7.81*	1.88
BC-CDM4	*31.56*	10.72	9.89	3.19	0.34	3.36	*9.89*	*10.72*	1.08
BC-CDM8	*13.75*	5.26	5.45	2.52	0.38	2.08	*5.45*	*5.26*	0.97
BC-CDM9	*21.41*	6.14	7.24	2.96	0.29	2.08	*7.24*	*6.14*	0.85
BC-CDM11	*5.43*	4.02	1.49	3.65	0.74	1.10	*1.49*	*4.02*	2.70
BC-CDM13	*2.44*	2.37	1.14	2.15	0.97	1.11	*1.14*	*2.37*	2.09
Summer	***Lab results****	**Field results**							
	Gas flux (L/m2/d)	Gas flux (L/m2/d)	Lab gas rate (L/m3/d)	Sed depth (m)	Depth calc/depth to hardpan	Field gas rate (L/m3/d)	*Lab 1m gas flux (L/m2/d)**	*Field 1m gas rate (L/m3/d)**	Field gas flux/lab gas rate
BCTB2	*43.01*	5.43	7.50	5.74	0.13	0.95	*7.50*	*5.43*	0.72
BCTB5	*21.51*	7.59	3.33	6.46	0.35	1.18	*3.33*	*7.59*	2.28
BCTB10	*23.75*	3.76	4.96	4.79	0.16	0.78	*4.96*	*3.76*	0.76
BCTB13	*31.65*	1.39	5.74	5.52	0.04	0.25	*5.74*	*1.39*	0.24
BC-CDM4	*43.45*	8.33	13.62	3.19	0.19	2.61	*13.62*	*8.33*	0.61
BC-CDM8	*19.04*	3.67	7.54	2.52	0.19	1.46	*7.54*	*3.67*	0.49
BC-CDM9	*30.73*	3.88	10.39	2.96	0.13	1.31	*10.39*	*3.88*	0.37
BC-CDM11	*6.58*	9.10	1.81	3.65	1.38	2.50	*1.81*	*9.10*	5.04
BC-CDM13	*4.72*	6.00	2.20	2.15	1.27	2.79	*2.20*	*6.00*	2.73
Fall	***Lab results****	**Field results**							
	Gas flux (L/m2/d)	Gas flux (L/m2/d)	Lab gas rate (L/m3/d)	Sed depth (m)	Depth calc/depth to hardpan	Field gas rate (L/m3/d)	*Lab 1m gas flux (L/m2/d)**	*Field 1m gas rate (L/m3/d)**	Field gas flux/lab gas rate
BCTB2	*34.05*	1.3	5.93	5.74	0.04	0.23	*5.93*	*1.31*	0.22
BCTB5	*13.39*	2.7	2.07	6.46	0.20	0.42	*2.07*	*2.72*	1.31
BCTB10	*14.70*	2.5	3.07	4.79	0.17	0.53	*3.07*	*2.52*	0.82
BCTB13	*22.85*	3.1	4.14	5.52	0.13	0.56	*4.14*	*3.08*	0.74
BC-CDM4	*31.56*	3.18	9.89	3.19	0.10	1.00	*9.89*	*3.18*	0.32
BC-CDM8	*13.75*	1.49	5.45	2.52	0.11	0.59	*5.45*	*1.49*	0.27
BC-CDM9	*21.41*	1.97	7.24	2.96	0.09	0.67	*7.24*	*1.97*	0.27
BC-CDM11	*5.43*	3.32	1.49	3.65	0.61	0.91	*1.49*	*3.32*	2.23
BC-CDM13	*2.44*	2.91	1.14	2.15	1.19	1.35	*1.14*	*2.91*	2.56
Winter	***Lab results****	**Field results**							
	Gas flux (L/m2/d)	Gas flux (L/m2/d)	Lab gas rate (L/m3/d)	Sed depth (m)	Depth calc/depth to hardpan	Field gas rate (L/m3/d)	*Lab 1m gas flux (L/m2/d)**	*Field 1m gas rate (L/m3/d)**	Field gas flux/lab gas rate
BCTB2	*0.12*	2.91	0.02	5.74	23.56	0.51	*0.02*	*2.91*	135.21
BCTB5	*0.83*	2.70	0.13	6.46	3.26	0.42	*0.13*	*2.70*	21.10
BCTB10	*1.36*	3.35	0.28	4.79	2.47	0.70	*0.28*	*3.35*	11.81
BCTB13	*0.11*	2.22	0.02	5.52	19.42	0.40	*0.02*	*2.22*	107.12
BC-CDM4	*12.12*	0.14	3.80	3.19	0.01	0.04	*3.80*	*0.14*	0.04
BC-CDM8	*5.76*	1.77	2.28	2.52	0.31	0.70	*2.28*	*1.77*	0.78
BC-CDM9	*11.15*	1.12	3.77	2.96	0.10	0.38	*3.77*	*1.12*	0.30
BC-CDM11	*1.27*	0.05	0.35	3.65	0.04	0.01	*0.35*	*0.05*	0.15
BC-CDM13	0.47	0.11	0.22	2.15	0.23	0.05	*0.22*	*0.11*	0.50

Italics=Values calculated assuming the top 1 m of sediment is "ebullition active" in the field. **Bold**=below detection limit.

Table B5. Field gas composition and individual gas sediment-to-water flux.

Spring	Field Gas Composition and Flux					
	% CH4 (vol)	CH4 (L/m2/d)	% N2 (vol)	N2(L/m2/d)	% CO2 (vol)	CO2 (L/m2/d)
BCTB2	65.7%	4.01	32.5%	1.98	1.81%	0.11
BCTB5	67.5%	3.35	29.5%	1.46	3.08%	0.15
BCTB10	69.0%	5.98	27.7%	2.40	3.32%	0.29
BCTB13	63.6%	4.96	33.4%	2.61	3.00%	0.23
BC-CDM4	53.5%	5.73	44.0%	4.71	2.55%	0.27
BC-CDM8	63.9%	3.36	34.5%	1.82	1.52%	0.08
BC-CDM9	62.0%	3.81	36.8%	2.26	1.16%	0.07
BC-CDM11	58.0%	2.33	38.3%	1.54	3.75%	0.15
BC-CDM13	32.5%	0.77	67.1%	1.59	0.43%	0.01
Summer	**Field Gas Composition and Flux**					
	% CH4 (vol)	CH4 (L/m2/d)	% N2 (vol)	N2(L/m2/d)	% CO2 (vol)	CO2 (L/m2/d)
BCTB2	66.3%	3.60	28.7%	1.56	5.01%	0.27
BCTB5	51.3%	3.90	45.6%	3.46	3.02%	0.23
BCTB10	49.1%	1.84	48.0%	1.80	2.92%	0.11
BCTB13	67.1%	0.93	31.3%	0.43	1.66%	0.02
BC-CDM4	64.9%	5.40	31.9%	2.66	3.19%	0.27
BC-CDM8	67.5%	2.48	30.7%	1.13	1.84%	0.07
BC-CDM9	62.4%	2.42	32.4%	1.26	5.17%	0.20
BC-CDM11	40.0%	3.64	54.8%	4.99	5.22%	0.47
BC-CDM13	43.4%	2.60	54.1%	3.24	2.58%	0.15
Fall	**Field Gas Composition and Flux**					
	% CH4 (vol)	CH4 (L/m2/d)	% N2 (vol)	N2(L/m2/d)	% CO2 (vol)	CO2 (L/m2/d)
BCTB2	52.6%	0.69	46.8%	0.61	0.55%	0.01
BCTB5	74.8%	2.03	22.7%	0.62	2.52%	0.07
BCTB10	70.3%	1.77	28.9%	0.73	0.79%	0.02
BCTB13	65.5%	2.01	30.6%	0.94	3.92%	0.12
BC-CDM4	46.4%	1.47	53.3%	1.69	0.31%	0.01
BC-CDM8	0.0%	0.00	100.0%	1.49	0.00%	0.00
BC-CDM9	38.4%	0.76	60.9%	1.20	0.73%	0.01
BC-CDM11	71.2%	2.37	26.7%	0.89	2.05%	0.07
BC-CDM13	82.3%	2.39	16.5%	0.48	1.25%	0.04
Winter	**Field Gas Composition and Flux**					
	% CH4 (vol)	CH4 (L/m2/d)	% N2 (vol)	N2(L/m2/d)	% CO2 (vol)	CO2 (L/m2/d)
BCTB2	78.3%	2.28	15.9%	0.46	5.76%	0.17
BCTB5	63.8%	1.72	33.3%	0.90	2.90%	0.08
BCTB10	49.3%	1.65	47.8%	1.60	2.95%	0.10
BCTB13	69.1%	1.53	25.2%	0.56	5.67%	0.13
BC-CDM4	71.1%	0.10	26.7%	0.04	2.13%	0.003
BC-CDM8	73.6%	1.30	21.6%	0.38	4.83%	0.09
BC-CDM9	61.5%	0.69	32.8%	0.37	5.75%	0.06
BC-CDM11	0.0%	0.00	0.0%	0.00	0.00%	0.00
BC-CDM13	86.6%	0.09	12.2%	0.01	1.19%	0.001

Italics=negative value. **Bold**=below detection limit.

Table B6. Ebullition-facilitated sediment-to-water metal flux.

Spring	Metal flux (mg/m2/d)														
	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
BCTB2	*-0.12*	*-0.34*	*-0.06*	*-0.12*	*-0.12*	*-0.30*	15.3	*-0.16*	47.3	0.29	NM	*-0.12*	*-0.12*	0.09	*-0.91*
BCTB5	0.47	2.26	0.24	0.47	0.47	1.15	171	2.56	468	3.79	NM	0.47	0.47	0.47	9.99
BCTB10	0.24	5.13	0.12	2.35	0.24	5.78	452	5.69	702	9.58	NM	0.24	0.24	0.24	19.6
BCTB13	*-0.08*	0.47	*-0.04*	0.15	*-0.08*	1.85	27.2	0.61	98.4	*-8.29*	NM	*-0.08*	*-0.08*	*-0.08*	*-0.26*
BC-CDM4	*-0.03*	1.14	*-0.02*	*-0.03*	*-0.03*	0.03	140	1.56	187	*-0.20*	NM	*-0.03*	*-0.03*	*-0.03*	3.13
BC-CDM8	0.04	0.63	0.02	0.04	0.04	0.12	41.9	0.47	162	1.65	NM	0.04	0.04	0.04	0.21
BC-CDM9	*-0.08*	2.50	*-0.04*	1.18	*-0.08*	9.64	293	7.70	794	8.09	NM	*-0.08*	*-0.08*	*-0.08*	15.5
BC-CDM11	0.06	0.07	0.03	0.06	0.06	0.16	18.5	0.36	176	*-1.18*	NM	0.06	0.06	0.06	1.75
BC-CDM13	*-0.10*	0.33	*-0.04*	*-0.10*	*-0.10*	*-0.24*	20.1	0.25	44.7	1.60	NM	*-0.10*	*-0.10*	*-0.10*	*-0.44*
Summer	Metal flux (mg/m2/d)														
	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
BCTB2	*-0.028*	2.84	*-0.015*	0.494	*-0.028*	1.73	97.6	3.44	281	0.360	NM	*-0.028*	*-0.028*	*-0.028*	8.04
BCTB5	0.022	1.55	0.010	0.344	0.022	1.30	63.8	1.96	179	0.647	NM	0.022	0.022	0.022	3.26
BCTB10	0.011	*-0.001*	0.006	0.030	0.011	0.476	13.9	0.397	33.7	1.15	NM	0.022	0.011	0.011	0.138
BCTB13	*-0.081*	*-0.56*	*-0.041*	0.173	*-0.081*	0.829	62.9	0.657	*-52.9*	1.86	NM	*-0.081*	*-0.081*	*-0.081*	1.15
BC-CDM4	0.101	2.05	0.050	*-0.057*	0.101	-0.007	11.6	0.147	195	0.366	NM	0.101	0.101	0.101	0.224
BC-CDM8	*-0.031*	1.19	*-0.017*	0.551	*-0.031*	2.77	84.3	4.64	559	*-1.90*	NM	0.267	*-0.031*	*-0.031*	11.5
BC-CDM9	*-0.014*	*-0.099*	*-0.007*	0.070	*-0.014*	0.456	68.0	1.15	*-13.0*	1.61	NM	*-0.014*	*-0.014*	*-0.014*	0.086
BC-CDM11	0.053	*-0.324*	0.027	0.394	0.053	1.89	4.3	17.9	211	*-1.18*	NM	0.053	0.053	0.053	3.89
BC-CDM13	0.062	2.93	0.031	0.931	0.062	3.99	199.1	4.86	414	1.86	NM	0.301	0.062	0.062	7.72
Fall	Metal flux (mg/m2/d)														
	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
BCTB2	*-0.005*	*-0.265*	*-0.003*	*-0.113*	*-0.005*	*-0.143*	*-22.8*	*-0.252*	*-8.9*	0.165	0.0004	0.030	*-0.005*	*-0.008*	*-0.888*
BCTB5	*-0.012*	0.196	0.005	0.007	*-0.006*	0.679	6.1	1.03	152	0.550	0.0123	0.091	*-0.006*	0.032	0.581
BCTB10	*-0.039*	*-0.300*	*-0.020*	*-0.134*	*-0.039*	0.073	*-36.3*	*-0.194*	*-28.0*	*-0.576*	*-0.0022*	*-0.039*	*-0.039*	*-0.046*	*-0.789*
BCTB13	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BC-CDM4	*-0.028*	*-0.027*	*-0.014*	*-0.028*	*-0.028*	0.233	*-1.8*	0.012	*-2.4*	0.022	*-0.001*	*-0.028*	*-0.028*	0.004	*-0.045*
BC-CDM8	0.012	*-0.048*	0.006	0.012	0.012	0.886	*-6.3*	*-0.073*	19.2	*-0.248*	0.000	0.012	0.012	0.020	*-0.148*
BC-CDM9	0.017	0.139	0.009	0.017	0.017	0.239	22.8	0.216	30.6	0.740	0.001	0.017	0.017	0.023	0.829
BC-CDM11	0.067	0.130	0.037	0.067	0.067	3.49	14.7	0.358	24.5	0.130	0.002	0.067	0.067	0.074	1.31
BC-CDM13	0.000	0.037	0.000	0.000	0.000	2.26	1.5	0.010	9.9	-0.046	0.000	0.000	0.000	0.055	0.280
Winter	Metal flux (mg/m2/d)														
	Arsenic	Barium	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
BCTB2	0.033	0.255	0.016	*-0.016*	0.033	0.932	22.2	0.783	77.5	0.412	0.0021	0.018	0.033	0.030	1.83
BCTB5	*-0.033*	*-0.075*	*-0.016*	*-0.033*	*-0.033*	*0.181*	1.3	*-0.004*	3.0	*-0.033*	0.0003	*-0.033*	*-0.033*	*-0.006*	*-0.352*
BCTB10	*-0.018*	*-0.168*	*-0.009*	*-0.018*	*-0.018*	*-0.115*	*-22.5*	*-0.127*	*-24.6*	*-0.235*	*-0.0004*	*-0.018*	*-0.018*	*-0.005*	*-0.314*
BCTB13	*-0.005*	*-0.474*	*-0.003*	*-0.111*	*-0.005*	0.182	*-64.1*	*-0.530*	*-59.0*	*-0.724*	*-0.0008*	0.006	*-0.005*	*-0.005*	*-1.84*
BC-CDM4	0.021	0.021	0.011	0.021	0.021	0.003	2.4	0.011	*-4.7*	0.021	0.0005	0.021	0.021	0.024	0.230
BC-CDM8	*-0.006*	*-0.006*	*-0.003*	*-0.006*	*-0.006*	0.267	*-0.1*	*-0.003*	1.0	*-0.006*	*-0.0002*	*-0.006*	*-0.006*	*-0.006*	*-0.032*
BC-CDM9	0.010	*-0.031*	0.005	0.010	0.010	*-0.074*	4.3	0.005	3.3	0.010	0.0004	0.010	0.010	0.010	0.292
BC-CDM11	0.029	0.029	0.014	0.029	0.029	*-0.179*	0.9	0.014	8.3	0.029	0.0007	0.029	0.029	0.028	0.142
BC-CDM13	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Italics=negative value (exterior trap>interior trap). **Bold**=below detection limit, NM=not measured. NC=not collected (see text).

Table B7. Ebullition-facilitated sediment-to-water PAH flux.

Spring	PAH flux (mg/m2/d)															
	Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
BCTB2	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.125	0.090	0.090
BCTB5	0.296	0.296	0.296	0.296	0.296	0.296	0.296	0.296	0.296	0.296	0.296	0.296	0.296	0.153	0.296	0.296
BCTB10	0.101	0.101	0.101	0.072	0.060	0.095	0.017	0.026	0.049	0.101	0.282	0.101	0.002	0.133	*-0.015*	0.153
BCTB13	*-0.181*	*-0.103*	0.163	2.873	1.551	1.882	0.659	1.320	1.716	0.064	7.336	*-0.068*	0.659	*-0.087*	0.940	5.683
BC-CDM4	0.055	0.008	*-0.001*	0.431	0.306	0.348	0.049	0.286	0.306	*-0.040*	0.763	*-0.012*	0.060	0.073	0.039	0.535
BC-CDM8	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009
BC-CDM9	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	*-0.029*	0.062	0.062	0.062	0.062	*-0.040*
BC-CDM11	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068	0.068
BC-CDM13	0.398	0.398	0.080	0.398	0.398	0.398	0.398	0.398	0.398	0.398	0.398	0.398	0.398	0.398	0.398	0.398
Summer	PAH flux (mg/m2/d)															
	Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
BCTB2	0.058	0.092	0.118	0.159	0.144	0.100	0.085	0.111	0.107	0.032	0.702	0.048	0.064	*-0.060*	0.631	0.389
BCTB5	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	*-0.026*	0.022	0.024	0.022	0.022	*-0.023*	0.014	0.016
BCTB10	0.016	0.092	0.139	0.887	0.592	0.527	0.285	0.545	0.596	0.049	2.518	0.016	0.266	0.038	0.662	1.822
BCTB13	*-0.068*	*-0.068*	*-0.068*	*-0.006*	*-0.068*	*-0.068*	*-0.068*	*-0.068*	*-0.025*	*-0.068*	*-0.061*	*-0.068*	*-0.068*	*-0.078*	*-0.020*	*-0.042*
BC-CDM4	*-0.202*	*-0.009*	*-0.230*	*-0.709*	*-0.524*	*-0.590*	*-0.300*	*-0.293*	*-0.461*	*-0.012*	*-1.875*	*-0.288*	*-0.249*	0.045	*-1.694*	*-1.350*
BC-CDM8	0.013	*-0.038*	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	*-0.043*	*-0.043*	0.013	0.013	0.013	*-0.053*
BC-CDM9	0.045	0.055	0.086	0.197	0.129	0.079	0.065	0.110	0.134	0.037	1.010	0.097	0.055	*-0.070*	0.758	0.600
BC-CDM11	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
BC-CDM13	*-0.097*	0.039	0.039	0.546	0.472	0.451	0.256	0.290	0.371	0.007	1.404	*-0.042*	0.227	0.038	0.716	0.965
Fall	PAH flux (mg/m2/d)															
	Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
BCTB2	0.066	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.079	0.043	0.038	0.077	0.063	0.038
BCTB5	0.003	0.003	*-0.021*	0.036	0.043	0.057	0.010	0.028	0.057	*-0.021*	0.099	0.027	0.007	0.003	0.028	0.096
BCTB10	*-0.025*	*-0.025*	*-0.025*	0.026	0.003	*-0.019*	*-0.039*	*-0.027*	0.012	*-0.025*	0.116	*-0.025*	*-0.039*	0.010	0.074	0.076
BCTB13	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BC-CDM4	*-0.005*	*-0.005*	*-0.005*	*-0.018*	*-0.022*	*-0.005*	*-0.005*	*-0.005*	*-0.022*	*-0.005*	*-0.008*	*-0.005*	*-0.005*	*-0.005*	*-0.005*	*-0.010*
BC-CDM8	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	*-0.017*	0.002	0.002	0.002	0.002	0.002
BC-CDM9	*-0.010*	*-0.010*	*-0.010*	*-0.010*	*-0.010*	*-0.010*	*-0.010*	*-0.010*	*-0.010*	*-0.010*	*-0.010*	*-0.010*	*-0.010*	*-0.010*	*-0.010*	*-0.010*
BC-CDM11	0.063	0.014	0.066	0.373	0.258	0.258	0.100	0.198	0.258	*-0.012*	1.119	0.014	0.086	0.063	0.631	0.775
BC-CDM13	*-0.013*	*-0.013*	*-0.013*	*-0.013*	*-0.013*	*-0.013*	*-0.013*	*-0.013*	*-0.013*	*-0.013*	*-0.013*	*-0.013*	*-0.013*	*-0.013*	*-0.013*	*-0.013*
Winter	PAH flux (mg/m2/d)															
	Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
BCTB2	0.009	0.009	0.009	0.001	0.040	0.035	0.009	0.000	*-0.005*	0.009	0.002	0.009	0.009	0.034	0.007	0.002
BCTB5	*-0.026*	*-0.026*	*-0.026*	*-0.056*	*-0.026*	*-0.057*	*-0.026*	*-0.026*	*-0.054*	*-0.026*	*-0.022*	*-0.026*	*-0.026*	0.011	*-0.006*	*-0.034*
BCTB10	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	*-0.009*	0.017	0.017	0.024	0.017	0.017
BCTB13	0.006	*-0.011*	0.006	0.015	0.007	0.009	*-0.005*	0.005	0.007	0.006	0.068	0.006	*-0.006*	*-0.006*	0.003	0.038
BC-CDM4	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006
BC-CDM8	*-0.014*	*-0.014*	*-0.014*	*-0.014*	*-0.014*	*-0.014*	*-0.014*	*-0.014*	*-0.014*	*-0.014*	*-0.014*	*-0.014*	*-0.014*	*-0.014*	*-0.014*	*-0.014*
BC-CDM9	0.040	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.036	0.011	0.034	0.011	0.011
BC-CDM11	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029
BC-CDM13	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Legend: *Italics*=negative value (exterior trap>interior trap). **Bold**=below detection limit, NC=not collected (see text).

Table B8. Direct sediment-to-water bulk nutrient flux from benthic flux chamber.

	Benthic bulk nutrient flux (mg/m2/hr)													
Site	SOD (mg/m2/hr)	std dev (mg/m2/hr)	NH3 (mg/m2/hr)	std dev (mg/m2/hr)	NO3 (mg/m2/hr)	std dev (mg/m2/hr)	NO2 (mg/m2/hr)	std dev (mg/m2/hr)	Sulfide (mg/m2/hr)	std dev (mg/m2/hr)	DOC (mg/m2/hr)	std dev (mg/m2/hr)	TFP (mg/m2/hr)	std dev (mg/m2/hr)
BCTB2	*-0.112*	0.028	0.139	0.019	*-0.123*	0.011	**0.000**	0.000	0.009	0.001	0.005	0.003	*-0.073*	0.009
BCTB5	*-0.038*	0.011	0.028	0.009	*-0.049*	0.006	**0.000**	0.000	0.008	0.069	0.020	0.013	*-0.002*	0.052
BCTB10	*-0.091*	0.005	0.070	0.013	*-0.103*	0.058	0.023	0.049	0.074	0.024	0.034	0.009	0.012	0.034
BCTB13	*-0.210*	0.005	0.034	0.021	*-0.019*	0.013	**0.000**	0.000	0.008	0.020	0.010	0.007	*-0.004*	0.001
BC-CDM4	*-0.038*	0.019	0.033	0.003	*-0.055*	0.025	**0.000**	0.000	0.016	0.014	0.009	0.003	*-0.004*	0.007
BC-CDM8	*-0.014*	0.006	0.027	0.014	*-0.017*	0.011	*-0.008*	0.007	0.008	0.007	0.012	0.003	0.003	0.002
BC-CDM9	*-0.011*	0.003	0.028	0.006	*-0.028*	0.004	*-0.012*	0.009	0.012	0.006	0.016	0.004	0.010	0.014
BC-CDM11	*-0.049*	0.005	0.053	0.035	*-0.050*	0.008	*-0.010*	0.008	*-0.029*	0.012	0.002	0.009	*-0.012*	0.032
BC-CDM13	*-0.023*	0.003	0.037	0.003	*-0.014*	0.014	*-0.022*	0.007	0.003	0.010	*-0.007*	0.009	*-0.003*	0.006

Standard deviation values represent the standard error of the regressed slope of concentration versus time. *Italics*=negative flux from water column to sediment. **Bold**=Flux value of 0.000 when no measurable change in concentration was observed in flux chamber.

Table B9. Direct sediment-to-water metal flux from benthic flux chamber.

	Benthic metal flux (mg/m2/hr)																			
Site	Ba (mg/m2/hr)	std dev (mg/m2/hr)	Cd (mg/m2/hr)	std dev (mg/m2/hr)	Cr (mg/m2/hr)	std dev (mg/m2/hr)	Cu (mg/m2/hr)	std dev (mg/m2/hr)	Fe (mg/m2/hr)	std dev (mg/m2/hr)	Pb (mg/m2/hr)	std dev (mg/m2/hr)	Mg (mg/m2/hr)	std dev (mg/m2/hr)	Mn (mg/m2/hr)	std dev (mg/m2/hr)	Ni (mg/m2/hr)	std dev (mg/m2/hr)	Zn (mg/m2/hr)	std dev (mg/m2/hr)
BCTB2	0.007	0.001	**0.000**	0.000	**0.000**	0.000	-0.014	0.043	0.092	0.015	0.080	0.012	0.003	0.006	0.111	0.024	**0.000**	0.000	0.026	0.010
BCTB5	0.013	0.004	**0.000**	0.000	0.021	0.009	0.029	0.008	0.044	0.011	0.034	0.011	0.009	0.003	0.029	0.005	0.027	0.010	0.014	0.007
BCTB10	*-0.003*	0.005	**0.000**	0.000	**0.000**	0.000	**0.000**	0.000	0.020	0.013	0.021	0.041	0.010	0.003	0.074	0.003	0.006	0.023	0.004	0.019
BCTB13	0.008	0.003	**0.000**	0.000	**0.000**	0.000	0.001	0.004	0.028	0.015	0.019	0.019	0.002	0.001	0.028	0.018	0.009	0.002	0.004	0.008
BC-CDM4	*-0.003*	0.006	0.040	0.019	**0.000**	0.000	*-0.002*	0.014	*-0.016*	0.017	0.041	0.021	**0.000**	0.001	0.005	0.023	**0.000**	0.000	-0.015	0.006
BC-CDM8	0.005	0.003	**0.000**	0.000	**0.000**	0.000	0.001	0.005	0.024	0.013	*-0.004*	0.019	0.006	0.001	0.022	0.012	**0.000**	0.000	0.002	0.004
BC-CDM9	0.007	0.002	**0.000**	0.000	**0.000**	0.000	**0.000**	0.000	0.038	0.005	0.003	0.017	0.003	0.001	0.022	0.010	**0.000**	0.000	0.006	0.005
BC-CDM11	0.018	0.006	**0.000**	0.000	**0.000**	0.000	0.002	0.017	0.018	0.015	0.009	0.006	0.003	0.001	0.019	0.009	**0.000**	0.000	-0.003	0.022
BC-CDM13	0.014	0.008	**0.000**	0.000	**0.000**	0.000	-0.011	0.008	0.003	0.024	-0.014	0.023	-0.005	0.004	0.008	0.012	**0.000**	0.000	0.000	0.020

Standard deviation values represent the standard error of the regressed slope of concentration versus time. *Italics*=negative flux from water column to sediment. **Bold**=Flux value of 0.000 when no measurable change in concentration was observed in flux chamber.

Table B10. Direct sediment-to-water PAH flux from benthic flux chamber.

	PAH flux from sediment (mg/m2/hr)															
Site	Acenaphthene	Acenaphthylene	Anthracene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene
BCTB2	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BCTB5	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	-0.0002	0.0002	0.0002	0.0002	***-0.0003***	***-0.0003***
BCTB10	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BCTB13	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002	**0.0000**	**0.0000**
BC-CDM4	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BC-CDM8	0.0001	0.0001	***-0.0003***	***-0.0006***	0.0001	***-0.0004***	0.0001	***-0.0005***	0.0001	0.0001	***-0.0004***	0.0001	0.0001	0.0001	***-0.0004***	***-0.0004***
BC-CDM9	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**
BC-CDM11	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	0.0001	**0.0000**
BC-CDM13	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	***-0.0003***	**0.0000**

Bold Italics=negative value (exterior Tenax® trap>interior Tenax® trap). **Bold**=Flux value of 0.000 when no measurable change in concentration was observed in flux chamber. NC=not collected (see text).

Table B11. Mid-Depth Bubbly Creek water column physical and chemical parameters.

						Bulk Nutrient Concentration							
Site	Date	Time	Air T (° C)	Water T (° C)	pH	DO (mg/l)	TSS (mg/l)	Ammonia (mg N/l)	Nitrate (mg N/l)	Nitrite (mg N/l)	Sulfide (mg/l)	DOC (mg/l)	TFP (mg/l)
BCTB2-Mid depth	10/9/2009	2:00pm	9.2	15.0	7.65	6.10	**8.0**	0.11	3.5	**0.1**	**0.0025**	3	1.59
BCTB5-Mid depth	10/7/2009	12:45pm	16.0	20.1	7.45	5.38	**8.0**	0.36	3.1	**0.1**	0.01	3.2	1.6
BCTB5-Mid depth	10/23/2009	12:15pm	15.9	15.0	7.24	6.07	**8.0**	2	0.83	**0.1**	**0.0025**	2.6	0.52
BCTB10-Mid depth	10/23/2009	11:00am	14	13.3	7.19	6.53	**8.0**	1.2	0.77	**0.1**	**0.0025**	2.7	0.24
BCTB13-Mid depth	10/9/2009	12:30pm	9.5	14.6	7.58	6.25	**8.0**	0.65	2.9	**0.1**	**0.0025**	3.5	0.80
BC-CDM4-Mid depth	10/14/2009	10:30am	9.5	12.1	7.13	6.79	**8.0**	0.3	3	**0.1**	**0.0025**	4.6	0.98
BC-CDM8-Mid depth	10/16/2009	2:15pm	6.3	11.2	7.46	5.23	**8.0**	0.32	2.7	**0.1**	**0.0025**	3	1.37
BC-CDM9-Mid depth	10/16/2009	1:20pm	6.4	10.3	7.44	6.41	**8.0**	0.41	2.7	**0.1**	**0.0025**	3.2	1.09
BC-CDM11-Mid depth	10/21/2009	11:00am	19.5	14.4	7.32	4.78	**8.0**	0.8	2.6	**0.1**	**0.0025**	3.4	0.13
BC-CDM13-Mid depth	10/21/2009	11:00am	19.5	15.3	7.29	4.99	**8.0**	0.2	2.8	**0.1**	**0.0025**	3.1	1.58

Bold=below detection limit.

Table B12. Benthic flux study raw data.

Sample	Date	Time	DO (mg/l)	ORP (mV)	pH	Air T (°C)	Sed/water T (°C)
BCTB2 placed at 2:40pm, water depth 3.6ft							
BCTB2-S1	10/7/2009	3:10pm	5.26	168.90	7.54	15.0	20.7
BCTB2-S2	10/8/2009	9:00am	0.41	36.60	7.03	12.6	17.2
BCTB2-S3	10/8/2009	10:00am	0.41	-23.20	7.06	12.7	17.4
BCTB2-S4	10/8/2009	11:00am	0.92	-6.60	7.06	12.4	17.1
BCTB2-S5	10/8/2009	12:00pm	0.58	11.80	7.10	12.1	17.3
BCTB2-S6	10/8/2009	1:00pm	2.16	36.80	7.11	12.0	16.7
BCTB2-S7	10/9/2009	9:00am	5.19	25.10	7.49	10.8	16.6
BCTB2-S8	10/9/2009	10:30am	1.05	47.20	7.02	11.0	16.5
BCTB2-S9	10/9/2009	12:30pm	3.01	32.50	7.36	9.5	15.2
BCTB2-S10	10/9/2009	1:30pm	No sample, system fell in the middle of PAH sample,				
			we placed it again				
BCTB2-S10	10/12/2009	9:00am	3.31	187.9	6.98		
BCTB2-Mid depth	10/9/2009	2:00pm	6.10		7.65	9.2	15.0
BCTB2-PAH sample	10/12/2009	9:00am	From system placed 10/09/2009 at 1:30pm, 2.8 g/3.8l				

Sample	Date	Time	DO (mg/l)	ORP (mV)	pH	Air T (°C)	Sed/water T (°C)
BCTB5 placed at 11:50am, water depth 2.5ft							
BCTB5-S1	10/5/2009	1:15pm	4.10	167.10	7.19		
BCTB5-S2	10/6/2009	10:00am	3.50	179.00	7.09	13.6	16.3
BCTB5-S3	10/6/2009	11:00am	3.33	178.00	7.13	14.3	18.8
BCTB5-S4	10/6/2009	12:00pm	1.46	181.10	6.95	15.0	18.6
BCTB5-S5	10/6/2009	13:50pm	1.16	186.60	7.01	15.3	18.6
BCTB5-S6	10/7/2009	9:45am	1.73	58.50	6.92	12.0	18.5
BCTB5-S7	10/7/2009	10:45am	1.67	172.10	7.03	13.0	18.6
BCTB5-S8	10/7/2009	11:45am	1.45	104.00	7.08	15.0	19.4
BCTB5-S9	10/7/2009	12:45pm	1.96	167.40	7.13	16.0	20.8
BCTB5-S10	10/7/2009	1:45pm	0.64	175.90	7.10	16.3	20.5
BCTB5-Mid depth	10/7/2009	12:45pm	5.38		7.45	16.0	20.1
BCTB5-PAH sample	10/7/2009	1:45pm	3g of tenax, 3.8l				

Sample	Date	Time	DO (mg/l)	ORP (mV)	pH	Air T (°C)	Sed/water T (°C)
BC-TB10 placed at 1:55pm, water depth 8.5ft							
BCTB10-S1	10/21/2009	2:25pm	3.27	31.7	6.90	23.0	19.9
BCTB10-S2	10/22/2009	9:00am	0.64	-106.9	6.83	11.6	16.0
BCTB10-S3	10/22/2009	10:15am	0.50	-65.5	6.89	11.0	14.7
BCTB10-S4	10/22/2009	11:15am	0.45	-61.4	6.86	10.7	13.7
BCTB10-S5	10/22/2009	1:00pm	0.39	-70.00	6.81	10.6	15.1
BCTB10-S6	10/22/2009	2:000pm	0.43	-50.6	6.78	11.1	14.6
BCTB10-S7	10/23/2009	9:15am	storm during night, RAPS discharged: system fell down				
BCTB10-Mid depth	10/23/2009	11:00am	6.53	18.2	7.19	14.0	13.3
BCTB10-PAH sample	Not collected as system fell down						

Sample	Date	Time	DO (mg/l)	ORP (mV)	pH	Air T (°C)	Sed/water T (°C)
BCTB13 placed at 3:00pm, water depth 6.1ft							
BCTB13-S1	10/7/2009	3:30pm	5.31	175.3	7.47	15.0	21.0
BCTB13-S2	10/8/2009	8:45am	3.73	179.1	7.19	12.8	17.4
BCTB13-S3	10/8/2009	9:45am	0.15	-55.6	6.90	12.7	16.8
BCTB13-S4	10/8/2009	10:45am	0.20	-77.8	6.92	12.4	16.1
BCTB13-S5	10/8/2009	11:45am	0.14	-80.6	6.91	12.1	16.2
BCTB13-S6	10/8/2009	12:45pm	0.01	-126.2	6.94	12.0	16.5
BCTB13-S7	10/9/2009	9:00am	0.17	-38.6	6.97	11.6	17.1
BCTB13-S8	10/9/2009	10:30am	0.32	-54.4	7.31	11.0	15.8
BCTB13-S9	10/9/2009	12:30pm	1.20	-103.7	7.04	9.5	14.6
BCTB13-S10	10/9/2009	2:00pm	0.05	-106.8	6.96	9.4	14.4
BCTB13-S11	10/12/2009	9:00am	1.68	152.1	6.76		
BCTB13-Mid depth	10/9/2009	12:30pm	6.25		7.58	9.5	14.6
BCTB13-PAH sample	10/9/2009	2:00pm	2.8g/3.0l				

Sample	Date	Time	DO (mg/l)	ORP (mV)	pH	Air T (°C)	Sed/water T (°C)
BC-CDM4 placed at 1:30pm, water depth 10ft			DO (mg/l)	ORP (mV)	pH	air T (C)	Sed/water T (C)
BC-CDM4-S1	10/12/2009	2:00pm	3.75	154.70	6.99	9.0	13.0
BC-CDM4-S2	10/13/2009	9:30am	3.42	191.20	6.95	8.0	13.6
BC-CDM4-S3	10/13/2009	10:30am	1.05	135.60	6.96	8.5	13.4
BC-CDM4-S4	10/13/2009	11:45am	0.51	25.50	6.95	9.2	13.3
BC-CDM4-S5	10/13/2009	12:45pm	0.63	-22.40	6.92	9.5	13.1
BC-CDM4-S6	10/13/2009	1:45pm	0.63	-16.40	6.91	9.6	14.1
BC-CDM4-S7	10/13/2009	2:45pm	0.36	9.22	6.88	9.3	14.0
BC-CDM4-S8	10/14/2009	9:00am	0.65	-67.90	6.95	9.3	13.8
BC-CDM4-S9	10/14/2009	10:30am	0.64	-71.40	6.91	9.5	12.5
BC-CDM4-Mid depth	10/14/2009	10:30am	6.79		7.13	9.5	12.1
BC-CDM4-PAH sample	10/14/2009	10:30am	2.8g/3.5l				

Sample	Date	Time	DO (mg/l)	ORP (mV)	pH	Air T (°C)	Sed/water T (°C)
BC-CDM8 placed at 1:30pm, water depth 10ft							
BC-CDM8-S1	10/14/2009	2:00pm	5.66	198.70	7.03	11.0	12.0
BC-CDM8-S2	10/15/2009	9:00am	4.05	23.00	6.91	6.6	10.8
BC-CDM8-S3	10/15/2009	10:00am	2.20	23.20	6.86	6.0	11.1
BC-CDM8-S4	10/15/2009	11:00am	1.36	16.20	6.88	5.8	10.6
BC-CDM8-S5	10/15/2009	12:30pm	**1.74**		6.86	5.8	11.3
BC-CDM8-S6	10/16/2009	9:45am	1.30	-61.80	6.91	5.8	11.4
BC-CDM8-S7	10/16/2009	10:45am	0.86	-36.00	6.86	5.8	10.9
BC-CDM8-S8	10/16/2009	12:00pm	**1.07**		6.82	6.0	11.2
BC-CDM8-S9	10/16/2009	2:15pm	**0.64**		6.82	6.3	11.3
BC-CDM8-S10	10/19/2009	9:00am	0.99	-93.30	6.74	10.8	13.0
BC-CDM8-Mid depth	10/16/2009	2:15pm	5.23		7.46	6.3	11.2
BC-CDM8-PAH sample	10/16/2009	2:15pm	2.8g/3.6l				

