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Kingston Ash Recovery Project
Non-Time-Critical Removal Action

River System Sampling and Analysis Plan
Task Completion Technical Memorandum
Ash Deposits, Submerged Sediment, and Seasonally-Exposed Sediment

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List of Acronyms

µg/kg	microgram per kilogram
AVS/SEM	acid volatile sulfide/simultaneously extracted metals
CRM	Clinch River Mile
DQO	data quality objective
EDD	electronic data deliverable
EE/CA	Engineering Evaluation/Cost Analysis
EPA	U.S. Environmental Protection Agency
ERM	Emory River Mile
Frontier	Frontier Global Services (formerly Frontier GeoSciences)
GC	gas chromatography
GEL	GEL Laboratories, LLC
HDPE	high density polyethylene
Jacobs	Jacobs Engineering Group Inc.
KIF	Kingston Fossil Plant
MDL	method detection limit
mg/kg	milligram per kilogram
mg/L	milligram per liter
ND	not detected
OM	organic matter
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
pCi/g	picocurie per gram
pCi/L	picocurie per liter
PLM	polarized light microscopy
QAPP	Quality Assurance Project Plan
QA	quality assurance
QC	quality control
SAP	Sampling and Analysis Plan

SOP	Standard Operating Procedure
TM	technical memorandum
TOC	total organic carbon
TRM	Tennessee River Mile
TVA	Tennessee Valley Authority

1. PURPOSE

The purpose of this Technical Memorandum (TM) is to summarize the completion of the ash deposits, submerged sediment, and seasonally-exposed sediment sampling tasks as described in the approved *Kingston Ash Recovery Project Non-Time-Critical Removal Action for the River System Sampling and Analysis Plan* (SAP), Rev. 3, May 24, 2010, Document No. EPA-AO-021. This TM is one of a series being prepared to summarize the field work and data collection activities as SAP tasks are completed. The TM series is intended to provide interim presentations of data that are the bases for the nature and extent of contamination section of the River System Engineering Evaluation/Cost Analysis (EE/CA) Report. No data evaluation or conclusions are presented.

2. BACKGROUND

The data quality objective (DQO) problem statement for the SAP is:

> Following the completion of the time-critical removal action, pockets of residual ash may remain in the river system, some of which may have become intermixed or interbedded with natural river sediments. Residual ash deposits may serve as a source for further transport downstream or a continuing source of exposure, and may therefore need to be removed or contained. Naturally-occurring metals (e.g., arsenic, chromium, mercury, and selenium) and radionuclides (e.g., radium-226 and thorium-228) are present within the ash. Sediment may also contain legacy constituents [e.g., polynuclear hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), pesticides (chlordane), mercury, cesium-137, or cobalt-60] from other historical sources. Human and ecological receptors may be potentially exposed to these constituents in the residual ash itself, in submerged and seasonally-exposed sediment, in surface water, or in their diet (fish consumption or food chain prey and forage).

<u>Ash Deposits/Submerged Sediment</u>

To achieve this goal the primary DQO for ash deposit sampling is to determine "the geographical location and extent impacted" of ash deposition and to address the following questions: "Are there residual ash deposits present of sufficient thickness or volume for effective removal? If so, how are they distributed; are they deposited uniformly or in isolated pockets?" In addition, the DQO for submerged sediment sampling addresses "determining the concentrations of ash-related constituents in the submerged sediment so that the potential exposures to ecological receptors can be estimated."

Sections 2.2.1 and 2.2.3 of the SAP present the design of the ash deposit/submerged sediment sampling study. Aquatic biota in the benthic zone are directly exposed to submerged sediments that potentially contain ash-related and/or legacy constituents. Bioaccumulation effects on higher order fauna are an indirect exposure path for sediment contaminants. In an effort to estimate the potential intake of ash-related constituents by ecological receptors, analysis of those constituents was needed to determine contaminant concentrations within ash deposits and submerged sediments.

Ash deposit and submerged sediment samples were collected at locations in the Emory, Clinch, and Tennessee Rivers. Sample density was determined by the volume of ash deposition in a given river reach and proximity to those affected areas. Reference samples of unaffected (by the ash spill) sediments were collected at random locations upstream of Emory River Mile (ERM) 6.0, Clinch River Mile (CRM) 4.5 and Tennessee River Mile (TRM) 568.0. Three impacted (by the ash spill) reaches of the Emory River were assigned as upstream, downstream, and within the area of completed dredging operations for the time-critical removal action. The Clinch River was divided into two reaches: upstream and downstream

of the Kingston Fossil Plant (KIF) plant discharge. The Tennessee River was divided into two reaches; a downstream reach extending over an area predicted by transport modeling as the maximum extent of ash deposition and a reach at the confluence of the Tennessee and Clinch Rivers. Sample locations were also placed in small coves adjacent to the main trunk of the river and within the KIF Intake Channel.

Sediment cores were deployed at each location to determine sediment stratigraphy, specifically, the depth and thickness of ash-containing sediment horizons. For both ash deposit and submerged sediment samples the upper 6 inches of sediment were collected to evaluate the proportion of ash and the constituents of interest within the benthic zone sediments at each location. A total of 268 sample locations were assigned for ash deposit sampling. A total of 81 submerged sediment sample locations were assigned and co-located with ash deposit sample locations (see Figures 1 through 8).

Seasonally-Exposed Sediment

Section 2.2.2 of the SAP presents the design of the seasonally-exposed sediment sampling study:

- Seasonally-exposed sediment refers to the sediment that becomes exposed on the river banks during the times that the reservoir levels are low (i.e., winter months December to April). These sediments are submerged during the remainder of the year in shallow water near the river bank. People may be exposed to these sediments during recreational activities (e.g., beachcombing); exposure while swimming or wading is not expected to be significant, since the sediment is washed off by the overlying water. Aquatic plants as well as aquatic- or riparian-feeding birds and mammals may be exposed to these sediments in shallow water along the shoreline. Benthic fish and invertebrates may be exposed to these shallow sediments when the reservoir is at the summer pool level.

- To estimate the potential intake of ash-related constituents in the seasonally-exposed sediment by human or ecological receptors, the concentrations of those constituents need to be determined. Those concentrations will then be compared to screening criteria (DQO action levels); if the concentration of an analyte exceeds its action level, then the analyte would be retained for inclusion in a detailed risk assessment. For human health screening, the U.S. Environmental Protection Agency (EPA) regional screening levels for soil will be used for seasonally-exposed sediment. For ecological receptors, EPA Region 4 sediment screening values will be used.

Seasonally-exposed sediment samples were collected at sample locations in the Emory and Clinch Rivers. Sample locations were determined by field reconnaissance in the early months of 2010 during which Watts Bar Reservoir was at winter pool and exposed sediments were identifiable. Bias was given to areas of potential ash deposition and potential human exposure. Reference sample locations, unaffected by the ash spill, were placed upstream of ERM 6.0. Three reaches of the Emory River were assigned between ERM 0.0 and 5.0. The Clinch River was divided into two reaches; upstream and downstream of CRM 3.0. Sample locations were also placed in small coves adjacent to the main trunk of the river and within the KIF Intake Channel.

Sample cores were deployed at each location to determine sediment stratigraphy, specifically, the depth and thickness of ash-containing sediment horizons. For seasonally-exposed sediment samples the upper 6 inches of sediment were collected to evaluate the proportion of ash and the constituents of interest at each location. A total of 69 sample locations were assigned for seasonally-exposed sediment sampling (see Figures 9 through 13).

3. SAMPLING AND ANALYSIS ACTIVITIES

Ash Deposits

Ash deposit samples were collected at 268 sample locations in the Emory, Clinch, and Tennessee Rivers as follows:

- Reference Locations Upstream of ERM 6.0: Ten locations, selected at random, were sampled in the Emory River to verify the absence of ash deposits (Figure 1). Efforts were made to target areas where sediment deposition is likely. Similarly, three locations were sampled in the Clinch River upstream of CRM 4.5 and three locations were sampled in the Tennessee River upstream of TRM 568.0 in conjunction with submerged sediment sampling.

- Emory River Reach C (ERM 3.5 to 6.0): This reach consisted of impacted locations upstream of the primary completed dredging operations. A total of 30 locations (four per mile, left-center-right of channel) were sampled (Figure 2). Additional samples targeting the larger coves outside of the main river channel were also collected.