Sample	Date	Time	DO (mg/l)	ORP (mV)	pH	Air T (°C)	Sed/water T (°C)
BC-CDM9 placed at 11:30am, water depth 4ft							
BC-CDM9-S1	10/14/2009	1:00pm	5.60	194.40	7.02	11.0	11.5
BC-CDM9-S2	10/14/2009	2:00pm	5.15	138.30	7.07	10.9	11.8
BC-CDM9-S3	10/15/2009	9:00am	2.15	37.50	7.11	6.6	10.6
BC-CDM9-S4	10/15/2009	10:00am	2.24	125.10	7.04	6.0	9.8
BC-CDM9-S5	10/15/2009	11:00am	2.17	72.00	7.00	5.8	10.0
BC-CDM9-S6	10/15/2009	12:30pm	**2.02**		6.96	5.8	10.8
BC-CDM9-S7	10/16/2009	9:30am	1.55	-44.70	7.04	5.8	10.7
BC-CDM9-S8	10/16/2009	10:45am	1.24	45.00	7.02	5.6	10.5
BC-CDM9-S9	10/16/2009	12:00pm	**1.96**		6.96	6.0	10.6
BC-CDM9-S10	10/16/2009	1:20pm	**2.32**		6.98	6.3	10.8
BC-CDM9-S11	10/19/2009	9:00am	1.30	-56.3	6.98	10.8	12.7
BC-CDM9-Mid depth	10/16/2009	1:20pm	6.41		7.44	6.4	10.3
BC-CDM9-PAH sample	10/16/2009	1:20pm	2.8g/3.4l				
Br samples:	Injected Br 2g/31 L at 1:45pm		**Br (mg/l)**				
	10/16/2009	2:15pm	28				
	10/16/2009	2:50pm	31				
	10/19/2009	9:00am	24				
	10/19/2009	10:20am	24				

Sample	Date	Time	DO (mg/l)	ORP (mV)	pH	Air T (°C)	Sed/water T (°C)
BC-CDM11 placed at 10:30am, water depth 3.8ft							
BC-CDM11-S1	10/19/2009	11:00am	3.85	-7.6	6.88	15.0	12.8
BC-CDM11-S2	10/19/2009	12:45pm	2.65	97.5	7.05	16.8	13.8
BC-CDM11-S3	10/19/2009	1:45pm	2.71	86.8	7.08	17.7	13.7
BC-CDM11-S4	10/20/2009	9:50am	1.01	-57.6	6.94	18.0	15.2
BC-CDM11-S5	10/20/2009	10:50am	0.59	55.6	6.89	19.0	13.8
BC-CDM11-S6	10/20/2009	12:40pm	0.61	40.7	6.91	17.7	12.7
BC-CDM11-S7	10/20/2009	2:00pm	0.78	25.9	6.92	17.5	13.0
BC-CDM11-S8	10/21/2009	9:00am	0.34	-53.2	6.88	16.0	13.4
BC-CDM11-S9	10/21/2009	10:00am	0.27	-18.2	6.82	17.5	13.8
BC-CDM11-S10	10/21/2009	11:00am	0.40	27.9	6.86	19.5	14.4
BC-CDM11-Mid depth	10/21/2009	11:00am	4.78		7.32	19.5	14.4
BC-CDM11-PAH sample	10/21/2009	11:00am	3g/3.8l				

Sample	Date	Time	DO (mg/l)	ORP (mV)	pH	Air T (°C)	Sed/water T (°C)
BC-CDM13 placed at 10:00am, water depth 9ft							
BC-CDM13-S1	10/19/2009	10:50am	2.30	-13.2	6.73	15.5	12.4
BC-CDM13-S2	10/19/2009	12:40pm	2.24	68.1	6.94	16.8	13.2
BC-CDM13-S3	10/19/2009	1:40pm	1.91	61.1	7.01	17.7	12.9
BC-CDM13-S4	10/20/2009	9:50am	0.89	-41.9	6.97	18.0	14.2
BC-CDM13-S5	10/20/2009	10:50am	0.94	-39	6.98	19.0	15.0
BC-CDM13-S6	10/20/2009	12:40pm	1.15	-33.9	7.01	17.7	13.4
BC-CDM13-S7	10/20/2009	2:00pm	1.02	-45.2	6.99	17.5	14.0
BC-CDM13-S8	10/21/2009	9:00am	0.84	-62.3	6.98	16.0	13.8
BC-CDM13-S9	10/21/2009	10:00am	0.74	-50.1	6.91	17.5	14.1
BC-CDM13-S10	10/21/2009	11:00am	0.70	-53.9	7.02	19.5	15.3
BC-CDM13-Mid depth	10/21/2009	11:00am	4.99		7.29	19.5	15.3
BC-CDM13-PAH sample	10/21/2009	11:00am	2.8g/3.8l				

APPENDIX C. DESCRIPTIVE STATISTICS FOR SEDIMENT PROPERTIES AND CONTAMINANT FLUXES

Table C1. Descriptive statistics for sediment physical parameters and gas ebullition fluxes

	T (°C)	Gas flux (L m^{-2} d^{-1})	SG OM (%)	SG OC (%)	Core OM (%)	Core OC (%)	Sed depth (m)
N of Cases	36	36	36	36	36	36	36
Minimum	7	0.05	1.53	1.76	5.4	0.59	2.15
Maximum	26.5	10.72	16.28	11.87	46	17	6.46
Range	19.5	10.67	14.75	10.11	40.6	16.41	4.31
Sum	641	142	313	211	610	405	148
Median	18.75	3.25	9.01	7.56	14.65	14.13	3.65
Arithmetic Mean	17.8	3.95	8.70	5.87	16.93	11.26	4.11
Trimmed Mean (10%, Two Sided)	18.1	3.71	8.64	5.60	14.43	11.97	4.05
Geometric Mean	16.1	2.66	6.36	4.68	13.69	8.33	3.84
Harmonic Mean	14.2	0.76	4.16	3.63	11.32	3.62	3.59
0.9% Upper Confidence Limit	20.3	4.86	10.53	7.06	21.02	13.10	4.61
0.9% Lower Confidence Limit	15.3	3.03	6.87	4.68	12.85	9.43	3.61
Standard Error of Arithmetic Mean	1.22	0.45	0.90	0.59	2.01	0.90	0.25
Standard Deviation	7.32	2.71	5.41	3.52	12.07	5.43	1.49
Variance	53.5	7.33	29.23	12.42	145.61	29.46	2.21
Coefficient of Variation	0.41	0.69	0.62	0.60	0.71	0.48	0.36
Skewness (G1)	-0.23	0.76	-0.19	0.14	1.50	-1.00	0.24
Kurtosis(G2)	-1.52	-0.07	-1.51	-1.36	1.58	-0.51	-1.47
Shapiro-Wilk Statistic	0.87	0.94	0.86	0.83	0.78	0.78	0.89
Shapiro-Wilk p-value	0.0006	0.04	0.00	0.00	0.00	0.00	0.00
Anderson-Darling Statistic	.	0.82	1.81	2.60	2.83	3.66	1.40
Adjusted A-D Statistic	.	.	1.85	2.66	2.90	3.74	1.43

Table C2. Descriptive statistics for metal contaminant fluxes due to gas ebullition.

	Metal Flux (mg m^{-2} d^{-1})														
	As	Ba	Cd	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	Se	Ag	Zn
N of Cases	34	34	34	34	34	34	34	34	34	34	16	34	34	34	34
Minimum	0	0	0	0	0	-0.007	0	0	0	0	0	0	0	0	0
Maximum	0.47	5.13	0.24	2.35	0.47	9.6	452	17.9	794	9.58	0.012	0.47	0.47	0.47	19.59
Range	0.47	5.13	0.24	2.35	0.47	9.6	452	17.9	794	9.58	0.012	0.47	0.47	0.47	19.59
Sum	1.2	23.9	0.6	7.4	1.25	42	1861	57	4880	35	0.02	1.88	1.25	1.45	92
Median	0	0.054	0.003	0.019	0.000	0.36	15.04	0.36	39.18	0.148	0.0004	0.015	0	0.016	0.255
Arithmetic Mean	0.04	0.70	0.02	0.22	0.04	1.22	54.72	1.67	144	1.03	0.00	0.06	0.04	0.04	2.70
Trimmed Mean (10%)	0.01	0.40	0.01	0.09	0.01	0.72	28.67	0.79	90.64	0.45	0.00	0.02	0.01	0.02	1.35
Geometric Mean	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Harmonic Mean	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
95% Confidence Limit	0.07	1.12	0.03	0.38	0.07	1.92	88.61	2.87	216.85	1.78	0.00	0.09	0.07	0.07	4.39
5% Confidence Limit	0.01	0.28	0.00	0.05	0.01	0.52	20.83	0.47	70.21	0.27	0.00	0.02	0.01	0.01	1.00
Standard Error of the Mean	0.02	0.21	0.01	0.08	0.02	0.34	16.66	0.59	36.04	0.37	0.00	0.02	0.02	0.02	0.83
Standard Deviation	0.09	1.20	0.05	0.47	0.09	2.01	97.13	3.45	210.15	2.16	0.00	0.11	0.09	0.09	4.86
Variance	0.01	1.45	0.00	0.22	0.01	4.03	9434	11.87	44161	4.66	0.00	0.01	0.01	0.01	23.65
Coefficient of Variation	2.43	1.71	2.42	2.16	2.43	1.64	1.78	2.06	1.46	2.10	2.46	1.92	2.43	2.08	1.80
Skewness(G1)	4.04	2.10	4.08	3.36	4.04	2.80	2.78	3.58	1.85	3.14	3.68	2.67	4.04	3.90	2.22
Kurtosis(G2)	17.9	4.60	18.28	13.02	17.93	9.19	8.54	15.11	2.84	9.98	14.09	7.19	17.93	17.12	4.48
Shapiro-Wilk Statistic	0.45	0.66	0.45	0.53	0.45	0.65	0.62	0.53	0.72	0.52	0.44	0.58	0.45	0.50	0.63
Shapiro-Wilk p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Anderson-Darling Statistic	6.60	4.66	6.57	5.82	6.60	3.88	4.67	5.33	3.53	5.96	3.56	5.67	6.60	5.50	5.23
Adjusted A-D Statistic	6.75	4.77	6.72	5.96	6.75	3.97	4.78	5.46	3.62	6.11	3.76	5.80	6.75	5.63	5.35

Table C3. Descriptive statistics for metal concentration in the sediments.

	Metals in sediments (mg kg^{-1} sed dry wt.)														
	As	Ba	Cd	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	Se	Ag	Zn
N of Cases	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
Minimum	2.6	3.4	0.82	2.6	1.3	6.5	230	1.8	880	6.7	0.065	2.6	0.55	2.6	6
Maximum	9.4	390	11	730	9.3	450	26000	3400	38000	410	1.8	55	2.6	15	1300
Range	6.8	387	10.18	727	8	444	25770	3398.2	37120	403	1.735	52.4	2.05	12.4	1294
Sum	188	7454	190	4842	192	8574	520520	23727	867520	9107	31.82	1042	46.48	280	22384
Median	4	170	1.8	51	5.1	280	11000	420	25000	250	0.98	23	0.95	7.8	550
Arithmetic Mean	5.22	207	5.29	135	5.32	238	14459	659	24098	253	0.88	28.96	1.29	7.79	621.78
Trimmed Mean (10%)	5.00	210	5.11	68.29	5.33	241	14843	361	25429	266	0.87	29.00	1.21	7.50	612.86
Geometric Mean	5.16	135	3.10	53.14	4.49	155	9251	234	17060	176	0.64	21.64	1.11	6.55	368.02
Harmonic Mean	4.05	26.85	1.89	16.77	3.61	45.72	1817	15.47	5993	49.52	0.33	12.63	0.96	5.44	49.58
95% Confidence Limit	6.07	246	6.86	208	6.25	285	17291	997	28348	297	1.07	34.89	1.53	9.24	753.99
5% Confidence Limit	4.38	168	3.72	60.89	4.39	191	11627	321	19848	209	0.70	23.02	1.05	6.33	489.56
Standard Error of the Mean	0.42	19.31	0.77	36.26	0.46	23.23	1395	166	2093	21.71	0.09	2.92	0.12	0.72	65.13
Standard Deviation	2.49	116	4.64	218	2.76	139	8371	998	12560	130	0.54	17.54	0.70	4.30	390.76
Variance	6.22	13418	22	47345	8	19420	70071736	996974	157765526	16962	0	308	0.49	18.47	152693
Coefficient of Variation	0.48	0.56	0.88	1.62	0.52	0.59	0.58	1.51	0.52	0.51	0.61	0.61	0.54	0.55	0.63
Skewness(G1)	0.76	-0.04	0.25	2.40	0.01	-0.34	-0.08	2.43	-0.52	-0.41	0.01	0.06	0.52	0.30	0.21
Kurtosis(G2)	-1.00	-0.70	-2.00	4.38	-1.47	-1.03	-1.16	4.48	-0.84	-0.82	-0.92	-1.48	-1.02	-1.26	-0.89
Shapiro-Wilk Statistic	0.82	0.93	0.71	0.54	0.90	0.89	0.90	0.53	0.88	0.89	0.92	0.89	0.85	0.89	0.93
Shapiro-Wilk p-value	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03
Anderson-Darling Statistic	2.51	0.94	4.83	7.03	1.16	1.58	1.38	7.27	1.32	1.25	1.08	1.64	2.02	1.30	0.77
Adjusted A-D Statistic	2.57	0.96	4.94	7.19	1.18	1.61	1.41	7.44	1.35	1.28	1.10	1.68	2.06	1.33	0.79

Table C4. Descriptive statistics for PAH contaminant fluxes due to gas ebullition.

	PAH flux (mg m^{-2} d^{-1})													
	Acenaph-thene	Acenaph-thylene	Anthra-cene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chry-sene	Fluoran-thene	Fluor-ene	Naph-thalene	Phenan-threne	Pyrene
N of Cases	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Minimum	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	0.4	0.4	0.3	2.9	1.6	1.9	0.7	1.3	1.7	7.3	0.4	0.4	0.9	5.7
Range	0.4	0.4	0.3	2.9	1.6	1.9	0.7	1.3	1.7	7.3	0.4	0.4	0.9	5.7
Sum	1.5	1.5	1.5	6.7	4.7	4.9	2.6	4.0	4.7	16	1.4	1.5	6	12
Median	0.01	0.01	0.02	0.03	0.03	0.03	0.02	0.02	0.02	0.03	0.01	0.02	0.02	0.03
Arithmetic Mean	0.04	0.04	0.04	0.20	0.14	0.15	0.08	0.12	0.14	0.48	0.04	0.04	0.16	0.36
Trimmed Mean (10%)	0.02	0.02	0.03	0.08	0.07	0.06	0.04	0.06	0.06	0.16	0.02	0.03	0.10	0.11
Geometric Mean	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Harmonic Mean	.	.	.	.	.	.	.	.	.	.	.	.	.	.
95% Confidence Limit	0.07	0.07	0.07	0.38	0.24	0.26	0.13	0.21	0.25	0.95	0.07	0.07	0.26	0.71
5% Confidence Limit	0.02	0.01	0.02	0.02	0.04	0.03	0.03	0.03	0.03	0.02	0.01	0.02	0.07	0.00
Standard Error of the Mean	0.01	0.01	0.01	0.09	0.05	0.06	0.02	0.04	0.05	0.23	0.01	0.01	0.05	0.17
Standard Deviation	0.08	0.08	0.06	0.51	0.29	0.34	0.14	0.25	0.31	1.32	0.08	0.07	0.3	1.01
Variance	0.01	0.01	0.00	0.26	0.08	0.11	0.02	0.06	0.10	1.8	0.01	0.01	0	1.0
Coefficient of Variation	1.87	1.91	1.43	2.60	2.10	2.33	1.84	2.12	2.28	2.73	1.99	1.71	1.69	2.84
Skewness(G1)	3.32	3.22	2.29	4.63	3.82	4.38	2.76	3.75	4.18	4.56	3.32	3.54	1.64	4.75
Kurtosis(G2)	11.8	11.1	6.7	23.8	17.1	21.9	8.3	16.5	20.1	23.0	11.6	15.4	1.2	24.6
Shapiro-Wilk Statistic	0.55	0.56	0.73	0.41	0.51	0.45	0.59	0.52	0.47	0.40	0.54	0.59	0.63	0.38
Shapiro-Wilk p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Anderson-Darling Statistic	5.0	5.1	2.8	6.8	5.5	6.1	5.2	5.5	5.9	7.2	5.4	3.9	5.8	7.47
Adjusted A-D Statistic	5.2	5.2	2.9	7.0	5.6	6.3	5.4	5.6	6.0	7.4	5.6	4.0	5.9	7.6

Table C5. Descriptive statistics for PAH concentration in the sediments.

	PAHs in sediments (mg kg^{-1} sed dry wt.)													
	Acenaph-thene	Acenaph-thylene	Anthra-cene	Benz(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Benzo(k) fluoranthene	Chry-sene	Fluoran-thene	Fluor-ene	Naph-thalene	Phenan-threne	Pyrene
N of Cases	36	36	36	36	36	36	36	36	36	36	36	36	36	36
Minimum	0.13	0.14	0.32	1.30	1.20	1.20	0.72	1.30	1.50	4.50	0.32	0.29	2.30	3.50
Maximum	6	1.1	12	39	39	38	23.0	27	37	86	7	1.1	64	73
Range	6	0.9	12	38	38	37	22.3	26	36	82	6	1	62	70
Sum	61	24	154	461	472	439	260	360	479	1091	71	21	713	886
Median	0.89	0.66	2.00	6.9	5.8	5.5	3.40	5.8	7.5	14.0	1.05	0.48	7.4	11.0
Arithmetic Mean	2	0.66	4.3	12.8	13.1	12.2	7.22	10.0	13.3	30	2	1	20	25
Trimmed Mean (10%)	1.3	0.67	3.7	10.7	11.1	10.1	5.90	8.8	11.6	26.0	1.5	0.6	16.0	20.7
Geometric Mean	0.91	0.55	2.42	7.8	7.3	7.3	3.84	6.6	8.5	18.3	1.20	0.51	10.5	15.1
Harmonic Mean	0.46	0.43	1.29	4.69	4.07	4.31	2.20	4.29	5.31	11.7	0.81	0.46	6.05	9.8
95% Confidence Limit	2	0.8	6	17	17.7	16.3	9.9	12.9	17	40	3	1	27	33
5% Confidence Limit	1	0.55	2.87	8.5	8.55	8.0	4.57	7.03	9.1	20	1	0	13	16.4
Standard Error of the Mean	0	0.05	0.69	2.1	2.2	2.0	1.31	1.5	2.1	5	0	0	4	4
Standard Deviation	2	0.3	4	13	13.5	12.3	7.9	8.7	12.3	30	2	0	21	24
Variance	3	0	17	159	181	151	62	76	151	891	5	0	452	583
Coefficient of Variation	1.08	0.49	0.97	0.99	1.03	1.01	1.09	0.87	0.93	0.99	1.08	0.49	1.07	0.98
Skewness(G1)	1.27	-0.29	0.85	1.17	1.03	1.22	1.09	0.89	1.05	0.99	1.40	0.42	1.04	1.07
Kurtosis(G2)	0.3	-1.4	-0.9	-0.1	-0.6	0.0	-0.40	-0.7	-0.5	-0.7	0.5	-1.5	-0.4	-0.4
Shapiro-Wilk Statistic	0.76	0.88	0.80	0.78	0.77	0.76	0.75	0.82	0.78	0.77	0.72	0.83	0.75	0.77
Shapiro-Wilk p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Anderson-Darling Statistic	3.37	1.58	3.02	3.27	3.49	3.53	3.82	2.60	3.18	3.48	4.36	2.37	3.76	3.40
Adjusted A-D Statistic	3.45	1.61	3.09	3.34	3.57	3.61	3.91	2.66	3.26	3.56	4.46	2.43	3.84	3.47

APPENDIX D. BUBBLY CREEK TURNING BASIN BORE LOG

Table D1. Core sample coordinates.

Feature		Decimal Degrees		UTM83 Zone 16N meters	
	TB	°N	°W	X	Y
Core Sample #	Location				
2	400-80	41.844222	-87.665222	444773.57586	4632694.51033
3	300-80	41.843972	-87.665222	444773.36086	4632666.75366
4	200-80	41.843694	-87.665250	444770.81567	4632635.93054
5	100-80	41.843417	-87.665250	444770.57679	4632605.09067
6	100-160	41.843417	-87.664944	444795.94467	4632604.89421
7	200-160	41.843694	-87.664944	444796.18345	4632635.73409
8	400-160	41.844222	-87.664944	444796.63713	4632694.33174
11	400-240	41.844222	-87.664667	444819.69758	4632694.15323
12	200-240	41.843694	-87.664667	444819.24408	4632635.55558
13	100-240	41.843417	-87.664667	444819.00541	4632604.71571
14	300-160	41.843972	-87.664944	444796.42223	4632666.57507
15	300-240	41.843972	-87.664667	444819.48277	4632666.39657
16	400-320	41.844222	-87.664361	444845.06515	4632693.95695
17	300-320	41.843972	-87.664361	444844.85043	4632666.20029
18	200-320	41.843694	-87.664361	444844.61186	4632635.35930

Legend:

C:	Core
SG:	Surface grab
B1, B2, B3:	Buoys
S:	Sample

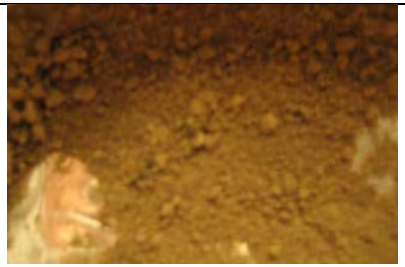
Figure D1. Buoy and surface grab locations from UIC sampling campaign in October, 2005. Coordinates from GPS system measured by MWRD using WGS 84, LEIKA GPS. Core sample locations from Patrick Engineering (2005) using GPS system NAD 83. Map generated by D. Montgomery, December, 2005.

Table D2. Core sample descriptions.

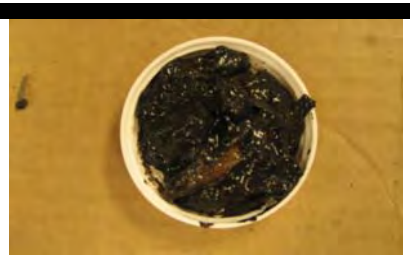
Core Sample #	Location	Water Depth (ft)	Clay Depth (ft) (mean depth to clay hardpan 26.2 ft)	Approximate Sediment Depth (cm) (mean clay depth minus water depth)	Recovered Core Sample Length (cm) Recovered core length **to/into** hardpan (**BOLD**) or recovered single core segment length	Sediment Temperature (°C)	Water Temperature (°C)
2	**400-80**	**9.0**	**26.00**	**524**	**482**	**n/a**	**16**
3	300-80	5.5		631	191	n/a	"
4	200-80	5.0		646	194	n/a	"
5	**100-80**	**3.0**	**27.50**	**707**	**560**	**13**	**"**
6	100-160	5.5		631	190	16.5	"
7	200-160	6.5		600	188	16.5	"
8	400-160	10.0		494	159	14	"
11	400-240	11.5		448	185	14.5	"
12	200-240	8.5		539	187	14.5	"
13	**100-240**	**8.0**	**25.00**	**555**	**502**	**10**	**"**
14	300-160	7.5		570	188	15.5	"
15	300-240	10.5		479	185	10.5	"
16	**400-320**	**14.0**	**26.25**	**372**	**381**	**11.5**	**"**
17	300-320	12.0		433	164	15.5	"
18	200-320	12.0		433	189	14.5	"

Table D3. Descriptive bore log.

Note: Pictures were taken for the cores 2, 3 and 5 (see Table D2). It was decided that because they all looked very similar, no subsequent photographs would be taken unless a change in texture, color or other conditions was observed.

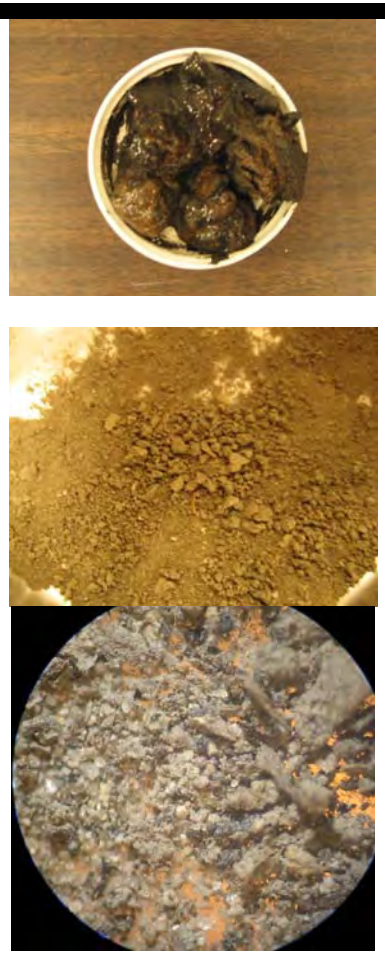
Core #	Recovered core sample length (cm)	Sample code	Collected/preserved sample segment depth (cm)	Picture(s)	Sediment conditions
2	482	C2S1	0-20		Dark grey, silty mud, organic rich, not much smell
		C2S2	20-40		
		C2S3	40-60		
		C2S4	60-80		
		C2S5	80-100		Silty clay, organic rich, not much smell

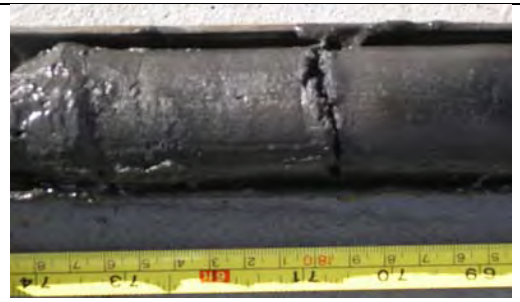
		C2S6	100-120		
		C2S7	120-140		
		C2S8	140-160		
		C2S14	260-280		
		C2S16	300-320		
		C2S20	380-400		
		C2S23	440-460		
		C2S25	480-500		Light brown, clay hardpan, no smell, no NAPL

3	191 cm	C3S1	0-20		Dark grey, silty mud, some LNAPL, smell sulfur/sulfide
		C3S2	20-40		Dark grey, silty mud, smell sulfur/sulfide
		C3S3	40-60		
		C3S4	60-80		
		C3S5	80-100		Brown and black, silty mud, smell sulfur/sulfide
		C3S6	100-120		
		C3S7	120-140		
		C3S8	140-160		
		C3S9	160-180		

		C3S10	180-200		Brown, silty mud, smell PAH/naphthalene
4	194	C4S1	0-20		Dark brown, silty-clayey mud, LNAPL, not much smell
		C4S2	20-40		Dark brown, silty-clayey mud, not much smell
		C4S3	40-60		
		C4S4	60-80		
		C4S5	80-100		
		C4S6	100-120		
		C4S7	120-140		

		C4S8	140-160		
		C4S9	160-180		
		C4S10	180-200		

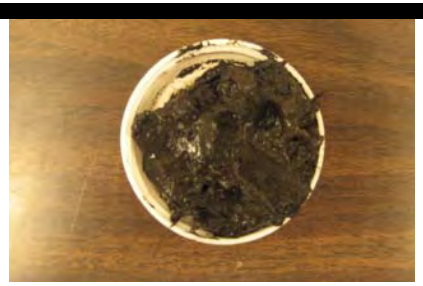
5	560	C5S1	0-20		Black, sandy mud, smell of naphthalene/ PAHs and sulfur, a lot of LNAPL
		C5S2	20-40		Black, sandy mud, smell of naphthalene/ PAHs and sulfur
		C5S3	40-60		
		C5S4	60-80		

		C5S5	80-100		
		C5S6	100-120		
		C5S7	120-140		
		C5S8	140-160		
		C5S9	160-180		Dark brown, silty-clayey mud, smell of naphthalene/ PAHs and sulfur
		C5S10	180-200		

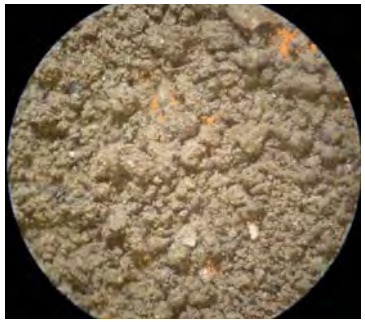
		C5S14	260-280	Unknown depth but core 5 middle	
		C5S18	340-360		
		C5S21	400-420		
		C5S24	460-480		
		C5S27	520-540		Light brown, clay hardpan, no smell, no NAPL

6	190	C6S1	0-20		Brown, silty mud, not much smell, some NAPL
		C6S2	20-40		
		C6S3	40-60		
		C6S4	60-80		
		C6S5	80-100		Brown and black, silty-clayey, NAPL, not much smell
		C6S6	100-120		
		C6S7	120-140		
		C6S8	140-160		
		C6S9	160-180		Brown, silty mud, not

		C6S10	180-200		much smell
7	188	C7S1	0-20		Dark gray, silty mud, smell of naphthalene/ PAHs and sulfur/sulfide
		C7S2	20-40		
		C7S3	40-60		
		C7S4	60-80		
		C7S5	80-100		Brown and black, silty mud, smell of naphthalene/ PAHs and sulfur/sulfide

		C7S6	100-120		
		C7S7	120-140		
		C7S8	140-160		
		C7S9	160-180		
		C7S10	180-200		Dark brown, silty mud, some hair
8	159	C8S1	0-20		Dark brown, sand-sized particles, smell of naphthalene/ PAHs and sulfur/sulfide, LNAPL
		C8S2	20-40		
		C8S3	40-60		

		C8S4	60-80		Brown, sand-sized particles, smell of naphthalene/ PAHs and sulfur/sulfide
		C8S5	80-100		
		C8S6	100-120		
		C8S7	120-140		
		C8S8	140-160		Black, silty mud

11	185	C11S1	0-20		Dark brown, silty mud, hair found, not much smell
		C11S2	20-40		
		C11S3	40-60		
		C11S4	60-80		

		C11S5	80-100		Brown and black, silty mud, hair found, not much smell
		C11S6	100-120		
		C11S7	120-140		
		C11S8	140-160		
		C11S9	160-180		Brown, silty-clayey mud, hair and roots found
		C11S10	180-200		

12	187	C12S1	0-20		Dark brown, silty mud, some NAPL
		C12S2	20-40		
		C12S3	40-60		
		C12S4	60-80		
		C12S5	80-100		Dark brown, silty mud
		C12S6	100-120		
		C12S7	120-140		
		C12S8	140-160		Brown, sandy mud

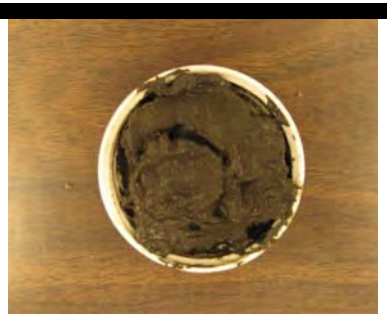
		C12S9	160-180		
13	502	C13S1	0-20		Black, silty mud, organic rich, hair found, smell of naphthalene/ PAHs and sulfur/sulfide
		C13S2	20-40		
		C13S3	40-60		
		C13S4	60-80		

		C13S5	80-100		
		C13S6	100-120		
		C13S7	120-140		
		C13S8	140-160		
		C13S9	160-180		
		C13S10	180-200		
		C13S12	220-240		Dark gray, organic-rich, silty mud, hair found, smell of naphthalene/ PAHs and sulfur/sulfide
		C13S14	260-280		
		C13S16	300-320		
		C13S17	320-340		
		C13S19	360-380		
		C13S22	420-440		
		C13S25	480-500		

		Bottom clay			Light brown, clay hardpan, no smell, no NAPL
14	188	C14S1	0-20		Black, silty mud, not much smell, tree debris
		C14S2	20-40		
		C14S3	40-60		
		C14S4	60-80		

		C14S5	80-100		Brown and black, silty-clayey, not much smell
		C14S6	100-120		
		C14S7	120-140		
		C14S8	140-160		
		C14S9	160-180		Brown, silty mud, hair and root found, not much smell
		C14S10	180-200		

15	185	C15S1	0-20		Dark grey, silty mud, hair found, not much smell
		C15S2	20-40		
		C15S3	40-60		
		C15S4	60-80		
		C15S5	80-100		Dark grey, copious plastic debris, not much smell
		C15S6	100-120		
		C15S7	120-140		
		C15S8	140-160		
		C15S9	160-180		Black silty mud, roots

		C15S10	180-200		found, LNAPL
16	420	C16S1	0-20	 	Brown, silty mud, hair found, not much smell
		C16S2	20-40		
		C16S3	40-60		
		C16S4	60-80		

		C16S5	80-100		
		C16S6	100-120		
		C16S7	120-140		
		C16S8	140-160		
		C16S9	160-180		Brown, silty-clayey, hair found, debris, not much smell
		C16S10	180-200		
		C16S13	240-260		
		C16S15	280-300		
		C16S17	320-340		
		C16S18	340-380		

		C16S19	380-400		Mostly clay/hardpan, light brown, no petroleum
17	164	C17S1	0-20		Brown and black, sandy mud, LNAPL, not much smell
		C17S2	20-40		
		C17S3	40-60		
		C17S4	60-80		
		C17S5	80-100		Gray and black, silty mud, not much smell

		C17S6	100-120		
		C17S7	120-140		
		C17S8	140-160		Brown, silty mud, wood debris found
		C17S9	160-180		
18	189	C18S1	0-20		Brown and grey, silty mud, smell of sulfur/sulfide
		C18S2	20-40		
		C18S3	40-60		
		C18S4	60-80		Brown and black, silty

		C18S5	80-100		mud, smell of sulfur/sulfide
		C18S6	100-120		
		C18S7	120-140		
		C18S8	140-160		
		C18S9	160-180		Brown and grey, silty mud, smell of sulfur/sulfide
		C18S10	180-200		

APPENDIX E. ANALYTICAL RESULTS

See *Sediment Gas Ebullition and Flux Studies Bubbly Creek, South Fork South Branch, Chicago River Volume 2 of 2: Appendix E Analytical Results* for complete laboratory data.

Attachment 6:

Sediment Gas Ebullition and Flux Studies Bubbly Creek, South Fork South Branch, Chicago River Volume 2 of 2: Appendix E Analytical Results

UIC Department of Civil and Materials Engineering
UNIVERSITY OF ILLINOIS AT CHICAGO
COLLEGE OF ENGINEERING

SEDIMENT GAS EBULLITION AND FLUX STUDIES BUBBLY CREEK, SOUTH FORK SOUTH BRANCH, CHICAGO RIVER

VOLUME 2 OF 2: APPENDIX E ANALYTICAL RESULTS

Prepared for:

United States Army Corps of Engineers – Chicago District
111 North Canal Street
Suite 600
Chicago, Illinois 60606

Prepared by:

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Department of Civil and Materials Engineering
842 West Taylor St., M/C 246
University of Illinois at Chicago
Chicago, IL 60607

July 2010

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APPENDIX E. ANALYTICAL RESULTS

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001;AIHA 101160; NVLAP LabCode 101202-

August 01, 2008

Department of Civil & Materials Engineering
University of Illinois at Chicago
842 West Taylor
Chicago, IL 60607
Telephone: (312) 996-4755
Fax: (312) 996-2426

RE: Active Capping, Chicago STAT Project No 08070315

Dear Pricillia Vienna:

STAT Analysis received 19 samples for the referenced project on 7/11/2008 4:20:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Craig Chawla
Project Manager

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone.This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory.