- Emory River Reach B (ERM 1.5 to 3.5): This reach consisted of sections of the channel that were dredged in a series of "grids" during the time-critical removal action. Because dredging was done in a detailed grid layout that resulted in "terraced" remnants of the river bottom, 16 dredge grid sections were selected for confirmation sampling and two samples were taken from each grid so as to check the terraced remnants. A total of 32 locations (eight per mile, two samples at each dredge grid location) were sampled (Figure 3). Sections outside of the dredged channel were also sampled and 32 locations (approximately eight per mile, left and right of the channel) were sampled.

- Emory River Reach A (ERM 0.0 to 1.5): This reach consisted of impacted locations downstream of the primary dredging operations in the Emory River. A total of 36 locations (eight per mile, left-center-right of channel) were sampled (Figure 4). Additional samples targeting the larger coves outside of the main channel were also collected.

- KIF Intake Channel: Five samples were collected from randomly placed locations (Figure 5).

- Clinch River Reach B (CRM 3.0 to 4.5): This reach consisted of impacted locations downstream of the primary dredging operations in the Clinch River, yet upstream of the KIF plant discharge. A total of 36 locations (eight per mile, left-center-right of channel) were sampled (Figure 6). Additional samples targeting the larger coves outside of the main channel were also collected.

- Clinch River Reach A (CRM 0.0 to 3.0): This reach also consisted of impacted locations downstream of the dredging operations in the Clinch River, yet downstream of the KIF plant discharge. A total of 36 locations (four per mile, left-center-right of channel) were sampled (Figure 7). Additional samples targeting the larger coves outside of the main channel were also collected.

- Tennessee River Reach B (TRM 550.0 to 566.0): This reach consisted of potentially impacted locations in the Tennessee River, downstream of the confluence with the Clinch River. A total of 12 locations were sampled from TRM 566.0 to 568.0 (two per mile, left-center-right of channel) (Figure 8).

- Tennessee River Reach A (TRM 550.0 to 565.0): This reach consisted of downstream Tennessee River locations where deposition of ash from storm event transport was predicted to occur. Three samples were collected at 5-mile increments from TRM 550.0 to 565.0 (center channel, left, and right of channel at approximately TRM 550.0, 555.0, 560.0, and 565.0) to validate the model results (Figure 8).

- Contingency: Twenty samples were collected to target larger coves outside of the main river channel or as additional contingency to define anomalies.

Ash deposit sampling began on October 20, 2010 and concluded on April 20, 2011. The upper 6 inches of sediment from each location were homogenized for analysis at an onsite polarized light microscopy (PLM) laboratory. An additional sample was collected at a randomly selected 10% of the total ash deposit sample locations and sent to an offsite laboratory, RJ Lee Group, Inc., for confirmatory PLM analysis. Ash deposit sample locations where hard substrate (i.e., scoured bedrock) was encountered positively confirmed that ash deposits were not present. Sample cores that met refusal in hard, compacted ash were documented and ash deposit depths were conservatively estimated as the full length of the core tube (six feet). Figures 14 through 19 display Ash Deposit sample locations, color-coded to represent the proportion and thickness of ash deposition in the Emory and Clinch Rivers based upon criteria established in the Time Critical dredging operations. During Time-Critical dredging operations, the operational definition of "ash" was sediments containing >50% ash. One foot or greater of "ash" deposition defined the depth at which dredging of released material could be practical. Tennessee River sample locations are not included on the figures as no location contained >50% ash.

Submerged Sediment

Submerged sediment samples were collected at 81 locations in the Emory, Clinch, and Tennessee Rivers (Figures 1 through 8). All locations were co-located with an ash deposit sample location. Sample locations were assigned as follows:

- Reference Locations: A total of nine reference locations were collected for use in comparing with downstream levels of constituents. Four locations were sampled in the Emory River upstream of ERM 6.0 and/or Little Emory River; similarly three locations were sampled in the Clinch River upstream of CRM 4.5 and three locations were collected in the Tennessee River upstream of TRM 568.0 (Figure 1).

- Emory River Reach C (ERM 3.5 to 6.0): Samples were collected within the upstream impacted reach at 10 locations (four per mile) (Figure 2).

- Emory River Reach B (ERM 1.5 to 3.5): Samples were collected within the primary dredged reach at 16 locations (eight per mile) (Figure 3).

- Emory River Reach A (ERM 0.0 to 1.5): Samples were collected within the downstream impacted at 12 locations (eight per mile) (Figure 4).

- KIF Intake Channel: A total of two random locations were collected (Figure 5).

- Clinch River Reach B (CRM 3.0 to 4.5): Samples were collected within the downstream reach prior to the KIF plant discharge at 12 locations (eight per mile) (Figure 6).

- Clinch River Reach A (CRM 0.0 to 3.0): Samples were collected within the downstream reach after the KIF plant discharge at 12 locations (four per mile) (Figure 7).

- Tennessee River Reach B (TRM 566.0 to 568.0): Samples within Tennessee Reach B were collected at four locations from TRM 566.0 to 568.0 (two per mile) (Figure 8).

- Tennessee River Reach A (TRM 550.0 to 566.0): Samples within Tennessee Reach A were collected at four locations from TRM 550.0 to 565.0 (one per 5-mile increment at approximately TRM 550.0, 555.0, 560.0, and 565.0) (Figure 8).

Submerged sediment sampling began on October 20, 2010 and concluded on April 20, 2011. The upper 6 inches of sediment from each location were homogenized and collected for metals and mercury analysis. A random selection of 25% of submerged sediment sample locations referred to as "Full Suite" sample locations were analyzed for the following constituents: radionuclides (potassium-40, radium-226/228, lead 212/214, thalum-208, isotopic thorium, isotopic uranium, cesium-137, cobalt-60), PAHs, alkylated PAHs, PCBs, pesticides, speciation of metals (arsenic, selenium, mercury), hexavalent chromium, acid volatile sulfide/simultaneously extracted metals (AVS/SEM), and total organic carbon (TOC). Submerged sediment sample locations were adjusted when hard substrate was encountered. Adjusted locations were moved toward the area of the original ash release.

All samples, with the exception of AVS/SEM, were collected using an SDI VibeCore-D vibration driven coring device and 3-inch diameter, 6-foot long, decontaminated acrylic core tubes. Sample homogenization was performed in dedicated, decontaminated, high density polyethylene (HDPE) containers with new, dedicated, lab-certified clean, HDPE scoops.

A Wildco Box Core dredge sampler with a decontaminated, acrylic liner was used for collection of AVS/SEM samples. New, decontaminated, 2-1/2-inch diameter by 10-inch length acrylic core tubes were used to collect undisturbed sediment from within the box core sample. Submerged sediment sample locations were adjusted when hard substrate was encountered. Adjusted locations were moved toward the area of the original ash release.

Samples were analyzed by TestAmerica-Nashville for metals and mercury. Radionuclides (potassium-40, radium-226/228, lead 212/214, thalum-208, isotopic thorium, isotopic uranium, cesium-137, cobalt-60) samples were analyzed by GEL Laboratories, LLC (GEL). Samples were analyzed for PAHs, alkylated PAHs, PCBs, and pesticides by TestAmerica-Burlington. Samples for speciation of arsenic, selenium, and mercury were analyzed by Frontier Global Services (formerly Frontier GeoSciences) (Frontier). Hexavalent chromium samples were analyzed at TestAmerica-Irvine. Samples were analyzed for AVS/SEM at TestAmerica-Pittsburgh and for TOC at TestAmerica-North Canton.

Sampling and analysis were performed in accordance with the *Quality Assurance Project Plan for the Tennessee Valley Authority Kingston Ash Recovery Project* (*QAPP*), hereinafter referred to as the TVA-KIF-QAPP, the listed Standard Operating Procedures (SOPs), and Work Package WP-1051. Table 1 identifies the applicable TVA documents and SOPs associated with this sediment sampling event. Quality Assurance/Quality Control (QA/QC) samples (field duplicates, matrix spikes, and matrix spike duplicates) were all collected at 1/20 frequency (5%). QA/QC samples were not collected for field PLM samples. An equipment blank was collected on sampling equipment.

Table 1. Applicable TVA Documents and Standard Operating Procedures

Document	Document Number
TVA KIF Ash Recovery Project Quality Assurance Project Plan (QAPP)	TVA-KIF-QAPP, December 2009
TVA-KIF Work Package WP-1051	WP-1051
TVA-KIF Work Package WP-1023	WP-1023
STANDARD OPERATING PROCEDURES	
Sediment Sampling	TVA-KIF-SOP-05, Revision 3
Field Documentation	TVA-KIF-SOP-06
Sample Labeling, Packing, and Shipping	TVA-KIF-SOP-07, Revision 3
Decontamination of Equipment	TVA-KIF-SOP-08, Revision 2

Document	Document Number
Sediment Sampling for AVS/SEM Analysis	TVA-KIF-SOP-09
Field Quality Control Sampling	TVA-KIF-SOP-11
Management of Investigation-Derived Waste	TVA-KIF-SOP-12
Management and Implementation of EQuIS™-based Chain of Custody	TVA-KIF-SOP-18
Photograph Management	TVA-KIF-SOP-26
Evaluating Samples for the Presence of Ash by Polarized Light Microscopy	TVA-KIF-SOP-27

Seasonally-Exposed Sediments

Seasonally-exposed sediment samples were collected at 69 locations in the Clinch and Emory Rivers (Figures 9 through 13) as follows:

- Reference Locations Upstream of ERM 6.0: A total of five reference locations were collected in the Emory River and/or Little Emory River for use in comparing with downstream levels of constituents (Figure 9). No reference locations were placed in either the Clinch or Tennessee Rivers.
- Emory River Reach C (ERM 3.5 to 6.0): Samples were collected at 10 locations upstream of the impacted reach (four per mile, alternating left-right of channel) (Figure 9).
- Emory River Reach B (ERM 1.5 to 3.5): Samples were collected at 16 locations within the non-channel dredged reach (eight per mile, alternating left -right of channel) (Figure 10).
- Emory River Reach A (ERM 0.0 to 1.5): Samples were collected at 12 locations in the downstream impacted reach (eight per mile, alternating left-center-right of channel) (Figure 11).
- KIF Intake Channel: Samples were collected at two locations (Figure 12).
- Clinch River Reach B (CRM 3.0 to 4.5): Samples were collected at 12 locations in the downstream reach prior to the KIF plant discharge (eight per mile, alternating left-right of channel) (Figure 13).
- Clinch River Reach A (CRM 0.0 to 3.0): Samples were collected at 12 locations in the downstream reach after the KIF plant discharge (four per mile, alternating left-right of channel) (Figure 13).

Seasonally-exposed sediment sampling began on December 14, 2010 and concluded on January 25, 2011. The upper 6 inches of sediment from each location were homogenized and samples were collected for analysis at an onsite PLM laboratory and metals and mercury analysis. Co-located sediment cores were collected to achieve sample volume as necessary. An additional sample was collected at a randomly selected 10% of the total seasonally-exposed sample locations and sent to an offsite laboratory, RJ Lee Group, Inc., for confirmatory PLM analysis. A random selection of 25% of seasonally-exposed sediment sample locations referred to as “Full Suite” sample locations were sampled and analyzed for the following constituents: radionuclides (potassium-40, radium-226/228, lead 212/214, thalum-208, isotopic thorium, isotopic uranium, cesium-137, cobalt-60), PAHs, alkylated PAHs, PCBs, pesticides, speciation of metals (arsenic, selenium, mercury), hexavalent chromium, and TOC.

Samples were collected using new, decontaminated, 2-1/2-inch diameter by 18-inch length acrylic core tubes. Samples were collected by manual hand-coring. Sample homogenization was performed in dedicated, decontaminated, HDPE containers with new, dedicated, lab-certified clean, HDPE scoops.

Samples were analyzed by TestAmerica-Nashville for metals and mercury. Radionuclides (potassium-40, radium-226/228, lead 212/214, thalum-208, isotopic thorium, isotopic uranium, cesium-137, cobalt-60) samples were analyzed by GEL. Samples were analyzed for PAHs, alkylated PAHs, PCBs, and pesticides by TestAmerica-Burlington. Speciation samples of arsenic, selenium, and mercury were analyzed by Frontier. Hexavalent chromium samples were analyzed at TestAmerica-Irvine and samples were analyzed for TOC at TestAmerica-North Canton.

Sampling and analysis were performed in accordance with the TVA-KIF-QAPP, the listed SOPs, field guides, and Work Package WP-1023. Table 1 identifies the applicable TVA Documents and SOPs associated with this sediment sampling event. Field duplicates, matrix spikes, and matrix spike duplicates were all collected at 1/20 frequency (5%). One equipment blank was collected on sampling equipment.

4. SUMMARY OF CHANGES

Field Change Notices and Change Notices were prepared to document deviations from the SAP. A Field Change Notice was prepared and approved for the addition of PLM confirmation samples to support ecological risk assessment. A Change Notice was prepared and approved for the addition of an eleventh sample location in the Emory River Reference Reach. The SAP Addendum, Revision 2 was issued on August 24, 2011 to address changes to the list of sample analytes collected.

The use of field PLM data addressed the SAP objective of identifying ash deposits that are sufficiently thick to make dredging a potentially viable remedy, but more accuracy was desired to determine ecological risks associated with ash-containing sediments. The SAP required that PLM confirmation samples were collected from 10% of ash deposit sample locations in each river reach. It was determined that field PLM analysis had the potential to over-estimate the percentage of ash in a sediment sample and possibly affect ecological assessments related to sediment toxicity. Each of the Clinch and Emory Rivers field PLM samples described to contain >50% ash was sent to RJ Lee Group, Inc. for confirmatory PLM analysis. The additional PLM confirmation samples were collected from sample retains from the onsite field PLM analysis.

An additional sample location was added to the Emory River Reference Reach to meet the sampling requirements stated in the SAP. Multiple unsuccessful attempts were made to collect the sediment necessary to satisfy the Random 25% requirement for the Full Suite of constituents from the ten original, pre-assigned submerged sediment locations. In addition, the final set of QA/QC samples (field duplicate, matrix spike, and matrix spike duplicate) was assigned to this site. Ash Deposit, Submerged Sediment, and the Full Suite samples were collected at ERM_RR11.

Submerged sediment and seasonally-exposed sediment samples were analyzed for TOC at all of the "Random 25%" sample locations. TOC was not included in the original Appendix D to the SAP but was included in the SAP Addendum referenced above.

5. ANALYTICAL DATA REVIEW

TVA's contract laboratories were required to submit three types of deliverables: a limited (Level 1) data package containing sample results and batch QC sample results; a fully-documented (Level 4) data package including raw data for all analyses; and electronic data deliverables (EDDs) for storage in TVA's EarthSoft EQuIS® database.

EDDs were subjected to completeness and correctness testing during loading to TVA's EQuIS database; once loaded to the EQuIS database, the data were subjected to verification. As defined in the TVA-KIF-QAPP, data verification involved comparison of the data loaded in the EQuIS database to the results

reported in the Level 1 data package. In addition, data verification included review of the batch QC summary forms for compliance with the applicable methods and for data usability with respect to the project DQOs and the TVA-KIF-QAPP.

Following receipt of the Level 4 data package, data were subjected to validation. As defined in the TVA-KIF-QAPP, data validation included review of raw data and associated QC summary forms for compliance with the applicable methods and for data usability with respect to the appropriate guidance documents. As stated in the QAPP: "Initially, 100% of the chemical analysis data will be reported in full documentation data packages for independent data validation. Depending on the nature and frequency of issues identified during data validation, the percentage of data undergoing full data validation may be reduced to a lesser percentage (such as 20%) or data verification may be substituted. The reduction in full data validation may be matrix specific, laboratory specific, or analyte specific. If after the percentage of full data validation has decreased, a trend in frequency of reporting issues, method non-compliances, or data usability issues is identified, data validation will be conducted for specific data points or the percentage of full data validation percentage may be increased until the issues have been minimized to their initial frequency." Data validation expands upon the completeness, correctness, and usability assessment performed during verification to include evaluation of instrumental QC analyses, review of sample preparation information, and recalculation of reported results from raw data.

TestAmerica-Nashville has analyzed sediment samples for TVA since March 2009; sediment data from TestAmerica-Nashville is considered to be a mature data stream. Consequently, the sediment data generated by TestAmerica-Nashville was primarily subjected to data verification only. TestAmerica-Burlington, TestAmerica-Pittsburgh, and Frontier were relatively new to the project and a significant amount of sediment data from these laboratories has not been reviewed; therefore, 100% of data generated from these facilities were validated. Sediment data from GEL were initially subjected to full validation. During full validation very few issues were identified, therefore, GEL data was determined to be a mature data stream and the remaining data were subjected to verification. Table 2 summarizes the data from the five laboratory facilities.