STAT Analysis Corporation

Date: August 01, 2008

Client: Department of Civil & Materials Engineering
Project: Active Capping, Chicago
Lab Order: 08070315

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
08070315-001A	1-BCCDM 13 Water		6/24/2008	7/11/2008
08070315-002A	2-BCCDM 13		6/24/2008	7/11/2008
08070315-003A	3-BCCDM 11 Water		6/24/2008	7/11/2008
08070315-004A	4-BCCDM 11		6/24/2008	7/11/2008
08070315-005A	5-BCCDM 9 Water		6/24/2008	7/11/2008
08070315-006A	6-BCCDM 9		6/24/2008	7/11/2008
08070315-007A	7-BCCDM 8 Water		6/24/2008	7/11/2008
08070315-008A	8-BCCDM 8		6/24/2008	7/11/2008
08070315-009A	9-BCCDM 4D Water		6/24/2008	7/11/2008
08070315-010A	10-BCCDM 4 Water		6/24/2008	7/11/2008
08070315-011A	11-BCCDM 4		6/24/2008	7/11/2008
08070315-012A	12-BCTB 5		6/18/2008	7/11/2008
08070315-013A	13-BCTB 10		6/19/2008	7/11/2008
08070315-014A	14-BCTB SD		6/17/2008	7/11/2008
08070315-015A	15-BCTB 13		6/17/2008	7/11/2008
08070315-016A	16-BCTB 13		6/16/2008	7/11/2008
08070315-017A	17-BCTB 10		6/16/2008	7/11/2008
08070315-018A	18-BCTB WATER		6/18/2008	7/11/2008
08070315-019A	19-BCTB WATER		6/16/2008	7/11/2008

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	1-BCCDM 13 Water
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-001A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.87		mg/Kg	10	7/17/2008
Barium	ND	0.87		mg/Kg	10	7/17/2008
Beryllium	ND	0.43		mg/Kg	10	7/17/2008
Boron	ND	8.7		mg/Kg	10	7/17/2008
Cadmium	ND	0.43		mg/Kg	10	7/17/2008
Chromium	ND	0.87		mg/Kg	10	7/17/2008
Cobalt	ND	0.87		mg/Kg	10	7/17/2008
Iron	ND	26		mg/Kg	10	7/17/2008
Lead	ND	0.43		mg/Kg	10	7/17/2008
Nickel	ND	0.87		mg/Kg	10	7/17/2008
Selenium	ND	0.87		mg/Kg	10	7/17/2008
Silver	ND	0.87		mg/Kg	10	7/17/2008
Thallium	ND	0.87		mg/Kg	10	7/17/2008
Vanadium	ND	0.87		mg/Kg	10	7/17/2008
Zinc	ND	4.3		mg/Kg	10	7/17/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	2-BCCDM 13
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-002A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.95		mg/Kg	10	7/17/2008
Barium	1.1	0.95		mg/Kg	10	7/17/2008
Beryllium	ND	0.48		mg/Kg	10	7/17/2008
Boron	ND	9.5		mg/Kg	10	7/17/2008
Cadmium	ND	0.48		mg/Kg	10	7/17/2008
Chromium	ND	0.95		mg/Kg	10	7/17/2008
Cobalt	ND	0.95		mg/Kg	10	7/17/2008
Iron	48	29		mg/Kg	10	7/17/2008
Lead	0.68	0.48		mg/Kg	10	7/17/2008
Nickel	ND	0.95		mg/Kg	10	7/17/2008
Selenium	ND	0.95		mg/Kg	10	7/17/2008
Silver	ND	0.95		mg/Kg	10	7/17/2008
Thallium	ND	0.95		mg/Kg	10	7/17/2008
Vanadium	ND	0.95		mg/Kg	10	7/17/2008
Zinc	ND	4.8		mg/Kg	10	7/17/2008

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	3-BCCDM 11 Water
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-003A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.98		mg/Kg	10	7/17/2008
Barium	1.9	0.98		mg/Kg	10	7/17/2008
Beryllium	ND	0.49		mg/Kg	10	7/17/2008
Boron	ND	9.8		mg/Kg	10	7/17/2008
Cadmium	ND	0.49		mg/Kg	10	7/17/2008
Chromium	ND	0.98		mg/Kg	10	7/17/2008
Cobalt	ND	0.98		mg/Kg	10	7/17/2008
Iron	89	29		mg/Kg	10	7/17/2008
Lead	1.1	0.49		mg/Kg	10	7/17/2008
Nickel	ND	0.98		mg/Kg	10	7/17/2008
Selenium	ND	0.98		mg/Kg	10	7/17/2008
Silver	ND	0.98		mg/Kg	10	7/17/2008
Thallium	ND	0.98		mg/Kg	10	7/17/2008
Vanadium	ND	0.98		mg/Kg	10	7/17/2008
Zinc	ND	4.9		mg/Kg	10	7/17/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	4-BCCDM 11
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-004A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.94		mg/Kg	10	7/17/2008
Barium	1.5	0.94		mg/Kg	10	7/17/2008
Beryllium	ND	0.47		mg/Kg	10	7/17/2008
Boron	ND	9.4		mg/Kg	10	7/17/2008
Cadmium	ND	0.47		mg/Kg	10	7/17/2008
Chromium	ND	0.94		mg/Kg	10	7/17/2008
Cobalt	ND	0.94		mg/Kg	10	7/17/2008
Iron	100	28		mg/Kg	10	7/17/2008
Lead	1.5	0.47		mg/Kg	10	7/17/2008
Nickel	ND	0.94		mg/Kg	10	7/17/2008
Selenium	ND	0.94		mg/Kg	10	7/17/2008
Silver	ND	0.94		mg/Kg	10	7/17/2008
Thallium	ND	0.94		mg/Kg	10	7/17/2008
Vanadium	ND	0.94		mg/Kg	10	7/17/2008
Zinc	5.2	4.7		mg/Kg	10	7/17/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	5-BCCDM 9 Water
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-005A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.98		mg/Kg	10	7/17/2008
Barium	1.2	0.98		mg/Kg	10	7/17/2008
Beryllium	ND	0.49		mg/Kg	10	7/17/2008
Boron	ND	9.8		mg/Kg	10	7/17/2008
Cadmium	ND	0.49		mg/Kg	10	7/17/2008
Chromium	ND	0.98		mg/Kg	10	7/17/2008
Cobalt	ND	0.98		mg/Kg	10	7/17/2008
Iron	ND	29		mg/Kg	10	7/17/2008
Lead	0.49	0.49		mg/Kg	10	7/17/2008
Nickel	ND	0.98		mg/Kg	10	7/17/2008
Selenium	ND	0.98		mg/Kg	10	7/17/2008
Silver	ND	0.98		mg/Kg	10	7/17/2008
Thallium	ND	0.98		mg/Kg	10	7/17/2008
Vanadium	ND	0.98		mg/Kg	10	7/17/2008
Zinc	ND	4.9		mg/Kg	10	7/17/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	6-BCCDM 9
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-006A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.96		mg/Kg	10	7/17/2008
Barium	5.5	0.96		mg/Kg	10	7/17/2008
Beryllium	ND	0.48		mg/Kg	10	7/17/2008
Boron	ND	9.6		mg/Kg	10	7/17/2008
Cadmium	ND	0.48		mg/Kg	10	7/17/2008
Chromium	2.5	0.96		mg/Kg	10	7/17/2008
Cobalt	ND	0.96		mg/Kg	10	7/17/2008
Iron	490	29		mg/Kg	10	7/17/2008
Lead	13	0.48		mg/Kg	10	7/17/2008
Nickel	ND	0.96		mg/Kg	10	7/17/2008
Selenium	ND	0.96		mg/Kg	10	7/17/2008
Silver	ND	0.96		mg/Kg	10	7/17/2008
Thallium	ND	0.96		mg/Kg	10	7/17/2008
Vanadium	ND	0.96		mg/Kg	10	7/17/2008
Zinc	28	4.8		mg/Kg	10	7/17/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	7-BCCDM 8 Water
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-007A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.97		mg/Kg	10	7/17/2008
Barium	ND	0.97		mg/Kg	10	7/17/2008
Beryllium	ND	0.48		mg/Kg	10	7/17/2008
Boron	ND	9.7		mg/Kg	10	7/17/2008
Cadmium	ND	0.48		mg/Kg	10	7/17/2008
Chromium	ND	0.97		mg/Kg	10	7/17/2008
Cobalt	ND	0.97		mg/Kg	10	7/17/2008
Iron	ND	29		mg/Kg	10	7/17/2008
Lead	ND	0.48		mg/Kg	10	7/17/2008
Nickel	ND	0.97		mg/Kg	10	7/17/2008
Selenium	ND	0.97		mg/Kg	10	7/17/2008
Silver	ND	0.97		mg/Kg	10	7/17/2008
Thallium	ND	0.97		mg/Kg	10	7/17/2008
Vanadium	ND	0.97		mg/Kg	10	7/17/2008
Zinc	ND	4.8		mg/Kg	10	7/17/2008

Qualifiers:

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J - Analyte detected below quantitation limits
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E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	8-BCCDM 8
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-008A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.99		mg/Kg	10	7/17/2008
Barium	1.4	0.99		mg/Kg	10	7/17/2008
Beryllium	ND	0.49		mg/Kg	10	7/17/2008
Boron	ND	9.9		mg/Kg	10	7/17/2008
Cadmium	ND	0.49		mg/Kg	10	7/17/2008
Chromium	ND	0.99		mg/Kg	10	7/17/2008
Cobalt	ND	0.99		mg/Kg	10	7/17/2008
Iron	77	30		mg/Kg	10	7/17/2008
Lead	0.94	0.49		mg/Kg	10	7/17/2008
Nickel	ND	0.99		mg/Kg	10	7/17/2008
Selenium	ND	0.99		mg/Kg	10	7/17/2008
Silver	ND	0.99		mg/Kg	10	7/17/2008
Thallium	ND	0.99		mg/Kg	10	7/17/2008
Vanadium	ND	0.99		mg/Kg	10	7/17/2008
Zinc	ND	4.9		mg/Kg	10	7/17/2008

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	9-BCCDM 4D Water
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-009A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.98		mg/Kg	10	7/17/2008
Barium	1	0.98		mg/Kg	10	7/17/2008
Beryllium	ND	0.49		mg/Kg	10	7/17/2008
Boron	ND	9.8		mg/Kg	10	7/17/2008
Cadmium	ND	0.49		mg/Kg	10	7/17/2008
Chromium	ND	0.98		mg/Kg	10	7/17/2008
Cobalt	ND	0.98		mg/Kg	10	7/17/2008
Iron	39	29		mg/Kg	10	7/17/2008
Lead	0.69	0.49		mg/Kg	10	7/17/2008
Nickel	ND	0.98		mg/Kg	10	7/17/2008
Selenium	ND	0.98		mg/Kg	10	7/17/2008
Silver	ND	0.98		mg/Kg	10	7/17/2008
Thallium	ND	0.98		mg/Kg	10	7/17/2008
Vanadium	ND	0.98		mg/Kg	10	7/17/2008
Zinc	5.8	4.9		mg/Kg	10	7/17/2008

Qualifiers:

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HT - Sample received past holding time
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Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	10-BCCDM 4 Water
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-010A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.94		mg/Kg	10	7/17/2008
Barium	1.5	0.94		mg/Kg	10	7/17/2008
Beryllium	ND	0.47		mg/Kg	10	7/17/2008
Boron	ND	9.4		mg/Kg	10	7/17/2008
Cadmium	ND	0.47		mg/Kg	10	7/17/2008
Chromium	ND	0.94		mg/Kg	10	7/17/2008
Cobalt	ND	0.94		mg/Kg	10	7/17/2008
Iron	100	28		mg/Kg	10	7/17/2008
Lead	1.4	0.47		mg/Kg	10	7/17/2008
Nickel	ND	0.94		mg/Kg	10	7/17/2008
Selenium	ND	0.94		mg/Kg	10	7/17/2008
Silver	ND	0.94		mg/Kg	10	7/17/2008
Thallium	ND	0.94		mg/Kg	10	7/17/2008
Vanadium	ND	0.94		mg/Kg	10	7/17/2008
Zinc	12	4.7		mg/Kg	10	7/17/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	11-BCCDM 4
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-011A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.91		mg/Kg	10	7/15/2008
Barium	2.4	0.91		mg/Kg	10	7/15/2008
Beryllium	ND	0.45		mg/Kg	10	7/15/2008
Boron	ND	9.1		mg/Kg	10	7/15/2008
Cadmium	ND	0.45		mg/Kg	10	7/15/2008
Chromium	ND	0.91		mg/Kg	10	7/15/2008
Cobalt	ND	0.91		mg/Kg	10	7/15/2008
Iron	210	27		mg/Kg	10	7/15/2008
Lead	2.6	0.45		mg/Kg	10	7/15/2008
Nickel	ND	0.91		mg/Kg	10	7/15/2008
Selenium	ND	0.91		mg/Kg	10	7/15/2008
Silver	ND	0.91		mg/Kg	10	7/15/2008
Thallium	ND	0.91		mg/Kg	10	7/15/2008
Vanadium	ND	0.91		mg/Kg	10	7/15/2008
Zinc	9.7	4.5		mg/Kg	10	7/15/2008

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	12-BCTB 5
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/18/2008
Lab ID:	08070315-012A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.97		mg/Kg	10	7/15/2008
Barium	2	0.97		mg/Kg	10	7/15/2008
Beryllium	ND	0.49		mg/Kg	10	7/15/2008
Boron	ND	9.7		mg/Kg	10	7/15/2008
Cadmium	ND	0.49		mg/Kg	10	7/15/2008
Chromium	ND	0.97		mg/Kg	10	7/15/2008
Cobalt	ND	0.97		mg/Kg	10	7/15/2008
Iron	150	29		mg/Kg	10	7/15/2008
Lead	2.1	0.49		mg/Kg	10	7/15/2008
Nickel	ND	0.97		mg/Kg	10	7/15/2008
Selenium	ND	0.97		mg/Kg	10	7/15/2008
Silver	ND	0.97		mg/Kg	10	7/15/2008
Thallium	ND	0.97		mg/Kg	10	7/15/2008
Vanadium	ND	0.97		mg/Kg	10	7/15/2008
Zinc	7.7	4.9		mg/Kg	10	7/15/2008

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	13-BCTB 10
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/19/2008
Lab ID:	08070315-013A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.97		mg/Kg	10	7/15/2008
Barium	7.3	0.97		mg/Kg	10	7/15/2008
Beryllium	ND	0.48		mg/Kg	10	7/15/2008
Boron	ND	9.7		mg/Kg	10	7/15/2008
Cadmium	ND	0.48		mg/Kg	10	7/15/2008
Chromium	3.3	0.97		mg/Kg	10	7/15/2008
Cobalt	ND	0.97		mg/Kg	10	7/15/2008
Iron	630	29		mg/Kg	10	7/15/2008
Lead	7.9	0.48		mg/Kg	10	7/15/2008
Nickel	ND	0.97		mg/Kg	10	7/15/2008
Selenium	ND	0.97		mg/Kg	10	7/15/2008
Silver	ND	0.97		mg/Kg	10	7/15/2008
Thallium	ND	0.97		mg/Kg	10	7/15/2008
Vanadium	ND	0.97		mg/Kg	10	7/15/2008
Zinc	27	4.8		mg/Kg	10	7/15/2008

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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R - RPD outside accepted recovery limits
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Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	14-BCTB SD
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/17/2008
Lab ID:	08070315-014A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.96		mg/Kg	10	7/15/2008
Barium	1.3	0.96		mg/Kg	10	7/15/2008
Beryllium	ND	0.48		mg/Kg	10	7/15/2008
Boron	ND	9.6		mg/Kg	10	7/15/2008
Cadmium	ND	0.48		mg/Kg	10	7/15/2008
Chromium	ND	0.96		mg/Kg	10	7/15/2008
Cobalt	ND	0.96		mg/Kg	10	7/15/2008
Iron	75	29		mg/Kg	10	7/15/2008
Lead	0.85	0.48		mg/Kg	10	7/15/2008
Nickel	ND	0.96		mg/Kg	10	7/15/2008
Selenium	ND	0.96		mg/Kg	10	7/15/2008
Silver	ND	0.96		mg/Kg	10	7/15/2008
Thallium	ND	0.96		mg/Kg	10	7/15/2008
Vanadium	ND	0.96		mg/Kg	10	7/15/2008
Zinc	ND	4.8		mg/Kg	10	7/15/2008

Qualifiers:

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B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
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R - RPD outside accepted recovery limits
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Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	15-BCTB 13
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/17/2008
Lab ID:	08070315-015A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.96		mg/Kg	10	7/15/2008
Barium	2.2	0.96		mg/Kg	10	7/15/2008
Beryllium	ND	0.48		mg/Kg	10	7/15/2008
Boron	ND	9.6		mg/Kg	10	7/15/2008
Cadmium	ND	0.48		mg/Kg	10	7/15/2008
Chromium	0.96	0.96		mg/Kg	10	7/15/2008
Cobalt	ND	0.96		mg/Kg	10	7/15/2008
Iron	200	29		mg/Kg	10	7/15/2008
Lead	2.3	0.48		mg/Kg	10	7/15/2008
Nickel	ND	0.96		mg/Kg	10	7/15/2008
Selenium	ND	0.96		mg/Kg	10	7/15/2008
Silver	ND	0.96		mg/Kg	10	7/15/2008
Thallium	ND	0.96		mg/Kg	10	7/15/2008
Vanadium	ND	0.96		mg/Kg	10	7/15/2008
Zinc	9.3	4.8		mg/Kg	10	7/15/2008

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
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R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	16-BCTB 13
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/16/2008
Lab ID:	08070315-016A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.97		mg/Kg	10	7/15/2008
Barium	4	0.97		mg/Kg	10	7/15/2008
Beryllium	ND	0.48		mg/Kg	10	7/15/2008
Boron	ND	9.7		mg/Kg	10	7/15/2008
Cadmium	ND	0.48		mg/Kg	10	7/15/2008
Chromium	1.7	0.97		mg/Kg	10	7/15/2008
Cobalt	ND	0.97		mg/Kg	10	7/15/2008
Iron	360	29		mg/Kg	10	7/15/2008
Lead	3.7	0.48		mg/Kg	10	7/15/2008
Nickel	ND	0.97		mg/Kg	10	7/15/2008
Selenium	ND	0.97		mg/Kg	10	7/15/2008
Silver	ND	0.97		mg/Kg	10	7/15/2008
Thallium	ND	0.97		mg/Kg	10	7/15/2008
Vanadium	ND	0.97		mg/Kg	10	7/15/2008
Zinc	12	4.8		mg/Kg	10	7/15/2008

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
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Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	17-BCTB 10
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/16/2008
Lab ID:	08070315-017A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.85		mg/Kg	10	7/15/2008
Barium	4.3	0.85		mg/Kg	10	7/15/2008
Beryllium	ND	0.42		mg/Kg	10	7/15/2008
Boron	ND	8.5		mg/Kg	10	7/15/2008
Cadmium	ND	0.42		mg/Kg	10	7/15/2008
Chromium	1.9	0.85		mg/Kg	10	7/15/2008
Cobalt	ND	0.85		mg/Kg	10	7/15/2008
Iron	390	25		mg/Kg	10	7/15/2008
Lead	4.5	0.42		mg/Kg	10	7/15/2008
Nickel	ND	0.85		mg/Kg	10	7/15/2008
Selenium	ND	0.85		mg/Kg	10	7/15/2008
Silver	ND	0.85		mg/Kg	10	7/15/2008
Thallium	ND	0.85		mg/Kg	10	7/15/2008
Vanadium	ND	0.85		mg/Kg	10	7/15/2008
Zinc	16	4.2		mg/Kg	10	7/15/2008

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	18-BCTB WATER
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/18/2008
Lab ID:	08070315-018A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.86		mg/Kg	10	7/15/2008
Barium	1.2	0.86		mg/Kg	10	7/15/2008
Beryllium	ND	0.43		mg/Kg	10	7/15/2008
Boron	ND	8.6		mg/Kg	10	7/15/2008
Cadmium	ND	0.43		mg/Kg	10	7/15/2008
Chromium	ND	0.86		mg/Kg	10	7/15/2008
Cobalt	ND	0.86		mg/Kg	10	7/15/2008
Iron	87	26		mg/Kg	10	7/15/2008
Lead	0.9	0.43		mg/Kg	10	7/15/2008
Nickel	ND	0.86		mg/Kg	10	7/15/2008
Selenium	ND	0.86		mg/Kg	10	7/15/2008
Silver	ND	0.86		mg/Kg	10	7/15/2008
Thallium	ND	0.86		mg/Kg	10	7/15/2008
Vanadium	ND	0.86		mg/Kg	10	7/15/2008
Zinc	ND	4.3		mg/Kg	10	7/15/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 01, 2008
Print Date: August 01, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	19-BCTB WATER
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/16/2008
Lab ID:	08070315-019A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.96		mg/Kg	10	7/15/2008
Barium	2.7	0.96		mg/Kg	10	7/15/2008
Beryllium	ND	0.48		mg/Kg	10	7/15/2008
Boron	ND	9.6		mg/Kg	10	7/15/2008
Cadmium	ND	0.48		mg/Kg	10	7/15/2008
Chromium	1.2	0.96		mg/Kg	10	7/15/2008
Cobalt	ND	0.96		mg/Kg	10	7/15/2008
Iron	260	29		mg/Kg	10	7/15/2008
Lead	2.3	0.48		mg/Kg	10	7/15/2008
Nickel	ND	0.96		mg/Kg	10	7/15/2008
Selenium	ND	0.96		mg/Kg	10	7/15/2008
Silver	ND	0.96		mg/Kg	10	7/15/2008
Thallium	ND	0.96		mg/Kg	10	7/15/2008
Vanadium	ND	0.96		mg/Kg	10	7/15/2008
Zinc	10	4.8		mg/Kg	10	7/15/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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CHAIN OF CUSTODY RECORD

Nº: 823174 Page : ____ of ____

Company: UNIVERSITY OF ILLINOIS - CHICAGO / PRISCILLA VIANA
Project Number: ACTIVE CAPPING Client Tracking No.:
Project Name:
Project Location: CHICAGO
Sampler(s):
Report To: PRISCILLA VIANA Phone: 312-413-7638
Fax:
e-mail: pviana2@uic.edu
QC Level: 1 ____ 2 ____ 3 ____ 4 ____

P.O. No.:
Quote No.:

Turn Around:
Results Needed: am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	METALS EXCEPT MERCURY	Remarks	Lab No.:
1 - BC CDM 13 WATER	06/24/08							X		001
2 - BC CDM 13	06/24/08							X		002
3 - BC CDM 11 WATER	06/24/08							X		003
4 - BC CDM 11	"							X		004
5 - BC CDM 3 WATER	06/24/08							X		005
6 - BC CDM 9	06/24/08							X		006
7 - BC CDM 8 WATER	06/24/08							X		007
8 - BC CDM 8	06/24/08							X		008
9 - BC CDM 4D WATER	"							X		009
10 - BC CDM 4 WATER								X		010
11 - BC CDM 4	06/24/08							X		011
12 - BCTB 5	06/18/08							X		012
13 - BCTB 10	06/19/08							X		013
14 - BCTB 5D	06/17/08							X		014
15 - BCTB 13	06/17/08							X		015
16 - BCTB 13	06/16/08							X		016
17 - BCTB 10	06/16/08							X		017
18 - BCTB WATER	06/18/08							X		018
19 - BCTB WATER	06/16/08							X		019
								X		

Relinquished by: (Signature) Priscilla Viana	Date/Time: 07/11/08	
Received by: (Signature)	Date/Time: 7/11/08 1620	
Relinquished by: (Signature)	Date/Time:	
Received by: (Signature)	Date/Time:	
Relinquished by: (Signature)	Date/Time:	
Received by: (Signature)	Date/Time:	

Comments:

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 08070315

Received on Ice: Yes [X] No [X]

Temperature: ~~18.9~~ °C

18.4°C 07/11

STAT Analysis Corporation

Sample Receipt Checklist

Client Name: **UIC/ENG**

Date and Time Received: **7/11/2008 4:20:00 PM**

Work Order Number **08070315**

Received by: CC

Checklist completed by: Signature 07/11/08 Date

Reviewed by: MAK Initials 7/14/08 Date

Matrix:

Carrier name: Client Delivered

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels/containers?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container or Temp Blank temperature in compliance?	Yes ☑	No ☐	Temperature 18.4 °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☐	No ☐
Water - Samples pH checked?	Yes ☐	No ☐	Checked by:
Water - Samples properly preserved?	Yes ☐	No ☐	pH Adjusted?

Any No response must be detailed in the comments section below.

Comments:

Client / Person contacted: Date contacted: Contacted by:

Response:

STAT Analysis Corporation
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September 16, 2008

Department of Civil & Materials Engineering
University of Illinois at Chicago
842 West Taylor
Chicago, IL 60607
Telephone: (312) 996-4755
Fax: (312) 996-2426

RE: 312-413-7638, Active Capping, Chicago River STAT Project No: 08090028

Dear Priscilla Viana:

STAT Analysis received 32 samples for the referenced project on 9/2/2008 3:30:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Mary Ann Kidd

Mary Ann Kidd
Project Manager

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone.This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory.

STAT Analysis Corporation

Date: September 16, 2008

Client: Department of Civil & Materials Engineering
Project: 312-413-7638, Active Capping, Chicago River
Lab Order: 08090028

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
08090028-001A	BCTB2W M		8/21/2008 11:00:00 AM	9/2/2008
08090028-002A	BCTB2 M		8/21/2008 11:00:00 AM	9/2/2008
08090028-003A	BCTB5W M		8/21/2008 11:00:00 AM	9/2/2008
08090028-004A	BCTB5 M		8/21/2008 11:00:00 AM	9/2/2008
08090028-005A	BCTB10W M		8/21/2008 11:00:00 AM	9/2/2008
08090028-006A	BCTB10 M		8/21/2008 11:00:00 AM	9/2/2008
08090028-007A	BCTB13W M		8/21/2008 11:00:00 AM	9/2/2008
08090028-008A	BCTB13 M		8/21/2008 11:00:00 AM	9/2/2008
08090028-009A	BCCDM4W M		8/21/2008 11:00:00 AM	9/2/2008
08090028-010A	BCCDM4 M		8/21/2008 11:00:00 AM	9/2/2008
08090028-011A	BCCDM8W M		8/21/2008 11:00:00 AM	9/2/2008
08090028-012A	BCCDM8 M		8/21/2008 11:00:00 AM	9/2/2008
08090028-013A	BCCDM9W M		8/21/2008 11:00:00 AM	9/2/2008
08090028-014A	BCCDM9 M		8/21/2008 11:00:00 AM	9/2/2008
08090028-015A	BCCDM11W M		8/21/2008 11:00:00 AM	9/2/2008
08090028-016A	BCCDM11 M		8/21/2008 11:00:00 AM	9/2/2008
08090028-017A	BCCDM13W M		8/21/2008 11:00:00 AM	9/2/2008
08090028-018A	BCCDM13 M		8/21/2008 11:00:00 AM	9/2/2008
08090028-019A	BCCDM4WD M		8/21/2008 11:00:00 AM	9/2/2008
08090028-020A	BCCDM4WDD M		8/21/2008 11:00:00 AM	9/2/2008
08090028-021A	CC5W M		8/10/2008 11:00:00 AM	9/2/2008
08090028-022A	CC5 M		8/10/2008 11:00:00 AM	9/2/2008
08090028-023A	CC6W M		8/13/2008 11:00:00 AM	9/2/2008
08090028-024A	CC6 M		8/13/2008 11:00:00 AM	9/2/2008
08090028-025A	CC7W M		8/8/2008 11:00:00 AM	9/2/2008
08090028-026A	CC7 M		8/8/2008 11:00:00 AM	9/2/2008
08090028-027A	CC8W M		8/12/2008 11:00:00 AM	9/2/2008
08090028-028A	CC8 M		8/12/2008 11:00:00 AM	9/2/2008
08090028-029A	CC9W M		8/10/2008 11:00:00 AM	9/2/2008
08090028-030A	CC9 M		8/10/2008 11:00:00 AM	9/2/2008
08090028-031A	CC5D M		8/10/2008 11:00:00 AM	9/2/2008
08090028-032A	CC5DD M		8/10/2008 11:00:00 AM	9/2/2008

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Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCTB2W M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-001A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.98		mg/Kg	10	9/4/2008
Barium	5.6	0.98		mg/Kg	10	9/4/2008
Beryllium	ND	0.49		mg/Kg	10	9/4/2008
Cadmium	ND	0.49		mg/Kg	10	9/4/2008
Chromium	1.6	0.98		mg/Kg	10	9/4/2008
Cobalt	ND	0.98		mg/Kg	10	9/4/2008
Copper	3.1	2.5		mg/Kg	10	9/4/2008
Iron	260	30		mg/Kg	10	9/4/2008
Lead	3	0.49		mg/Kg	10	9/4/2008
Magnesium	570	30		mg/Kg	10	9/4/2008
Manganese	7.5	0.98		mg/Kg	10	9/4/2008
Molybdenum	ND	4.9	*	mg/Kg	10	9/4/2008
Nickel	ND	0.98		mg/Kg	10	9/4/2008
Selenium	ND	0.98		mg/Kg	10	9/4/2008
Silver	ND	0.98		mg/Kg	10	9/4/2008
Sodium	2500	59		mg/Kg	10	9/4/2008
Thallium	ND	0.98		mg/Kg	10	9/4/2008
Tin	ND	4.9	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.98		mg/Kg	10	9/4/2008
Zinc	10	4.9		mg/Kg	10	9/4/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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H - Holding time exceeded

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Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCTB2 M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-002A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.91		mg/Kg	10	9/4/2008
Barium	15	0.91		mg/Kg	10	9/4/2008
Beryllium	ND	0.45		mg/Kg	10	9/4/2008
Cadmium	ND	0.45		mg/Kg	10	9/4/2008
Chromium	3.3	0.91		mg/Kg	10	9/4/2008
Cobalt	ND	0.91		mg/Kg	10	9/4/2008
Copper	8.8	2.3		mg/Kg	10	9/4/2008
Iron	590	27		mg/Kg	10	9/4/2008
Lead	14	0.45		mg/Kg	10	9/4/2008
Magnesium	1500	27		mg/Kg	10	9/4/2008
Manganese	9.4	0.91		mg/Kg	10	9/4/2008
Molybdenum	ND	4.5	*	mg/Kg	10	9/4/2008
Nickel	ND	0.91		mg/Kg	10	9/4/2008
Selenium	ND	0.91		mg/Kg	10	9/4/2008
Silver	ND	0.91		mg/Kg	10	9/4/2008
Sodium	3800	54		mg/Kg	10	9/4/2008
Thallium	ND	0.91		mg/Kg	10	9/4/2008
Tin	ND	4.5	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.91		mg/Kg	10	9/4/2008
Zinc	36	4.5		mg/Kg	10	9/4/2008

Qualifiers:

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Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCTB5W M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-003A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.96		mg/Kg	10	9/4/2008
Barium	12	0.96		mg/Kg	10	9/4/2008
Beryllium	ND	0.48		mg/Kg	10	9/4/2008
Cadmium	ND	0.48		mg/Kg	10	9/4/2008
Chromium	3	0.96		mg/Kg	10	9/4/2008
Cobalt	ND	0.96		mg/Kg	10	9/4/2008
Copper	5.8	2.4		mg/Kg	10	9/4/2008
Iron	510	29		mg/Kg	10	9/4/2008
Lead	6.6	0.48		mg/Kg	10	9/4/2008
Magnesium	1100	29		mg/Kg	10	9/4/2008
Manganese	17	0.96		mg/Kg	10	9/4/2008
Molybdenum	ND	4.8	*	mg/Kg	10	9/4/2008
Nickel	ND	0.96		mg/Kg	10	9/4/2008
Selenium	ND	0.96		mg/Kg	10	9/4/2008
Silver	ND	0.96		mg/Kg	10	9/4/2008
Sodium	4100	58		mg/Kg	10	9/4/2008
Thallium	ND	0.96		mg/Kg	10	9/4/2008
Tin	ND	4.8	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.96		mg/Kg	10	9/4/2008
Zinc	16	4.8		mg/Kg	10	9/4/2008

Qualifiers:

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J - Analyte detected below quantitation limits
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Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCTB5 M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-004A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.93		mg/Kg	10	9/4/2008
Barium	15	0.93		mg/Kg	10	9/4/2008
Beryllium	ND	0.46		mg/Kg	10	9/4/2008
Cadmium	ND	0.46		mg/Kg	10	9/4/2008
Chromium	3.6	0.93		mg/Kg	10	9/4/2008
Cobalt	ND	0.93		mg/Kg	10	9/4/2008
Copper	9.1	2.3		mg/Kg	10	9/4/2008
Iron	630	28		mg/Kg	10	9/4/2008
Lead	12	0.46		mg/Kg	10	9/4/2008
Magnesium	1500	28		mg/Kg	10	9/4/2008
Manganese	16	0.93		mg/Kg	10	9/4/2008
Molybdenum	ND	4.6	*	mg/Kg	10	9/4/2008
Nickel	ND	0.93		mg/Kg	10	9/4/2008
Selenium	ND	0.93		mg/Kg	10	9/4/2008
Silver	ND	0.93		mg/Kg	10	9/4/2008
Sodium	2800	56		mg/Kg	10	9/4/2008
Thallium	ND	0.93		mg/Kg	10	9/4/2008
Tin	ND	4.6	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.93		mg/Kg	10	9/4/2008
Zinc	24	4.6		mg/Kg	10	9/4/2008

Qualifiers:

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J - Analyte detected below quantitation limits
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Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCTB10W M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-005A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.94		mg/Kg	10	9/4/2008
Barium	15	0.94		mg/Kg	10	9/4/2008
Beryllium	ND	0.47		mg/Kg	10	9/4/2008
Cadmium	ND	0.47		mg/Kg	10	9/4/2008
Chromium	6	0.94		mg/Kg	10	9/4/2008
Cobalt	ND	0.94		mg/Kg	10	9/4/2008
Copper	12	2.4		mg/Kg	10	9/4/2008
Iron	1100	28		mg/Kg	10	9/4/2008
Lead	10	0.47		mg/Kg	10	9/4/2008
Magnesium	1600	28		mg/Kg	10	9/4/2008
Manganese	29	0.94		mg/Kg	10	9/4/2008
Molybdenum	ND	4.7	*	mg/Kg	10	9/4/2008
Nickel	1.3	0.94		mg/Kg	10	9/4/2008
Selenium	ND	0.94		mg/Kg	10	9/4/2008
Silver	ND	0.94		mg/Kg	10	9/4/2008
Sodium	4000	57		mg/Kg	10	9/4/2008
Thallium	ND	0.94		mg/Kg	10	9/4/2008
Tin	ND	4.7	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.94		mg/Kg	10	9/4/2008
Zinc	26	4.7		mg/Kg	10	9/4/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
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H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCTB10 M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-006A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.89		mg/Kg	10	9/4/2008
Barium	13	0.89		mg/Kg	10	9/4/2008
Beryllium	ND	0.45		mg/Kg	10	9/4/2008
Cadmium	ND	0.45		mg/Kg	10	9/4/2008
Chromium	5.3	0.89		mg/Kg	10	9/4/2008
Cobalt	ND	0.89		mg/Kg	10	9/4/2008
Copper	12	2.2		mg/Kg	10	9/4/2008
Iron	1000	27		mg/Kg	10	9/4/2008
Lead	10	0.45		mg/Kg	10	9/4/2008
Magnesium	1500	27		mg/Kg	10	9/4/2008
Manganese	29	0.89		mg/Kg	10	9/4/2008
Molybdenum	ND	4.5	*	mg/Kg	10	9/4/2008
Nickel	1.2	0.89		mg/Kg	10	9/4/2008
Selenium	ND	0.89		mg/Kg	10	9/4/2008
Silver	ND	0.89		mg/Kg	10	9/4/2008
Sodium	3000	54		mg/Kg	10	9/4/2008
Thallium	ND	0.89		mg/Kg	10	9/4/2008
Tin	ND	4.5	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.89		mg/Kg	10	9/4/2008
Zinc	23	4.5		mg/Kg	10	9/4/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCTB13W M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-007A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.98		mg/Kg	10	9/4/2008
Barium	6.7	0.98		mg/Kg	10	9/4/2008
Beryllium	ND	0.49		mg/Kg	10	9/4/2008
Cadmium	ND	0.49		mg/Kg	10	9/4/2008
Chromium	1.8	0.98		mg/Kg	10	9/4/2008
Cobalt	ND	0.98		mg/Kg	10	9/4/2008
Copper	2.7	2.4		mg/Kg	10	9/4/2008
Iron	240	29		mg/Kg	10	9/4/2008
Lead	2.4	0.49		mg/Kg	10	9/4/2008
Magnesium	670	29		mg/Kg	10	9/4/2008
Manganese	7.7	0.98		mg/Kg	10	9/4/2008
Molybdenum	ND	4.9	*	mg/Kg	10	9/4/2008
Nickel	ND	0.98		mg/Kg	10	9/4/2008
Selenium	ND	0.98		mg/Kg	10	9/4/2008
Silver	ND	0.98		mg/Kg	10	9/4/2008
Sodium	3600	59		mg/Kg	10	9/4/2008
Thallium	ND	0.98		mg/Kg	10	9/4/2008
Tin	ND	4.9	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.98		mg/Kg	10	9/4/2008
Zinc	6.8	4.9		mg/Kg	10	9/4/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCTB13 M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-008A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.98		mg/Kg	10	9/4/2008
Barium	8.7	0.98		mg/Kg	10	9/4/2008
Beryllium	ND	0.49		mg/Kg	10	9/4/2008
Cadmium	ND	0.49		mg/Kg	10	9/4/2008
Chromium	3.5	0.98		mg/Kg	10	9/4/2008
Cobalt	ND	0.98		mg/Kg	10	9/4/2008
Copper	7.3	2.5		mg/Kg	10	9/4/2008
Iron	610	29		mg/Kg	10	9/4/2008
Lead	6.2	0.49		mg/Kg	10	9/4/2008
Magnesium	880	29		mg/Kg	10	9/4/2008
Manganese	19	0.98		mg/Kg	10	9/4/2008
Molybdenum	ND	4.9	*	mg/Kg	10	9/4/2008
Nickel	ND	0.98		mg/Kg	10	9/4/2008
Selenium	ND	0.98		mg/Kg	10	9/4/2008
Silver	ND	0.98		mg/Kg	10	9/4/2008
Sodium	2500	59		mg/Kg	10	9/4/2008
Thallium	ND	0.98		mg/Kg	10	9/4/2008
Tin	ND	4.9	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.98		mg/Kg	10	9/4/2008
Zinc	15	4.9		mg/Kg	10	9/4/2008

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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RL - Reporting / Quantitation Limit for the analysis
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E - Value above quantitation range
H - Holding time exceeded

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Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCCDM4W M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-009A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.9		mg/Kg	10	9/4/2008
Barium	5.6	0.9		mg/Kg	10	9/4/2008
Beryllium	ND	0.45		mg/Kg	10	9/4/2008
Cadmium	ND	0.45		mg/Kg	10	9/4/2008
Chromium	1.2	0.9		mg/Kg	10	9/4/2008
Cobalt	ND	0.9		mg/Kg	10	9/4/2008
Copper	2.4	2.3		mg/Kg	10	9/4/2008
Iron	210	27		mg/Kg	10	9/4/2008
Lead	2.9	0.45		mg/Kg	10	9/4/2008
Magnesium	550	27		mg/Kg	10	9/4/2008
Manganese	6.4	0.9		mg/Kg	10	9/4/2008
Molybdenum	ND	4.5	*	mg/Kg	10	9/4/2008
Nickel	ND	0.9		mg/Kg	10	9/4/2008
Selenium	ND	0.9		mg/Kg	10	9/4/2008
Silver	ND	0.9		mg/Kg	10	9/4/2008
Sodium	2900	54		mg/Kg	10	9/4/2008
Thallium	ND	0.9		mg/Kg	10	9/4/2008
Tin	ND	4.5	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.9		mg/Kg	10	9/4/2008
Zinc	8.4	4.5		mg/Kg	10	9/4/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCCDM4 M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-010A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.98		mg/Kg	10	9/4/2008
Barium	8.1	0.98		mg/Kg	10	9/4/2008
Beryllium	ND	0.49		mg/Kg	10	9/4/2008
Cadmium	ND	0.49		mg/Kg	10	9/4/2008
Chromium	ND	0.98		mg/Kg	10	9/4/2008
Cobalt	ND	0.98		mg/Kg	10	9/4/2008
Copper	ND	2.5		mg/Kg	10	9/4/2008
Iron	140	29		mg/Kg	10	9/4/2008
Lead	1.9	0.49		mg/Kg	10	9/4/2008
Magnesium	780	29		mg/Kg	10	9/4/2008
Manganese	4.3	0.98		mg/Kg	10	9/4/2008
Molybdenum	ND	4.9	*	mg/Kg	10	9/4/2008
Nickel	ND	0.98		mg/Kg	10	9/4/2008
Selenium	ND	0.98		mg/Kg	10	9/4/2008
Silver	ND	0.98		mg/Kg	10	9/4/2008
Sodium	5200	59		mg/Kg	10	9/4/2008
Thallium	ND	0.98		mg/Kg	10	9/4/2008
Tin	ND	4.9	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.98		mg/Kg	10	9/4/2008
Zinc	5	4.9		mg/Kg	10	9/4/2008

Qualifiers:

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RL - Reporting / Quantitation Limit for the analysis
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R - RPD outside accepted recovery limits
E - Value above quantitation range
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Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCCDM8W M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-011A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.87		mg/Kg	10	9/4/2008
Barium	8.8	0.87		mg/Kg	10	9/4/2008
Beryllium	ND	0.44		mg/Kg	10	9/4/2008
Cadmium	ND	0.44		mg/Kg	10	9/4/2008
Chromium	2.5	0.87		mg/Kg	10	9/4/2008
Cobalt	ND	0.87		mg/Kg	10	9/4/2008
Copper	4.1	2.2		mg/Kg	10	9/4/2008
Iron	630	26		mg/Kg	10	9/4/2008
Lead	7.9	0.44		mg/Kg	10	9/4/2008
Magnesium	810	26		mg/Kg	10	9/4/2008
Manganese	23	0.87		mg/Kg	10	9/4/2008
Molybdenum	ND	4.4	*	mg/Kg	10	9/4/2008
Nickel	ND	0.87		mg/Kg	10	9/4/2008
Selenium	ND	0.87		mg/Kg	10	9/4/2008
Silver	ND	0.87		mg/Kg	10	9/4/2008
Sodium	3200	52		mg/Kg	10	9/4/2008
Thallium	ND	0.87		mg/Kg	10	9/4/2008
Tin	ND	4.4	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.87		mg/Kg	10	9/4/2008
Zinc	17	4.4		mg/Kg	10	9/4/2008

Qualifiers:

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J - Analyte detected below quantitation limits
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HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCCDM8 M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-012A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.86		mg/Kg	10	9/4/2008
Barium	14	0.86		mg/Kg	10	9/4/2008
Beryllium	ND	0.43		mg/Kg	10	9/4/2008
Cadmium	ND	0.43		mg/Kg	10	9/4/2008
Chromium	4.6	0.86		mg/Kg	10	9/4/2008
Cobalt	ND	0.86		mg/Kg	10	9/4/2008
Copper	13	2.2		mg/Kg	10	9/4/2008
Iron	1000	26		mg/Kg	10	9/4/2008
Lead	23	0.43		mg/Kg	10	9/4/2008
Magnesium	2600	26		mg/Kg	10	9/4/2008
Manganese	22	0.86		mg/Kg	10	9/4/2008
Molybdenum	ND	4.3	*	mg/Kg	10	9/4/2008
Nickel	1.3	0.86		mg/Kg	10	9/4/2008
Selenium	ND	0.86		mg/Kg	10	9/4/2008
Silver	ND	0.86		mg/Kg	10	9/4/2008
Sodium	2600	52		mg/Kg	10	9/4/2008
Thallium	ND	0.86		mg/Kg	10	9/4/2008
Tin	5.1	4.3	*	mg/Kg	10	9/4/2008
Vanadium	0.89	0.86		mg/Kg	10	9/4/2008
Zinc	54	4.3		mg/Kg	10	9/4/2008

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCCDM9W M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-013A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.99		mg/Kg	10	9/4/2008
Barium	10	0.99		mg/Kg	10	9/4/2008
Beryllium	ND	0.49		mg/Kg	10	9/4/2008
Cadmium	ND	0.49		mg/Kg	10	9/4/2008
Chromium	2.5	0.99		mg/Kg	10	9/4/2008
Cobalt	ND	0.99		mg/Kg	10	9/4/2008
Copper	4.8	2.5		mg/Kg	10	9/4/2008
Iron	750	30		mg/Kg	10	9/4/2008
Lead	11	0.49		mg/Kg	10	9/4/2008
Magnesium	990	30		mg/Kg	10	9/4/2008
Manganese	28	0.99		mg/Kg	10	9/4/2008
Molybdenum	ND	4.9	*	mg/Kg	10	9/4/2008
Nickel	ND	0.99		mg/Kg	10	9/4/2008
Selenium	ND	0.99		mg/Kg	10	9/4/2008
Silver	ND	0.99		mg/Kg	10	9/4/2008
Sodium	4300	59		mg/Kg	10	9/4/2008
Thallium	ND	0.99		mg/Kg	10	9/4/2008
Tin	ND	4.9	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.99		mg/Kg	10	9/4/2008
Zinc	23	4.9		mg/Kg	10	9/4/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCCDM9 M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-014A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.93		mg/Kg	10	9/4/2008
Barium	10	0.93		mg/Kg	10	9/4/2008
Beryllium	ND	0.46		mg/Kg	10	9/4/2008
Cadmium	ND	0.46		mg/Kg	10	9/4/2008
Chromium	2.8	0.93		mg/Kg	10	9/4/2008
Cobalt	ND	0.93		mg/Kg	10	9/4/2008
Copper	6.4	2.3		mg/Kg	10	9/4/2008
Iron	990	28		mg/Kg	10	9/4/2008
Lead	15	0.46		mg/Kg	10	9/4/2008
Magnesium	980	28		mg/Kg	10	9/4/2008
Manganese	34	0.93		mg/Kg	10	9/4/2008
Molybdenum	ND	4.6	*	mg/Kg	10	9/4/2008
Nickel	ND	0.93		mg/Kg	10	9/4/2008
Selenium	ND	0.93		mg/Kg	10	9/4/2008
Silver	ND	0.93		mg/Kg	10	9/4/2008
Sodium	2800	56		mg/Kg	10	9/4/2008
Thallium	ND	0.93		mg/Kg	10	9/4/2008
Tin	ND	4.6	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.93		mg/Kg	10	9/4/2008
Zinc	24	4.6		mg/Kg	10	9/4/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCCDM11W M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-015A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.98		mg/Kg	10	9/4/2008
Barium	9	0.98		mg/Kg	10	9/4/2008
Beryllium	ND	0.49		mg/Kg	10	9/4/2008
Cadmium	ND	0.49		mg/Kg	10	9/4/2008
Chromium	2	0.98		mg/Kg	10	9/4/2008
Cobalt	ND	0.98		mg/Kg	10	9/4/2008
Copper	3.6	2.4		mg/Kg	10	9/4/2008
Iron	610	29		mg/Kg	10	9/4/2008
Lead	8.5	0.49		mg/Kg	10	9/4/2008
Magnesium	890	29		mg/Kg	10	9/4/2008
Manganese	12	0.98		mg/Kg	10	9/4/2008
Molybdenum	ND	4.9	*	mg/Kg	10	9/4/2008
Nickel	ND	0.98		mg/Kg	10	9/4/2008
Selenium	ND	0.98		mg/Kg	10	9/4/2008
Silver	ND	0.98		mg/Kg	10	9/4/2008
Sodium	3600	59		mg/Kg	10	9/4/2008
Thallium	ND	0.98		mg/Kg	10	9/4/2008
Tin	ND	4.9	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.98		mg/Kg	10	9/4/2008
Zinc	16	4.9		mg/Kg	10	9/4/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
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Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCCDM11 M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-016A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.94		mg/Kg	10	9/4/2008
Barium	5.8	0.94		mg/Kg	10	9/4/2008
Beryllium	ND	0.47		mg/Kg	10	9/4/2008
Cadmium	ND	0.47		mg/Kg	10	9/4/2008
Chromium	2.3	0.94		mg/Kg	10	9/4/2008
Cobalt	ND	0.94		mg/Kg	10	9/4/2008
Copper	6.7	2.4		mg/Kg	10	9/4/2008
Iron	450	28		mg/Kg	10	9/4/2008
Lead	45	0.47		mg/Kg	10	9/4/2008
Magnesium	1100	28		mg/Kg	10	9/4/2008
Manganese	6.1	0.94		mg/Kg	10	9/4/2008
Molybdenum	ND	4.7	*	mg/Kg	10	9/4/2008
Nickel	ND	0.94		mg/Kg	10	9/4/2008
Selenium	ND	0.94		mg/Kg	10	9/4/2008
Silver	ND	0.94		mg/Kg	10	9/4/2008
Sodium	1500	57		mg/Kg	10	9/4/2008
Thallium	ND	0.94		mg/Kg	10	9/4/2008
Tin	16	4.7	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.94		mg/Kg	10	9/4/2008
Zinc	20	4.7		mg/Kg	10	9/4/2008

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCCDM13W M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-017A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.98		mg/Kg	10	9/4/2008
Barium	5.2	0.98		mg/Kg	10	9/4/2008
Beryllium	ND	0.49		mg/Kg	10	9/4/2008
Cadmium	ND	0.49		mg/Kg	10	9/4/2008
Chromium	1.2	0.98		mg/Kg	10	9/4/2008
Cobalt	ND	0.98		mg/Kg	10	9/4/2008
Copper	2.5	2.4		mg/Kg	10	9/4/2008
Iron	420	29		mg/Kg	10	9/4/2008
Lead	5.2	0.49		mg/Kg	10	9/4/2008
Magnesium	500	29		mg/Kg	10	9/4/2008
Manganese	6.1	0.98		mg/Kg	10	9/4/2008
Molybdenum	ND	4.9	*	mg/Kg	10	9/4/2008
Nickel	ND	0.98		mg/Kg	10	9/4/2008
Selenium	ND	0.98		mg/Kg	10	9/4/2008
Silver	ND	0.98		mg/Kg	10	9/4/2008
Sodium	2800	59		mg/Kg	10	9/4/2008
Thallium	ND	0.98		mg/Kg	10	9/4/2008
Tin	ND	4.9	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.98		mg/Kg	10	9/4/2008
Zinc	23	4.9		mg/Kg	10	9/4/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCCDM13 M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-018A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.96		mg/Kg	10	9/4/2008
Barium	11	0.96		mg/Kg	10	9/4/2008
Beryllium	ND	0.48		mg/Kg	10	9/4/2008
Cadmium	ND	0.48		mg/Kg	10	9/4/2008
Chromium	3.2	0.96		mg/Kg	10	9/4/2008
Cobalt	ND	0.96		mg/Kg	10	9/4/2008
Copper	12	2.4		mg/Kg	10	9/4/2008
Iron	790	29		mg/Kg	10	9/4/2008
Lead	16	0.48		mg/Kg	10	9/4/2008
Magnesium	1400	29		mg/Kg	10	9/4/2008
Manganese	8.8	0.96		mg/Kg	10	9/4/2008
Molybdenum	ND	4.8	*	mg/Kg	10	9/4/2008
Nickel	1.1	0.96		mg/Kg	10	9/4/2008
Selenium	ND	0.96		mg/Kg	10	9/4/2008
Silver	ND	0.96		mg/Kg	10	9/4/2008
Sodium	3000	58		mg/Kg	10	9/4/2008
Thallium	ND	0.96		mg/Kg	10	9/4/2008
Tin	ND	4.8	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.96		mg/Kg	10	9/4/2008
Zinc	35	4.8		mg/Kg	10	9/4/2008

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCCDM4WD M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-019A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date: **9/4/2008**		Analyst: **JG**
Arsenic	ND	0.96		mg/Kg	10	9/4/2008
Barium	7	0.96		mg/Kg	10	9/4/2008
Beryllium	ND	0.48		mg/Kg	10	9/4/2008
Cadmium	ND	0.48		mg/Kg	10	9/4/2008
Chromium	1.6	0.96		mg/Kg	10	9/4/2008
Cobalt	ND	0.96		mg/Kg	10	9/4/2008
Copper	4.7	2.4		mg/Kg	10	9/4/2008
Iron	340	29		mg/Kg	10	9/4/2008
Lead	5.5	0.48		mg/Kg	10	9/4/2008
Magnesium	970	29		mg/Kg	10	9/4/2008
Manganese	7.3	0.96		mg/Kg	10	9/4/2008
Molybdenum	ND	4.8	*	mg/Kg	10	9/4/2008
Nickel	ND	0.96		mg/Kg	10	9/4/2008
Selenium	ND	0.96		mg/Kg	10	9/4/2008
Silver	ND	0.96		mg/Kg	10	9/4/2008
Sodium	3000	57		mg/Kg	10	9/4/2008
Thallium	ND	0.96		mg/Kg	10	9/4/2008
Tin	ND	4.8	*	mg/Kg	10	9/4/2008
Vanadium	ND	0.96		mg/Kg	10	9/4/2008
Zinc	13	4.8		mg/Kg	10	9/4/2008

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202-0

Report Date: September 16, 2008
Print Date: September 16, 2008

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	BCCDM4WDD M
Lab Order:	08090028	**Tag Number:**	
Project:	312-413-7638, Active Capping, Chicago River	**Collection Date:**	8/21/2008 11:00:00 AM
Lab ID:	08090028-020A	**Matrix:**	Fiber Wool

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020**	**(SW3050B)**		Prep Date:	**9/5/2008**	Analyst: **JG**
Arsenic	ND	0.95		mg/Kg	10	9/5/2008
Barium	3.8	0.95		mg/Kg	10	9/5/2008
Beryllium	ND	0.95		mg/Kg	10	9/5/2008
Cadmium	ND	0.47		mg/Kg	10	9/5/2008
Chromium	ND	0.95		mg/Kg	10	9/5/2008
Cobalt	ND	0.95		mg/Kg	10	9/5/2008
Copper	ND	2.4		mg/Kg	10	9/5/2008
Iron	120	28		mg/Kg	10	9/5/2008
Lead	3.6	0.47		mg/Kg	10	9/5/2008
Magnesium	380	28		mg/Kg	10	9/5/2008
Manganese	1.1	0.95		mg/Kg	10	9/5/2008
Molybdenum	ND	4.7	*	mg/Kg	10	9/5/2008
Nickel	ND	0.95		mg/Kg	10	9/5/2008
Selenium	ND	0.95		mg/Kg	10	9/5/2008
Silver	ND	0.95		mg/Kg	10	9/5/2008
Sodium	1700	57		mg/Kg	10	9/5/2008
Thallium	ND	0.95		mg/Kg	10	9/5/2008
Tin	ND	4.7	*	mg/Kg	10	9/5/2008
Vanadium	ND	0.95		mg/Kg	10	9/5/2008
Zinc	7	4.7		mg/Kg	10	9/5/2008

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 W. Harrison Suite 200, Chicago, Illinois 60612 Phone: (312) 733-0551 Fax: (312) 733-2386
e-mail address: STATinfo@STATAnalysis.com AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

N°: _____ Page : 1 of 2

Company: UIC
Project Number: 312-413-7638 Client Tracking No.:
Project Name: ACTIVE CAPPING
Project Location: CHICAGO RIVER
Sampler(s): PRISCILLA VIANA & KE YIN
Report To: PRISCILLA VIANA Phone: 312-413-7638
Fax:
e-mail: PVIANA2@UIC.EDU
QC Level: 1 ____ 2 ____ 3 ____ 4 ____

P.O. No.:
Quote No.:

Turn Around: 2 Weeks
Results Needed: / / am/pm

all metals except Hg

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers		Remarks	Lab No.:
BC TB 2W M	08/21/08	11 am						X		001
BC TB 2 M	"	"						X		002
BC TB 5W M	"							X		003
BC TB 5 M	"							X		004
BC TB 10W M	"	"						X		005
BC TB 10 M	"							X		006
BC TB 13W M	"							X		007
BC TB 13 M	08/21/08							X		008
BC CDM 4W M	"	"						X		009
BC CDM 4 M	"							X		010
BC CDM 8W M	"							X		011
BC CDM 8 M	"							X		012
BC CDM 9W M	08/21/08	"						X		013
BC CDM 9 M	"							X		014
BC CDM 11W M	"							X		015
BC CDM 11 M	"							X		016
BC CDM 13W M	"							X		017
BC CDM 13 M	"							X		018
BC CDM 4W D M	"							X		019
BC CDM 4W DD M	"							X		020

Ice used

Relinquished by: (Signature) Priscilla Viana	Date/Time: 09/02/08
Received by: (Signature)	Date/Time: 9/2/08 1530
Relinquished by: (Signature)	Date/Time:
Received by: (Signature)	Date/Time:
Relinquished by: (Signature)	Date/Time:
Received by: (Signature)	Date/Time:

Comments:

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 08090028

Received on Ice: Yes ☑ No ☐

Temperature: on ice °C

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August 28, 2009

University of Illinois at Chicago
2095 ERF
842 W. Taylor
Chicago, IL 60607
Telephone: (312) 413-7638
Fax: (312) 996-2426

RE: BC Active Capping STAT Project No: 09080304

Dear Priscilla Viana:

STAT Analysis received 77 samples for the referenced project on 8/4/2009 3:45:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Mary Ann Kidd

Mary Ann Kidd
Project Manager

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone.This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory.

STAT Analysis Corporation

Date: August 28, 2009

Client: University of Illinois at Chicago
Project: BC Active Capping
Lab Order: 09080304

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
09080304-001A	1 BC-CDM 4		6/24/2008	8/4/2009
09080304-002A	2 BC-CDM 4W		6/24/2008	8/4/2009
09080304-003A	3 BC-CDM 8		6/24/2008	8/4/2009
09080304-004A	4 BC-CDM 8W		6/24/2008	8/4/2009
09080304-005A	5 BC-CDM 9		6/24/2008	8/4/2009
09080304-006A	6 BC-CDM 9W		6/24/2008	8/4/2009
09080304-007A	7 BC-CDM 11		6/24/2008	8/4/2009
09080304-008A	8 BC-CDM 11W		6/24/2008	8/4/2009
09080304-009A	9 BC-CDM 13		6/24/2008	8/4/2009
09080304-010A	10 BC-CDM 13W		6/24/2008	8/4/2009
09080304-011A	11 BC-CDM 4		8/21/2008	8/4/2009
09080304-012A	12 BC-CDM 4W		8/21/2008	8/4/2009
09080304-013A	13 BC-CDM 8		8/21/2008	8/4/2009
09080304-014A	14 BC-CDM 8W		8/21/2008	8/4/2009
09080304-015A	15 BC-CDM 9		8/21/2008	8/4/2009
09080304-016A	16 BC-CDM 9W		8/21/2008	8/4/2009
09080304-017A	17 BC-CDM 11		8/21/2008	8/4/2009
09080304-018A	18 BC-CDM 11W		8/21/2008	8/4/2009
09080304-019A	19 BC-CDM 13		8/21/2008	8/4/2009
09080304-020A	20 BC-CDM 13W		8/21/2008	8/4/2009
09080304-021A	21 BC-CDM 4M		10/27/2008	8/4/2009
09080304-022A	22 BC-CDM 4WM		10/27/2008	8/4/2009
09080304-023A	23 BC-CDM 8M		10/27/2008	8/4/2009
09080304-024A	24 BC-CDM 8WM		10/27/2008	8/4/2009
09080304-025A	25 BC-CDM 9M		10/27/2008	8/4/2009
09080304-026A	26 BC-CDM 9WM		10/27/2008	8/4/2009
09080304-027A	27 BC-CDM 11M		10/27/2008	8/4/2009
09080304-028A	28 BC-CDM 11WM		10/27/2008	8/4/2009
09080304-029A	29 BC-CDM 13M		10/27/2008	8/4/2009
09080304-030A	30 BC-CDM 13WM		3/19/2009	8/4/2009
09080304-031A	31 BC-CDM 4M		3/19/2009	8/4/2009
09080304-032A	32 BC-CDM 4WM		3/19/2009	8/4/2009
09080304-033A	33 BC-CDM 8M		3/19/2009	8/4/2009
09080304-034A	34 BC-CDM 8WM		3/19/2009	8/4/2009
09080304-035A	35 BC-CDM 9		3/19/2009	8/4/2009
09080304-036A	36 BC-CDM 9WM		3/19/2009	8/4/2009
09080304-037A	37 BC-CDM 11M		3/19/2009	8/4/2009
09080304-038A	38 BC-CDM 11WM		3/19/2009	8/4/2009

Client: University of Illinois at Chicago
Project: BC Active Capping
Lab Order: 09080304

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
09080304-039A	39 BC-CDM 13WM		3/19/2009	8/4/2009
09080304-040A	40 BC-CDM SITE 4D		7/7/2008	8/4/2009
09080304-041A	41 BC-CDM SITE 8D		7/7/2008	8/4/2009
09080304-042A	42 BC-CDM SITE 9D		7/7/2008	8/4/2009
09080304-043A	43 BC-CDM SITE 11D		7/7/2008	8/4/2009
09080304-044A	44 BC-CDM SITE 13D		7/7/2008	8/4/2009
09080304-045A	45 BCTB SITE 2		6/16/2008	8/4/2009
09080304-046A	46 BCTB SITE 5		6/18/2008	8/4/2009
09080304-047A	47 BCTB SITE 10		6/17/2008	8/4/2009
09080304-048A	48 BCTB SITE 13		6/17/2008	8/4/2009
09080304-049A	49 BCTB 2M		10/27/2008	8/4/2009
09080304-050A	50 BCTB 2WM		10/27/2008	8/4/2009
09080304-051A	51 BCTB 5M		10/27/2008	8/4/2009
09080304-052A	52 BCTB 5WM		10/27/2008	8/4/2009
09080304-053A	53 BCTB 10M		10/27/2008	8/4/2009
09080304-054A	54 BCTB 10WM		10/27/2008	8/4/2009
09080304-055A	55 BCTB 13M		10/27/2008	8/4/2009
09080304-056A	56 BCTB 2M		3/19/2008	8/4/2009
09080304-057A	57 BCTB 2WM		3/19/2008	8/4/2009
09080304-058A	58 BCTB 5M		3/19/2008	8/4/2009
09080304-059A	59 BCTB 5WM		3/19/2008	8/4/2009
09080304-060A	60 BCTB 10M		3/19/2008	8/4/2009
09080304-061A	61 BCTB 2		8/21/2008	8/4/2009
09080304-062A	62 BCTB 2W		8/21/2008	8/4/2009
09080304-063A	63 BCTB 5		8/21/2008	8/4/2009
09080304-064A	64 BCTB 5W		8/21/2008	8/4/2009
09080304-065A	65 BCTB 10		8/21/2008	8/4/2009
09080304-066A	66 BCTB 10W		8/21/2008	8/4/2009
09080304-067A	67 BCTB 13		8/21/2008	8/4/2009
09080304-068A	68 BCTB 13W		8/21/2008	8/4/2009
09080304-069A	69 BCTB 10W		3/19/2008	8/4/2009
09080304-070A	70 BCTB 13M		3/19/2008	8/4/2009
09080304-071A	71 BCTB 13WM		3/19/2008	8/4/2009
09080304-072A	72 BCTB SITE 2 WATER		6/19/2008	8/4/2009
09080304-073A	73 BUBBLEY CREEK TB		6/16/2008	8/4/2009
09080304-074A	74 BCTB SITE 2		7/6/2006	8/4/2009
09080304-075A	75 BCTB SITE 5		7/6/2006	8/4/2009
09080304-076A	76 BCTB SITE 10		7/6/2006	8/4/2009
09080304-077A	77 BCTB SITE 13		7/6/2006	8/4/2009

CLIENT: University of Illinois at Chicago
Project: BC Active Capping
Lab Order: 09080304

CASE NARRATIVE

Please refer to Analytical QC Summary Report for QC outliers.

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	1 BC-CDM 4
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/24/2008
Lab ID:	09080304-001A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM**	**(SW3550B)**		Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	0.96	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	0.96	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	2.5	0.96	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	1.9	0.96	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	2.1	0.96	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	1.8	0.96	HT	mg/Kg-dry	1	8/17/2009
Chrysene	1.9	0.96	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	0.96	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	4.1	0.96	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	0.96	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	0.96	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	0.96	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	0.96	HT	mg/Kg-dry	1	8/17/2009
Pyrene	3	0.96	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	0.96	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	73.8	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	2 BC-CDM 4W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/24/2008
Lab ID:	09080304-002A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM**	**(SW3550B)**		Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	0.94	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	46.7	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	3 BC-CDM 8
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/24/2008
Lab ID:	09080304-003A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	1.2	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	61.6	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	4 BC-CDM 8W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/24/2008
Lab ID:	09080304-004A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	1.2	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	60.3	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	5 BC-CDM 9
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/24/2008
Lab ID:	09080304-005A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	1.6	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	73.1	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	6 BC-CDM 9W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/24/2008
Lab ID:	09080304-006A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	0.9	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	68.0	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	7 BC-CDM 11
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/24/2008
Lab ID:	09080304-007A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	1.1	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	50.2	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	8 BC-CDM 11W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/24/2008
Lab ID:	09080304-008A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM**	**(SW3550B)**		Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	0.54	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	79.7	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	9 BC-CDM 13
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/24/2008
Lab ID:	09080304-009A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	6.8	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	89.7	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	10 BC-CDM 13W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/24/2008
Lab ID:	09080304-010A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM**	**(SW3550B)**		Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	0.59	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	68.7	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	11 BC-CDM 4
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-011A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	90.3	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	12 BC-CDM 4W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-012A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	10	6.5	HT	mg/Kg-dry	1	8/18/2009
Anthracene	11	6.5	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	27	6.5	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	21	6.5	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	24	6.5	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	12	6.5	HT	mg/Kg-dry	1	8/18/2009
Chrysene	18	6.5	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	6.5	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	69	6.5	HT	mg/Kg-dry	1	8/18/2009
Fluorene	13	6.5	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	10	6.5	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	6.5	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	62	6.5	HT	mg/Kg-dry	1	8/18/2009
Pyrene	50	6.5	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	6.5	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	91.3	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	13 BC-CDM 8
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-013A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	5.1	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	89.7	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	14 BC-CDM 8W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-014A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	2.8	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	87.6	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	15 BC-CDM 9
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-015A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	4.8	HT	mg/Kg-dry	1	8/18/2009
Anthracene	5	4.8	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	11	4.8	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	8.4	4.8	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	6.9	4.8	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	7.1	4.8	HT	mg/Kg-dry	1	8/18/2009
Chrysene	7.4	4.8	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	4.8	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	35	4.8	HT	mg/Kg-dry	1	8/18/2009
Fluorene	5.3	4.8	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	4.8	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	4.8	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	23	4.8	HT	mg/Kg-dry	1	8/18/2009
Pyrene	25	4.8	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	4.8	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	89.5	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	16 BC-CDM 9W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-016A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	3.6	3.4	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	5	3.4	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Pyrene	5.6	3.4	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	87.5	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	17 BC-CDM 11
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-017A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	5.6	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	88.8	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	18 BC-CDM 11W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-018A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	87.2	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	19 BC-CDM 13
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-019A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	3.8	HT	mg/Kg-dry	1	8/18/2009
Anthracene	4.2	3.8	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	18	3.8	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	15	3.8	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	14	3.8	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	10	3.8	HT	mg/Kg-dry	1	8/18/2009
Chrysene	12	3.8	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	3.8	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	42	3.8	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	3.8	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	6.9	3.8	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	3.8	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	21	3.8	HT	mg/Kg-dry	1	8/18/2009
Pyrene	31	3.8	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	3.8	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	88.8	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	20 BC-CDM 13W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-020A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	7.4	6.7	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Pyrene	7.3	6.7	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	6.7	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	90.2	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	21 BC-CDM 4M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-021A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.13	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	4.8	HT	mg/Kg-dry	10	8/13/2009
Barium	4.9	4.8	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	2.4	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	4.8	HT	mg/Kg-dry	10	8/13/2009
Copper	26	12	HT	mg/Kg-dry	10	8/13/2009
Lead	6.4	2.4	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	4.8	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	4.8	HT	mg/Kg-dry	10	8/13/2009
Silver	7	4.8	HT	mg/Kg-dry	10	8/13/2009
Zinc	ND	24	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	3.4	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	80.7	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	22 BC-CDM 4WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-022A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.15	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	6.1	HT	mg/Kg-dry	10	8/13/2009
Barium	ND	6.1	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	3	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	6.1	HT	mg/Kg-dry	10	8/13/2009
Copper	ND	15	HT	mg/Kg-dry	10	8/13/2009
Lead	4	3	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	6.1	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	6.1	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	6.1	HT	mg/Kg-dry	10	8/13/2009
Zinc	ND	30	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	2.9	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	84.5	0.2	HT*	wt%	1	8/13/2009

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R - RPD outside accepted recovery limits
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	23 BC-CDM 8M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-023A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.13	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	5.4	HT	mg/Kg-dry	10	8/13/2009
Barium	ND	5.4	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	2.7	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	5.4	HT	mg/Kg-dry	10	8/13/2009
Copper	31	13	HT	mg/Kg-dry	10	8/13/2009
Lead	4.3	2.7	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	5.4	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	5.4	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	5.4	HT	mg/Kg-dry	10	8/13/2009
Zinc	ND	27	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	2.1	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	82.2	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	24 BC-CDM 8WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-024A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.12	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	5.2	HT	mg/Kg-dry	10	8/13/2009
Barium	6.7	5.2	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	2.6	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	5.2	HT	mg/Kg-dry	10	8/13/2009
Copper	ND	13	HT	mg/Kg-dry	10	8/13/2009
Lead	7.5	2.6	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	5.2	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	5.2	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	5.2	HT	mg/Kg-dry	10	8/13/2009
Zinc	ND	26	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	2.2	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	81.4	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	25 BC-CDM 9M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-025A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.15	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	5.9	HT	mg/Kg-dry	10	8/13/2009
Barium	7	5.9	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	3	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	5.9	HT	mg/Kg-dry	10	8/13/2009
Copper	ND	15	HT	mg/Kg-dry	10	8/13/2009
Lead	8.4	3	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	5.9	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	5.9	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	5.9	HT	mg/Kg-dry	10	8/13/2009
Zinc	ND	30	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	2.6	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	83.7	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	26 BC-CDM 9WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-026A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.15	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	6.3	HT	mg/Kg-dry	10	8/13/2009
Barium	ND	6.3	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.2	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	6.3	HT	mg/Kg-dry	10	8/13/2009
Copper	ND	16	HT	mg/Kg-dry	10	8/13/2009
Lead	ND	3.2	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	6.3	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	6.3	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	6.3	HT	mg/Kg-dry	10	8/13/2009
Zinc	ND	32	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	4.3	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	85.0	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	27 BC-CDM 11M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-027A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.3	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	11	HT	mg/Kg-dry	10	8/13/2009
Barium	ND	11	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	5.7	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	11	HT	mg/Kg-dry	10	8/13/2009
Copper	130	28	HT	mg/Kg-dry	10	8/13/2009
Lead	16	5.7	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	11	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	11	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	11	HT	mg/Kg-dry	10	8/13/2009
Zinc	79	57	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	8.4	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	8.4	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	15	8.4	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	11	8.4	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	11	8.4	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	8.9	8.4	HT	mg/Kg-dry	1	8/18/2009
Chrysene	11	8.4	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	8.4	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	41	8.4	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	8.4	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	8.4	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	8.4	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	24	8.4	HT	mg/Kg-dry	1	8/18/2009
Pyrene	29	8.4	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	8.4	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	91.7	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	28 BC-CDM 11WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-028A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.16	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	6.6	HT	mg/Kg-dry	10	8/13/2009
Barium	ND	6.6	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.3	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	6.6	HT	mg/Kg-dry	10	8/13/2009
Copper	ND	17	HT	mg/Kg-dry	10	8/13/2009
Lead	3.7	3.3	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	6.6	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	6.6	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	6.6	HT	mg/Kg-dry	10	8/13/2009
Zinc	35	33	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	85.5	0.2	HT*	wt%	1	8/13/2009

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	29 BC-CDM 13M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-029A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.22	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	9	HT	mg/Kg-dry	10	8/13/2009
Barium	ND	9	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	4.5	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	9	HT	mg/Kg-dry	10	8/13/2009
Copper	130	22	HT	mg/Kg-dry	10	8/13/2009
Lead	6.8	4.5	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	9	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	9	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	9	HT	mg/Kg-dry	10	8/13/2009
Zinc	48	45	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	6.1	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	89.1	0.2	HT*	wt%	1	8/13/2009

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	30 BC-CDM 13WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2009
Lab ID:	09080304-030A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.19	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	7		mg/Kg-dry	10	8/13/2009
Barium	ND	7		mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.5		mg/Kg-dry	10	8/13/2009
Chromium	ND	7		mg/Kg-dry	10	8/13/2009
Copper	ND	18		mg/Kg-dry	10	8/13/2009
Lead	4.9	3.5		mg/Kg-dry	10	8/13/2009
Nickel	ND	7		mg/Kg-dry	10	8/13/2009
Selenium	ND	7		mg/Kg-dry	10	8/13/2009
Silver	ND	7		mg/Kg-dry	10	8/13/2009
Zinc	ND	35		mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	5.8	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	87.4	0.2	HT*	wt%	1	8/13/2009

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	31 BC-CDM 4M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2009
Lab ID:	09080304-031A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.22	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	9.1		mg/Kg-dry	10	8/13/2009
Barium	ND	9.1		mg/Kg-dry	10	8/13/2009
Cadmium	ND	4.6		mg/Kg-dry	10	8/13/2009
Chromium	ND	9.1		mg/Kg-dry	10	8/13/2009
Copper	ND	23		mg/Kg-dry	10	8/13/2009
Lead	ND	4.6		mg/Kg-dry	10	8/13/2009
Nickel	ND	9.1		mg/Kg-dry	10	8/13/2009
Selenium	ND	9.1		mg/Kg-dry	10	8/13/2009
Silver	ND	9.1		mg/Kg-dry	10	8/13/2009
Zinc	ND	46		mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	5.5	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	89.3	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
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E - Value above quantitation range
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	32 BC-CDM 4WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2009
Lab ID:	09080304-032A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.18	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	7.4		mg/Kg-dry	10	8/13/2009
Barium	ND	7.4		mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.7		mg/Kg-dry	10	8/13/2009
Chromium	ND	7.4		mg/Kg-dry	10	8/13/2009
Copper	ND	18		mg/Kg-dry	10	8/13/2009
Lead	ND	3.7		mg/Kg-dry	10	8/13/2009
Nickel	ND	7.4		mg/Kg-dry	10	8/13/2009
Selenium	ND	7.4		mg/Kg-dry	10	8/13/2009
Silver	ND	7.4		mg/Kg-dry	10	8/13/2009
Zinc	ND	37		mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	5.2	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	86.4	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
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Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	33 BC-CDM 8M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2009
Lab ID:	09080304-033A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.16	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	6.8		mg/Kg-dry	10	8/13/2009
Barium	ND	6.8		mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.4		mg/Kg-dry	10	8/13/2009
Chromium	ND	6.8		mg/Kg-dry	10	8/13/2009
Copper	19	17		mg/Kg-dry	10	8/13/2009
Lead	ND	3.4		mg/Kg-dry	10	8/13/2009
Nickel	ND	6.8		mg/Kg-dry	10	8/13/2009
Selenium	ND	6.8		mg/Kg-dry	10	8/13/2009
Silver	ND	6.8		mg/Kg-dry	10	8/13/2009
Zinc	ND	34		mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	85.6	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	34 BC-CDM 8WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2009
Lab ID:	09080304-034A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.19	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	7.8		mg/Kg-dry	10	8/13/2009
Barium	ND	7.8		mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.9		mg/Kg-dry	10	8/13/2009
Chromium	ND	7.8		mg/Kg-dry	10	8/13/2009
Copper	ND	20		mg/Kg-dry	10	8/13/2009
Lead	ND	3.9		mg/Kg-dry	10	8/13/2009
Nickel	ND	7.8		mg/Kg-dry	10	8/13/2009
Selenium	ND	7.8		mg/Kg-dry	10	8/13/2009
Silver	ND	7.8		mg/Kg-dry	10	8/13/2009
Zinc	ND	39		mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	6.2	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	88.2	0.2	HT*	wt%	1	8/13/2009

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	35 BC-CDM 9
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2009
Lab ID:	09080304-035A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.2	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	7		mg/Kg-dry	10	8/13/2009
Barium	ND	7		mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.5		mg/Kg-dry	10	8/13/2009
Chromium	ND	7		mg/Kg-dry	10	8/13/2009
Copper	ND	18		mg/Kg-dry	10	8/13/2009
Lead	ND	3.5		mg/Kg-dry	10	8/13/2009
Nickel	ND	7		mg/Kg-dry	10	8/13/2009
Selenium	ND	7		mg/Kg-dry	10	8/13/2009
Silver	ND	7		mg/Kg-dry	10	8/13/2009
Zinc	ND	35		mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	5.9	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	87.8	0.2	HT*	wt%	1	8/13/2009

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	36 BC-CDM 9WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2009
Lab ID:	09080304-036A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.16	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	6.3		mg/Kg-dry	10	8/13/2009
Barium	ND	6.3		mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.1		mg/Kg-dry	10	8/13/2009
Chromium	ND	6.3		mg/Kg-dry	10	8/13/2009
Copper	ND	16		mg/Kg-dry	10	8/13/2009
Lead	ND	3.1		mg/Kg-dry	10	8/13/2009
Nickel	ND	6.3		mg/Kg-dry	10	8/13/2009
Selenium	ND	6.3		mg/Kg-dry	10	8/13/2009
Silver	ND	6.3		mg/Kg-dry	10	8/13/2009
Zinc	ND	31		mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	4.9	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	84.8	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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B - Analyte detected in the associated Method Blank
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	37 BC-CDM 11M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2009
Lab ID:	09080304-037A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.22	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	8.9		mg/Kg-dry	10	8/13/2009
Barium	ND	8.9		mg/Kg-dry	10	8/13/2009
Cadmium	ND	4.4		mg/Kg-dry	10	8/13/2009
Chromium	ND	8.9		mg/Kg-dry	10	8/13/2009
Copper	ND	22		mg/Kg-dry	10	8/13/2009
Lead	ND	4.4		mg/Kg-dry	10	8/13/2009
Nickel	ND	8.9		mg/Kg-dry	10	8/13/2009
Selenium	ND	8.9		mg/Kg-dry	10	8/13/2009
Silver	ND	8.9		mg/Kg-dry	10	8/13/2009
Zinc	ND	44		mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	7.1	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	89.4	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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B - Analyte detected in the associated Method Blank
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E - Value above quantitation range
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	38 BC-CDM 11WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2009
Lab ID:	09080304-038A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.17	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	6.6		mg/Kg-dry	10	8/13/2009
Barium	ND	6.6		mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.3		mg/Kg-dry	10	8/13/2009
Chromium	ND	6.6		mg/Kg-dry	10	8/13/2009
Copper	24	17		mg/Kg-dry	10	8/13/2009
Lead	ND	3.3		mg/Kg-dry	10	8/13/2009
Nickel	ND	6.6		mg/Kg-dry	10	8/13/2009
Selenium	ND	6.6		mg/Kg-dry	10	8/13/2009
Silver	ND	6.6		mg/Kg-dry	10	8/13/2009
Zinc	ND	33		mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	4.6	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	85.7	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	39 BC-CDM 13WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2009
Lab ID:	09080304-039A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.19	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	6.8		mg/Kg-dry	10	8/13/2009
Barium	ND	6.8		mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.4		mg/Kg-dry	10	8/13/2009
Chromium	ND	6.8		mg/Kg-dry	10	8/13/2009
Copper	ND	17		mg/Kg-dry	10	8/13/2009
Lead	ND	3.4		mg/Kg-dry	10	8/13/2009
Nickel	ND	6.8		mg/Kg-dry	10	8/13/2009
Selenium	ND	6.8		mg/Kg-dry	10	8/13/2009
Silver	ND	6.8		mg/Kg-dry	10	8/13/2009
Zinc	ND	34		mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	87.0	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	40 BC-CDM SITE 4D
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	7/7/2008
Lab ID:	09080304-040A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	0.84	0.056	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	7.3	2.2	HT	mg/Kg-dry	10	8/13/2009
Barium	170	2.2	HT	mg/Kg-dry	10	8/13/2009
Cadmium	5.6	1.1	HT	mg/Kg-dry	10	8/13/2009
Chromium	55	2.2	HT	mg/Kg-dry	10	8/13/2009
Copper	190	5.5	HT	mg/Kg-dry	10	8/13/2009
Lead	300	1.1	HT	mg/Kg-dry	10	8/13/2009
Nickel	25	2.2	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	2.2	HT	mg/Kg-dry	10	8/13/2009
Silver	6.1	2.2	HT	mg/Kg-dry	10	8/13/2009
Zinc	570	11	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.1	HT	mg/Kg-dry	10	8/19/2009
Anthracene	3.1	2.1	HT	mg/Kg-dry	10	8/19/2009
Benz(a)anthracene	8.8	2.1	HT	mg/Kg-dry	10	8/19/2009
Benzo(a)pyrene	8.4	2.1	HT	mg/Kg-dry	10	8/19/2009
Benzo(b)fluoranthene	9.2	2.1	HT	mg/Kg-dry	10	8/19/2009
Benzo(k)fluoranthene	8	2.1	HT	mg/Kg-dry	10	8/19/2009
Chrysene	9.6	2.1	HT	mg/Kg-dry	10	8/19/2009
Dibenz(a,h)anthracene	ND	2.1	HT	mg/Kg-dry	10	8/19/2009
Fluoranthene	22	2.1	HT	mg/Kg-dry	10	8/19/2009
Fluorene	ND	2.1	HT	mg/Kg-dry	10	8/19/2009
Indeno(1,2,3-cd)pyrene	3.6	2.1	HT	mg/Kg-dry	10	8/19/2009
Naphthalene	ND	2.1	HT	mg/Kg-dry	10	8/19/2009
Phenanthrene	12	2.1	HT	mg/Kg-dry	10	8/19/2009
Pyrene	17	2.1	HT	mg/Kg-dry	10	8/19/2009
Carbazole	ND	2.1	HT	mg/Kg-dry	10	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	58.9	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	41 BC-CDM SITE 8D
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	7/7/2008
Lab ID:	09080304-041A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	0.28	0.044	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	3.4	1.9	HT	mg/Kg-dry	10	8/13/2009
Barium	100	1.9	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	0.93	HT	mg/Kg-dry	10	8/13/2009
Chromium	26	1.9	HT	mg/Kg-dry	10	8/13/2009
Copper	110	4.6	HT	mg/Kg-dry	10	8/13/2009
Lead	110	0.93	HT	mg/Kg-dry	10	8/13/2009
Nickel	13	1.9	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	1.9	HT	mg/Kg-dry	10	8/13/2009
Silver	3.1	1.9	HT	mg/Kg-dry	10	8/13/2009
Zinc	260	9.3	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	5.7	1.7	HT	mg/Kg-dry	10	8/20/2009
Anthracene	12	1.7	HT	mg/Kg-dry	10	8/20/2009
Benz(a)anthracene	30	1.7	HT	mg/Kg-dry	10	8/20/2009
Benzo(a)pyrene	33	1.7	HT	mg/Kg-dry	10	8/20/2009
Benzo(b)fluoranthene	29	1.7	HT	mg/Kg-dry	10	8/20/2009
Benzo(k)fluoranthene	27	1.7	HT	mg/Kg-dry	10	8/20/2009
Chrysene	32	1.7	HT	mg/Kg-dry	10	8/20/2009
Dibenz(a,h)anthracene	6	1.7	HT	mg/Kg-dry	10	8/20/2009
Fluoranthene	76	1.7	HT	mg/Kg-dry	10	8/20/2009
Fluorene	6.7	1.7	HT	mg/Kg-dry	10	8/20/2009
Indeno(1,2,3-cd)pyrene	17	1.7	HT	mg/Kg-dry	10	8/20/2009
Naphthalene	ND	1.7	HT	mg/Kg-dry	10	8/20/2009
Phenanthrene	64	1.7	HT	mg/Kg-dry	10	8/20/2009
Pyrene	58	1.7	HT	mg/Kg-dry	10	8/20/2009
Carbazole	2.6	1.7	HT	mg/Kg-dry	10	8/20/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	47.4	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	42 BC-CDM SITE 9D
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	7/7/2008
Lab ID:	09080304-042A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	0.87	0.035	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	3	1.3	HT	mg/Kg-dry	10	8/13/2009
Barium	170	1.3	HT	mg/Kg-dry	10	8/13/2009
Cadmium	1.1	0.67	HT	mg/Kg-dry	10	8/13/2009
Chromium	25	1.3	HT	mg/Kg-dry	10	8/13/2009
Copper	67	3.3	HT	mg/Kg-dry	10	8/13/2009
Lead	190	0.67	HT	mg/Kg-dry	10	8/13/2009
Nickel	14	1.3	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	1.3	HT	mg/Kg-dry	10	8/13/2009
Silver	3.5	1.3	HT	mg/Kg-dry	10	8/13/2009
Zinc	370	6.7	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	3.9	0.63	HT	mg/Kg-dry	10	8/20/2009
Anthracene	7.4	0.63	HT	mg/Kg-dry	10	8/20/2009
Benz(a)anthracene	16	0.63	HT	mg/Kg-dry	10	8/20/2009
Benzo(a)pyrene	19	0.63	HT	mg/Kg-dry	10	8/20/2009
Benzo(b)fluoranthene	14	0.63	HT	mg/Kg-dry	10	8/20/2009
Benzo(k)fluoranthene	16	0.63	HT	mg/Kg-dry	10	8/20/2009
Chrysene	17	0.63	HT	mg/Kg-dry	10	8/20/2009
Dibenz(a,h)anthracene	4	0.63	HT	mg/Kg-dry	10	8/20/2009
Fluoranthene	44	0.63	HT	mg/Kg-dry	10	8/20/2009
Fluorene	4.8	0.63	HT	mg/Kg-dry	10	8/20/2009
Indeno(1,2,3-cd)pyrene	9.9	0.63	HT	mg/Kg-dry	10	8/20/2009
Naphthalene	0.9	0.63	HT	mg/Kg-dry	10	8/20/2009
Phenanthrene	40	0.63	HT	mg/Kg-dry	10	8/20/2009
Pyrene	35	0.63	HT	mg/Kg-dry	10	8/20/2009
Carbazole	2.6	0.63	HT	mg/Kg-dry	10	8/20/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	30.0	0.2	HT*	wt%	1	8/13/2009