Table 2. Data Review Summary

Laboratory	Number of Chains-of-Custody	Number of Normal and Field Duplicate Samples by Lab	Number of Equipment Blanks by Lab	Number of Analytical Results	Percentage Final-Verified	Percentage Validated
Submerged Sediment						
TestAmerica-Burlington	16	24	0	1,892	0%	100%
TestAmerica-Irvine	16	24	0	24	0%	100%
TestAmerica-Nashville	45	88	1	2,265	42%	58%
TestAmerica-North Canton	16	24	0	48	0%	100%
TestAmerica-Pittsburgh	19	35	0	245	0%	100%
Frontier	16	24	0	312	0%	100%
GEL	16	24	0	432	13%	87%
Total Count	**112**[(a)]	**101**[(b)]	**1**	**5,218**	--	--
Seasonally-Exposed Sediment						
TestAmerica-Burlington	7	19	0	1,514	0%	100%
TestAmerica-Irvine	7	19	0	19	0%	100%
TestAmerica-Nashville	11	72	0	1,872	9%	91%

Laboratory	Number of Chains-of-Custody	Number of Normal and Field Duplicate Samples by Lab	Number of Equipment Blanks by Lab	Number of Analytical Results	Percentage Final-Verified	Percentage Validated
TestAmerica-North Canton	7	19	0	38	0%	100%
TestAmerica-Pittsburgh	0	0	0	0	0%	0%
Frontier	7	19	0	247	0%	100%
GEL	7	19	0	342	0%	100%
Total Count	**32**[(a)]	**73**[(b)]	**0**	**4,032**	--	--
Ash Deposit						
RJ Lee Group, Inc.	40	198	0	204	100%	--
TVA Field Lab	64	339	0	339	--	100% [(c)]
Total Count	**104**[(a)]	**339**[(b)]	**0**	**543**	--	--

Notes:

[(a)] The total chain-of-custody count is less than the sum of all laboratories because the analytes reported by TestAmerica-Irvine and TestAmerica-North Canton were subcontracted from TestAmerica-Nashville and were contained on the same chain-of-custody as the analytes reported by TestAmerica-Nashville.

[(b)] "Total Count" for normal and field duplicate samples represents the number of discrete samples sent to each lab. Each sample requiring analysis by multiple laboratories was split, and each split is counted in this table as one sample per receiving lab ("Number of Samples by Lab").

[(C)] "Final – Not QC'd" status denotes data provided from a field or mobile laboratory and were considered screening data.

6. DATA QUALITY SUMMARY

Data verification and/or validation were performed based on the sample results, summary QC data, and raw data provided by the laboratory. Data verification and validation includes a review of the following QC measures (where applicable):

- Sample condition upon laboratory receipt;
- Initial calibration linearity (data validation only);
- Field and equipment blank analysis results than the method detection limit (MDL);
- Blank analysis results greater than the MDL (data validation only);
- Sample preparation and holding times;
- Gas chromatography/mass spectroscopy (GC/MS) instrument tuning and system performance (data validation only);
- Initial calibration verification/continuing calibration verification standard recoveries (data validation only);
- GC dual-column analytical precision (data validation only); GC Retention times (data validation only);
- Inductively coupled plasma interference check standard results (data validation only);
- MDLs and linear ranges (data validation only);
- Internal standard recoveries (data validation only);
- Matrix spike/matrix spike duplicate;
- Laboratory and field duplicate precision;
- Surrogate compound recoveries;
- Quantitation of positive results (data validation only);
- Qualitative sample identification (data validation only);
- Laboratory control sample/laboratory control sample duplicate recoveries and precision;
- Total vs. dissolved sample precision;
- Analytical sequence (data validation only);

- Reporting limit standard recoveries (data validation only); and
- MDL verification standards (data validation only).

The data met the DQOs defined for this task and are acceptable for use. Table 3 summarizes the data quality based on the review performed and as compared to the data quality measures identified in the TVA-KIF-QAPP. The text of the data validation reports for the samples included in this TM will be included in the EE/CA Report.

Table 3. Summary of Submerged Sediment, Exposed Sediment, and Ash Deposit Data Quality

Laboratory	Analytical Results (Total Count)	Acceptable (No Qualification)[a]		Acceptable (Estimated)[b]		Blank Qualified[c]		Rejected[d]	
Submerged Sediment									
TestAmerica-Burlington	1,892	592	*31%*	1,280	*68%*	0	*0%*	20[e]	*1%*
TestAmerica-Irvine	24	12	*50%*	9	*38%*	0	*0%*	3[f]	*13%*
TestAmerica-Nashville	2,265	1,528	*67%*	736	*32%*	1	*<1%*	0	*0%*
TestAmerica-North Canton	48	38	*79%*	10	*21%*	0	*0%*	0	*0%*
TestAmerica-Pittsburgh	245	168	*69%*	77	*31%*	0	*0%*	0	*0%*
Frontier	312	90	*29%*	210	*67%*	12	*4%*	0	*0%*
GEL	432	344	*80%*	88	*20%*	0	*0%*	0	*0%*
Exposed Sediment									
TestAmerica-Burlington	1,514	1,067	*70%*	424	*28%*	0	*0%*	23[e]	*2%*
TestAmerica-Irvine	19	17	*89%*	2	*11%*	0	*0%*	0	*0%*
TestAmerica Nashville	1,872	1,474	*79%*	398	*21%*	0	*0%*	0	*0%*
TestAmerica-North Canton	38	29	*76%*	5	*13%*	4	*10%*	0	*0%*
TestAmerica-Pittsburgh	0	0	*0%*	0	*0%*	0	*0%*	0	*0%*
Frontier	247	109	*44%*	132	*53%*	6	*2%*	0	*0%*
GEL	342	339	*99%*	3	*1%*	0	*0%*	0	*0%*
Ash Deposit									
RJ Lee Group, Inc.	204	190	*93%*	14	*7%*	0	*0%*	0	*0%*
TVA Field Lab	339	-	-	-	-	-	-	-	-

Notes:

[a]Acceptable, No Qualification – Qualification of data was not warranted based on a review of the applicable QC measures.

[b]Acceptable, Estimated – Quantitation or detection limit is approximate due to limitations or bias identified during a review of the applicable QC measures.

[c]Blank Qualified – Result is considered "not-detected" because it was detected in an associated blank at a similar level.

[d]Rejected – Unreliable result or detection limit; analyte may or may not be present in sample.

[e]Rejected PAH/alkylated PAH results were due to very low surrogate compound recoveries.

[f]Rejected hexavalent chromium results were due to very low matrix spike/matrix spike duplicate recoveries.

7. DATA SUMMARY

Summary statistics for ash deposit and submerged sediment samples are provided in Tables 4 through 13 for each individual river reach in the Emory, Clinch, and Tennessee Rivers. Summary statistics for seasonally-exposed sediment samples are provided in Tables 14 through 20 for each river reach in the Emory and Clinch Rivers.

Table 4. Summary Statistics for Submerged Sediment in Emory River Reference Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%		1	1	ERM_RR01	04/20/2011	1 / 1	1
4,4'-DDD	ug/kg	0.91 / 0.91	ND	ND			0 / 1	0
4,4'-DDE	ug/kg	0.91 / 0.91	ND	ND			0 / 1	0
4,4'-DDT	ug/kg		0.97	1	ERM_RR11	04/26/2011	1 / 1	1
Acenaphthene	ug/kg		1.6	3	ERM_RR11	04/26/2011	1 / 1	3
Acenaphthylene	ug/kg		1.5	2.2	ERM_RR11	04/26/2011	1 / 1	2.2
Actinium-228	pCi/g		0.568	0.779	ERM_RR11	04/26/2011	1 / 1	0.779
Aldrin	ug/kg	0.47 / 0.47	ND	ND			0 / 1	0
alpha-BHC	ug/kg	0.47 / 0.47	ND	ND			0 / 1	0
alpha-Chlordane	ug/kg	0.47 / 0.47	0.58	0.58	ERM_RR11	04/26/2011	1 / 1	0.58
Aluminum	mg/kg		2430	29300	ERM_RR01	04/20/2011	4 / 4	11548
Americium-241	pCi/g	0.108 / 0.171	ND	ND			0 / 1	0
Anthracene	ug/kg		4.5	9	ERM_RR11	04/26/2011	1 / 1	9
Antimony	mg/kg	1.31 / 1.82	ND	ND			0 / 4	0
Arsenate	mg/kg		0.918	0.942	ERM_RR11	04/26/2011	1 / 1	0.942
Arsenic	mg/kg	0.242 / 1.4	2.14	6.33	ERM_RR01	04/20/2011	4 / 5	3.635
Arsenite	mg/kg		0.817	1.07	ERM_RR11	04/26/2011	1 / 1	1.07
Barium	mg/kg		18.5	273	ERM_RR01	04/20/2011	4 / 4	104.3
Benzo(a)anthracene	ug/kg		31	43	ERM_RR11	04/26/2011	1 / 1	43
Benzo(a)pyrene	ug/kg		31	41	ERM_RR11	04/26/2011	1 / 1	41
Benzo(b)fluoranthene	ug/kg		52	67	ERM_RR11	04/26/2011	1 / 1	67
Benzo(e)pyrene	ug/kg		32	40	ERM_RR11	04/26/2011	1 / 1	40
Benzo(g,h,i)perylene	ug/kg		14	16	ERM_RR11	04/26/2011	1 / 1	16
Benzo(k)fluoranthene	ug/kg		35	45	ERM_RR11	04/26/2011	1 / 1	45
Beryllium	mg/kg	0.525 / 0.728	1.57	1.57	ERM_RR01	04/20/2011	1 / 4	1.57
beta-BHC	ug/kg		0.89	0.98	ERM_RR11	04/26/2011	1 / 1	0.98
Bismuth-214	pCi/g	0.344 / 0.4	ND	ND			0 / 1	0