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	43 BC-CDM SITE 11D
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	7/7/2008
Lab ID:	09080304-043A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	1.1	0.065	HT	mg/Kg-dry	2	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	3.6	1.1	HT	mg/Kg-dry	10	8/13/2009
Barium	160	1.1	HT	mg/Kg-dry	10	8/13/2009
Cadmium	1.8	0.57	HT	mg/Kg-dry	10	8/13/2009
Chromium	51	1.1	HT	mg/Kg-dry	10	8/13/2009
Copper	290	2.9	HT	mg/Kg-dry	10	8/13/2009
Lead	460	0.57	HT	mg/Kg-dry	10	8/13/2009
Nickel	23	1.1	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	1.1	HT	mg/Kg-dry	10	8/13/2009
Silver	5.3	1.1	HT	mg/Kg-dry	10	8/13/2009
Zinc	550	11	HT	mg/Kg-dry	20	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	0.64	HT	mg/Kg-dry	10	8/20/2009
Anthracene	ND	0.64	HT	mg/Kg-dry	10	8/20/2009
Benz(a)anthracene	1.3	0.64	HT	mg/Kg-dry	10	8/20/2009
Benzo(a)pyrene	1.2	0.64	HT	mg/Kg-dry	10	8/20/2009
Benzo(b)fluoranthene	1.2	0.64	HT	mg/Kg-dry	10	8/20/2009
Benzo(k)fluoranthene	1.3	0.64	HT	mg/Kg-dry	10	8/20/2009
Chrysene	1.5	0.64	HT	mg/Kg-dry	10	8/20/2009
Dibenz(a,h)anthracene	ND	0.64	HT	mg/Kg-dry	10	8/20/2009
Fluoranthene	4.5	0.64	HT	mg/Kg-dry	10	8/20/2009
Fluorene	ND	0.64	HT	mg/Kg-dry	10	8/20/2009
Indeno(1,2,3-cd)pyrene	0.72	0.64	HT	mg/Kg-dry	10	8/20/2009
Naphthalene	ND	0.64	HT	mg/Kg-dry	10	8/20/2009
Phenanthrene	2.3	0.64	HT	mg/Kg-dry	10	8/20/2009
Pyrene	3.5	0.64	HT	mg/Kg-dry	10	8/20/2009
Carbazole	ND	0.64	HT	mg/Kg-dry	10	8/20/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	25.0	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	44 BC-CDM SITE 13D
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	7/7/2008
Lab ID:	09080304-044A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	0.36	0.03	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	4	1.1	HT	mg/Kg-dry	10	8/13/2009
Barium	170	1.1	HT	mg/Kg-dry	10	8/13/2009
Cadmium	1.1	0.57	HT	mg/Kg-dry	10	8/13/2009
Chromium	40	1.1	HT	mg/Kg-dry	10	8/13/2009
Copper	450	2.9	HT	mg/Kg-dry	10	8/13/2009
Lead	560	0.57	HT	mg/Kg-dry	10	8/13/2009
Nickel	20	1.1	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	1.1	HT	mg/Kg-dry	10	8/13/2009
Silver	7.8	1.1	HT	mg/Kg-dry	10	8/13/2009
Zinc	440	11	HT	mg/Kg-dry	20	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	2.2	0.6	HT	mg/Kg-dry	10	8/20/2009
Anthracene	9.8	0.6	HT	mg/Kg-dry	10	8/20/2009
Benz(a)anthracene	39	0.6	HT	mg/Kg-dry	10	8/20/2009
Benzo(a)pyrene	39	0.6	HT	mg/Kg-dry	10	8/20/2009
Benzo(b)fluoranthene	38	0.6	HT	mg/Kg-dry	10	8/20/2009
Benzo(k)fluoranthene	21	0.6	HT	mg/Kg-dry	10	8/20/2009
Chrysene	37	0.6	HT	mg/Kg-dry	10	8/20/2009
Dibenz(a,h)anthracene	8.6	0.6	HT	mg/Kg-dry	10	8/20/2009
Fluoranthene	86	6	HT	mg/Kg-dry	100	8/21/2009
Fluorene	1.9	0.6	HT	mg/Kg-dry	10	8/20/2009
Indeno(1,2,3-cd)pyrene	19	0.6	HT	mg/Kg-dry	10	8/20/2009
Naphthalene	ND	0.6	HT	mg/Kg-dry	10	8/20/2009
Phenanthrene	39	0.6	HT	mg/Kg-dry	10	8/20/2009
Pyrene	73	6	HT	mg/Kg-dry	100	8/21/2009
Carbazole	3.8	0.6	HT	mg/Kg-dry	10	8/20/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	23.0	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	45 BCTB SITE 2
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/16/2008
Lab ID:	09080304-045A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM**	**(SW3550B)**		Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	4	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	4	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	81.1	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	46 BCTB SITE 5
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/18/2008
Lab ID:	09080304-046A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	1.6	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	56.3	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	47 BCTB SITE 10
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/17/2008
Lab ID:	09080304-047A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	3.3	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	77.3	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	48 BCTB SITE 13
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/17/2008
Lab ID:	09080304-048A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	3.5	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	3.5	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	19	3.5	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	11	3.5	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	13	3.5	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	9.6	3.5	HT	mg/Kg-dry	1	8/18/2009
Chrysene	12	3.5	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	3.5	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	46	3.5	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	3.5	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	5.6	3.5	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	3.5	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	7.3	3.5	HT	mg/Kg-dry	1	8/18/2009
Pyrene	36	3.5	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	3.5	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	82.5	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	49 BCTB 2M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-049A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.16	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	6.4	HT	mg/Kg-dry	10	8/13/2009
Barium	15	6.4	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.2	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	6.4	HT	mg/Kg-dry	10	8/13/2009
Copper	22	16	HT	mg/Kg-dry	10	8/13/2009
Lead	13	3.2	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	6.4	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	6.4	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	6.4	HT	mg/Kg-dry	10	8/13/2009
Zinc	38	32	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Anthracene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Benz(a)anthracene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Benzo(a)pyrene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Benzo(b)fluoranthene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Benzo(k)fluoranthene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Chrysene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Dibenz(a,h)anthracene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Fluoranthene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Fluorene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Indeno(1,2,3-cd)pyrene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Naphthalene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Phenanthrene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Pyrene	ND	9	HT	mg/Kg-dry	1	8/18/2009
Carbazole	ND	9	HT	mg/Kg-dry	1	8/18/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	84.3	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
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B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
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E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	50 BCTB 2WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-050A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.13	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	5.3	HT	mg/Kg-dry	10	8/13/2009
Barium	21	5.3	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	2.7	HT	mg/Kg-dry	10	8/13/2009
Chromium	8.5	5.3	HT	mg/Kg-dry	10	8/13/2009
Copper	22	13	HT	mg/Kg-dry	10	8/13/2009
Lead	19	2.7	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	5.3	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	5.3	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	5.3	HT	mg/Kg-dry	10	8/13/2009
Zinc	61	27	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	4.2	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	82.4	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	51 BCTB 5M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-051A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	1.1	0.16	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	6.1	HT	mg/Kg-dry	10	8/13/2009
Barium	130	6.1	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	3	HT	mg/Kg-dry	10	8/13/2009
Chromium	45	6.1	HT	mg/Kg-dry	10	8/13/2009
Copper	170	15	HT	mg/Kg-dry	10	8/13/2009
Lead	230	3	HT	mg/Kg-dry	10	8/13/2009
Nickel	21	6.1	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	6.1	HT	mg/Kg-dry	10	8/13/2009
Silver	9.5	6.1	HT	mg/Kg-dry	10	8/13/2009
Zinc	410	30	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	6	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	6	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	6	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	6.3	6	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	6	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	6	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	6	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	6	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	9.8	6	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	6	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	6	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	6	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	6	HT	mg/Kg-dry	1	8/19/2009
Pyrene	9.3	6	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	6	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	85.4	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
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R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	52 BCTB 5WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-052A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.18	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	6.9	HT	mg/Kg-dry	10	8/13/2009
Barium	110	6.9	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.4	HT	mg/Kg-dry	10	8/13/2009
Chromium	43	6.9	HT	mg/Kg-dry	10	8/13/2009
Copper	110	17	HT	mg/Kg-dry	10	8/13/2009
Lead	140	3.4	HT	mg/Kg-dry	10	8/13/2009
Nickel	13	6.9	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	6.9	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	6.9	HT	mg/Kg-dry	10	8/13/2009
Zinc	350	34	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	5.3	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	85.9	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	53 BCTB 10M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-053A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.13	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	4.6	HT	mg/Kg-dry	10	8/13/2009
Barium	9.2	4.6	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	2.3	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	4.6	HT	mg/Kg-dry	10	8/13/2009
Copper	35	12	HT	mg/Kg-dry	10	8/13/2009
Lead	13	2.3	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	4.6	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	4.6	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	4.6	HT	mg/Kg-dry	10	8/13/2009
Zinc	24	23	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	3.8	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	3.8	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	3.8	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	3.8	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	3.8	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	3.8	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	3.8	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	3.8	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	11	3.8	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	3.8	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	3.8	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	3.8	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	6.8	3.8	HT	mg/Kg-dry	1	8/19/2009
Pyrene	7.6	3.8	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	3.8	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	80.8	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	54 BCTB 10WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	10/27/2008
Lab ID:	09080304-054A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.2	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	7.9	HT	mg/Kg-dry	10	8/13/2009
Barium	24	7.9	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	4	HT	mg/Kg-dry	10	8/13/2009
Chromium	9.5	7.9	HT	mg/Kg-dry	10	8/13/2009
Copper	23	20	HT	mg/Kg-dry	10	8/13/2009
Lead	21	4	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	7.9	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	7.9	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	7.9	HT	mg/Kg-dry	10	8/13/2009
Zinc	63	40	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Anthracene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Benz(a)anthracene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Benzo(a)pyrene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Benzo(b)fluoranthene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Benzo(k)fluoranthene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Chrysene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Dibenz(a,h)anthracene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Fluoranthene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Fluorene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Indeno(1,2,3-cd)pyrene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Naphthalene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Phenanthrene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Pyrene	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Carbazole	ND	5.7	HT	mg/Kg-dry	1	8/14/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	88.3	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	56 BCTB 2M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2008
Lab ID:	09080304-056A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.18	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/14/2009**		Analyst: **JG**
Arsenic	ND	7.1	HT	mg/Kg-dry	10	8/14/2009
Barium	33	7.1	HT	mg/Kg-dry	10	8/14/2009
Cadmium	ND	3.5	HT	mg/Kg-dry	10	8/14/2009
Chromium	8.7	7.1	HT	mg/Kg-dry	10	8/14/2009
Copper	61	18	HT	mg/Kg-dry	10	8/14/2009
Lead	53	3.5	HT	mg/Kg-dry	10	8/14/2009
Nickel	ND	7.1	HT	mg/Kg-dry	10	8/14/2009
Selenium	ND	7.1	HT	mg/Kg-dry	10	8/14/2009
Silver	ND	7.1	HT	mg/Kg-dry	10	8/14/2009
Zinc	140	35	HT	mg/Kg-dry	10	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	86.8	0.2	HT*	wt%	1	8/13/2009

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	57 BCTB 2WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2008
Lab ID:	09080304-057A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.17	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/14/2009**		Analyst: **JG**
Arsenic	ND	6.6	HT	mg/Kg-dry	10	8/14/2009
Barium	34	6.6	HT	mg/Kg-dry	10	8/14/2009
Cadmium	ND	3.3	HT	mg/Kg-dry	10	8/14/2009
Chromium	14	6.6	HT	mg/Kg-dry	10	8/14/2009
Copper	35	16	HT	mg/Kg-dry	10	8/14/2009
Lead	32	3.3	HT	mg/Kg-dry	10	8/14/2009
Nickel	ND	6.6	HT	mg/Kg-dry	10	8/14/2009
Selenium	ND	6.6	HT	mg/Kg-dry	10	8/14/2009
Silver	ND	6.6	HT	mg/Kg-dry	10	8/14/2009
Zinc	99	33	HT	mg/Kg-dry	10	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	5	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	5	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	85.3	0.2	HT*	wt%	1	8/13/2009

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	58 BCTB 5M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2008
Lab ID:	09080304-058A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.13	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/14/2009**		Analyst: **JG**
Arsenic	ND	5.2	HT	mg/Kg-dry	10	8/14/2009
Barium	ND	5.2	HT	mg/Kg-dry	10	8/14/2009
Cadmium	ND	2.6	HT	mg/Kg-dry	10	8/14/2009
Chromium	ND	5.2	HT	mg/Kg-dry	10	8/14/2009
Copper	18	13	HT	mg/Kg-dry	10	8/14/2009
Lead	ND	2.6	HT	mg/Kg-dry	10	8/14/2009
Nickel	ND	5.2	HT	mg/Kg-dry	10	8/14/2009
Selenium	ND	5.2	HT	mg/Kg-dry	10	8/14/2009
Silver	ND	5.2	HT	mg/Kg-dry	10	8/14/2009
Zinc	ND	26	HT	mg/Kg-dry	10	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	4.1	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	81.9	0.2	HT*	wt%	1	8/13/2009

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	59 BCTB 5WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2008
Lab ID:	09080304-059A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.19	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/14/2009**		Analyst: **JG**
Arsenic	ND	7.1	HT	mg/Kg-dry	10	8/14/2009
Barium	ND	7.1	HT	mg/Kg-dry	10	8/14/2009
Cadmium	ND	3.5	HT	mg/Kg-dry	10	8/14/2009
Chromium	ND	7.1	HT	mg/Kg-dry	10	8/14/2009
Copper	ND	18	HT	mg/Kg-dry	10	8/14/2009
Lead	ND	3.5	HT	mg/Kg-dry	10	8/14/2009
Nickel	ND	7.1	HT	mg/Kg-dry	10	8/14/2009
Selenium	ND	7.1	HT	mg/Kg-dry	10	8/14/2009
Silver	ND	7.1	HT	mg/Kg-dry	10	8/14/2009
Zinc	ND	35	HT	mg/Kg-dry	10	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	5.6	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	87.7	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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HT - Sample received past holding time
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	60 BCTB 10M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2008
Lab ID:	09080304-060A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.14	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/14/2009**		Analyst: **JG**
Arsenic	ND	5.5	HT	mg/Kg-dry	10	8/14/2009
Barium	ND	5.5	HT	mg/Kg-dry	10	8/14/2009
Cadmium	ND	2.8	HT	mg/Kg-dry	10	8/14/2009
Chromium	ND	5.5	HT	mg/Kg-dry	10	8/14/2009
Copper	ND	14	HT	mg/Kg-dry	10	8/14/2009
Lead	ND	2.8	HT	mg/Kg-dry	10	8/14/2009
Nickel	ND	5.5	HT	mg/Kg-dry	10	8/14/2009
Selenium	ND	5.5	HT	mg/Kg-dry	10	8/14/2009
Silver	ND	5.5	HT	mg/Kg-dry	10	8/14/2009
Zinc	ND	28	HT	mg/Kg-dry	10	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	4	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	4	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	83.3	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	61 BCTB 2
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-061A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	3.1	HT	mg/Kg-dry	1	8/16/2009
Anthracene	ND	3.1	HT	mg/Kg-dry	1	8/16/2009
Benz(a)anthracene	7.8	3.1	HT	mg/Kg-dry	1	8/16/2009
Benzo(a)pyrene	7.2	3.1	HT	mg/Kg-dry	1	8/16/2009
Benzo(b)fluoranthene	7.1	3.1	HT	mg/Kg-dry	1	8/16/2009
Benzo(k)fluoranthene	5.1	3.1	HT	mg/Kg-dry	1	8/16/2009
Chrysene	5.9	3.1	HT	mg/Kg-dry	1	8/16/2009
Dibenz(a,h)anthracene	ND	3.1	HT	mg/Kg-dry	1	8/16/2009
Fluoranthene	21	3.1	HT	mg/Kg-dry	1	8/16/2009
Fluorene	ND	3.1	HT	mg/Kg-dry	1	8/16/2009
Indeno(1,2,3-cd)pyrene	3.4	3.1	HT	mg/Kg-dry	1	8/16/2009
Naphthalene	ND	3.1	HT	mg/Kg-dry	1	8/16/2009
Phenanthrene	14	3.1	HT	mg/Kg-dry	1	8/16/2009
Pyrene	15	3.1	HT	mg/Kg-dry	1	8/16/2009
Carbazole	ND	3.1	HT	mg/Kg-dry	1	8/16/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	91.7	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	62 BCTB 2W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-062A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	3.4	HT	mg/Kg-dry	1	8/16/2009
Anthracene	ND	3.4	HT	mg/Kg-dry	1	8/16/2009
Benz(a)anthracene	4.8	3.4	HT	mg/Kg-dry	1	8/16/2009
Benzo(a)pyrene	4.5	3.4	HT	mg/Kg-dry	1	8/16/2009
Benzo(b)fluoranthene	5.3	3.4	HT	mg/Kg-dry	1	8/16/2009
Benzo(k)fluoranthene	ND	3.4	HT	mg/Kg-dry	1	8/16/2009
Chrysene	3.9	3.4	HT	mg/Kg-dry	1	8/16/2009
Dibenz(a,h)anthracene	ND	3.4	HT	mg/Kg-dry	1	8/16/2009
Fluoranthene	7.2	3.4	HT	mg/Kg-dry	1	8/16/2009
Fluorene	ND	3.4	HT	mg/Kg-dry	1	8/16/2009
Indeno(1,2,3-cd)pyrene	ND	3.4	HT	mg/Kg-dry	1	8/16/2009
Naphthalene	ND	3.4	HT	mg/Kg-dry	1	8/16/2009
Phenanthrene	ND	3.4	HT	mg/Kg-dry	1	8/16/2009
Pyrene	7.5	3.4	HT	mg/Kg-dry	1	8/16/2009
Carbazole	ND	3.4	HT	mg/Kg-dry	1	8/16/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	90.6	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	63 BCTB 5
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-063A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Anthracene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Benz(a)anthracene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Benzo(a)pyrene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Benzo(b)fluoranthene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Benzo(k)fluoranthene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Chrysene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Dibenz(a,h)anthracene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Fluoranthene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Fluorene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Indeno(1,2,3-cd)pyrene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Naphthalene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Phenanthrene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Pyrene	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Carbazole	ND	3.9	HT	mg/Kg-dry	1	8/16/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	90.0	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	64 BCTB 5W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-064A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Anthracene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Benz(a)anthracene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Benzo(a)pyrene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Benzo(b)fluoranthene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Benzo(k)fluoranthene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Chrysene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Dibenz(a,h)anthracene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Fluoranthene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Fluorene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Indeno(1,2,3-cd)pyrene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Naphthalene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Phenanthrene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Pyrene	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Carbazole	ND	3.6	HT	mg/Kg-dry	1	8/16/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	89.0	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	65 BCTB 10
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-065A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.7	HT	mg/Kg-dry	10	8/20/2009
Anthracene	4	2.7	HT	mg/Kg-dry	10	8/20/2009
Benz(a)anthracene	20	2.7	HT	mg/Kg-dry	10	8/20/2009
Benzo(a)pyrene	14	2.7	HT	mg/Kg-dry	10	8/20/2009
Benzo(b)fluoranthene	13	2.7	HT	mg/Kg-dry	10	8/20/2009
Benzo(k)fluoranthene	13	2.7	HT	mg/Kg-dry	10	8/20/2009
Chrysene	14	2.7	HT	mg/Kg-dry	10	8/20/2009
Dibenz(a,h)anthracene	ND	2.7	HT	mg/Kg-dry	10	8/20/2009
Fluoranthene	56	2.7	HT	mg/Kg-dry	10	8/20/2009
Fluorene	ND	2.7	HT	mg/Kg-dry	10	8/20/2009
Indeno(1,2,3-cd)pyrene	6.5	2.7	HT	mg/Kg-dry	10	8/20/2009
Naphthalene	ND	2.7	HT	mg/Kg-dry	10	8/20/2009
Phenanthrene	15	2.7	HT	mg/Kg-dry	10	8/20/2009
Pyrene	41	2.7	HT	mg/Kg-dry	10	8/20/2009
Carbazole	ND	2.7	HT	mg/Kg-dry	10	8/20/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	87.4	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	66 BCTB 10W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-066A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	2.1	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	84.6	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	67 BCTB 13
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-067A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	2.5	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	90.3	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
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* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	68 BCTB 13W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	8/21/2008
Lab ID:	09080304-068A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	2.8	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	87.8	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	69 BCTB 10W
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2008
Lab ID:	09080304-069A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.21	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/14/2009**		Analyst: **JG**
Arsenic	ND	8.2	HT	mg/Kg-dry	10	8/14/2009
Barium	13	8.2	HT	mg/Kg-dry	10	8/14/2009
Cadmium	ND	4.1	HT	mg/Kg-dry	10	8/14/2009
Chromium	ND	8.2	HT	mg/Kg-dry	10	8/14/2009
Copper	ND	20	HT	mg/Kg-dry	10	8/14/2009
Lead	9.1	4.1	HT	mg/Kg-dry	10	8/14/2009
Nickel	ND	8.2	HT	mg/Kg-dry	10	8/14/2009
Selenium	ND	8.2	HT	mg/Kg-dry	10	8/14/2009
Silver	ND	8.2	HT	mg/Kg-dry	10	8/14/2009
Zinc	ND	41	HT	mg/Kg-dry	10	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Anthracene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Benz(a)anthracene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Benzo(a)pyrene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Benzo(b)fluoranthene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Benzo(k)fluoranthene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Chrysene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Dibenz(a,h)anthracene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Fluoranthene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Fluorene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Indeno(1,2,3-cd)pyrene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Naphthalene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Phenanthrene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Pyrene	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Carbazole	ND	2.3	HT	mg/Kg-dry	1	8/17/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	88.0	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	70 BCTB 13M
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2008
Lab ID:	09080304-070A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.13	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/14/2009**		Analyst: **JG**
Arsenic	ND	4.8	HT	mg/Kg-dry	10	8/14/2009
Barium	ND	4.8	HT	mg/Kg-dry	10	8/14/2009
Cadmium	ND	2.4	HT	mg/Kg-dry	10	8/14/2009
Chromium	ND	4.8	HT	mg/Kg-dry	10	8/14/2009
Copper	36	12	HT	mg/Kg-dry	10	8/14/2009
Lead	ND	2.4	HT	mg/Kg-dry	10	8/14/2009
Nickel	ND	4.8	HT	mg/Kg-dry	10	8/14/2009
Selenium	ND	4.8	HT	mg/Kg-dry	10	8/14/2009
Silver	ND	4.8	HT	mg/Kg-dry	10	8/14/2009
Zinc	ND	24	HT	mg/Kg-dry	10	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	3.6	2.5	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Pyrene	2.8	2.5	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	2.5	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	82.0	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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HT - Sample received past holding time
* - Non-accredited parameter
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S - Spike Recovery outside accepted recovery limits
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STAT Analysis Corporation
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Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	71 BCTB 13WM
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	3/19/2008
Lab ID:	09080304-071A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.19	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/14/2009**		Analyst: **JG**
Arsenic	ND	7.5	HT	mg/Kg-dry	10	8/14/2009
Barium	34	7.5	HT	mg/Kg-dry	10	8/14/2009
Cadmium	ND	3.8	HT	mg/Kg-dry	10	8/14/2009
Chromium	11	7.5	HT	mg/Kg-dry	10	8/14/2009
Copper	39	19	HT	mg/Kg-dry	10	8/14/2009
Lead	38	3.8	HT	mg/Kg-dry	10	8/14/2009
Nickel	ND	7.5	HT	mg/Kg-dry	10	8/14/2009
Selenium	ND	7.5	HT	mg/Kg-dry	10	8/14/2009
Silver	ND	7.5	HT	mg/Kg-dry	10	8/14/2009
Zinc	130	38	HT	mg/Kg-dry	10	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Anthracene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Benz(a)anthracene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Benzo(a)pyrene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Benzo(b)fluoranthene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Benzo(k)fluoranthene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Chrysene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Dibenz(a,h)anthracene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Fluoranthene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Fluorene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Indeno(1,2,3-cd)pyrene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Naphthalene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Phenanthrene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Pyrene	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Carbazole	ND	2.8	HT	mg/Kg-dry	1	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	86.8	0.2	HT*	wt%	1	8/13/2009

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	72 BCTB SITE 2 WATER
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/19/2008
Lab ID:	09080304-072A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.11	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	4.4	HT	mg/Kg-dry	10	8/13/2009
Barium	ND	4.4	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	2.2	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	4.4	HT	mg/Kg-dry	10	8/13/2009
Copper	ND	11	HT	mg/Kg-dry	10	8/13/2009
Lead	ND	2.2	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	4.4	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	4.4	HT	mg/Kg-dry	10	8/13/2009
Silver	ND	4.4	HT	mg/Kg-dry	10	8/13/2009
Zinc	ND	22	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Anthracene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Benz(a)anthracene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Benzo(a)pyrene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Benzo(b)fluoranthene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Benzo(k)fluoranthene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Chrysene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Dibenz(a,h)anthracene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Fluoranthene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Fluorene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Indeno(1,2,3-cd)pyrene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Naphthalene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Phenanthrene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Pyrene	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Carbazole	ND	1.8	HT	mg/Kg-dry	1	8/20/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	79.2	0.2	HT*	wt%	1	8/13/2009

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	73 BUBBLEY CREEK TBW 3
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	6/16/2008
Lab ID:	09080304-073A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	ND	0.19	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	ND	6.8	HT	mg/Kg-dry	10	8/13/2009
Barium	11	6.8	HT	mg/Kg-dry	10	8/13/2009
Cadmium	ND	3.4	HT	mg/Kg-dry	10	8/13/2009
Chromium	ND	6.8	HT	mg/Kg-dry	10	8/13/2009
Copper	ND	17	HT	mg/Kg-dry	10	8/13/2009
Lead	11	3.4	HT	mg/Kg-dry	10	8/13/2009
Nickel	ND	6.8	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	6.8	HT	mg/Kg-dry	10	8/13/2009
Silver	7.9	6.8	HT	mg/Kg-dry	10	8/13/2009
Zinc	93	34	HT	mg/Kg-dry	10	8/13/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Anthracene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Benz(a)anthracene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Benzo(a)pyrene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Benzo(b)fluoranthene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Benzo(k)fluoranthene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Chrysene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Dibenz(a,h)anthracene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Fluoranthene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Fluorene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Indeno(1,2,3-cd)pyrene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Naphthalene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Phenanthrene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Pyrene	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Carbazole	ND	2.7	HT	mg/Kg-dry	1	8/20/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	86.7	0.2	HT*	wt%	1	8/13/2009

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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	74 BCTB SITE 2
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	7/6/2006
Lab ID:	09080304-074A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	1.4	0.073	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	9.2	3.1	HT	mg/Kg-dry	10	8/13/2009
Barium	390	3.1	HT	mg/Kg-dry	10	8/13/2009
Cadmium	9.5	1.5	HT	mg/Kg-dry	10	8/13/2009
Chromium	730	3.1	HT	mg/Kg-dry	10	8/13/2009
Copper	340	7.6	HT	mg/Kg-dry	10	8/13/2009
Lead	3400	1.5	HT	mg/Kg-dry	10	8/13/2009
Nickel	55	3.1	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	3.1	HT	mg/Kg-dry	10	8/13/2009
Silver	15	3.1	HT	mg/Kg-dry	10	8/13/2009
Zinc	980	31	HT	mg/Kg-dry	20	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	ND	0.26	HT	mg/Kg-dry	10	8/19/2009
Anthracene	1.2	0.26	HT	mg/Kg-dry	10	8/19/2009
Benz(a)anthracene	4.5	0.26	HT	mg/Kg-dry	10	8/19/2009
Benzo(a)pyrene	5.6	0.26	HT	mg/Kg-dry	10	8/19/2009
Benzo(b)fluoranthene	5.3	0.26	HT	mg/Kg-dry	10	8/19/2009
Benzo(k)fluoranthene	3.8	0.26	HT	mg/Kg-dry	10	8/19/2009
Chrysene	5.1	0.26	HT	mg/Kg-dry	10	8/19/2009
Dibenz(a,h)anthracene	1.3	0.26	HT	mg/Kg-dry	10	8/19/2009
Fluoranthene	8.8	0.26	HT	mg/Kg-dry	10	8/19/2009
Fluorene	0.61	0.26	HT	mg/Kg-dry	10	8/19/2009
Indeno(1,2,3-cd)pyrene	3	0.26	HT	mg/Kg-dry	10	8/19/2009
Naphthalene	0.29	0.26	HT	mg/Kg-dry	10	8/19/2009
Phenanthrene	4.7	0.26	HT	mg/Kg-dry	10	8/19/2009
Pyrene	8.1	0.26	HT	mg/Kg-dry	10	8/19/2009
Carbazole	ND	0.26	HT	mg/Kg-dry	10	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	67.5	0.2	HT*	wt%	1	8/13/2009

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B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	75 BCTB SITE 5
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	7/6/2006
Lab ID:	09080304-075A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	0.98	0.05	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	5.2	1.9	HT	mg/Kg-dry	10	8/13/2009
Barium	260	1.9	HT	mg/Kg-dry	10	8/13/2009
Cadmium	10	0.95	HT	mg/Kg-dry	10	8/13/2009
Chromium	86	1.9	HT	mg/Kg-dry	10	8/13/2009
Copper	280	4.8	HT	mg/Kg-dry	10	8/13/2009
Lead	470	0.95	HT	mg/Kg-dry	10	8/13/2009
Nickel	46	1.9	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	1.9	HT	mg/Kg-dry	10	8/13/2009
Silver	10	1.9	HT	mg/Kg-dry	10	8/13/2009
Zinc	710	19	HT	mg/Kg-dry	20	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	0.74	0.16	HT	mg/Kg-dry	10	8/19/2009
Anthracene	1.9	0.16	HT	mg/Kg-dry	10	8/19/2009
Benz(a)anthracene	6.9	0.16	HT	mg/Kg-dry	10	8/19/2009
Benzo(a)pyrene	5.8	0.16	HT	mg/Kg-dry	10	8/19/2009
Benzo(b)fluoranthene	5.3	0.16	HT	mg/Kg-dry	10	8/19/2009
Benzo(k)fluoranthene	5.8	0.16	HT	mg/Kg-dry	10	8/19/2009
Chrysene	7.5	0.16	HT	mg/Kg-dry	10	8/19/2009
Dibenz(a,h)anthracene	1.2	0.16	HT	mg/Kg-dry	10	8/19/2009
Fluoranthene	14	0.16	HT	mg/Kg-dry	10	8/19/2009
Fluorene	0.89	0.16	HT	mg/Kg-dry	10	8/19/2009
Indeno(1,2,3-cd)pyrene	2.5	0.16	HT	mg/Kg-dry	10	8/19/2009
Naphthalene	0.48	0.16	HT	mg/Kg-dry	10	8/19/2009
Phenanthrene	7.4	0.16	HT	mg/Kg-dry	10	8/19/2009
Pyrene	11	0.16	HT	mg/Kg-dry	10	8/19/2009
Carbazole	0.49	0.16	HT	mg/Kg-dry	10	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	51.7	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

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B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
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Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	76 BCTB SITE 10
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	7/6/2006
Lab ID:	09080304-076A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	1.1	0.053	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	6.6	2	HT	mg/Kg-dry	10	8/13/2009
Barium	260	2	HT	mg/Kg-dry	10	8/13/2009
Cadmium	11	0.99	HT	mg/Kg-dry	10	8/13/2009
Chromium	120	2	HT	mg/Kg-dry	10	8/13/2009
Copper	260	4.9	HT	mg/Kg-dry	10	8/13/2009
Lead	320	0.99	HT	mg/Kg-dry	10	8/13/2009
Nickel	41	2	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	2	HT	mg/Kg-dry	10	8/13/2009
Silver	9.8	2	HT	mg/Kg-dry	10	8/13/2009
Zinc	980	20	HT	mg/Kg-dry	20	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	0.89	0.49	HT	mg/Kg-dry	10	8/19/2009
Anthracene	2	0.49	HT	mg/Kg-dry	10	8/19/2009
Benz(a)anthracene	6.1	0.49	HT	mg/Kg-dry	10	8/19/2009
Benzo(a)pyrene	4.1	0.49	HT	mg/Kg-dry	10	8/19/2009
Benzo(b)fluoranthene	5.5	0.49	HT	mg/Kg-dry	10	8/19/2009
Benzo(k)fluoranthene	4.5	0.49	HT	mg/Kg-dry	10	8/19/2009
Chrysene	7	0.49	HT	mg/Kg-dry	10	8/19/2009
Dibenz(a,h)anthracene	0.94	0.49	HT	mg/Kg-dry	10	8/19/2009
Fluoranthene	12	0.49	HT	mg/Kg-dry	10	8/19/2009
Fluorene	1.2	0.49	HT	mg/Kg-dry	10	8/19/2009
Indeno(1,2,3-cd)pyrene	2.1	0.49	HT	mg/Kg-dry	10	8/19/2009
Naphthalene	0.69	0.49	HT	mg/Kg-dry	10	8/19/2009
Phenanthrene	6.4	0.49	HT	mg/Kg-dry	10	8/19/2009
Pyrene	11	0.49	HT	mg/Kg-dry	10	8/19/2009
Carbazole	ND	0.49	HT	mg/Kg-dry	10	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	56.0	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: August 28, 2009
Print Date: August 28, 2009

Client:	University of Illinois at Chicago	**Client Sample ID:**	77 BCTB SITE 13
Lab Order:	09080304	**Tag Number:**	
Project:	BC Active Capping	**Collection Date**	7/6/2006
Lab ID:	09080304-077A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Mercury	**SW7471A**			Prep Date: **8/13/2009**		Analyst: **VA**
Mercury	1.8	0.071	HT	mg/Kg-dry	1	8/14/2009
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **8/13/2009**		Analyst: **JG**
Arsenic	9.4	2.8	HT	mg/Kg-dry	10	8/13/2009
Barium	350	2.8	HT	mg/Kg-dry	10	8/13/2009
Cadmium	11	1.4	HT	mg/Kg-dry	10	8/13/2009
Chromium	130	2.8	HT	mg/Kg-dry	10	8/13/2009
Copper	340	7	HT	mg/Kg-dry	10	8/13/2009
Lead	420	1.4	HT	mg/Kg-dry	10	8/13/2009
Nickel	46	2.8	HT	mg/Kg-dry	10	8/13/2009
Selenium	ND	2.8	HT	mg/Kg-dry	10	8/13/2009
Silver	13	2.8	HT	mg/Kg-dry	10	8/13/2009
Zinc	1300	28	HT	mg/Kg-dry	20	8/14/2009
Semivolatile Organic Compounds by GC/MS	**SW8270C-SIM (SW3550B)**			Prep Date: **8/12/2009**		Analyst: **VS**
Acenaphthene	0.31	0.28	HT	mg/Kg-dry	10	8/19/2009
Anthracene	0.73	0.28	HT	mg/Kg-dry	10	8/19/2009
Benz(a)anthracene	2.6	0.28	HT	mg/Kg-dry	10	8/19/2009
Benzo(a)pyrene	1.8	0.28	HT	mg/Kg-dry	10	8/19/2009
Benzo(b)fluoranthene	2.2	0.28	HT	mg/Kg-dry	10	8/19/2009
Benzo(k)fluoranthene	2.5	0.28	HT	mg/Kg-dry	10	8/19/2009
Chrysene	3	0.28	HT	mg/Kg-dry	10	8/19/2009
Dibenz(a,h)anthracene	0.47	0.28	HT	mg/Kg-dry	10	8/19/2009
Fluoranthene	5.4	0.28	HT	mg/Kg-dry	10	8/19/2009
Fluorene	0.39	0.28	HT	mg/Kg-dry	10	8/19/2009
Indeno(1,2,3-cd)pyrene	1.1	0.28	HT	mg/Kg-dry	10	8/19/2009
Naphthalene	0.34	0.28	HT	mg/Kg-dry	10	8/19/2009
Phenanthrene	2.5	0.28	HT	mg/Kg-dry	10	8/19/2009
Pyrene	4.8	0.28	HT	mg/Kg-dry	10	8/19/2009
Carbazole	ND	0.28	HT	mg/Kg-dry	10	8/19/2009
Percent Moisture	**D2974**			Prep Date: **8/12/2009**		Analyst: **RW**
Percent Moisture	64.9	0.2	HT*	wt%	1	8/13/2009

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

1 Data package for BC

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CHAIN OF CUSTODY RECORD

№:

Company: UNIVERSITY OF ILLINOIS - CHICAGO UIC
Project Number: ACTIVE CAPPING Client Tracking No.:
Project Name: BC
Project Location: CHICAGO
Sampler(s):
Report To: PRISCILLA VIANA Phone: 312 413 7638
Fax:
QC Level: 1 ___ 2 ___ 3 ___ 4 ___ e-mail: pviana2@uic.edu

P.O. No.:
Quote No.:

Turn Around:
Results Needed: / / am/pm

NOTE: SEE TABLES 1-2 ATTACHED.

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	METALS (As-Ba-Cd-Cr-Cu-Pb-Ni-Se-Ag-Zn-Hg)	PAH (PAHS IS)	Remarks	Lab No.:
(1) BC - CDM 4	06/24/2008		GW					X			001
(2) BC - CDM 4W	06/24/2008		GW					X			002
(3) BC - CDM 8	06/24/2008		GW					X			003
(4) BC - CDM 8W	06/24/2008		GW					X			004
(5) BC - CDM 9	06/24/2008		GW					X			005
(6) BC - CDM 9W	06/24/2008		GW					X			006
(7) BC - CDM 11	06/24/2008		GW					X			007
(8) BC - CDM 11W	06/25/2008		GW					X			008
(9) BC - CDM 13	06/25/2008		GW					X			009
(10) BC - CDM 13W	06/25/2008		GW					X			010
(11) BC - CDM 4	08/19-21/2008		GW					X			011
(12) BC - CDM 4W	08/19-21/2008		GW					X			012
(13) BC - CDM 8	08/19-21/2008		GW					X			013
(14) BC - CDM 8W	08/19-21/2008		GW					X			014
(15) BC - CDM 9	08/19-21/2008		GW					X			015
(16) BC - CDM 9W	08/19-21/2008		GW					X			016
(17) BC - CDM 11	08/19-21/2008		GW					X			017
(18) BC - CDM 11W	08/19-21/2008		GW					X			018
(19) BC - CDM 13	08/19-21/2008		GW					X			019
(20) BC - CDM 13W	08/19-21/2008		GW					X			020

Relinquished by: (Signature) Priscilla Viana	Date/Time: 08/04/09	
Received by: (Signature)	Date/Time: 8/4/09 15:40	
Relinquished by: (Signature)	Date/Time:	
Received by: (Signature)	Date/Time:	
Relinquished by: (Signature)	Date/Time:	
Received by: (Signature)	Date/Time:	

Comments: PROVIDE QA/QC
% MOISTURE
REPORT MASS / DRY MASS BASIS

Preservation Code: A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 09080304

Received on Ice: Yes ☐ No ☑

Temperature: 12.7°C

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e-mail address: STATinfo@STATAnalysis.com AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

N°: _____ Page : 2 of 4

Company: UNIVERSITY OF ILLINOIS AT CHICAGO UC
Project Number: ACTIVE CAPPING Client Tracking No.:
Project Name: BC
Project Location: CHICAGO
Sampler(s):
Report To : PRISCILLA VIANA Phone: +1 312 413 7638
Fax:
e-mail: pviana2@uic.edu
QC Level: 1 ____ 2 ____ 3 ____ 4 ____

P.O. No.:
Quote No.:
Turn Around:
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	METALS	PAH	Remarks	Lab No.:
(21) BC-CDM 4M	10/26-27				GW			X	X		021
22 BC-CDM 4WM	10/26-27				GW			X	X		022
(23) BC-CDM 8M	10/26-27				GW			X	X		023
(24) BC-CDM 8WM	10/26-27				GW			X	X		024
(25) BC-CDM 9M	10/26-27				GW			X	X		025
(26) BC-CDM 9WM	10/26-27				GW			X	X		026
(27) BC-CDM 11M	10/26-27				GW			X	X		027
(28) BC-CDM 11WM	10/26-27				GW			X	X		028
(29) BC-CDM 13WM	10/26-27				GW			X	X		029
(30) BC-CDM 4M	03/16-19/09				GW			X	X		030
(31) BC-CDM 4WM	03/16-19/09				GW			X	X		031
(32) BC-CDM 8M	03/16-19/09				GW			X	X		032
(33) BC-CDM 8WM	03/16-19/09				GW			X	X		033
(34) BC-CDM 9	03/16-19/09				GW			X	X		034
(35) BC-CDM 9WM	03/16-19/09				GW			X	X		035
(36) BC-CDM 11M	03/16-19/09				GW			X	X		036
(37) BC-CDM 11WM	03/16-19/09				GW			X	X		037
(38) BC-CDM 13M	03/16-19/09				GW			X	X		038
(39) BC-CDM 13WM	03/16-19/09				GW			X	X		039
(40) BC-CDM SITE4D	07/07/08				SED			X	X		040

Relinquished by: (Signature) Priscilla Juan Viana	Date/Time: 08/04/09	
Received by : (Signature)	Date/Time: 8/4/09 15:45	
Relinquished by: (Signature)	Date/Time:	
Received by : (Signature)	Date/Time:	
Relinquished by: (Signature)	Date/Time:	
Received by : (Signature)	Date/Time:	

Comments: PROVIDE QA/QC / MOISTURE REPORT MASS/DRY MASS BASIS

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 09080304

Received on Ice: Yes ☐ No ☑

Temperature: 12.7 °C

STAT Analysis Corporation

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e-mail address: STATinfo@STATAnalysis.com AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

N°:

Company: UNIVERSITY OF ILLINOIS AT CHICAGO-UIC
Project Number: ACTIVE CAPPING Client Tracking No.:
Project Name: BC
Project Location: CHICAGO
Sampler(s):
Report To: PRISCILLA VIANA Phone: +1 312 413 7638
Fax:
QC Level: 1 ____ 2 ____ 3 ____ 4 ____ e-mail: pviana2@uic.edu

P.O. No.:
Quote No.:

Turn Around:
Results Needed: / / am/pm

NOTE: SEE TABLES 1-2 ATTACHED

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	METALS (As-Ba-Cd-Cr-Cu-Pb-Ni-Se-Ag-Zn-Hg)	SAH (PAH 15)	Remarks	Lab No.:
41 BC-CDM SITE 8D	07/07/08			SED				X	X		041
42 BC-CDM SITE 9D	07/07/08			SED				X	X		042
43 BC-CDM SITE 11D	07/07/08			SED				X	X		043
44 BC-CDM SITE 13D	07/07/08			SED				X	X		044
45 BCTB SITE 2	06/16/08			GW					X		045
46 BCTB SITE 5	06/18/08			GW					X		046
47 BCTB SITE 10	06/17/08			GW					X		047
48 BCTB SITE 13	06/17/08			GW					X		048
49 BCTB 2M	10/24-27			GW				X	X		049
50 BCTB 2WM	10/24-27			GW				X	X		050
51 BCTB 5M	10/24-27			GW				X	X		051
52 BCTB 5WM	10/24-27			GW				X	X		052
53 BCTB 10M	10/24-27			GW				X	X		053
54 BCTB 10WM	10/24-27			GW				X	X		054
55 BCTB 13M	10/24-27			GW				X	X		055
56 BCTB 2M	03/16-19/09			GW				X	X		056
57 BCTB 2WM	03/16-19/09			GW				X	X		057
58 BCTB 5M	03/16-19/09			GW				X	X		058
59 BCTB 5WM	03/16-19/09			GW				X	X		059
60 BCTB 10M	03/16-19/09			GW				X	X		060

Relinquished by: (Signature) Priscilla Viana	Date/Time: 08/04/09	
Received by: (Signature)	Date/Time: 8/4/09 15:45	
Relinquished by: (Signature)	Date/Time:	
Received by: (Signature)	Date/Time:	
Relinquished by: (Signature)	Date/Time:	
Received by: (Signature)	Date/Time:	

Comments: PROVIDE QA/QC
% MOISTURE
REPORT MASS/DRY MASS BASIS

Preservation Code: A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 09080304

Received on Ice: Yes ☐ No ☑

Temperature: 12.7C

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e-mail address: STATinfo@STATAnalysis.com *AIHA, NVLAP and NELAP accredited*

CHAIN OF CUSTODY RECORD **Nº:**

Company: UNIVERSITY OF ILLINOIS AT CHICAGO-UIC
Project Number: ACTIVE CAPPING Client Tracking No.:
Project Name: BC
Project Location: CHICAGO
Sampler(s) :
Report To: PRISCILLA VIANA Phone: +1 312 413 7638
Fax:
QC Level: 1 ____ 2 ____ 3 ____ 4 ____ e-mail: pviana92@uic.edu

P.O. No.:
Quote No.:

Turn Around:
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	METALS (As-Ba-Cd-Cu-Cr-Pb-Ni-Se-Ag-Zn-Hg) NOTE: SEE TABLES 1-2 ATTACHED	PAH (PAH (S))	Remarks	Lab No.:
61/ BCTB 2	08/19-21/2008				GW			X	X		061
62/ BCTB 2W	08/19-21/2008				GW			X	X		062
63/ BCTB 5	08/19-21/2008				GW			X	X		063
64/ BCTB 5W	08/19-21/2008				GW			X	X		064
65/ BCTB 10	08/19-21/2008				GW			X	X		065
66/ BCTB 10W	08/19-21/2008				GW			X	X		066
67/ BCTB 13	08/19-21/2008				GW			X	X		067
68/ BCTB 13W	08/19-21/2008				GW			X	X		068
69/ BCTB 10W	03/16-19/09				GW			X	X		069
70/ BCTB 13 M	03/16-19/09				GW			X	X		070
71/ BCTB 13W M	03/16-19/09				GW			X	X		071
72/ BCTB SITE 2 WATER	06/19/08				GW			X	X		072
73/ BUBBLEY CREEK TB W 3d	06/16/08				GW			X	X		073
74/ BC SITE 2	07/06/06				SED			X	X		074
75/ BC SITE 5	07/06/06				SED			X	X		075
76/ BCTB SITE 10	07/06/06				SED			X	X		076
77/ BCTB SITE 13	07/06/06				SED			X	X		077

Relinquished by: (Signature)	Priscilla Viana	Date/Time: 08/09/09
Received by : (Signature)	[illegible]	Date/Time: 8/10/09 15
Relinquished by: (Signature)		Date/Time:
Received by : (Signature)		Date/Time:
Relinquished by: (Signature)		Date/Time:
Received by : (Signature)		Date/Time:

Comments:
15 PROVIDE QA/QC
% MOISTURE
REPORT MASS/DRY MASS BASIS

Preservation Code: A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 09080304

Received on Ice: Yes ☐ No ☑

Temperature: 12.7°C

STAT Analysis Corporation

Sample Receipt Checklist

Client Name: **UIC (STUDENT)** Date and Time Received: **8/4/2009 3:45:00 PM**

Work Order Number **09080304** Received by: JJM

Checklist completed by: Signature MGK Date 8/12/09 Reviewed by: MAK Initials 8/28/09 Date

Matrix: Carrier name: Client Delivered

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑	
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels/containers?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☐	No ☑		
All samples received within holding time?	Yes ☐	No ☑		
Container or Temp Blank temperature in compliance?	Yes ☐	No ☑	Temperature	12.7 °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☐	No ☐	
Water - Samples pH checked?	Yes ☐	No ☐	Checked by:	
Water - Samples properly preserved?	Yes ☐	No ☐	pH Adjusted?	

Any No response must be detailed in the comments section below.

Comments: RECEIVED AN EMPTY CONTAINER FOR SAMPLE SS-BCTB 13M (C 9080304-055)

Client / Person contacted: Date contacted: Contacted by:

Response:

STAT Analysis Corporation

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping
Test No: SW8270C-SIM **Matrix:** S

QC SUMMARY REPORT SURROGATE RECOVERIES

Sample ID	DCBZ12D4	NO2BZD5	PHEN2F	PHEND14				
09080304-062A	45.9	51.1	50.1	96.6				
09080304-063A	70.9	80.4	81.2	101				
09080304-061A	76.6	84.0	78.8	93.0				
09080304-064A	42.5	47.5	44.1	80.0				
09080304-065A	69.1	79.2	82.6	105				
09080304-066A	61.9	69.1	65.5	101				
09080304-069A	80.8	88.8	80.2	94.2				
09080304-009A	68.1	73.3	72.9	87.6				
09080304-001A	68.3	75.0	71.9	86.2				
09080304-002A	70.9	76.8	75.8	83.6				
09080304-004A	71.1	77.4	77.2	91.4				
09080304-005A	59.9	64.1	63.5	77.6				
09080304-006A	64.9	69.7	70.7	85.6				
09080304-007A	58.7	65.7	68.5	85.8				
09080304-008A	68.3	74.7	77.2	89.4				
09080304-010A	63.9	67.9	67.1	87.8				
09080304-011A	58.9	65.9	63.5	85.6				
09080304-012A	44.7	49.7	48.5	75.4				
09080304-047A	56.3	63.9	64.9	82.4				
09080304-048A	63.5	71.9	69.1	85.8				
09080304-049A	67.1	73.1	69.9	82.6				
MB-43880-PNA	82.2	85.8	81.4	103				
LCS-43880-PNA	79.4	84.2	82.2	103				
LCSD-43880-PNA	91.6	94.0	92.0	108				
09080304-003A	66.9	71.5	73.5	86.0				
MB-43879-PNA	82.4	88.8	82.0	100				
LCS-43879-PNA	64.7	71.7	69.5	94.8				

Acronym		Surrogate	QC Limits
DCBZ12D4	=	1,2-Dichlorobenzene-d4	20-130
NO2BZD5	=	Nitrobenzene-d5	23-120
PHEN2F	=	2-Fluorobiphenyl	30-115
PHEND14	=	4-Terphenyl-d14	18-137

*** Surrogate recovery outside acceptance limits**

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping
Test No: SW8270C-SIM **Matrix:** S

QC SUMMARY REPORT
SURROGATE RECOVERIES

Sample ID	DCBZ12D4	NO2BZD5	PHEN2F	PHEND14				
LCSD-43879-PNA	73.3	78.4	73.9	91.0				
09080304-013A	41.3	46.3	49.7	78.0				
09080304-014A	59.7	67.3	66.1	85.6				
09080304-015A	43.5	48.5	44.5	82.6				
09080304-016A	69.3	77.8	73.1	90.6				
09080304-017A	56.7	64.7	63.1	90.6				
09080304-018A	48.5	56.5	55.7	87.6				
09080304-019A	18.8 *	21.4 *	19.8 *	96.8				
09080304-020A	57.5	66.1	63.1	93.6				
09080304-021A	58.5	68.5	68.1	90.8				
09080304-022A	67.5	75.4	71.7	88.4				
09080304-023A	77.8	86.8	79.4	95.8				
09080304-024A	21.2	24.6	22.4 *	78.6				
09080304-025A	73.3	82.8	76.0	88.6				
09080304-026A	55.7	64.1	61.1	85.0				
09080304-027A	66.9	76.2	70.9	90.6				
09080304-028A	71.3	80.6	76.0	87.4				
09080304-029A	69.3	77.8	73.5	90.2				
09080304-030A	50.7	58.1	55.7	85.2				
09080304-031A	58.9	65.7	61.7	80.0				
09080304-032A	54.5	61.5	60.1	86.2				
09080304-033A	64.7	73.7	70.1	86.8				
09080304-034A	68.9	77.6	74.5	90.2				
09080304-035A	51.5	57.9	53.7	80.2				
09080304-036A	65.9	73.9	70.1	90.0				
09080304-037A	46.3	53.5	53.1	84.4				
09080304-038A	36.3	40.1	37.7	46.3				
09080304-039A	76.6	86.2	78.0	93.4				

Acronym		Surrogate	QC Limits
DCBZ12D4	=	1,2-Dichlorobenzene-d4	20-130
NO2BZD5	=	Nitrobenzene-d5	23-120
PHEN2F	=	2-Fluorobiphenyl	30-115
PHEND14	=	4-Terphenyl-d14	18-137

*** Surrogate recovery outside acceptance limits**

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping
Test No: SW8270C-SIM **Matrix:** S

QC SUMMARY REPORT
SURROGATE RECOVERIES

Sample ID	DCBZ12D4	NO2BZD5	PHEN2F	PHEND14				
09080304-074A:10	73.9	89.8	83.8	106				
09080304-045A	63.5	70.7	71.3	89.0				
09080304-046A	74.7	81.4	76.8	86.2				
09080304-051A	50.1	58.3	61.3	83.8				
09080304-050A	35.3	40.1	39.9	79.0				
09080304-052A	56.1	62.9	63.7	85.4				
09080304-053A	70.1	77.2	73.7	85.6				
09080304-070A	71.7	79.2	77.8	98.6				
09080304-071A	64.9	72.7	73.5	88.6				
09080304-072A	64.3	69.7	65.3	86.8				
09080304-073A	74.9	83.8	82.0	96.4				
09080304-044A:10	97.8	116	110	146 *				
09080304-043A:10	79.8	97.8	102	130				
09080304-042A:10	110	130 *	128 *	154 *				
09080304-041A:10	69.9	83.8	77.8	102				
MB-43893-PNA	64.9	69.9	69.7	71.3				
LCS-43893-PNA	67.5	73.1	75.8	75.0				
LCSD-43893-PNA	72.9	76.4	75.8	82.4				
09080304-054A	60.1	65.7	64.5	68.7				
09080304-058A	66.1	72.9	71.1	79.6				
09080304-056A	65.5	69.7	70.1	84.0				
09080304-059A	73.5	74.9	71.3	82.2				
MB-43902-PNA	83.4	92.2	82.0	87.6				
LCS-43902-PNA	72.5	77.0	75.2	82.8				
LCSD-43902-PNA	72.5	76.6	75.0	83.2				
09080304-057A	66.1	63.1	70.7	79.6				
09080304-060A	62.9	56.9	67.1	78.4				
09080304-067A	84.6	76.6	87.8	90.6				

Acronym		Surrogate	QC Limits
DCBZ12D4	=	1,2-Dichlorobenzene-d4	20-130
NO2BZD5	=	Nitrobenzene-d5	23-120
PHEN2F	=	2-Fluorobiphenyl	30-115
PHEND14	=	4-Terphenyl-d14	18-137

*** Surrogate recovery outside acceptance limits**

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping
Test No: SW8270C-SIM **Matrix:** S

QC SUMMARY REPORT
SURROGATE RECOVERIES

Sample ID	DCBZ12D4	NO2BZD5	PHEN2F	PHEND14				
09080304-068A	70.1	61.9	71.1	90.2				
09080304-040A:10	79.8	85.8	95.8	112				
09080304-075A:10	89.8	110	102	95.8				
09080304-076A:10	71.9	85.8	85.8	102				
09080304-077A:10	77.8	89.8	85.8	89.8				

Acronym		Surrogate	QC Limits
DCBZ12D4	=	1,2-Dichlorobenzene-d4	20-130
NO2BZD5	=	Nitrobenzene-d5	23-120
PHEN2F	=	2-Fluorobiphenyl	30-115
PHEND14	=	4-Terphenyl-d14	18-137

*** Surrogate recovery outside acceptance limits**

STAT **Analysis Corporation**

PREP BATCH REPORT

Prep Start Date: **8/12/2009 3:20:36 P**
Prep End Date: **8/13/2009 1:19:42 P**

Prep Batch **43879** Prep Code: **3550_PNA** Technician: **KAL**

Prep Factor Units: **mL / Kg**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-43879-PNA			0.03	0	0	1	33.333	8/12/2009	8/12/2009
LCS-43879-PNA			0.03	0	0	1	33.333	8/12/2009	8/12/2009
LCSD-43879-PNA			0.03	0	0	1	33.333	8/12/2009	8/12/2009
09080304-001A	Solid		0.00299	0	0	1	334.448	8/12/2009	8/12/2009
09080304-002A	Solid		0.0015	0	0	1	666.667	8/12/2009	8/12/2009
09080304-003A	Solid		0.00158	0	0	1	632.911	8/12/2009	8/12/2009
09080304-004A	Solid		0.00158	0	0	1	632.911	8/12/2009	8/12/2009
09080304-005A	Solid		0.00177	0	0	1	564.972	8/12/2009	8/12/2009
09080304-006A	Solid		0.00259	0	0	1	386.100	8/12/2009	8/12/2009
09080304-007A	Solid		0.00143	0	0	1	699.301	8/12/2009	8/12/2009
09080304-008A	Solid		0.00682	0	0	1	146.628	8/12/2009	8/12/2009
09080304-009A	Solid		0.00107	0	0	1	934.579	8/12/2009	8/12/2009
09080304-010A	Solid		0.00404	0	0	1	247.525	8/12/2009	8/12/2009
09080304-011A	Solid		0.00303	0	0	1	330.033	8/12/2009	8/12/2009
09080304-012A	Solid		0.00133	0	0	1	751.880	8/12/2009	8/12/2009
09080304-013A	Solid		0.00142	0	0	1	704.225	8/12/2009	8/12/2009
09080304-014A	Solid		0.00217	0	0	1	460.829	8/12/2009	8/12/2009
09080304-015A	Solid		0.00148	0	0	1	675.676	8/12/2009	8/12/2009
09080304-016A	Solid		0.00177	0	0	1	564.972	8/12/2009	8/12/2009
09080304-017A	Solid		0.0012	0	0	1	833.333	8/12/2009	8/12/2009
09080304-018A	Solid		0.00171	0	0	1	584.795	8/12/2009	8/12/2009
09080304-019A	Solid		0.00174	0	0	1	574.713	8/12/2009	8/12/2009
09080304-020A	Solid		0.00115	0	0	1	869.565	8/12/2009	8/12/2009

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43879

Sample ID: **MB-43879-PNA**	SampType: **MBLK**	TestCode: **PNA_SOIL+**	Units: **mg/Kg**	Prep Date: **8/12/2009**	Run ID: **SVOC-3_090818B**
Client ID: **ZZZZZ**	Batch ID: **43879**	TestNo: **SW8270C-SI**		Analysis Date: **8/18/2009**	SeqNo: **1477765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.025									
Anthracene	ND	0.025									
Benz(a)anthracene	ND	0.025									
Benzo(a)pyrene	ND	0.025									
Benzo(b)fluoranthene	ND	0.025									
Benzo(k)fluoranthene	ND	0.025									
Chrysene	ND	0.025									
Dibenz(a,h)anthracene	ND	0.025									
Fluoranthene	ND	0.025									
Fluorene	ND	0.025									
Indeno(1,2,3-cd)pyrene	ND	0.025									
Naphthalene	ND	0.025									
Phenanthrene	ND	0.025									
Pyrene	ND	0.025									
Carbazole	ND	0.025									

Sample ID: **LCS-43879-PNA**	SampType: **LCS**	TestCode: **PNA_SOIL+**	Units: **mg/Kg**	Prep Date: **8/12/2009**	Run ID: **SVOC-3_090818B**
Client ID: **ZZZZZ**	Batch ID: **43879**	TestNo: **SW8270C-SI**		Analysis Date: **8/18/2009**	SeqNo: **1477766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.1303	0.025	0.167	0	78	30	130	0	0		
Anthracene	0.1347	0.025	0.167	0	80.6	30	130	0	0		
Benz(a)anthracene	0.153	0.025	0.167	0	91.6	30	130	0	0		
Benzo(a)pyrene	0.1677	0.025	0.167	0	100	30	130	0	0		
Benzo(b)fluoranthene	0.1833	0.025	0.167	0	110	30	130	0	0		
Benzo(k)fluoranthene	0.1383	0.025	0.167	0	82.8	30	130	0	0		
Chrysene	0.1557	0.025	0.167	0	93.2	30	130	0	0		
Dibenz(a,h)anthracene	0.1673	0.025	0.167	0	100	30	130	0	0		
Fluoranthene	0.1503	0.025	0.167	0	90	30	130	0	0		
Fluorene	0.129	0.025	0.167	0	77.2	30	130	0	0		
Indeno(1,2,3-cd)pyrene	0.1667	0.025	0.167	0	99.8	30	130	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43879

Sample ID: **LCS-43879-PNA** SampType: **LCS** TestCode: **PNA_SOIL+** Units: **mg/Kg** Prep Date: **8/12/2009** Run ID: **SVOC-3_090818B**
Client ID: **ZZZZZ** Batch ID: **43879** TestNo: **SW8270C-SI** Analysis Date: **8/18/2009** SeqNo: **1477766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.1217	0.025	0.167	0	72.9	30	130	0	0		
Phenanthrene	0.1483	0.025	0.167	0	88.8	30	130	0	0		
Pyrene	0.1427	0.025	0.167	0	85.4	30	130	0	0		
Carbazole	0.08633	0.025	0.167	0	51.7	30	130	0	0		

Sample ID: **LCSD-43879-PNA** SampType: **LCSD** TestCode: **PNA_SOIL+** Units: **mg/Kg** Prep Date: **8/12/2009** Run ID: **SVOC-3_090818B**
Client ID: **ZZZZZ** Batch ID: **43879** TestNo: **SW8270C-SI** Analysis Date: **8/18/2009** SeqNo: **1477767**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.1563	0.025	0.167	0	93.6	30	130	0.1303	18.1	50	
Anthracene	0.1423	0.025	0.167	0	85.2	30	130	0.1347	5.54	50	
Benz(a)anthracene	0.1583	0.025	0.167	0	94.8	30	130	0.153	3.43	50	
Benzo(a)pyrene	0.1777	0.025	0.167	0	106	30	130	0.1677	5.79	50	
Benzo(b)fluoranthene	0.1513	0.025	0.167	0	90.6	30	130	0.1833	19.1	50	
Benzo(k)fluoranthene	0.178	0.025	0.167	0	107	30	130	0.1383	25.1	50	
Chrysene	0.161	0.025	0.167	0	96.4	30	130	0.1557	3.37	50	
Dibenz(a,h)anthracene	0.1713	0.025	0.167	0	103	30	130	0.1673	2.36	50	
Fluoranthene	0.1593	0.025	0.167	0	95.4	30	130	0.1503	5.81	50	
Fluorene	0.142	0.025	0.167	0	85	30	130	0.129	9.59	50	
Indeno(1,2,3-cd)pyrene	0.1707	0.025	0.167	0	102	30	130	0.1667	2.37	50	
Naphthalene	0.1513	0.025	0.167	0	90.6	30	130	0.1217	21.7	50	
Phenanthrene	0.1643	0.025	0.167	0	98.4	30	130	0.1483	10.2	50	
Pyrene	0.152	0.025	0.167	0	91	30	130	0.1427	6.33	50	
Carbazole	0.09167	0.025	0.167	0	54.9	30	130	0.08633	5.99	50	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT **Analysis Corporation**

PREP BATCH REPORT

Prep Start Date: **8/12/2009 3:29:30 P**
Prep End Date: **8/13/2009 1:19:49 P**

Prep Batch **43880** Prep Code: **3550_PNA** Technician: **KAL**

Prep Factor Units: **mL / Kg**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-43880-PNA			0.03	0	0	1	33.333	8/12/2009	8/12/2009
LCS-43880-PNA			0.03	0	0	1	33.333	8/12/2009	8/12/2009
LCSD-43880-PNA			0.03	0	0	1	33.333	8/12/2009	8/12/2009
09080304-021A	Solid		0.00115	0	0	1	869.565	8/12/2009	8/12/2009
09080304-022A	Solid		0.00166	0	0	1	602.410	8/12/2009	8/12/2009
09080304-023A	Solid		0.00201	0	0	1	497.512	8/12/2009	8/12/2009
09080304-024A	Solid		0.00183	0	0	1	546.448	8/12/2009	8/12/2009
09080304-025A	Solid		0.00177	0	0	1	564.972	8/12/2009	8/12/2009
09080304-026A	Solid		0.00115	0	0	1	869.565	8/12/2009	8/12/2009
09080304-027A	Solid		0.00107	0	0	1	934.579	8/12/2009	8/12/2009
09080304-028A	Solid		0.00122	0	0	1	819.672	8/12/2009	8/12/2009
09080304-029A	Solid		0.00113	0	0	1	884.956	8/12/2009	8/12/2009
09080304-030A	Solid		0.00102	0	0	1	980.392	8/12/2009	8/12/2009
09080304-031A	Solid		0.00128	0	0	1	781.250	8/12/2009	8/12/2009
09080304-032A	Solid		0.00106	0	0	1	943.396	8/12/2009	8/12/2009
09080304-033A	Solid		0.00113	0	0	1	884.956	8/12/2009	8/12/2009
09080304-034A	Solid		0.00102	0	0	1	980.392	8/12/2009	8/12/2009
09080304-035A	Solid		0.00105	0	0	1	952.381	8/12/2009	8/12/2009
09080304-036A	Solid		0.001	0	0	1	1000.000	8/12/2009	8/12/2009
09080304-037A	Solid		0.001	0	0	1	1000.000	8/12/2009	8/12/2009
09080304-038A	Solid		0.00114	0	0	1	877.193	8/12/2009	8/12/2009
09080304-039A	Solid		0.00109	0	0	1	917.431	8/12/2009	8/12/2009
09080304-040A	Solid		0.00116	0	0	1	862.069	8/12/2009	8/12/2009

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43880

Sample ID: **MB-43880-PNA**	SampType: **MBLK**	TestCode: **PNA_SOIL+**	Units: **mg/Kg**	Prep Date: **8/12/2009**	Run ID: **SVOC-3_090818A**
Client ID: **ZZZZZ**	Batch ID: **43880**	TestNo: **SW8270C-SI**		Analysis Date: **8/18/2009**	SeqNo: **1477468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.025									
Anthracene	ND	0.025									
Benz(a)anthracene	ND	0.025									
Benzo(a)pyrene	ND	0.025									
Benzo(b)fluoranthene	ND	0.025									
Benzo(k)fluoranthene	ND	0.025									
Chrysene	ND	0.025									
Dibenz(a,h)anthracene	ND	0.025									
Fluoranthene	ND	0.025									
Fluorene	ND	0.025									
Indeno(1,2,3-cd)pyrene	ND	0.025									
Naphthalene	ND	0.025									
Phenanthrene	ND	0.025									
Pyrene	ND	0.025									
Carbazole	ND	0.025									

Sample ID: **LCS-43880-PNA**	SampType: **LCS**	TestCode: **PNA_SOIL+**	Units: **mg/Kg**	Prep Date: **8/12/2009**	Run ID: **SVOC-3_090818A**
Client ID: **ZZZZZ**	Batch ID: **43880**	TestNo: **SW8270C-SI**		Analysis Date: **8/18/2009**	SeqNo: **1477469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.1673	0.025	0.167	0	100	30	130	0	0		
Anthracene	0.1633	0.025	0.167	0	97.8	30	130	0	0		
Benz(a)anthracene	0.179	0.025	0.167	0	107	30	130	0	0		
Benzo(a)pyrene	0.19	0.025	0.167	0	114	30	130	0	0		
Benzo(b)fluoranthene	0.2097	0.025	0.167	0	126	30	130	0	0		
Benzo(k)fluoranthene	0.1603	0.025	0.167	0	96	30	130	0	0		
Chrysene	0.178	0.025	0.167	0	107	30	130	0	0		
Dibenz(a,h)anthracene	0.175	0.025	0.167	0	105	30	130	0	0		
Fluoranthene	0.1793	0.025	0.167	0	107	30	130	0	0		
Fluorene	0.1553	0.025	0.167	0	93	30	130	0	0		
Indeno(1,2,3-cd)pyrene	0.1743	0.025	0.167	0	104	30	130	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43880

Sample ID: **LCS-43880-PNA** SampType: **LCS** TestCode: **PNA_SOIL+** Units: **mg/Kg** Prep Date: **8/12/2009** Run ID: **SVOC-3_090818A**
Client ID: **ZZZZZ** Batch ID: **43880** TestNo: **SW8270C-SI** Analysis Date: **8/18/2009** SeqNo: **1477469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.1607	0.025	0.167	0	96.2	30	130	0	0		
Phenanthrene	0.179	0.025	0.167	0	107	30	130	0	0		
Pyrene	0.1687	0.025	0.167	0	101	30	130	0	0		
Carbazole	0.1037	0.025	0.167	0	62.1	30	130	0	0		

Sample ID: **LCSD-43880-PNA** SampType: **LCSD** TestCode: **PNA_SOIL+** Units: **mg/Kg** Prep Date: **8/12/2009** Run ID: **SVOC-3_090818A**
Client ID: **ZZZZZ** Batch ID: **43880** TestNo: **SW8270C-SI** Analysis Date: **8/18/2009** SeqNo: **1477470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.1793	0.025	0.167	0	107	30	130	0.1673	6.92	50	
Anthracene	0.1633	0.025	0.167	0	97.8	30	130	0.1633	0	50	
Benz(a)anthracene	0.1877	0.025	0.167	0	112	30	130	0.179	4.73	50	
Benzo(a)pyrene	0.1683	0.025	0.167	0	101	30	130	0.19	12.1	50	
Benzo(b)fluoranthene	0.162	0.025	0.167	0	97	30	130	0.2097	25.7	50	
Benzo(k)fluoranthene	0.178	0.025	0.167	0	107	30	130	0.1603	10.4	50	
Chrysene	0.183	0.025	0.167	0	110	30	130	0.178	2.77	50	
Dibenz(a,h)anthracene	0.1673	0.025	0.167	0	100	30	130	0.175	4.48	50	
Fluoranthene	0.184	0.025	0.167	0	110	30	130	0.1793	2.57	50	
Fluorene	0.163	0.025	0.167	0	97.6	30	130	0.1553	4.82	50	
Indeno(1,2,3-cd)pyrene	0.168	0.025	0.167	0	101	30	130	0.1743	3.70	50	
Naphthalene	0.176	0.025	0.167	0	105	30	130	0.1607	9.11	50	
Phenanthrene	0.1877	0.025	0.167	0	112	30	130	0.179	4.73	50	
Pyrene	0.1783	0.025	0.167	0	107	30	130	0.1687	5.57	50	
Carbazole	0.109	0.025	0.167	0	65.3	30	130	0.1037	5.02	50	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT **Analysis Corporation**

PREP BATCH REPORT

Prep Start Date: **8/12/2009 7:45:54 P**
Prep End Date: **8/13/2009 1:19:58 P**

Prep Batch **43893** Prep Code: **3550_PNA** Technician: **MNG**

Prep Factor Units: **mL / Kg**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-43893-PNA			0.03	0	0	1	33.333	8/12/2009	8/12/2009
LCS-43893-PNA			0.03	0	0	1	33.333	8/12/2009	8/12/2009
LCSD-43893-PNA			0.03	0	0	1	33.333	8/12/2009	8/12/2009
09080304-041A	Solid		0.0011	0	0	1	909.091	8/12/2009	8/12/2009
09080304-042A	Solid		0.00223	0	0	1	448.430	8/12/2009	8/12/2009
09080304-043A	Solid		0.00205	0	0	1	487.805	8/12/2009	8/12/2009
09080304-044A	Solid		0.00214	0	0	1	467.290	8/12/2009	8/12/2009
09080304-045A	Solid		0.001	0	0	1	1000.000	8/12/2009	8/12/2009
09080304-046A	Solid		0.00107	0	0	1	934.579	8/12/2009	8/12/2009
09080304-047A	Solid		0.00101	0	0	1	990.099	8/12/2009	8/12/2009
09080304-048A	Solid		0.00121	0	0	1	826.446	8/12/2009	8/12/2009
09080304-049A	Solid		0.00053	0	0	1	1886.792	8/12/2009	8/12/2009
09080304-050A	Solid		0.00101	0	0	1	990.099	8/12/2009	8/12/2009
09080304-051A	Solid		0.00085	0	0	1	1176.471	8/12/2009	8/12/2009
09080304-052A	Solid		0.00101	0	0	1	990.099	8/12/2009	8/12/2009
09080304-053A	Solid		0.00103	0	0	1	970.874	8/12/2009	8/12/2009
09080304-054A	Solid		0.00112	0	0	1	892.857	8/12/2009	8/12/2009
09080304-055A	Solid		0.03	0	0	1	33.333	8/12/2009	8/12/2009
09080304-056A	Solid		0.0014	0	0	1	714.286	8/12/2009	8/12/2009
09080304-057A	Solid		0.00102	0	0	1	980.392	8/12/2009	8/12/2009
09080304-058A	Solid		0.001	0	0	1	1000.000	8/12/2009	8/12/2009
09080304-059A	Solid		0.00108	0	0	1	925.926	8/12/2009	8/12/2009
09080304-060A	Solid		0.00111	0	0	1	900.901	8/12/2009	8/12/2009

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43893

Sample ID: **MB-43893-PNA**	SampType: **MBLK**	TestCode: **PNA_SOIL+**	Units: **mg/Kg**	Prep Date: **8/12/2009**	Run ID: **SVOC-4_090814A**
Client ID: **ZZZZZ**	Batch ID: **43893**	TestNo: **SW8270C-SI**		Analysis Date: **8/14/2009**	SeqNo: **1474166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.025									
Anthracene	ND	0.025									
Benz(a)anthracene	ND	0.025									
Benzo(a)pyrene	ND	0.025									
Benzo(b)fluoranthene	ND	0.025									
Benzo(k)fluoranthene	ND	0.025									
Chrysene	ND	0.025									
Dibenz(a,h)anthracene	ND	0.025									
Fluoranthene	ND	0.025									
Fluorene	ND	0.025									
Indeno(1,2,3-cd)pyrene	ND	0.025									
Naphthalene	0.004	0.025									J
Phenanthrene	ND	0.025									
Pyrene	ND	0.025									
Carbazole	ND	0.025									

Sample ID: **LCS-43893-PNA**	SampType: **LCS**	TestCode: **PNA_SOIL+**	Units: **mg/Kg**	Prep Date: **8/12/2009**	Run ID: **SVOC-4_090814A**
Client ID: **ZZZZZ**	Batch ID: **43893**	TestNo: **SW8270C-SI**		Analysis Date: **8/14/2009**	SeqNo: **1474167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.1433	0.025	0.167	0	85.8	30	130	0	0		
Anthracene	0.1383	0.025	0.167	0	82.8	30	130	0	0		
Benz(a)anthracene	0.1493	0.025	0.167	0	89.4	30	130	0	0		
Benzo(a)pyrene	0.06133	0.025	0.167	0	36.7	30	130	0	0		
Benzo(b)fluoranthene	0.1043	0.025	0.167	0	62.5	30	130	0	0		
Benzo(k)fluoranthene	0.05967	0.025	0.167	0	35.7	30	130	0	0		
Chrysene	0.1477	0.025	0.167	0	88.4	30	130	0	0		
Dibenz(a,h)anthracene	0.083	0.025	0.167	0	49.7	30	130	0	0		
Fluoranthene	0.151	0.025	0.167	0	90.4	30	130	0	0		
Fluorene	0.1423	0.025	0.167	0	85.2	30	130	0	0		
Indeno(1,2,3-cd)pyrene	0.08067	0.025	0.167	0	48.3	30	130	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43893