Table 4. Summary Statistics for Submerged Sediment in Emory River Reference Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Boron	mg/kg	5.25 / 7.28	10.5	10.5	ERM_RR01	04/20/2011	1 / 4	10.5
C1-Chrysenes	ug/kg		31	34	ERM_RR11	04/26/2011	1 / 1	34
C1-Fluoranthenes/Pyrenes	ug/kg		50	56	ERM_RR11	04/26/2011	1 / 1	56
C1-Fluorenes	ug/kg		3.3	3.4	ERM_RR11	04/26/2011	1 / 1	3.4
C1-Naphthalenes	ug/kg		32	39	ERM_RR11	04/26/2011	1 / 1	39
C1-Phenanthrenes/Anthracenes	ug/kg		36	38	ERM_RR11	04/26/2011	1 / 1	38
C2-Chrysenes	ug/kg		15	16	ERM_RR11	04/26/2011	1 / 1	16
C2-Fluoranthenes/Pyrene	ug/kg		51	56	ERM_RR11	04/26/2011	1 / 1	56
C2-Fluorenes	ug/kg	0.92 / 0.92	ND	ND			0 / 1	0
C2-Naphthalenes	ug/kg		63	81	ERM_RR11	04/26/2011	1 / 1	81
C2-Phenanthrenes/Anthracenes	ug/kg		19	19	ERM_RR11	04/26/2011	1 / 1	19
C3-Chrysenes	ug/kg	0.92 / 0.92	ND	ND			0 / 1	0
C3-Fluoranthenes/Pyrene	ug/kg		16	17	ERM_RR11	04/26/2011	1 / 1	17
C3-Fluorenes	ug/kg	0.92 / 0.92	ND	ND			0 / 1	0
C3-Naphthalenes	ug/kg		48	58	ERM_RR11	04/26/2011	1 / 1	58
C3-Phenanthrenes/Anthracenes	ug/kg		8	8.5	ERM_RR11	04/26/2011	1 / 1	8.5
C4-Chrysenes	ug/kg	0.92 / 0.92	ND	ND			0 / 1	0
C4-Naphthalenes	ug/kg		24	28	ERM_RR11	04/26/2011	1 / 1	28
C4-Phenanthrenes/Anthracenes	ug/kg		8.1	24	ERM_RR11	04/26/2011	1 / 1	24
Cadmium	mg/kg	0.131 / 0.182	ND	ND			0 / 4	0
Calcium	mg/kg		228	1660	ERM_RR11	04/26/2011	4 / 4	720.3
Cesium-137	pCi/g	0.0876 / 0.116	0.093	0.093	ERM_RR11	04/26/2011	1 / 1	0.093
Chromium	mg/kg		4.89	30.2	ERM_RR01	04/20/2011	4 / 4	12.87
Chrysene	ug/kg		42	58	ERM_RR11	04/26/2011	1 / 1	58
Cobalt	mg/kg		3.02	37.2	ERM_RR01	04/20/2011	4 / 4	13.92
Cobalt-60	pCi/g	0.0639 / 0.0749	ND	ND			0 / 1	0
Copper	mg/kg		2.88	13	ERM_RR01	04/20/2011	4 / 4	7.163
delta-BHC	ug/kg	0.47 / 0.47	ND	ND			0 / 1	0

Table 4. Summary Statistics for Submerged Sediment in Emory River Reference Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Dibenz(a,h)anthracene	ug/kg		4.3	5.6	ERM_RR11	04/26/2011	1 / 1	5.6
Dieldrin	ug/kg	0.91 / 0.91	ND	ND			0 / 1	0
Endosulfan I	ug/kg	0.47 / 0.47	ND	ND			0 / 1	0
Endosulfan II	ug/kg	0.91 / 0.91	ND	ND			0 / 1	0
Endosulfan Sulfate	ug/kg	0.91 / 0.91	ND	ND			0 / 1	0
Endrin	ug/kg	0.91 / 0.91	ND	ND			0 / 1	0
Endrin aldehyde	ug/kg	0.91 / 0.91	ND	ND			0 / 1	0
Endrin Ketone	ug/kg	0.91 / 0.91	ND	ND			0 / 1	0
Fluoranthene	ug/kg		63	89	ERM_RR11	04/26/2011	1 / 1	89
Fluorene	ug/kg		4.2	5.6	ERM_RR11	04/26/2011	1 / 1	5.6
Fraction of Organic Carbon	%		2.3	2.5	ERM_RR11	04/26/2011	1 / 1	2.5
gamma-BHC (Lindane)	ug/kg	0.47 / 0.47	ND	ND			0 / 1	0
gamma-Chlordane	ug/kg		0.61	0.71	ERM_RR11	04/26/2011	1 / 1	0.71
Heptachlor	ug/kg	0.47 / 0.47	ND	ND			0 / 1	0
Heptachlor Epoxide	ug/kg	0.47 / 0.47	ND	ND			0 / 1	0
Hex. Chromium	mg/kg	1 / 1	ND	ND			0 / 1	0
Indeno(1,2,3-cd)pyrene	ug/kg		14	17	ERM_RR11	04/26/2011	1 / 1	17
Inorganic Arsenic	mg/kg		1.76	1.98	ERM_RR11	04/26/2011	1 / 1	1.98
Inorganic Mercury	mg/kg		0.0318	0.033	ERM_RR11	04/26/2011	1 / 1	0.033
Inorganic Selenium	mg/kg	0.458 / 0.518	ND	ND			0 / 1	0
Iron	mg/kg		3980	12700	ERM_RR01	04/20/2011	4 / 4	10020
Lead	mg/kg		3.55	22.2	ERM_RR01	04/20/2011	4 / 4	10.98
Lead-212	pCi/g		0.556	0.627	ERM_RR11	04/26/2011	1 / 1	0.627
Lead-214	pCi/g		0.816	0.884	ERM_RR11	04/26/2011	1 / 1	0.884
Magnesium	mg/kg		187	2030	ERM_RR01	04/20/2011	4 / 4	944.3
Manganese	mg/kg		48	450	ERM_RR11	04/26/2011	4 / 4	232.5
Mercury	mg/kg	0.043 / 0.058	0.0325	0.055	ERM_RR01	04/20/2011	2 / 5	0.0441
Methoxychlor	ug/kg	4.7 / 4.7	ND	ND			0 / 1	0

Table 4. Summary Statistics for Submerged Sediment in Emory River Reference Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Methyl mercury	mg/kg		0.00019	0.00064	ERM_RR11	04/26/2011	1 / 1	0.000644
Molybdenum	mg/kg	5.25 / 7.28	ND	ND			0 / 4	0
Naphthalene	ug/kg		14	16	ERM_RR11	04/26/2011	1 / 1	16
Nickel	mg/kg		4.92	30.8	ERM_RR01	04/20/2011	4 / 4	14.01
Organic Arsenic	mg/kg		0.384	0.459	ERM_RR11	04/26/2011	1 / 1	0.459
Organic Selenium	mg/kg	0.627 / 0.837	0.826	0.826	ERM_RR11	04/26/2011	1 / 1	0.826
PCB-1016	ug/kg	2.3 / 2.4	ND	ND			0 / 1	0
PCB-1221	ug/kg	2.3 / 2.4	ND	ND			0 / 1	0
PCB-1232	ug/kg	2.3 / 2.4	ND	ND			0 / 1	0
PCB-1242	ug/kg	2.3 / 2.4	ND	ND			0 / 1	0
PCB-1248	ug/kg	2.3 / 2.4	ND	ND			0 / 1	0
PCB-1254	ug/kg	2.3 / 2.4	ND	ND			0 / 1	0
PCB-1260	ug/kg		12	13	ERM_RR11	04/26/2011	1 / 1	13
Perylene	ug/kg		66	70	ERM_RR11	04/26/2011	1 / 1	70
Phenanthrene	ug/kg		38	57	ERM_RR11	04/26/2011	1 / 1	57
Potassium	mg/kg		453	3870	ERM_RR01	04/20/2011	4 / 4	1458
Potassium-40	pCi/g		3.82	4.68	ERM_RR11	04/26/2011	1 / 1	4.68
Pyrene	ug/kg		110	140	ERM_RR11	04/26/2011	1 / 1	140
Radium-226	pCi/g	0.344 / 0.4	ND	ND			0 / 1	0
Radium-228	pCi/g		0.568	0.779	ERM_RR11	04/26/2011	1 / 1	0.779
Selenate	mg/kg	0.362 / 0.41	ND	ND			0 / 1	0
Selenite	mg/kg	0.458 / 0.518	ND	ND			0 / 1	0
Selenium	mg/kg	0.627 / 1.82	0.826	0.826	ERM_RR11	04/26/2011	1 / 5	0.826
Silver	mg/kg	0.657 / 0.91	ND	ND			0 / 4	0
Sodium	mg/kg	131 / 182	167	167	ERM_RR09	04/19/2011	1 / 4	167
Strontium	mg/kg	5.25 / 7.26	6.43	22.7	ERM_RR01	04/20/2011	3 / 4	12.38
Thallium	mg/kg	1.31 / 1.82	ND	ND			0 / 4	0
Thallium-208	pCi/g		0.182	0.198	ERM_RR11	04/26/2011	1 / 1	0.198

Table 4. Summary Statistics for Submerged Sediment in Emory River Reference Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Thorium-228	pCi/g		0.52	0.628	ERM_RR11	04/26/2011	1 / 1	0.628
Thorium-230	pCi/g		0.528	0.642	ERM_RR11	04/26/2011	1 / 1	0.642
Thorium-232	pCi/g		0.457	0.61	ERM_RR11	04/26/2011	1 / 1	0.61
Thorium-234	pCi/g		1.29	1.94	ERM_RR11	04/26/2011	1 / 1	1.94
Total Organic Carbon	mg/kg		14000	30000	ERM_RR11	04/26/2011	1 / 1	30000
Toxaphene	ug/kg	47 / 47	ND	ND			0 / 1	0
Uranium-234	pCi/g		0.587	0.597	ERM_RR11	04/26/2011	1 / 1	0.597
Uranium-235	pCi/g		0.0328	0.0503	ERM_RR11	04/26/2011	1 / 1	0.0503
Uranium-238	pCi/g		0.522	0.573	ERM_RR11	04/26/2011	1 / 1	0.573
Vanadium	mg/kg		3.72	41.6	ERM_RR01	04/20/2011	4 / 4	16.73
Zinc	mg/kg		15.4	73.3	ERM_RR01	04/20/2011	4 / 4	41.55

Note: For definitions, see the Acronyms section.

Table 5. Summary Statistics for Submerged Sediment in Emory River Reach A Locations

Analyte	Units	Detection Limit Range	Minimum Detected Result	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%		6	64	ERM_A04	01/27/2011	30 / 33	44.2
4,4'-DDD	ug/kg	0.9 / 1.2	ND	ND			0 / 3	0
4,4'-DDE	ug/kg	0.89 / 1.2	ND	ND			0 / 3	0
4,4'-DDT	ug/kg	0.9 / 1.2	ND	ND			0 / 3	0
Acenaphthene	ug/kg	0.9 / 0.98	0.97	2.1	ERM_A40	01/17/2011	2 / 3	1.535
Acenaphthylene	ug/kg	0.9 / 0.98	1.7	1.7	ERM_A40	01/17/2011	1 / 3	1.7
Actinium-228	pCi/g		1.37	2.15	ERM_A40	01/17/2011	3 / 3	1.807
Aldrin	ug/kg	0.46 / 0.6	ND	ND			0 / 3	0
alpha-BHC	ug/kg	0.46 / 0.6	ND	ND			0 / 3	0
alpha-Chlordane	ug/kg	0.46 / 0.6	ND	ND			0 / 3	0
Aluminum	mg/kg		9760	25600	ERM_A40	01/17/2011	12 / 12	15747
Americium-241	pCi/g	0.23 / 0.478	ND	ND			0 / 3	0
Anthracene	ug/kg		1.3	6.8	ERM_A23	01/24/2011	3 / 3	3.733
Antimony	mg/kg	1.5 / 2.21	ND	ND			0 / 12	0
Arsenate	mg/kg	3.46 / 3.46	10.7	25.8	ERM_A40	01/17/2011	2 / 3	18.25
Arsenic	mg/kg		19.2	32.2	ERM_A39	01/17/2011	15 / 15	24.83
Arsenite	mg/kg		6.23	14.4	ERM_A21	01/24/2011	3 / 3	11.51
Barium	mg/kg		163	291	ERM_A40	01/17/2011	12 / 12	236.3
Benzo(a)anthracene	ug/kg		8	21	ERM_A40	01/17/2011	3 / 3	13
Benzo(a)pyrene	ug/kg		8.9	20	ERM_A40	01/17/2011	3 / 3	13.3
Benzo(b)fluoranthene	ug/kg		14	38	ERM_A40	01/17/2011	3 / 3	22.33
Benzo(e)pyrene	ug/kg		8.9	23	ERM_A40	01/17/2011	3 / 3	13.8
Benzo(g,h,i)perylene	ug/kg		4.8	6.8	ERM_A40	01/17/2011	3 / 3	5.633
Benzo(k)fluoranthene	ug/kg		9.6	27	ERM_A40	01/17/2011	3 / 3	16.2
Beryllium	mg/kg		1.26	2.48	ERM_A09	01/25/2011	12 / 12	1.787
beta-BHC	ug/kg	0.46 / 0.51	1	1	ERM_A40	01/17/2011	1 / 3	1
Bismuth-214	pCi/g		2.01	2.37	ERM_A40	01/17/2011	3 / 3	2.227

Table 5. Summary Statistics for Submerged Sediment in Emory River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Boron	mg/kg		15	27.9	ERM_A39	01/17/2011	12 / 12	20.79
C1-Chrysenes	ug/kg		5.6	27	ERM_A40	01/17/2011	3 / 3	14.87
C1-Fluoranthenes/Pyrenes	ug/kg		13	37	ERM_A40	01/17/2011	3 / 3	21.33
C1-Fluorenes	ug/kg		1.2	4.9	ERM_A40	01/17/2011	3 / 3	2.533
C1-Naphthalenes	ug/kg		8.6	39	ERM_A40	01/17/2011	3 / 3	19.2
C1-Phenanthrenes/Anthracenes	ug/kg		9.4	35	ERM_A40	01/17/2011	3 / 3	18.13
C2-Chrysenes	ug/kg		2.9	13	ERM_A40	01/17/2011	3 / 3	7.067
C2-Fluoranthenes/Pyrene	ug/kg		14	34	ERM_A40	01/17/2011	3 / 3	22
C2-Fluorenes	ug/kg		2.7	13	ERM_A40	01/17/2011	3 / 3	6.233
C2-Naphthalenes	ug/kg		21	84	ERM_A40	01/17/2011	3 / 3	43
C2-Phenanthrenes/Anthracenes	ug/kg		7.2	24	ERM_A40	01/17/2011	3 / 3	13
C3-Chrysenes	ug/kg	0.9 / 0.9	0.98	6.2	ERM_A40	01/17/2011	2 / 3	3.59
C3-Fluoranthenes/Pyrene	ug/kg	0.9 / 0.98	5.2	17	ERM_A40	01/17/2011	2 / 3	11.1
C3-Fluorenes	ug/kg		2.2	9.7	ERM_A40	01/17/2011	3 / 3	4.767
C3-Naphthalenes	ug/kg		18	60	ERM_A40	01/17/2011	3 / 3	32.33
C3-Phenanthrenes/Anthracenes	ug/kg		3.7	12	ERM_A40	01/17/2011	3 / 3	6.533
C4-Chrysenes	ug/kg	0.9 / 0.98	1.9	1.9	ERM_A40	01/17/2011	1 / 3	1.9
C4-Naphthalenes	ug/kg		9.5	38	ERM_A40	01/17/2011	3 / 3	19.5
C4-Phenanthrenes/Anthracenes	ug/kg		6.8	38	ERM_A23	01/24/2011	3 / 3	21.27
Cadmium	mg/kg	0.15 / 0.221	ND	ND			0 / 12	0
Calcium	mg/kg		2470	4360	ERM_A40	01/17/2011	12 / 12	3423
Cesium-137	pCi/g	0.0525 / 0.0726	0.136	0.443	ERM_A40	01/17/2011	2 / 3	0.2895
Chromium	mg/kg		14.8	33.2	ERM_A40	01/17/2011	12 / 12	22.36
Chrysene	ug/kg		10	27	ERM_A40	01/17/2011	3 / 3	16
Cobalt	mg/kg		9.53	21.6	ERM_A40	01/17/2011	12 / 12	15.52
Cobalt-60	pCi/g	0.05 / 0.0695	ND	ND			0 / 3	0
Copper	mg/kg		17.6	36	ERM_A40	01/17/2011	12 / 12	26.13
delta-BHC	ug/kg	0.46 / 0.6	ND	ND			0 / 3	0

Table 5. Summary Statistics for Submerged Sediment in Emory River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Dibenz(a,h)anthracene	ug/kg		1.5	2.4	ERM_A40	01/17/2011	3 / 3	1.833
Dieldrin	ug/kg	0.89 / 1.2	ND	ND			0 / 3	0
Endosulfan I	ug/kg	0.46 / 0.6	ND	ND			0 / 3	0
Endosulfan II	ug/kg	0.89 / 1.2	ND	ND			0 / 3	0
Endosulfan Sulfate	ug/kg	0.89 / 1.2	ND	ND			0 / 3	0
Endrin	ug/kg	0.89 / 1.2	ND	ND			0 / 3	0
Endrin aldehyde	ug/kg	0.89 / 1.2	ND	ND			0 / 3	0
Endrin Ketone	ug/kg	0.89 / 1.2	ND	ND			0 / 3	0
Fluoranthene	ug/kg		17	54	ERM_A40	01/17/2011	3 / 3	30
Fluorene	ug/kg		1.4	3.5	ERM_A40	01/17/2011	3 / 3	2.267
Fraction of Organic Carbon	%		1.7	2.4	ERM_A40	01/17/2011	3 / 3	2.1
gamma-BHC (Lindane)	ug/kg	0.46 / 0.6	ND	ND			0 / 3	0
gamma-Chlordane	ug/kg	0.46 / 0.6	ND	ND			0 / 3	0
Heptachlor	ug/kg	0.46 / 0.6	ND	ND			0 / 3	0
Heptachlor Epoxide	ug/kg	0.46 / 0.6	ND	ND			0 / 3	0
Hex. Chromium	mg/kg	0.69 / 0.9	ND	ND			0 / 3	0
Indeno(1,2,3-cd)pyrene	ug/kg		4.6	6.5	ERM_A40	01/17/2011	3 / 3	5.333
Inorganic Arsenic	mg/kg		14.9	32.1	ERM_A40	01/17/2011	3 / 3	23.87
Inorganic Mercury	mg/kg		0.0767	0.198	ERM_A40	01/17/2011	3 / 3	0.1225
Inorganic Selenium	mg/kg	0.556 / 1.12	ND	ND			0 / 3	0
Iron	mg/kg		17400	34200	ERM_A40	01/17/2011	12 / 12	26833
Lead	mg/kg		11.2	23.3	ERM_A40	01/17/2011	12 / 12	15.28
Lead-212	pCi/g		1.66	2.2	ERM_A40	01/17/2011	3 / 3	1.957
Lead-214	pCi/g		2.11	2.97	ERM_A40	01/17/2011	3 / 3	2.613
Magnesium	mg/kg		1010	2450	ERM_A40	01/17/2011	12 / 12	1502
Manganese	mg/kg		201	971	ERM_A40	01/17/2011	12 / 12	443.8
Mercury	mg/kg	0.06 / 0.064	0.068	0.24	ERM_A40	01/17/2011	14 / 15	0.1262
Methoxychlor	ug/kg	4.6 / 6	ND	ND			0 / 3	0

Table 5. Summary Statistics for Submerged Sediment in Emory River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Methyl mercury	mg/kg		0.00149	0.00248	ERM_A23	01/24/2011	3 / 3	0.00203
Molybdenum	mg/kg	6.01 / 8.83	ND	ND			0 / 12	0
Naphthalene	ug/kg		3.9	18	ERM_A40	01/17/2011	3 / 3	8.867
Nickel	mg/kg		16.6	35.5	ERM_A40	01/17/2011	12 / 12	25.63
Organic Arsenic	mg/kg	2.88 / 6.01	4.33	4.33	ERM_A21	01/24/2011	1 / 3	4.33
Organic Selenium	mg/kg		1.6	2.72	ERM_A40	01/17/2011	3 / 3	2.023
PCB-1016	ug/kg	2.3 / 3	ND	ND			0 / 3	0
PCB-1221	ug/kg	2.3 / 3	ND	ND			0 / 3	0
PCB-1232	ug/kg	2.3 / 3	ND	ND			0 / 3	0
PCB-1242	ug/kg	2.3 / 3	ND	ND			0 / 3	0
PCB-1248	ug/kg	2.3 / 3	ND	ND			0 / 3	0
PCB-1254	ug/kg	2.3 / 2.5	3.5	3.5	ERM_A40	01/17/2011	1 / 3	3.5
PCB-1260	ug/kg		2.7	5.4	ERM_A40	01/17/2011	3 / 3	3.733
PCB-1262	ug/kg	2.3 / 3	ND	ND			0 / 3	0
PCB-1268	ug/kg	2.3 / 3	ND	ND			0 / 3	0
Perylene	ug/kg		8.4	36	ERM_A40	01/17/2011	3 / 3	18.03
Phenanthrene	ug/kg		9.7	31	ERM_A40	01/17/2011	3 / 3	16.87
Potassium	mg/kg		958	3280	ERM_A40	01/17/2011	12 / 12	1852
Potassium-40	pCi/g		11.8	15.3	ERM_A40	01/17/2011	3 / 3	13.23
Pyrene	ug/kg		17	54	ERM_A40	01/17/2011	3 / 3	30.33
Radium-226	pCi/g		2.01	2.37	ERM_A40	01/17/2011	3 / 3	2.227
Radium-228	pCi/g		1.37	2.15	ERM_A40	01/17/2011	3 / 3	1.807
Selenate	mg/kg	0.338 / 0.494	ND	ND			0 / 3	0
Selenite	mg/kg	0.556 / 1.12	ND	ND			0 / 3	0
Selenium	mg/kg		1.86	3.34	ERM_A09	01/25/2011	15 / 15	2.578
Silver	mg/kg	0.751 / 1.1	ND	ND			0 / 12	0
Sodium	mg/kg	150 / 211	170	266	ERM_A40	01/17/2011	10 / 12	215.3
Strontium	mg/kg		81.9	170	ERM_A09	01/25/2011	12 / 12	128.5

Table 5. Summary Statistics for Submerged Sediment in Emory River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Thallium	mg/kg	1.5 / 2.21	ND	ND			0 / 12	0
Thallium-208	pCi/g		0.433	0.606	ERM_A40	01/17/2011	3 / 3	0.5283
Thorium-228	pCi/g		1.6	2.09	ERM_A40	01/17/2011	3 / 3	1.877
Thorium-230	pCi/g		2.11	2.58	ERM_A40	01/17/2011	3 / 3	2.373
Thorium-232	pCi/g		1.61	1.95	ERM_A40	01/17/2011	3 / 3	1.797
Thorium-234	pCi/g	1.94 / 3.8	9.28	9.28	ERM_A21	01/24/2011	1 / 3	9.28
Total Organic Carbon	mg/kg		12000	20000	ERM_A23	01/24/2011	3 / 3	17000
Toxaphene	ug/kg	46 / 60	ND	ND			0 / 3	0
Uranium-234	pCi/g		1.89	2.96	ERM_A40	01/17/2011	3 / 3	2.36
Uranium-235	pCi/g		0.101	0.267	ERM_A40	01/17/2011	3 / 3	0.1943
Uranium-238	pCi/g		1.99	2.95	ERM_A40	01/17/2011	3 / 3	2.413
Vanadium	mg/kg		30.1	63.1	ERM_A40	01/17/2011	12 / 12	45.14
Zinc	mg/kg		37.3	86.6	ERM_A40	01/17/2011	12 / 12	55.98

Note: For definitions, see the Acronyms section.