Sample ID: **LCS-43893-PNA** SampType: **LCS** TestCode: **PNA_SOIL+** Units: **mg/Kg** Prep Date: **8/12/2009** Run ID: **SVOC-4_090814A**
Client ID: **ZZZZZ** Batch ID: **43893** TestNo: **SW8270C-SI** Analysis Date: **8/14/2009** SeqNo: **1474167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.1253	0.025	0.167	0.004	72.7	30	130	0	0		
Phenanthrene	0.1423	0.025	0.167	0	85.2	30	130	0	0		
Pyrene	0.1453	0.025	0.167	0	87	30	130	0	0		
Carbazole	0.143	0.025	0.167	0	85.6	30	130	0	0		

Sample ID: **LCSD-43893-PNA** SampType: **LCSD** TestCode: **PNA_SOIL+** Units: **mg/Kg** Prep Date: **8/12/2009** Run ID: **SVOC-4_090814A**
Client ID: **ZZZZZ** Batch ID: **43893** TestNo: **SW8270C-SI** Analysis Date: **8/14/2009** SeqNo: **1474168**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.1433	0.025	0.167	0	85.8	30	130	0.1433	0	50	
Anthracene	0.12	0.025	0.167	0	71.9	30	130	0.1383	14.2	50	
Benz(a)anthracene	0.1593	0.025	0.167	0	95.4	30	130	0.1493	6.48	50	
Benzo(a)pyrene	0.06733	0.025	0.167	0	40.3	30	130	0.06133	9.33	50	
Benzo(b)fluoranthene	0.1113	0.025	0.167	0	66.7	30	130	0.1043	6.49	50	
Benzo(k)fluoranthene	0.081	0.025	0.167	0	48.5	30	130	0.05967	30.3	50	
Chrysene	0.1553	0.025	0.167	0	93	30	130	0.1477	5.06	50	
Dibenz(a,h)anthracene	0.09433	0.025	0.167	0	56.5	30	130	0.083	12.8	50	
Fluoranthene	0.1597	0.025	0.167	0	95.6	30	130	0.151	5.58	50	
Fluorene	0.15	0.025	0.167	0	89.8	30	130	0.1423	5.25	50	
Indeno(1,2,3-cd)pyrene	0.091	0.025	0.167	0	54.5	30	130	0.08067	12.0	50	
Naphthalene	0.128	0.025	0.167	0.004	74.3	30	130	0.1253	2.11	50	
Phenanthrene	0.141	0.025	0.167	0	84.4	30	130	0.1423	0.941	50	
Pyrene	0.1547	0.025	0.167	0	92.6	30	130	0.1453	6.22	50	
Carbazole	0.1507	0.025	0.167	0	90.2	30	130	0.143	5.22	50	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT **Analysis Corporation**

PREP BATCH REPORT

Prep Start Date: **8/12/2009 9:51:31 P**
Prep End Date: **8/13/2009 1:20:07 P**

Prep Batch **43902** Prep Code: **3550_PNA** Technician: **YAF**

Prep Factor Units: **mL / Kg**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-43902-PNA			0.03	0	0	1	33.333	8/12/2009	8/13/2009
LCS-43902-PNA			0.03	0	0	1	33.333	8/12/2009	8/13/2009
LCSD-43902-PNA			0.03	0	0	1	33.333	8/12/2009	8/13/2009
09080304-061A	Solid		0.00296	0	0	1	337.838	8/12/2009	8/13/2009
09080304-062A	Solid		0.00233	0	0	1	429.185	8/12/2009	8/13/2009
09080304-063A	Solid		0.00194	0	0	1	515.464	8/12/2009	8/13/2009
09080304-064A	Solid		0.00187	0	0	1	534.759	8/12/2009	8/13/2009
09080304-065A	Solid		0.00294	0	0	1	340.136	8/12/2009	8/13/2009
09080304-066A	Solid		0.00234	0	0	1	427.350	8/12/2009	8/13/2009
09080304-067A	Solid		0.00313	0	0	1	319.489	8/12/2009	8/13/2009
09080304-068A	Solid		0.00219	0	0	1	456.621	8/12/2009	8/13/2009
09080304-069A	Solid		0.00269	0	0	1	371.747	8/12/2009	8/13/2009
09080304-070A	Solid		0.00167	0	0	1	598.802	8/12/2009	8/13/2009
09080304-071A	Solid		0.00206	0	0	1	485.437	8/12/2009	8/13/2009
09080304-072A	Solid		0.00196	0	0	1	510.204	8/12/2009	8/13/2009
09080304-073A	Solid		0.00207	0	0	1	483.092	8/12/2009	8/13/2009
09080304-074A	Solid		0.01156	0	0	1	86.505	8/12/2009	8/13/2009
09080304-075A	Solid		0.01257	0	0	1	79.554	8/12/2009	8/13/2009
09080304-076A	Solid		0.00461	0	0	1	216.920	8/12/2009	8/13/2009
09080304-077A	Solid		0.0102	0	0	1	98.039	8/12/2009	8/13/2009
09080305-001A	Solid		0.00202	0	0	1	495.050	8/12/2009	8/13/2009
09080305-002A	Solid		0.00134	0	0	1	746.269	8/12/2009	8/13/2009
09080305-003A	Solid		0.00191	0	0	1	523.560	8/12/2009	8/13/2009

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43902

Sample ID: **MB-43902-PNA** SampType: **MBLK** TestCode: **PNA_SOIL+** Units: **mg/Kg** Prep Date: **8/12/2009** Run ID: **SVOC-4_090817A**
Client ID: **ZZZZZ** Batch ID: **43902** TestNo: **SW8270C-SI** Analysis Date: **8/17/2009** SeqNo: **1476346**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.025									
Anthracene	ND	0.025									
Benz(a)anthracene	ND	0.025									
Benzo(a)pyrene	ND	0.025									
Benzo(b)fluoranthene	ND	0.025									
Benzo(k)fluoranthene	ND	0.025									
Chrysene	ND	0.025									
Dibenz(a,h)anthracene	ND	0.025									
Fluoranthene	ND	0.025									
Fluorene	ND	0.025									
Indeno(1,2,3-cd)pyrene	ND	0.025									
Naphthalene	ND	0.025									
Phenanthrene	ND	0.025									
Pyrene	ND	0.025									
Carbazole	ND	0.025									

Sample ID: **LCS-43902-PNA** SampType: **LCS** TestCode: **PNA_SOIL+** Units: **mg/Kg** Prep Date: **8/12/2009** Run ID: **SVOC-4_090817A**
Client ID: **ZZZZZ** Batch ID: **43902** TestNo: **SW8270C-SI** Analysis Date: **8/17/2009** SeqNo: **1476347**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.1293	0.025	0.167	0	77.4	30	130	0	0		
Anthracene	0.1183	0.025	0.167	0	70.9	30	130	0	0		
Benz(a)anthracene	0.1317	0.025	0.167	0	78.8	30	130	0	0		
Benzo(a)pyrene	0.1423	0.025	0.167	0	85.2	30	130	0	0		
Benzo(b)fluoranthene	0.137	0.025	0.167	0	82	30	130	0	0		
Benzo(k)fluoranthene	0.1447	0.025	0.167	0	86.6	30	130	0	0		
Chrysene	0.132	0.025	0.167	0	79	30	130	0	0		
Dibenz(a,h)anthracene	0.1563	0.025	0.167	0	93.6	30	130	0	0		
Fluoranthene	0.1353	0.025	0.167	0	81	30	130	0	0		
Fluorene	0.1367	0.025	0.167	0	81.8	30	130	0	0		
Indeno(1,2,3-cd)pyrene	0.157	0.025	0.167	0	94	30	130	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43902

Sample ID: **LCS-43902-PNA** SampType: **LCS** TestCode: **PNA_SOIL+** Units: **mg/Kg** Prep Date: **8/12/2009** Run ID: **SVOC-4_090817A**
Client ID: **ZZZZZ** Batch ID: **43902** TestNo: **SW8270C-SI** Analysis Date: **8/17/2009** SeqNo: **1476347**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	0.1223	0.025	0.167	0	73.3	30	130	0	0		
Phenanthrene	0.1293	0.025	0.167	0	77.4	30	130	0	0		
Pyrene	0.131	0.025	0.167	0	78.4	30	130	0	0		
Carbazole	0.073	0.025	0.167	0	43.7	30	130	0	0		

Sample ID: **LCSD-43902-PNA** SampType: **LCSD** TestCode: **PNA_SOIL+** Units: **mg/Kg** Prep Date: **8/12/2009** Run ID: **SVOC-4_090817A**
Client ID: **ZZZZZ** Batch ID: **43902** TestNo: **SW8270C-SI** Analysis Date: **8/17/2009** SeqNo: **1476348**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	0.132	0.025	0.167	0	79	30	130	0.1293	2.04	50	
Anthracene	0.12	0.025	0.167	0	71.9	30	130	0.1183	1.40	50	
Benz(a)anthracene	0.1313	0.025	0.167	0	78.6	30	130	0.1317	0.253	50	
Benzo(a)pyrene	0.142	0.025	0.167	0	85	30	130	0.1423	0.234	50	
Benzo(b)fluoranthene	0.1377	0.025	0.167	0	82.4	30	130	0.137	0.485	50	
Benzo(k)fluoranthene	0.141	0.025	0.167	0	84.4	30	130	0.1447	2.57	50	
Chrysene	0.1327	0.025	0.167	0	79.4	30	130	0.132	0.504	50	
Dibenz(a,h)anthracene	0.155	0.025	0.167	0	92.8	30	130	0.1563	0.857	50	
Fluoranthene	0.1383	0.025	0.167	0	82.8	30	130	0.1353	2.19	50	
Fluorene	0.1337	0.025	0.167	0	80	30	130	0.1367	2.22	50	
Indeno(1,2,3-cd)pyrene	0.155	0.025	0.167	0	92.8	30	130	0.157	1.28	50	
Naphthalene	0.1213	0.025	0.167	0	72.7	30	130	0.1223	0.821	50	
Phenanthrene	0.132	0.025	0.167	0	79	30	130	0.1293	2.04	50	
Pyrene	0.138	0.025	0.167	0	82.6	30	130	0.131	5.20	50	
Carbazole	0.07367	0.025	0.167	0	44.1	30	130	0.073	0.909	50	

Qualifiers:
ND - Not Detected at the Reporting Limit
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
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E - Value above quantitation range

STAT **Analysis Corporation**

PREP BATCH REPORT

Prep Start Date: **8/13/2009 9:45:00 A**
Prep End Date: **8/13/2009 12:45:00**

Prep Batch **43906** Prep Code: **M_S_PREP** Technician: **PN**

Prep Factor Units: **mL / g**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
IMBS1 8/13/09			1	0	0	50	50.000	8/13/2009	8/13/2009
ILCSS1 8/13/09			1	0	0	50	50.000	8/13/2009	8/13/2009
09080304-021A	Solid		1.079	0	0	50	46.339	8/13/2009	8/13/2009
09080304-022A	Solid		1.059	0	0	50	47.214	8/13/2009	8/13/2009
09080304-023A	Solid		1.047	0	0	50	47.755	8/13/2009	8/13/2009
09080304-024A	Solid		1.041	0	0	50	48.031	8/13/2009	8/13/2009
09080304-025A	Solid		1.032	0	0	50	48.450	8/13/2009	8/13/2009
09080304-040A	Solid		1.098	0	0	50	45.537	8/13/2009	8/13/2009
09080304-041A	Solid		1.026	0	0	50	48.733	8/13/2009	8/13/2009
09080304-042A	Solid		1.071	0	0	50	46.685	8/13/2009	8/13/2009
09080304-043A	Solid		1.164	0	0	50	42.955	8/13/2009	8/13/2009
09080304-044A	Solid		1.136	0	0	50	44.014	8/13/2009	8/13/2009
09080304-072A	Solid		1.104	0	0	50	45.290	8/13/2009	8/13/2009
09080304-073A	Solid		1.106	0	0	50	45.208	8/13/2009	8/13/2009
09080304-074A	Solid		1.008	0	0	50	49.603	8/13/2009	8/13/2009
09080304-075A	Solid		1.085	0	0	50	46.083	8/13/2009	8/13/2009
09080304-076A	Solid		1.153	0	0	50	43.365	8/13/2009	8/13/2009
09080304-077A	Solid		1.014	0	0	50	49.310	8/13/2009	8/13/2009
09080305-031A	Solid		1.156	0	0	50	43.253	8/13/2009	8/13/2009
09080305-032A	Solid		1.082	0	0	50	46.211	8/13/2009	8/13/2009
09080305-033A	Solid		1.098	0	0	50	45.537	8/13/2009	8/13/2009
09080305-034A	Solid		1.063	0	0	50	47.037	8/13/2009	8/13/2009
09080304-074AMS	Solid		1.025	0	0	50	48.780	8/13/2009	8/13/2009
09080304-074AMSD	Solid		1.031	0	0	50	48.497	8/13/2009	8/13/2009

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43906

Sample ID: **IMBS1 8/13/09** SampType: **MBLK** TestCode: **M_ICPMS_S** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **ICPMS_090813B**
Client ID: **ZZZZZ** Batch ID: **43906** TestNo: **SW6020** Analysis Date: **8/13/2009** SeqNo: **1473019**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.50									
Barium	ND	0.50									
Cadmium	ND	0.25									
Chromium	ND	0.50									
Copper	ND	1.2									
Lead	ND	0.25									
Nickel	ND	0.50									
Selenium	ND	0.50									
Silver	0.3145	0.50									J
Zinc	ND	2.5									

Sample ID: **ILCSS1 8/13/09** SampType: **LCS** TestCode: **M_ICPMS_S** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **ICPMS_090813B**
Client ID: **ZZZZZ** Batch ID: **43906** TestNo: **SW6020** Analysis Date: **8/13/2009** SeqNo: **1473020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	25.12	0.50	25	0	100	80	120	0	0		
Barium	25.16	0.50	25	0	101	80	120	0	0		
Cadmium	24.84	0.25	25	0	99.3	80	120	0	0		
Chromium	25.49	0.50	25	0	102	80	120	0	0		
Copper	24.71	1.2	25	0	98.8	80	120	0	0		
Lead	25.8	0.25	25	0	103	80	120	0	0		
Nickel	24.71	0.50	25	0	98.8	80	120	0	0		
Selenium	23.7	0.50	25	0	94.8	80	120	0	0		
Silver	11.14	0.50	10	0.3145	108	80	120	0	0		
Zinc	23.55	2.5	25	0	94.2	80	120	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43906

Sample ID: **09080304-074AMS** SampType: **MS** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/13/2009** Run ID: **ICPMS_090813B**
Client ID: **74 BCTB SITE 2** Batch ID: **43906** TestNo: **SW6020** Analysis Date: **8/13/2009** SeqNo: **1473026**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	79.1	3.0	75.05	9.187	93.2	75	125	0	0		HT
Barium	360.8	3.0	75.05	393.8	-43.9	75	125	0	0		SHT
Cadmium	82.4	1.5	75.05	9.461	97.2	75	125	0	0		HT
Chromium	186.9	3.0	75.05	728.6	-722	75	125	0	0		SHT
Copper	357.5	7.5	75.05	342.2	20.4	75	125	0	0		SHT
Lead	467.8	1.5	75.05	3445	-3970	75	125	0	0		SHT
Nickel	116.7	3.0	75.05	55.3	81.8	75	125	0	0		HT
Selenium	70.29	3.0	75.05	1.658	91.5	75	125	0	0		HT
Silver	39.83	3.0	30.02	15.29	81.8	75	125	0	0		HT

Sample ID: **09080304-074AMS** SampType: **MS** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/13/2009** Run ID: **ICPMS_090814A**
Client ID: **74 BCTB SITE 2** Batch ID: **43906** TestNo: **SW6020** Analysis Date: **8/14/2009** SeqNo: **1473842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	1043	30	75.05	976.5	89.2	75	125	0	0		HT

Sample ID: **09080304-074AMSD** SampType: **MSD** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/13/2009** Run ID: **ICPMS_090813B**
Client ID: **74 BCTB SITE 2** Batch ID: **43906** TestNo: **SW6020** Analysis Date: **8/13/2009** SeqNo: **1473031**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	80.76	3.0	74.61	9.187	95.9	75	125	79.1	2.08	20	HT
Barium	387.7	3.0	74.61	393.8	-8.17	75	125	360.8	7.17	20	SHT
Cadmium	84.56	1.5	74.61	9.461	101	75	125	82.4	2.59	20	HT
Chromium	193.7	3.0	74.61	728.6	-717	75	125	186.9	3.58	20	SHT
Copper	369.9	7.5	74.61	342.2	37.2	75	125	357.5	3.41	20	SHT
Lead	503.5	1.5	74.61	3445	-3940	75	125	467.8	7.34	20	SHT
Nickel	122.6	3.0	74.61	55.3	90.2	75	125	116.7	4.97	20	HT
Selenium	66.57	3.0	74.61	1.658	87	75	125	70.29	5.44	20	HT
Silver	45.39	3.0	29.84	15.29	101	75	125	39.83	13.0	20	HT

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43906

Sample ID: **09080304-074AMSD** SampType: **MSD** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/13/2009** Run ID: **ICPMS_090814A**
Client ID: **74 BCTB SITE 2** Batch ID: **43906** TestNo: **SW6020** Analysis Date: **8/14/2009** SeqNo: **1473843**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	1095	30	74.61	976.5	158	75	125	1043	4.78	20	SHT

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT **Analysis Corporation**

PREP BATCH REPORT

Prep Start Date: **8/13/2009 1:10:00 P**
Prep End Date: **8/13/2009 4:00:00 P**

Prep Batch **43924** Prep Code: **M_S_PREP** Technician: **PN**

Prep Factor Units: **mL / g**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
IMBS3 8/13/09			1	0	0	50	50.000	8/13/2009	8/13/2009
ILCSS3 8/13/09			1	0	0	50	50.000	8/13/2009	8/13/2009
ILCSDS3 8/13/09			1	0	0	50	50.000	8/13/2009	8/13/2009
09080304-026A	Solid		1.057	0	0	50	47.304	8/13/2009	8/13/2009
09080304-027A	Solid		1.06	0	0	50	47.170	8/13/2009	8/13/2009
09080304-028A	Solid		1.039	0	0	50	48.123	8/13/2009	8/13/2009
09080304-029A	Solid		1.022	0	0	50	48.924	8/13/2009	8/13/2009
09080304-030A	Solid		1.132	0	0	50	44.170	8/13/2009	8/13/2009
09080304-031A	Solid		1.027	0	0	50	48.685	8/13/2009	8/13/2009
09080304-032A	Solid		1	0	0	50	50.000	8/13/2009	8/13/2009
09080304-033A	Solid		1.016	0	0	50	49.213	8/13/2009	8/13/2009
09080304-034A	Solid		1.083	0	0	50	46.168	8/13/2009	8/13/2009
09080304-035A	Solid		1.163	0	0	50	42.992	8/13/2009	8/13/2009
09080304-036A	Solid		1.047	0	0	50	47.755	8/13/2009	8/13/2009
09080304-037A	Solid		1.064	0	0	50	46.992	8/13/2009	8/13/2009
09080304-038A	Solid		1.055	0	0	50	47.393	8/13/2009	8/13/2009
09080304-039A	Solid		1.128	0	0	50	44.326	8/13/2009	8/13/2009
09080304-049A	Solid		1.001	0	0	50	49.950	8/13/2009	8/13/2009
09080304-050A	Solid		1.065	0	0	50	46.948	8/13/2009	8/13/2009
09080304-051A	Solid		1.131	0	0	50	44.209	8/13/2009	8/13/2009
09080304-052A	Solid		1.028	0	0	50	48.638	8/13/2009	8/13/2009
09080304-053A	Solid		1.129	0	0	50	44.287	8/13/2009	8/13/2009
09080304-054A	Solid		1.078	0	0	50	46.382	8/13/2009	8/13/2009

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43924

Sample ID: **IMBS3 8/13/09** SampType: **MBLK** TestCode: **M_ICPMS_S** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **ICPMS_090813B**
Client ID: **ZZZZZ** Batch ID: **43924** TestNo: **SW6020** Analysis Date: **8/13/2009** SeqNo: **1473058**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.50									
Barium	ND	0.50									
Cadmium	ND	0.25									
Chromium	ND	0.50									
Copper	ND	1.2									
Lead	ND	0.25									
Nickel	ND	0.50									
Selenium	ND	0.50									
Silver	0.3075	0.50									J
Zinc	ND	2.5									

Sample ID: **ILCSS3 8/13/09** SampType: **LCS** TestCode: **M_ICPMS_S** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **ICPMS_090814A**
Client ID: **ZZZZZ** Batch ID: **43924** TestNo: **SW6020** Analysis Date: **8/14/2009** SeqNo: **1473844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	24.8	0.50	25	0	99.2	80	120	0	0		
Barium	25.48	0.50	25	0	102	80	120	0	0		
Cadmium	24.66	0.25	25	0	98.6	80	120	0	0		
Chromium	25.3	0.50	25	0	101	80	120	0	0		
Copper	23.6	1.2	25	0	94.4	80	120	0	0		
Lead	25.74	0.25	25	0	103	80	120	0	0		
Nickel	23.84	0.50	25	0	95.4	80	120	0	0		
Selenium	24.17	0.50	25	0	96.7	80	120	0	0		
Silver	11.15	0.50	10	0.3075	108	80	120	0	0		
Zinc	22.18	2.5	25	0	88.7	80	120	0	0		

Sample ID: **ILCSDS3 8/13/09** SampType: **LCSD** TestCode: **M_ICPMS_S** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **ICPMS_090814A**
Client ID: **ZZZZZ** Batch ID: **43924** TestNo: **SW6020** Analysis Date: **8/14/2009** SeqNo: **1473845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	24.76	0.50	25	0	99	80	120	24.8	0.161	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43924

Sample ID: **ILCSDS3 8/13/09** SampType: **LCSD** TestCode: **M_ICPMS_S** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **ICPMS_090814A**
Client ID: **ZZZZZ** Batch ID: **43924** TestNo: **SW6020** Analysis Date: **8/14/2009** SeqNo: **1473845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	25.5	0.50	25	0	102	80	120	25.48	0.0981	20	
Cadmium	24.86	0.25	25	0	99.4	80	120	24.66	0.808	20	
Chromium	25.28	0.50	25	0	101	80	120	25.3	0.0791	20	
Copper	23.78	1.2	25	0	95.1	80	120	23.6	0.718	20	
Lead	25.54	0.25	25	0	102	80	120	25.74	0.780	20	
Nickel	24.1	0.50	25	0	96.4	80	120	23.84	1.06	20	
Selenium	24.14	0.50	25	0	96.6	80	120	24.17	0.0828	20	
Silver	11.04	0.50	10	0.3075	107	80	120	11.15	0.947	20	
Zinc	22.52	2.5	25	0	90.1	80	120	22.18	1.52	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT **Analysis Corporation**

PREP BATCH REPORT

Prep Start Date: **8/14/2009 1:35:00 P**
Prep End Date: **8/14/2009 4:05:00 P**

Prep Batch **43954** Prep Code: **M_S_PREP** Technician: **PN**

Prep Factor Units: **mL / g**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
IMBS3 8/14/09			1	0	0	50	50.000	8/14/2009	8/14/2009
ILCSS3 8/14/09			1	0	0	50	50.000	8/14/2009	8/14/2009
09080304-056A	Solid		1.069	0	0	50	46.773	8/14/2009	8/14/2009
09080304-057A	Solid		1.032	0	0	50	48.450	8/14/2009	8/14/2009
09080304-058A	Solid		1.056	0	0	50	47.348	8/14/2009	8/14/2009
09080304-059A	Solid		1.147	0	0	50	43.592	8/14/2009	8/14/2009
09080304-060A	Solid		1.08	0	0	50	46.296	8/14/2009	8/14/2009
09080304-069A	Solid		1.02	0	0	50	49.020	8/14/2009	8/14/2009
09080304-070A	Solid		1.149	0	0	50	43.516	8/14/2009	8/14/2009
09080304-071A	Solid		1.01	0	0	50	49.505	8/14/2009	8/14/2009
09080305-035A	Solid		1.014	0	0	50	49.310	8/14/2009	8/14/2009
09080456-011B	Soil		1.031	0	0	50	48.497	8/14/2009	8/14/2009
09080456-012B	Soil		1.014	0	0	50	49.310	8/14/2009	8/14/2009
09080456-013B	Soil		1.05	0	0	50	47.619	8/14/2009	8/14/2009
09080456-014B	Soil		1.011	0	0	50	49.456	8/14/2009	8/14/2009
09080456-015B	Soil		1.007	0	0	50	49.652	8/14/2009	8/14/2009
09080456-011BMS	Soil		1.018	0	0	50	49.116	8/14/2009	8/14/2009
09080456-011BMSD	Soil		1.011	0	0	50	49.456	8/14/2009	8/14/2009
09070800-018B	Soil		1.017	0	0	50	49.164	8/14/2009	8/14/2009
09070800-020B	Soil		1.043	0	0	50	47.939	8/14/2009	8/14/2009
09070860-019B	Soil		1.112	0	0	50	44.964	8/14/2009	8/14/2009
09070860-021B	Soil		1.08	0	0	50	46.296	8/14/2009	8/14/2009

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43954

Sample ID: **IMBS3 8/14/09** SampType: **MBLK** TestCode: **M_ICPMS_S** Units: **mg/Kg** Prep Date: **8/14/2009** Run ID: **ICPMS_090814B**
Client ID: **ZZZZZ** Batch ID: **43954** TestNo: **SW6020** Analysis Date: **8/14/2009** SeqNo: **1474403**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.50									
Barium	ND	0.50									
Cadmium	ND	0.25									
Chromium	ND	0.50									
Copper	ND	1.2									
Lead	ND	0.25									
Nickel	ND	0.50									
Selenium	ND	0.50									
Silver	0.155	0.50									J
Zinc	ND	2.5									

Sample ID: **ILCSS3 8/14/09** SampType: **LCS** TestCode: **M_ICPMS_S** Units: **mg/Kg** Prep Date: **8/14/2009** Run ID: **ICPMS_090814B**
Client ID: **ZZZZZ** Batch ID: **43954** TestNo: **SW6020** Analysis Date: **8/14/2009** SeqNo: **1474404**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	25.13	0.50	25	0	101	80	120	0	0		
Barium	25.5	0.50	25	0	102	80	120	0	0		
Cadmium	25.4	0.25	25	0	102	80	120	0	0		
Chromium	25.65	0.50	25	0	103	80	120	0	0		
Copper	24.46	1.2	25	0	97.9	80	120	0	0		
Lead	25.9	0.25	25	0	104	80	120	0	0		
Nickel	24.63	0.50	25	0	98.5	80	120	0	0		
Selenium	24.32	0.50	25	0	97.3	80	120	0	0		
Silver	11.49	0.50	10	0.155	113	80	120	0	0		
Zinc	23.14	2.5	25	0	92.5	80	120	0	0		

Sample ID: **09080456-011BMS** SampType: **MS** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/14/2009** Run ID: **ICPMS_090814B**
Client ID: **ZZZZZ** Batch ID: **43954** TestNo: **SW6020** Analysis Date: **8/14/2009** SeqNo: **1474406**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	39.21	1.2	28.96	10.15	100	75	125	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
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R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43954

Sample ID: **09080456-011BMS** SampType: **MS** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/14/2009** Run ID: **ICPMS_090814B**
Client ID: **ZZZZZ** Batch ID: **43954** TestNo: **SW6020** Analysis Date: **8/14/2009** SeqNo: **1474406**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	99.85	1.2	28.96	65.65	118	75	125	0	0		
Cadmium	30.74	0.58	28.96	0	106	75	125	0	0		
Chromium	48.91	1.2	28.96	20.68	97.5	75	125	0	0		
Copper	47.83	2.9	28.96	22.9	86.1	75	125	0	0		
Lead	44.92	0.58	28.96	14.47	105	75	125	0	0		
Nickel	57.36	1.2	28.96	32.66	85.3	75	125	0	0		
Selenium	27.47	1.2	28.96	0	94.9	75	125	0	0		
Silver	12.97	1.2	11.58	0.517	107	75	125	0	0		
Zinc	74.54	5.8	28.96	51.03	81.2	75	125	0	0		

Sample ID: **09080456-011BMSD** SampType: **MSD** TestCode: **M_ICPMS_S** Units: **mg/Kg-dry** Prep Date: **8/14/2009** Run ID: **ICPMS_090814B**
Client ID: **ZZZZZ** Batch ID: **43954** TestNo: **SW6020** Analysis Date: **8/14/2009** SeqNo: **1474407**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	39.4	1.2	29.16	10.15	100	75	125	39.21	0.483	20	
Barium	96.87	1.2	29.16	65.65	107	75	125	99.85	3.03	20	
Cadmium	30	0.58	29.16	0	103	75	125	30.74	2.45	20	
Chromium	48.87	1.2	29.16	20.68	96.7	75	125	48.91	0.0708	20	
Copper	48.59	2.9	29.16	22.9	88.1	75	125	47.83	1.57	20	
Lead	45.31	0.58	29.16	14.47	106	75	125	44.92	0.857	20	
Nickel	58.67	1.2	29.16	32.66	89.2	75	125	57.36	2.25	20	
Selenium	27.25	1.2	29.16	0	93.5	75	125	27.47	0.797	20	
Silver	12.94	1.2	11.66	0.517	107	75	125	12.97	0.207	20	
Zinc	75.23	5.8	29.16	51.03	83	75	125	74.54	0.923	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT **Analysis Corporation**

PREP BATCH REPORT

Prep Start Date: **8/13/2009 4:05:00 P**
Prep End Date:

Prep Factor Units: **mL / g**

Prep Batch **43929** Prep Code: **M_HG_S_PRE** Technician: **VA**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
HGMBS1 8/13/09			0.3	0	0	30	100.000	8/13/2009	8/13/2009
HGLCSS1 8/13/09			0.3	0	0	30	100.000	8/13/2009	8/13/2009
HGLCSDS1 8/13/09			0.3	0	0	30	100.000	8/13/2009	8/13/2009
09080304-021A	Solid		0.3	0	0	30	100.000	8/13/2009	8/13/2009
09080304-022A	Solid		0.315	0	0	30	95.238	8/13/2009	8/13/2009
09080304-023A	Solid		0.327	0	0	30	91.743	8/13/2009	8/13/2009
09080304-024A	Solid		0.324	0	0	30	92.593	8/13/2009	8/13/2009
09080304-025A	Solid		0.304	0	0	30	98.684	8/13/2009	8/13/2009
09080304-026A	Solid		0.328	0	0	30	91.463	8/13/2009	8/13/2009
09080304-027A	Solid		0.306	0	0	30	98.039	8/13/2009	8/13/2009
09080304-028A	Solid		0.317	0	0	30	94.637	8/13/2009	8/13/2009
09080304-029A	Solid		0.314	0	0	30	95.541	8/13/2009	8/13/2009
09080304-030A	Solid		0.318	0	0	30	94.340	8/13/2009	8/13/2009
09080304-031A	Solid		0.325	0	0	30	92.308	8/13/2009	8/13/2009
09080304-032A	Solid		0.313	0	0	30	95.847	8/13/2009	8/13/2009
09080304-033A	Solid		0.325	0	0	30	92.308	8/13/2009	8/13/2009
09080304-034A	Solid		0.326	0	0	30	92.025	8/13/2009	8/13/2009
09080304-035A	Solid		0.303	0	0	30	99.010	8/13/2009	8/13/2009
09080304-036A	Solid		0.314	0	0	30	95.541	8/13/2009	8/13/2009
09080304-037A	Solid		0.329	0	0	30	91.185	8/13/2009	8/13/2009
09080304-038A	Solid		0.316	0	0	30	94.937	8/13/2009	8/13/2009
09080304-039A	Solid		0.305	0	0	30	98.361	8/13/2009	8/13/2009
09080304-040A	Solid		0.325	0	0	30	92.308	8/13/2009	8/13/2009

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43929

Sample ID: **HGMBS1 8/13/09** SampType: **MBLK** TestCode: **M_HG_SOLID** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **CETAC_090814A**
Client ID: **ZZZZZ** Batch ID: **43929** TestNo: **SW7471A** Analysis Date: **8/14/2009** SeqNo: **1473328**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.025									

Sample ID: **HGLCSS1 8/13/09** SampType: **LCS** TestCode: **M_HG_SOLID** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **CETAC_090814A**
Client ID: **ZZZZZ** Batch ID: **43929** TestNo: **SW7471A** Analysis Date: **8/14/2009** SeqNo: **1473329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.26	0.025	0.25	0	104	80	120	0	0		

Sample ID: **HGLCSDS1 8/13/09** SampType: **LCSD** TestCode: **M_HG_SOLID** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **CETAC_090814A**
Client ID: **ZZZZZ** Batch ID: **43929** TestNo: **SW7471A** Analysis Date: **8/14/2009** SeqNo: **1473330**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.258	0.025	0.25	0	103	80	120	0.26	0.772	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT **Analysis Corporation**

PREP BATCH REPORT

Prep Start Date: **8/13/2009 4:05:00 P**
Prep End Date:

Prep Factor Units: **mL / g**

Prep Batch **43930** Prep Code: **M_HG_S_PRE** Technician: **VA**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
HGMBS2 8/13/09			0.3	0	0	30	100.000	8/13/2009	8/13/2009
HGLCSS2 8/13/09			0.3	0	0	30	100.000	8/13/2009	8/13/2009
HGLCSDS2 8/13/09			0.3	0	0	30	100.000	8/13/2009	8/13/2009
09080304-041A	Solid		0.325	0	0	30	92.308	8/13/2009	8/13/2009
09080304-042A	Solid		0.303	0	0	30	99.010	8/13/2009	8/13/2009
09080304-043A	Solid		0.307	0	0	30	97.720	8/13/2009	8/13/2009
09080304-044A	Solid		0.32	0	0	30	93.750	8/13/2009	8/13/2009
09080304-049A	Solid		0.306	0	0	30	98.039	8/13/2009	8/13/2009
09080304-050A	Solid		0.33	0	0	30	90.909	8/13/2009	8/13/2009
09080304-051A	Solid		0.312	0	0	30	96.154	8/13/2009	8/13/2009
09080304-052A	Solid		0.3	0	0	30	100.000	8/13/2009	8/13/2009
09080304-053A	Solid		0.3	0	0	30	100.000	8/13/2009	8/13/2009
09080304-054A	Solid		0.316	0	0	30	94.937	8/13/2009	8/13/2009
09080304-000A	Solid		0.3	0	0	30	100.000	8/13/2009	8/13/2009
09080304-056A	Solid		0.318	0	0	30	94.340	8/13/2009	8/13/2009
09080304-057A	Solid		0.302	0	0	30	99.338	8/13/2009	8/13/2009
09080304-058A	Solid		0.318	0	0	30	94.340	8/13/2009	8/13/2009
09080304-059A	Solid		0.323	0	0	30	92.879	8/13/2009	8/13/2009
09080304-060A	Solid		0.33	0	0	30	90.909	8/13/2009	8/13/2009
09080304-069A	Solid		0.3	0	0	30	100.000	8/13/2009	8/13/2009
09080304-070A	Solid		0.318	0	0	30	94.340	8/13/2009	8/13/2009
09080304-071A	Solid		0.303	0	0	30	99.010	8/13/2009	8/13/2009
09080304-072A	Solid		0.318	0	0	30	94.340	8/13/2009	8/13/2009

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43930

Sample ID: **HGMBS2 8/13/09** SampType: **MBLK** TestCode: **M_HG_SOLID** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **CETAC_090814B**
Client ID: **ZZZZZ** Batch ID: **43930** TestNo: **SW7471A** Analysis Date: **8/14/2009** SeqNo: **1473532**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.025									

Sample ID: **HGLCSS2 8/13/09** SampType: **LCS** TestCode: **M_HG_SOLID** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **CETAC_090814B**
Client ID: **ZZZZZ** Batch ID: **43930** TestNo: **SW7471A** Analysis Date: **8/14/2009** SeqNo: **1473533**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.258	0.025	0.25	0	103	80	120	0	0		

Sample ID: **HGLCSDS2 8/13/09** SampType: **LCSD** TestCode: **M_HG_SOLID** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **CETAC_090814B**
Client ID: **ZZZZZ** Batch ID: **43930** TestNo: **SW7471A** Analysis Date: **8/14/2009** SeqNo: **1473534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.26	0.025	0.25	0	104	80	120	0.258	0.772	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT **Analysis Corporation**

PREP BATCH REPORT

Prep Start Date: **8/13/2009 4:30:00 P**
Prep End Date:

Prep Batch **43932** Prep Code: **M_HG_S_PRE** Technician: **VA**

Prep Factor Units: **mL / g**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
HGMBS3 8/13/09			0.3	0	0	30	100.000	8/13/2009	8/13/2009
HGLCSS3 8/13/09			0.3	0	0	30	100.000	8/13/2009	8/13/2009
HGLCSDS3 8/13/09			0.3	0	0	30	100.000	8/13/2009	8/13/2009
09080304-073A	Solid		0.304	0	0	30	98.684	8/13/2009	8/13/2009
09080304-074A	Solid		0.315	0	0	30	95.238	8/13/2009	8/13/2009
09080304-075A	Solid		0.309	0	0	30	97.087	8/13/2009	8/13/2009
09080304-076A	Solid		0.32	0	0	30	93.750	8/13/2009	8/13/2009
09080304-077A	Solid		0.303	0	0	30	99.010	8/13/2009	8/13/2009
09080305-011A	Solid		0.309	0	0	30	97.087	8/13/2009	8/13/2009
09080305-012A	Solid		0.305	0	0	30	98.361	8/13/2009	8/13/2009
09080305-013A	Solid		0.303	0	0	30	99.010	8/13/2009	8/13/2009
09080305-014A	Solid		0.324	0	0	30	92.593	8/13/2009	8/13/2009
09080305-015A	Solid		0.321	0	0	30	93.458	8/13/2009	8/13/2009
09080305-016A	Solid		0.329	0	0	30	91.185	8/13/2009	8/13/2009
09080305-017A	Solid		0.321	0	0	30	93.458	8/13/2009	8/13/2009
09080305-018A	Solid		0.324	0	0	30	92.593	8/13/2009	8/13/2009
09080305-019A	Solid		0.326	0	0	30	92.025	8/13/2009	8/13/2009
09080305-020A	Solid		0.318	0	0	30	94.340	8/13/2009	8/13/2009
09080305-021A	Solid		0.313	0	0	30	95.847	8/13/2009	8/13/2009
09080305-022A	Solid		0.312	0	0	30	96.154	8/13/2009	8/13/2009
09080305-023A	Solid		0.319	0	0	30	94.044	8/13/2009	8/13/2009
09080305-024A	Solid		0.316	0	0	30	94.937	8/13/2009	8/13/2009
09080305-025A	Solid		0.316	0	0	30	94.937	8/13/2009	8/13/2009