Table 6. Summary Statistics for Submerged Sediment in Emory River Reach B Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%	1 / 1	7	93	ERM_B06	03/22/2011	33 / 36	51.52
4,4'-DDD	ug/kg	0.69 / 1.1	ND	ND			0 / 4	0
4,4'-DDE	ug/kg	0.69 / 1.1	ND	ND			0 / 4	0
4,4'-DDT	ug/kg	0.69 / 1.1	ND	ND			0 / 4	0
Acenaphthene	ug/kg	1 / 1.1	1.1	1.2	ERM_B16	03/14/2011	2 / 3	1.15
Acenaphthylene	ug/kg		1.3	1.7	ERM_B16	03/14/2011	3 / 3	1.5
Actinium-228	pCi/g		0.925	2.76	ERM_B32	02/23/2011	4 / 4	1.589
Aldrin	ug/kg	0.36 / 0.55	ND	ND			0 / 4	0
alpha-BHC	ug/kg	0.36 / 0.55	ND	ND			0 / 4	0
alpha-Chlordane	ug/kg	0.36 / 0.55	ND	ND			0 / 4	0
Aluminum	mg/kg		1750	26800	ERM_B36	02/22/2011	16 / 16	12346
Americium-241	pCi/g	0.156 / 0.389	ND	ND			0 / 4	0
Anthracene	ug/kg		2.8	3.6	ERM_B28	03/14/2011	3 / 3	3.2
Antimony	mg/kg	1.25 / 1.92	1.72	2.34	ERM_B32	02/23/2011	4 / 16	2.133
Arsenate	mg/kg	0.904 / 2.71	2.9	30.9	ERM_B32	02/23/2011	3 / 4	12.38
Arsenic	mg/kg	0.179 / 1.4	3.23	89.5	ERM_B60	01/26/2011	19 / 20	22.67
Arsenite	mg/kg		3.92	20.8	ERM_B32	02/23/2011	4 / 4	10.25
Barium	mg/kg		17.8	377	ERM_B36	02/22/2011	16 / 16	143.7
Benzo(a)anthracene	ug/kg		17	21	ERM_B16	03/14/2011	3 / 3	19.33
Benzo(a)pyrene	ug/kg		18	22	ERM_B11	03/15/2011	3 / 3	20.33
Benzo(b)fluoranthene	ug/kg		26	30	ERM_B11	03/15/2011	3 / 3	28.33
Benzo(e)pyrene	ug/kg		18	21	ERM_B11	03/15/2011	3 / 3	20
Benzo(g,h,i)perylene	ug/kg		8.5	11	ERM_B11	03/15/2011	3 / 3	9.833
Benzo(k)fluoranthene	ug/kg		22	25	ERM_B11	03/15/2011	3 / 3	24
Beryllium	mg/kg	0.498 / 0.58	0.579	3.3	ERM_B60	01/26/2011	14 / 16	1.504
beta-BHC	ug/kg	0.36 / 0.55	ND	ND			0 / 4	0
Bismuth-214	pCi/g		0.861	3.04	ERM_B32	02/23/2011	4 / 4	1.66

Table 6. Summary Statistics for Submerged Sediment in Emory River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Boron	mg/kg	4.98 / 8.22	5.95	52.6	ERM_B13	03/28/2011	9 / 16	24.23
C1-Chrysenes	ug/kg		7.9	21	ERM_B16	03/14/2011	3 / 3	13.3
C1-Fluoranthenes/Pyrenes	ug/kg		0.94	36	ERM_B16	03/14/2011	4 / 4	24.49
C1-Fluorenes	ug/kg		1.1	4.4	ERM_B16	03/14/2011	4 / 4	3.175
C1-Naphthalenes	ug/kg		8.9	33	ERM_B11	03/15/2011	4 / 4	24.98
C1-Phenanthrenes/Anthracenes	ug/kg		3.7	39	ERM_B11	03/15/2011	4 / 4	26.43
C2-Chrysenes	ug/kg		11	15	ERM_B11	03/15/2011	3 / 3	13.67
C2-Fluoranthenes/Pyrene	ug/kg		0.99	43	ERM_B11	03/15/2011	4 / 4	29.75
C2-Fluorenes	ug/kg		2.5	9.6	ERM_B16	03/14/2011	4 / 4	7.225
C2-Naphthalenes	ug/kg		28	76	ERM_B16	03/14/2011	4 / 4	58
C2-Phenanthrenes/Anthracenes	ug/kg		3.3	22	ERM_B11	03/15/2011	4 / 4	15.58
C3-Chrysenes	ug/kg		5.3	8.5	ERM_B16	03/14/2011	3 / 3	7.4
C3-Fluoranthenes/Pyrene	ug/kg		0.72	17	ERM_B16	03/14/2011	4 / 4	11.43
C3-Fluorenes	ug/kg		3.3	8.5	ERM_B11	03/15/2011	4 / 4	6.7
C3-Naphthalenes	ug/kg		25	55	ERM_B16	03/14/2011	4 / 4	42.75
C3-Phenanthrenes/Anthracenes	ug/kg		2.2	11	ERM_B16	03/14/2011	4 / 4	7.775
C4-Chrysenes	ug/kg	1 / 1	3.6	3.9	ERM_B16	03/14/2011	2 / 3	3.75
C4-Naphthalenes	ug/kg		18	34	ERM_B16	03/14/2011	4 / 4	27
C4-Phenanthrenes/Anthracenes	ug/kg		2.2	26	ERM_B28	03/14/2011	4 / 4	13.8
Cadmium	mg/kg	0.125 / 0.192	ND	ND			0 / 16	0
Calcium	mg/kg		284	5460	ERM_B36	02/22/2011	16 / 16	1801
Cesium-137	pCi/g	0.038 / 0.0783	0.0842	0.157	ERM_B16	03/14/2011	3 / 4	0.1157
Chromium	mg/kg		2.6	37.5	ERM_B32	02/23/2011	16 / 16	16.78
Chrysene	ug/kg		23	28	ERM_B16	03/14/2011	3 / 3	26
Cobalt	mg/kg		2.46	18.5	ERM_B60	01/26/2011	16 / 16	10.27
Cobalt-60	pCi/g	0.0411 / 0.0803	ND	ND			0 / 4	0
Copper	mg/kg		1.9	52.3	ERM_B60	01/26/2011	16 / 16	19.16

Table 6. Summary Statistics for Submerged Sediment in Emory River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
delta-BHC	ug/kg	0.36 / 0.55	ND	ND			0 / 4	0
Dibenz(a,h)anthracene	ug/kg		2.7	3.2	ERM_B11	03/15/2011	3 / 3	3.033
Dieldrin	ug/kg	0.69 / 1.1	ND	ND			0 / 4	0
Endosulfan I	ug/kg	0.36 / 0.55	ND	ND			0 / 4	0
Endosulfan II	ug/kg	0.69 / 1.1	ND	ND			0 / 4	0
Endosulfan Sulfate	ug/kg	0.69 / 1.1	ND	ND			0 / 4	0
Endrin	ug/kg	0.69 / 1.1	ND	ND			0 / 4	0
Endrin aldehyde	ug/kg	0.69 / 1.1	ND	ND			0 / 4	0
Endrin Ketone	ug/kg	0.69 / 1.1	ND	ND			0 / 4	0
Fluoranthene	ug/kg		43	47	ERM_B11	03/15/2011	3 / 3	45.67
Fluorene	ug/kg		2.4	3.6	ERM_B16	03/14/2011	3 / 3	3.167
Fraction of Organic Carbon	%		0.48	2.3	ERM_B16	03/14/2011	4 / 4	1.695
gamma-BHC (Lindane)	ug/kg	0.36 / 0.55	ND	ND			0 / 4	0
gamma-Chlordane	ug/kg	0.36 / 0.55	ND	ND			0 / 4	0
Heptachlor	ug/kg	0.36 / 0.55	ND	ND			0 / 4	0
Heptachlor Epoxide	ug/kg	0.36 / 0.55	ND	ND			0 / 4	0
Hex. Chromium	mg/kg	0.29 / 0.81	0.36	0.36	ERM_B32	02/23/2011	1 / 4	0.36
Indeno(1,2,3-cd)pyrene	ug/kg		7.5	9.9	ERM_B11	03/15/2011	3 / 3	8.833
Inorganic Arsenic	mg/kg		6.81	51.7	ERM_B32	02/23/2011	4