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: 43932

Sample ID: **HGMBS3 8/13/09** SampType: **MBLK** TestCode: **M_HG_SOLID** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **CETAC_090814B**
Client ID: **ZZZZZ** Batch ID: **43932** TestNo: **SW7471A** Analysis Date: **8/14/2009** SeqNo: **1473558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.006	0.025									J

Sample ID: **HGLCSS3 8/13/09** SampType: **LCS** TestCode: **M_HG_SOLID** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **CETAC_090814B**
Client ID: **ZZZZZ** Batch ID: **43932** TestNo: **SW7471A** Analysis Date: **8/14/2009** SeqNo: **1473559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.267	0.025	0.25	0.006	104	80	120	0	0		

Sample ID: **HGLCSDS3 8/13/09** SampType: **LCSD** TestCode: **M_HG_SOLID** Units: **mg/Kg** Prep Date: **8/13/2009** Run ID: **CETAC_090814B**
Client ID: **ZZZZZ** Batch ID: **43932** TestNo: **SW7471A** Analysis Date: **8/14/2009** SeqNo: **1473560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.268	0.025	0.25	0.006	105	80	120	0.267	0.374	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: R56530

Sample ID: **PMMBK4 8/12/09**	SampType: **MBLK**	TestCode: **PMOIST**	Units: **wt%**	Prep Date: **8/12/2009**	Run ID: **BALANCE_090812D**
Client ID: **ZZZZZ**	Batch ID: **R56530**	TestNo: **D2974**		Analysis Date: **8/13/2009**	SeqNo: **1472164**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.200									*

Sample ID: **PMLCS-S4 8/12/09**	SampType: **LCS**	TestCode: **PMOIST**	Units: **wt%**	Prep Date: **8/12/2009**	Run ID: **BALANCE_090812D**
Client ID: **ZZZZZ**	Batch ID: **R56530**	TestNo: **D2974**		Analysis Date: **8/13/2009**	SeqNo: **1472165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	4.45	0.200	5	0	89	80	120	0	0		*

Sample ID: **PMLCS-W4 8/12/09**	SampType: **LCS**	TestCode: **PMOIST**	Units: **wt%**	Prep Date: **8/12/2009**	Run ID: **BALANCE_090812D**
Client ID: **ZZZZZ**	Batch ID: **R56530**	TestNo: **D2974**		Analysis Date: **8/13/2009**	SeqNo: **1472167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	99.77	0.200	99.8	0	100	80	120	0	0		*

Sample ID: **PMLCSD-S4 8/12/09**	SampType: **LCSD**	TestCode: **PMOIST**	Units: **wt%**	Prep Date: **8/12/2009**	Run ID: **BALANCE_090812D**
Client ID: **ZZZZZ**	Batch ID: **R56530**	TestNo: **D2974**		Analysis Date: **8/13/2009**	SeqNo: **1472166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	4.84	0.200	5	0	96.8	80	120	4.45	8.40	20	*

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: R56531

Sample ID: **PMMBK5 8/12/09**	SampType: **MBLK**	TestCode: **PMOIST**	Units: **wt%**	Prep Date: **8/12/2009**	Run ID: **BALANCE_090812E**
Client ID: **ZZZZZ**	Batch ID: **R56531**	TestNo: **D2974**		Analysis Date: **8/13/2009**	SeqNo: **1472188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.200									*

Sample ID: **PMLCS-S5 8/12/09**	SampType: **LCS**	TestCode: **PMOIST**	Units: **wt%**	Prep Date: **8/12/2009**	Run ID: **BALANCE_090812E**
Client ID: **ZZZZZ**	Batch ID: **R56531**	TestNo: **D2974**		Analysis Date: **8/13/2009**	SeqNo: **1472189**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	4.65	0.200	5	0	93	80	120	0	0		*

Sample ID: **PMLCS-W5 8/12/09**	SampType: **LCS**	TestCode: **PMOIST**	Units: **wt%**	Prep Date: **8/12/2009**	Run ID: **BALANCE_090812E**
Client ID: **ZZZZZ**	Batch ID: **R56531**	TestNo: **D2974**		Analysis Date: **8/13/2009**	SeqNo: **1472191**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	99.72	0.200	99.8	0	99.9	80	120	0	0		*

Sample ID: **PMLCSD-S5 8/12/09**	SampType: **LCSD**	TestCode: **PMOIST**	Units: **wt%**	Prep Date: **8/12/2009**	Run ID: **BALANCE_090812E**
Client ID: **ZZZZZ**	Batch ID: **R56531**	TestNo: **D2974**		Analysis Date: **8/13/2009**	SeqNo: **1472190**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	4.59	0.200	5	0	91.8	80	120	4.65	1.30	20	*

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: R56532

Sample ID: **PMMBK6 8/12/09** SampType: **MBLK** TestCode: **PMOIST** Units: **wt%** Prep Date: **8/12/2009** Run ID: **BALANCE_090812F**
Client ID: **ZZZZZ** Batch ID: **R56532** TestNo: **D2974** Analysis Date: **8/13/2009** SeqNo: **1472212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.200									*

Sample ID: **PMLCS-S6 8/12/09** SampType: **LCS** TestCode: **PMOIST** Units: **wt%** Prep Date: **8/12/2009** Run ID: **BALANCE_090812F**
Client ID: **ZZZZZ** Batch ID: **R56532** TestNo: **D2974** Analysis Date: **8/13/2009** SeqNo: **1472213**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	4.52	0.200	5	0	90.4	80	120	0	0		*

Sample ID: **PMLCS-W 8/12/09** SampType: **LCS** TestCode: **PMOIST** Units: **wt%** Prep Date: **8/12/2009** Run ID: **BALANCE_090812F**
Client ID: **ZZZZZ** Batch ID: **R56532** TestNo: **D2974** Analysis Date: **8/13/2009** SeqNo: **1472215**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	99.72	0.200	99.8	0	99.9	80	120	0	0		*

Sample ID: **PMLCSD-S6 8/12/09** SampType: **LCSD** TestCode: **PMOIST** Units: **wt%** Prep Date: **8/12/2009** Run ID: **BALANCE_090812F**
Client ID: **ZZZZZ** Batch ID: **R56532** TestNo: **D2974** Analysis Date: **8/13/2009** SeqNo: **1472214**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	4.58	0.200	5	0	91.6	80	120	4.52	1.32	20	*

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

CLIENT: University of Illinois at Chicago
Work Order: 09080304
Project: BC Active Capping

ANALYTICAL QC SUMMARY REPORT

BatchID: R56534

Sample ID: **PMMBK7 8/12/09**	SampType: **MBLK**	TestCode: **PMOIST**	Units: **wt%**	Prep Date: **8/12/2009**	Run ID: **BALANCE_090812G**
Client ID: **ZZZZZ**	Batch ID: **R56534**	TestNo: **D2974**		Analysis Date: **8/13/2009**	SeqNo: **1472238**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.200									*

Sample ID: **PMLCS-S7 8/12/09**	SampType: **LCS**	TestCode: **PMOIST**	Units: **wt%**	Prep Date: **8/12/2009**	Run ID: **BALANCE_090812G**
Client ID: **ZZZZZ**	Batch ID: **R56534**	TestNo: **D2974**		Analysis Date: **8/13/2009**	SeqNo: **1472239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	4.61	0.200	5	0	92.2	80	120	0	0		*

Sample ID: **PMLCS-W 8/12/09**	SampType: **LCS**	TestCode: **PMOIST**	Units: **wt%**	Prep Date: **8/12/2009**	Run ID: **BALANCE_090812G**
Client ID: **ZZZZZ**	Batch ID: **R56534**	TestNo: **D2974**		Analysis Date: **8/13/2009**	SeqNo: **1472241**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	99.7	0.200	99.8	0	99.9	80	120	0	0		*

Sample ID: **PMLCSD-S7 8/12/09**	SampType: **LCSD**	TestCode: **PMOIST**	Units: **wt%**	Prep Date: **8/12/2009**	Run ID: **BALANCE_090812G**
Client ID: **ZZZZZ**	Batch ID: **R56534**	TestNo: **D2974**		Analysis Date: **8/13/2009**	SeqNo: **1472240**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	4.49	0.200	5	0	89.8	80	120	4.61	2.64	20	*

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
* - Non Accredited Parameter
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
H/HT - Holding Time Exceeded
B - Analyte detected in the associated Method Blank
E - Value above quantitation range

STAT Analysis Corporation
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Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001;AIHA 101160; NVLAP LabCode 101202-

January 13, 2010

Department of Civil & Materials Engineering
University of Illinois at Chicago
842 West Taylor
Chicago, IL 60607
Telephone: (312) 996-4755
Fax: (312) 996-2426

RE: Active Capping, Chicago STAT Project No 08070315

Dear Pricillia Vienna:

STAT Analysis received 19 samples for the referenced project on 7/11/2008 4:20:00 PM. The analytical results are presented in the following report.

This report is revised to reflect additional analysis requested after the initial report was issued.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Craig Chawla
Project Manager

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone.This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory.

STAT Analysis Corporation

Date: January 13, 2010

Client: Department of Civil & Materials Engineering
Project: Active Capping, Chicago
Lab Order: 08070315

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
08070315-001A	1-BCCDM 13 Water		6/24/2008	7/11/2008
08070315-002A	2-BCCDM 13		6/24/2008	7/11/2008
08070315-003A	3-BCCDM 11 Water		6/24/2008	7/11/2008
08070315-004A	4-BCCDM 11		6/24/2008	7/11/2008
08070315-005A	5-BCCDM 9 Water		6/24/2008	7/11/2008
08070315-006A	6-BCCDM 9		6/24/2008	7/11/2008
08070315-007A	7-BCCDM 8 Water		6/24/2008	7/11/2008
08070315-008A	8-BCCDM 8		6/24/2008	7/11/2008
08070315-009A	9-BCCDM 4D Water		6/24/2008	7/11/2008
08070315-010A	10-BCCDM 4 Water		6/24/2008	7/11/2008
08070315-011A	11-BCCDM 4		6/24/2008	7/11/2008
08070315-012A	12-BCTB 5		6/18/2008	7/11/2008
08070315-013A	13-BCTB 10		6/19/2008	7/11/2008
08070315-014A	14-BCTB SD		6/17/2008	7/11/2008
08070315-015A	15-BCTB 13		6/17/2008	7/11/2008
08070315-016A	16-BCTB 13		6/16/2008	7/11/2008
08070315-017A	17-BCTB 10		6/16/2008	7/11/2008
08070315-018A	18-BCTB WATER		6/18/2008	7/11/2008
08070315-019A	19-BCTB WATER		6/16/2008	7/11/2008

CLIENT: Department of Civil & Materials Engineeri
Project: Active Capping, Chicago
Lab Order: 08070315

CASE NARRATIVE

The Continuing Calibration Verification (CCV) had recovery outside of control limits for the following elements:
Copper: 110% recovery (QC Limits 90-110%)
Magnesium: 114% recovery (QC Limits 90-110%)
Manganese: 114% recovery (QC Limits 90-110%)
This applies only to the Method Blank, LCS and MS/MSD for preparation batch 36312.

The Continuing Calibration Verification (CCV) had recovery outside of control limits for the following elements:
Magnesium: 110.7%, 111% recovery (QC Limits 90-110%)
This applies to the following samples:
11-BCCDM 4 (08070315-011A)
12-BCTB 5 (08070315-012A)
13-BCTB 10 (08070315-013A)
14-BCTB SD (08070315-014A)
15-BCTB 13 (08070315-015A)
16-BCTB 13 (08070315-016A)
17-BCTB 10 (08070315-017A)
18-BCTB WATER (08070315-018A)
19-BCTB WATER (08070315-019A)

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Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	1-BCCDM 13 Water
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-001A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.87		mg/Kg	10	7/17/2008
Barium	ND	0.87		mg/Kg	10	7/17/2008
Beryllium	ND	0.43		mg/Kg	10	7/17/2008
Boron	ND	8.7		mg/Kg	10	7/17/2008
Cadmium	ND	0.43		mg/Kg	10	7/17/2008
Chromium	ND	0.87		mg/Kg	10	7/17/2008
Cobalt	ND	0.87		mg/Kg	10	7/17/2008
Copper	ND	2.2		mg/Kg	10	7/17/2008
Iron	ND	26		mg/Kg	10	7/17/2008
Lead	ND	0.43		mg/Kg	10	7/17/2008
Magnesium	130	26		mg/Kg	10	7/17/2008
Manganese	1.3	0.87		mg/Kg	10	7/17/2008
Nickel	ND	0.87		mg/Kg	10	7/17/2008
Selenium	ND	0.87		mg/Kg	10	7/17/2008
Silver	ND	0.87		mg/Kg	10	7/17/2008
Thallium	ND	0.87		mg/Kg	10	7/17/2008
Vanadium	ND	0.87		mg/Kg	10	7/17/2008
Zinc	ND	4.3		mg/Kg	10	7/17/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	2-BCCDM 13
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-002A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.95		mg/Kg	10	7/17/2008
Barium	1.1	0.95		mg/Kg	10	7/17/2008
Beryllium	ND	0.48		mg/Kg	10	7/17/2008
Boron	ND	9.5		mg/Kg	10	7/17/2008
Cadmium	ND	0.48		mg/Kg	10	7/17/2008
Chromium	ND	0.95		mg/Kg	10	7/17/2008
Cobalt	ND	0.95		mg/Kg	10	7/17/2008
Copper	ND	2.4		mg/Kg	10	7/17/2008
Iron	48	29		mg/Kg	10	7/17/2008
Lead	0.68	0.48		mg/Kg	10	7/17/2008
Magnesium	250	29		mg/Kg	10	7/17/2008
Manganese	4.2	0.95		mg/Kg	10	7/17/2008
Nickel	ND	0.95		mg/Kg	10	7/17/2008
Selenium	ND	0.95		mg/Kg	10	7/17/2008
Silver	ND	0.95		mg/Kg	10	7/17/2008
Thallium	ND	0.95		mg/Kg	10	7/17/2008
Vanadium	ND	0.95		mg/Kg	10	7/17/2008
Zinc	ND	4.8		mg/Kg	10	7/17/2008

Qualifiers:

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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	3-BCCDM 11 Water
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-003A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.98		mg/Kg	10	7/17/2008
Barium	1.9	0.98		mg/Kg	10	7/17/2008
Beryllium	ND	0.49		mg/Kg	10	7/17/2008
Boron	ND	9.8		mg/Kg	10	7/17/2008
Cadmium	ND	0.49		mg/Kg	10	7/17/2008
Chromium	ND	0.98		mg/Kg	10	7/17/2008
Cobalt	ND	0.98		mg/Kg	10	7/17/2008
Copper	ND	2.5		mg/Kg	10	7/17/2008
Iron	89	29		mg/Kg	10	7/17/2008
Lead	1.1	0.49		mg/Kg	10	7/17/2008
Magnesium	300	29		mg/Kg	10	7/17/2008
Manganese	5.9	0.98		mg/Kg	10	7/17/2008
Nickel	ND	0.98		mg/Kg	10	7/17/2008
Selenium	ND	0.98		mg/Kg	10	7/17/2008
Silver	ND	0.98		mg/Kg	10	7/17/2008
Thallium	ND	0.98		mg/Kg	10	7/17/2008
Vanadium	ND	0.98		mg/Kg	10	7/17/2008
Zinc	ND	4.9		mg/Kg	10	7/17/2008

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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	4-BCCDM 11
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-004A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.94		mg/Kg	10	7/17/2008
Barium	1.5	0.94		mg/Kg	10	7/17/2008
Beryllium	ND	0.47		mg/Kg	10	7/17/2008
Boron	ND	9.4		mg/Kg	10	7/17/2008
Cadmium	ND	0.47		mg/Kg	10	7/17/2008
Chromium	ND	0.94		mg/Kg	10	7/17/2008
Cobalt	ND	0.94		mg/Kg	10	7/17/2008
Copper	ND	2.4		mg/Kg	10	7/17/2008
Iron	100	28		mg/Kg	10	7/17/2008
Lead	1.5	0.47		mg/Kg	10	7/17/2008
Magnesium	560	28		mg/Kg	10	7/17/2008
Manganese	1.9	0.94		mg/Kg	10	7/17/2008
Nickel	ND	0.94		mg/Kg	10	7/17/2008
Selenium	ND	0.94		mg/Kg	10	7/17/2008
Silver	ND	0.94		mg/Kg	10	7/17/2008
Thallium	ND	0.94		mg/Kg	10	7/17/2008
Vanadium	ND	0.94		mg/Kg	10	7/17/2008
Zinc	5.2	4.7		mg/Kg	10	7/17/2008

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R - RPD outside accepted recovery limits
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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	5-BCCDM 9 Water
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-005A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.98		mg/Kg	10	7/17/2008
Barium	1.2	0.98		mg/Kg	10	7/17/2008
Beryllium	ND	0.49		mg/Kg	10	7/17/2008
Boron	ND	9.8		mg/Kg	10	7/17/2008
Cadmium	ND	0.49		mg/Kg	10	7/17/2008
Chromium	ND	0.98		mg/Kg	10	7/17/2008
Cobalt	ND	0.98		mg/Kg	10	7/17/2008
Copper	ND	2.4		mg/Kg	10	7/17/2008
Iron	ND	29		mg/Kg	10	7/17/2008
Lead	0.49	0.49		mg/Kg	10	7/17/2008
Magnesium	180	29		mg/Kg	10	7/17/2008
Manganese	1.6	0.98		mg/Kg	10	7/17/2008
Nickel	ND	0.98		mg/Kg	10	7/17/2008
Selenium	ND	0.98		mg/Kg	10	7/17/2008
Silver	ND	0.98		mg/Kg	10	7/17/2008
Thallium	ND	0.98		mg/Kg	10	7/17/2008
Vanadium	ND	0.98		mg/Kg	10	7/17/2008
Zinc	ND	4.9		mg/Kg	10	7/17/2008

Qualifiers:

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J - Analyte detected below quantitation limits
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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	6-BCCDM 9
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-006A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.96		mg/Kg	10	7/17/2008
Barium	5.5	0.96		mg/Kg	10	7/17/2008
Beryllium	ND	0.48		mg/Kg	10	7/17/2008
Boron	ND	9.6		mg/Kg	10	7/17/2008
Cadmium	ND	0.48		mg/Kg	10	7/17/2008
Chromium	2.5	0.96		mg/Kg	10	7/17/2008
Cobalt	ND	0.96		mg/Kg	10	7/17/2008
Copper	17	2.4		mg/Kg	10	7/17/2008
Iron	490	29		mg/Kg	10	7/17/2008
Lead	13	0.48		mg/Kg	10	7/17/2008
Magnesium	1500	29		mg/Kg	10	7/17/2008
Manganese	15	0.96		mg/Kg	10	7/17/2008
Nickel	ND	0.96		mg/Kg	10	7/17/2008
Selenium	ND	0.96		mg/Kg	10	7/17/2008
Silver	ND	0.96		mg/Kg	10	7/17/2008
Thallium	ND	0.96		mg/Kg	10	7/17/2008
Vanadium	ND	0.96		mg/Kg	10	7/17/2008
Zinc	28	4.8		mg/Kg	10	7/17/2008

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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	7-BCCDM 8 Water
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-007A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.97		mg/Kg	10	7/17/2008
Barium	ND	0.97		mg/Kg	10	7/17/2008
Beryllium	ND	0.48		mg/Kg	10	7/17/2008
Boron	ND	9.7		mg/Kg	10	7/17/2008
Cadmium	ND	0.48		mg/Kg	10	7/17/2008
Chromium	ND	0.97		mg/Kg	10	7/17/2008
Cobalt	ND	0.97		mg/Kg	10	7/17/2008
Copper	ND	2.4		mg/Kg	10	7/17/2008
Iron	ND	29		mg/Kg	10	7/17/2008
Lead	ND	0.48		mg/Kg	10	7/17/2008
Magnesium	250	29		mg/Kg	10	7/17/2008
Manganese	1.1	0.97		mg/Kg	10	7/17/2008
Nickel	ND	0.97		mg/Kg	10	7/17/2008
Selenium	ND	0.97		mg/Kg	10	7/17/2008
Silver	ND	0.97		mg/Kg	10	7/17/2008
Thallium	ND	0.97		mg/Kg	10	7/17/2008
Vanadium	ND	0.97		mg/Kg	10	7/17/2008
Zinc	ND	4.8		mg/Kg	10	7/17/2008

Qualifiers:

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J - Analyte detected below quantitation limits
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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	8-BCCDM 8
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-008A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.99		mg/Kg	10	7/17/2008
Barium	1.4	0.99		mg/Kg	10	7/17/2008
Beryllium	ND	0.49		mg/Kg	10	7/17/2008
Boron	ND	9.9		mg/Kg	10	7/17/2008
Cadmium	ND	0.49		mg/Kg	10	7/17/2008
Chromium	ND	0.99		mg/Kg	10	7/17/2008
Cobalt	ND	0.99		mg/Kg	10	7/17/2008
Copper	ND	2.5		mg/Kg	10	7/17/2008
Iron	77	30		mg/Kg	10	7/17/2008
Lead	0.94	0.49		mg/Kg	10	7/17/2008
Magnesium	470	30		mg/Kg	10	7/17/2008
Manganese	3.5	0.99		mg/Kg	10	7/17/2008
Nickel	ND	0.99		mg/Kg	10	7/17/2008
Selenium	ND	0.99		mg/Kg	10	7/17/2008
Silver	ND	0.99		mg/Kg	10	7/17/2008
Thallium	ND	0.99		mg/Kg	10	7/17/2008
Vanadium	ND	0.99		mg/Kg	10	7/17/2008
Zinc	ND	4.9		mg/Kg	10	7/17/2008

Qualifiers:

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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	9-BCCDM 4D Water
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-009A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.98		mg/Kg	10	7/17/2008
Barium	1	0.98		mg/Kg	10	7/17/2008
Beryllium	ND	0.49		mg/Kg	10	7/17/2008
Boron	ND	9.8		mg/Kg	10	7/17/2008
Cadmium	ND	0.49		mg/Kg	10	7/17/2008
Chromium	ND	0.98		mg/Kg	10	7/17/2008
Cobalt	ND	0.98		mg/Kg	10	7/17/2008
Copper	ND	2.5		mg/Kg	10	7/17/2008
Iron	39	29		mg/Kg	10	7/17/2008
Lead	0.69	0.49		mg/Kg	10	7/17/2008
Magnesium	210	29		mg/Kg	10	7/17/2008
Manganese	1.4	0.98		mg/Kg	10	7/17/2008
Nickel	ND	0.98		mg/Kg	10	7/17/2008
Selenium	ND	0.98		mg/Kg	10	7/17/2008
Silver	ND	0.98		mg/Kg	10	7/17/2008
Thallium	ND	0.98		mg/Kg	10	7/17/2008
Vanadium	ND	0.98		mg/Kg	10	7/17/2008
Zinc	5.8	4.9		mg/Kg	10	7/17/2008

Qualifiers:

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B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	10-BCCDM 4 Water
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-010A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/16/2008**		Analyst: **JG**
Arsenic	ND	0.94		mg/Kg	10	7/17/2008
Barium	1.5	0.94		mg/Kg	10	7/17/2008
Beryllium	ND	0.47		mg/Kg	10	7/17/2008
Boron	ND	9.4		mg/Kg	10	7/17/2008
Cadmium	ND	0.47		mg/Kg	10	7/17/2008
Chromium	ND	0.94		mg/Kg	10	7/17/2008
Cobalt	ND	0.94		mg/Kg	10	7/17/2008
Copper	ND	2.3		mg/Kg	10	7/17/2008
Iron	100	28		mg/Kg	10	7/17/2008
Lead	1.4	0.47		mg/Kg	10	7/17/2008
Magnesium	190	28		mg/Kg	10	7/17/2008
Manganese	3.3	0.94		mg/Kg	10	7/17/2008
Nickel	ND	0.94		mg/Kg	10	7/17/2008
Selenium	ND	0.94		mg/Kg	10	7/17/2008
Silver	ND	0.94		mg/Kg	10	7/17/2008
Thallium	ND	0.94		mg/Kg	10	7/17/2008
Vanadium	ND	0.94		mg/Kg	10	7/17/2008
Zinc	12	4.7		mg/Kg	10	7/17/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditation Numbers: IEPA ELAP 100445; ORELAP IL300001; AIHA 101160; NVLAP LabCode 101202

Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	11-BCCDM 4
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/24/2008
Lab ID:	08070315-011A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.91		mg/Kg	10	7/15/2008
Barium	2.4	0.91		mg/Kg	10	7/15/2008
Beryllium	ND	0.45		mg/Kg	10	7/15/2008
Boron	ND	9.1		mg/Kg	10	7/15/2008
Cadmium	ND	0.45		mg/Kg	10	7/15/2008
Chromium	ND	0.91		mg/Kg	10	7/15/2008
Cobalt	ND	0.91		mg/Kg	10	7/15/2008
Copper	2.4	2.3		mg/Kg	10	7/15/2008
Iron	210	27		mg/Kg	10	7/15/2008
Lead	2.6	0.45		mg/Kg	10	7/15/2008
Magnesium	420	27		mg/Kg	10	7/15/2008
Manganese	3.1	0.91		mg/Kg	10	7/15/2008
Nickel	ND	0.91		mg/Kg	10	7/15/2008
Selenium	ND	0.91		mg/Kg	10	7/15/2008
Silver	ND	0.91		mg/Kg	10	7/15/2008
Thallium	ND	0.91		mg/Kg	10	7/15/2008
Vanadium	ND	0.91		mg/Kg	10	7/15/2008
Zinc	9.7	4.5		mg/Kg	10	7/15/2008

Qualifiers:

ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
HT - Sample received past holding time	E - Value above quantitation range
* - Non-accredited parameter	H - Holding time exceeded

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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	12-BCTB 5
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/18/2008
Lab ID:	08070315-012A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.97		mg/Kg	10	7/15/2008
Barium	2	0.97		mg/Kg	10	7/15/2008
Beryllium	ND	0.49		mg/Kg	10	7/15/2008
Boron	ND	9.7		mg/Kg	10	7/15/2008
Cadmium	ND	0.49		mg/Kg	10	7/15/2008
Chromium	ND	0.97		mg/Kg	10	7/15/2008
Cobalt	ND	0.97		mg/Kg	10	7/15/2008
Copper	ND	2.4		mg/Kg	10	7/15/2008
Iron	150	29		mg/Kg	10	7/15/2008
Lead	2.1	0.49		mg/Kg	10	7/15/2008
Magnesium	390	29		mg/Kg	10	7/15/2008
Manganese	3.9	0.97		mg/Kg	10	7/15/2008
Nickel	ND	0.97		mg/Kg	10	7/15/2008
Selenium	ND	0.97		mg/Kg	10	7/15/2008
Silver	ND	0.97		mg/Kg	10	7/15/2008
Thallium	ND	0.97		mg/Kg	10	7/15/2008
Vanadium	ND	0.97		mg/Kg	10	7/15/2008
Zinc	7.7	4.9		mg/Kg	10	7/15/2008

Qualifiers:

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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	13-BCTB 10
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/19/2008
Lab ID:	08070315-013A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.97		mg/Kg	10	7/15/2008
Barium	7.3	0.97		mg/Kg	10	7/15/2008
Beryllium	ND	0.48		mg/Kg	10	7/15/2008
Boron	ND	9.7		mg/Kg	10	7/15/2008
Cadmium	ND	0.48		mg/Kg	10	7/15/2008
Chromium	3.3	0.97		mg/Kg	10	7/15/2008
Cobalt	ND	0.97		mg/Kg	10	7/15/2008
Copper	8.1	2.4		mg/Kg	10	7/15/2008
Iron	630	29		mg/Kg	10	7/15/2008
Lead	7.9	0.48		mg/Kg	10	7/15/2008
Magnesium	1000	29		mg/Kg	10	7/15/2008
Manganese	14	0.97		mg/Kg	10	7/15/2008
Nickel	ND	0.97		mg/Kg	10	7/15/2008
Selenium	ND	0.97		mg/Kg	10	7/15/2008
Silver	ND	0.97		mg/Kg	10	7/15/2008
Thallium	ND	0.97		mg/Kg	10	7/15/2008
Vanadium	ND	0.97		mg/Kg	10	7/15/2008
Zinc	27	4.8		mg/Kg	10	7/15/2008

Qualifiers:

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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	14-BCTB SD
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/17/2008
Lab ID:	08070315-014A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.96		mg/Kg	10	7/15/2008
Barium	1.3	0.96		mg/Kg	10	7/15/2008
Beryllium	ND	0.48		mg/Kg	10	7/15/2008
Boron	ND	9.6		mg/Kg	10	7/15/2008
Cadmium	ND	0.48		mg/Kg	10	7/15/2008
Chromium	ND	0.96		mg/Kg	10	7/15/2008
Cobalt	ND	0.96		mg/Kg	10	7/15/2008
Copper	ND	2.4		mg/Kg	10	7/15/2008
Iron	75	29		mg/Kg	10	7/15/2008
Lead	0.85	0.48		mg/Kg	10	7/15/2008
Magnesium	360	29		mg/Kg	10	7/15/2008
Manganese	3.7	0.96		mg/Kg	10	7/15/2008
Nickel	ND	0.96		mg/Kg	10	7/15/2008
Selenium	ND	0.96		mg/Kg	10	7/15/2008
Silver	ND	0.96		mg/Kg	10	7/15/2008
Thallium	ND	0.96		mg/Kg	10	7/15/2008
Vanadium	ND	0.96		mg/Kg	10	7/15/2008
Zinc	ND	4.8		mg/Kg	10	7/15/2008

Qualifiers:

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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	15-BCTB 13
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/17/2008
Lab ID:	08070315-015A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.96		mg/Kg	10	7/15/2008
Barium	2.2	0.96		mg/Kg	10	7/15/2008
Beryllium	ND	0.48		mg/Kg	10	7/15/2008
Boron	ND	9.6		mg/Kg	10	7/15/2008
Cadmium	ND	0.48		mg/Kg	10	7/15/2008
Chromium	0.96	0.96		mg/Kg	10	7/15/2008
Cobalt	ND	0.96		mg/Kg	10	7/15/2008
Copper	2.5	2.4		mg/Kg	10	7/15/2008
Iron	200	29		mg/Kg	10	7/15/2008
Lead	2.3	0.48		mg/Kg	10	7/15/2008
Magnesium	290	29		mg/Kg	10	7/15/2008
Manganese	5.3	0.96		mg/Kg	10	7/15/2008
Nickel	ND	0.96		mg/Kg	10	7/15/2008
Selenium	ND	0.96		mg/Kg	10	7/15/2008
Silver	ND	0.96		mg/Kg	10	7/15/2008
Thallium	ND	0.96		mg/Kg	10	7/15/2008
Vanadium	ND	0.96		mg/Kg	10	7/15/2008
Zinc	9.3	4.8		mg/Kg	10	7/15/2008

Qualifiers:

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B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	16-BCTB 13
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/16/2008
Lab ID:	08070315-016A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.97		mg/Kg	10	7/15/2008
Barium	4	0.97		mg/Kg	10	7/15/2008
Beryllium	ND	0.48		mg/Kg	10	7/15/2008
Boron	ND	9.7		mg/Kg	10	7/15/2008
Cadmium	ND	0.48		mg/Kg	10	7/15/2008
Chromium	1.7	0.97		mg/Kg	10	7/15/2008
Cobalt	ND	0.97		mg/Kg	10	7/15/2008
Copper	4.1	2.4		mg/Kg	10	7/15/2008
Iron	360	29		mg/Kg	10	7/15/2008
Lead	3.7	0.48		mg/Kg	10	7/15/2008
Magnesium	510	29		mg/Kg	10	7/15/2008
Manganese	8.1	0.97		mg/Kg	10	7/15/2008
Nickel	ND	0.97		mg/Kg	10	7/15/2008
Selenium	ND	0.97		mg/Kg	10	7/15/2008
Silver	ND	0.97		mg/Kg	10	7/15/2008
Thallium	ND	0.97		mg/Kg	10	7/15/2008
Vanadium	ND	0.97		mg/Kg	10	7/15/2008
Zinc	12	4.8		mg/Kg	10	7/15/2008

Qualifiers:

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J - Analyte detected below quantitation limits
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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	17-BCTB 10
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/16/2008
Lab ID:	08070315-017A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.85		mg/Kg	10	7/15/2008
Barium	4.3	0.85		mg/Kg	10	7/15/2008
Beryllium	ND	0.42		mg/Kg	10	7/15/2008
Boron	ND	8.5		mg/Kg	10	7/15/2008
Cadmium	ND	0.42		mg/Kg	10	7/15/2008
Chromium	1.9	0.85		mg/Kg	10	7/15/2008
Cobalt	ND	0.85		mg/Kg	10	7/15/2008
Copper	4.8	2.1		mg/Kg	10	7/15/2008
Iron	390	25		mg/Kg	10	7/15/2008
Lead	4.5	0.42		mg/Kg	10	7/15/2008
Magnesium	630	25		mg/Kg	10	7/15/2008
Manganese	6.7	0.85		mg/Kg	10	7/15/2008
Nickel	ND	0.85		mg/Kg	10	7/15/2008
Selenium	ND	0.85		mg/Kg	10	7/15/2008
Silver	ND	0.85		mg/Kg	10	7/15/2008
Thallium	ND	0.85		mg/Kg	10	7/15/2008
Vanadium	ND	0.85		mg/Kg	10	7/15/2008
Zinc	16	4.2		mg/Kg	10	7/15/2008

Qualifiers:

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B - Analyte detected in the associated Method Blank
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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	18-BCTB WATER
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/18/2008
Lab ID:	08070315-018A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.86		mg/Kg	10	7/15/2008
Barium	1.2	0.86		mg/Kg	10	7/15/2008
Beryllium	ND	0.43		mg/Kg	10	7/15/2008
Boron	ND	8.6		mg/Kg	10	7/15/2008
Cadmium	ND	0.43		mg/Kg	10	7/15/2008
Chromium	ND	0.86		mg/Kg	10	7/15/2008
Cobalt	ND	0.86		mg/Kg	10	7/15/2008
Copper	ND	2.2		mg/Kg	10	7/15/2008
Iron	87	26		mg/Kg	10	7/15/2008
Lead	0.9	0.43		mg/Kg	10	7/15/2008
Magnesium	180	26		mg/Kg	10	7/15/2008
Manganese	3.5	0.86		mg/Kg	10	7/15/2008
Nickel	ND	0.86		mg/Kg	10	7/15/2008
Selenium	ND	0.86		mg/Kg	10	7/15/2008
Silver	ND	0.86		mg/Kg	10	7/15/2008
Thallium	ND	0.86		mg/Kg	10	7/15/2008
Vanadium	ND	0.86		mg/Kg	10	7/15/2008
Zinc	ND	4.3		mg/Kg	10	7/15/2008

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
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E - Value above quantitation range
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Report Date: January 13, 2010
Print Date: January 13, 2010

Client:	Department of Civil & Materials Engineering	**Client Sample ID:**	19-BCTB WATER
Lab Order:	08070315	**Tag Number:**	
Project:	Active Capping, Chicago	**Collection Date:**	6/16/2008
Lab ID:	08070315-019A	**Matrix:**	Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020 (SW3050B)**			Prep Date: **7/15/2008**		Analyst: **JG**
Arsenic	ND	0.96		mg/Kg	10	7/15/2008
Barium	2.7	0.96		mg/Kg	10	7/15/2008
Beryllium	ND	0.48		mg/Kg	10	7/15/2008
Boron	ND	9.6		mg/Kg	10	7/15/2008
Cadmium	ND	0.48		mg/Kg	10	7/15/2008
Chromium	1.2	0.96		mg/Kg	10	7/15/2008
Cobalt	ND	0.96		mg/Kg	10	7/15/2008
Copper	ND	2.4		mg/Kg	10	7/15/2008
Iron	260	29		mg/Kg	10	7/15/2008
Lead	2.3	0.48		mg/Kg	10	7/15/2008
Magnesium	300	29		mg/Kg	10	7/15/2008
Manganese	16	0.96		mg/Kg	10	7/15/2008
Nickel	ND	0.96		mg/Kg	10	7/15/2008
Selenium	ND	0.96		mg/Kg	10	7/15/2008
Silver	ND	0.96		mg/Kg	10	7/15/2008
Thallium	ND	0.96		mg/Kg	10	7/15/2008
Vanadium	ND	0.96		mg/Kg	10	7/15/2008
Zinc	10	4.8		mg/Kg	10	7/15/2008

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
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R - RPD outside accepted recovery limits
E - Value above quantitation range
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CHAIN OF CUSTODY RECORD

Nº: 823174 Page : ____ of ____

Company: UNIVERSITY OF ILLINOIS - CHICAGO / PRISCILLA VIANA
Project Number: ACTIVE CAPPING Client Tracking No.:
Project Name:
Project Location: CHICAGO
Sampler(s):
Report To: PRISCILLA VIANA Phone: 312-413-7638
Fax:
e-mail: pviana2@uic.edu
QC Level: 1 ____ 2 ____ 3 ____ 4 ____

P.O. No.:
Quote No.:

Turn Around:
Results Needed: am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	METALS EXCEPT MERCURY	Remarks	Lab No.:
1 - BC CDM 13 WATER	06/24/08							X		001
2 - BC CDM 13	06/24/08							X		002
3 - BC CDM 11 WATER	06/24/08							X		003
4 - BC CDM 11	"							X		004
5 - BC CDM 3 WATER	06/24/08							X		005
6 - BC CDM 9	06/24/08							X		006
7 - BC CDM 8 WATER	06/24/08							X		007
8 - BC CDM 8	06/24/08							X		008
9 - BC CDM 4D WATER	"							X		009
10 - BC CDM 4 WATER								X		010
11 - BC CDM 4	06/24/08							X		011
12 - BCTB 5	06/18/08							X		012
13 - BCTB 10	06/19/08							X		013
14 - BCTB 5D	06/17/08							X		014
15 - BCTB 13	06/17/08							X		015
16 - BCTB 13	06/16/08							X		016
17 - BCTB 10	06/16/08							X		017
18 - BCTB WATER	06/18/08							X		018
19 - BCTB WATER	06/16/08							X		019
								X		

Relinquished by: (Signature) Priscilla Viana	Date/Time: 07/11/08	
Received by: (Signature)	Date/Time: 7/11/08 1620	
Relinquished by: (Signature)	Date/Time:	
Received by: (Signature)	Date/Time:	
Relinquished by: (Signature)	Date/Time:	
Received by: (Signature)	Date/Time:	

Comments:

Preservation Code: A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 08070315

Received on Ice: Yes [X] No [X]

Temperature: 18.4 °C

18.4°C 07/11

STAT Analysis Corporation

Sample Receipt Checklist

Client Name: **UIC/ENG**

Date and Time Received: **7/11/2008 4:20:00 PM**

Work Order Number **08070315**

Received by: CC

Checklist completed by: [signature] 07/11/08 (Signature / Date)

Reviewed by: MAK 7/14/08 (Initials / Date)

Matrix:

Carrier name: Client Delivered

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels/containers?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container or Temp Blank temperature in compliance?	Yes ☑	No ☐	Temperature 18.4 °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☐	No ☐
Water - Samples pH checked?	Yes ☐	No ☐	Checked by:
Water - Samples properly preserved?	Yes ☐	No ☐	pH Adjusted?

Any No response must be detailed in the comments section below.

Comments:

Client / Person contacted: Date contacted: Contacted by:

Response: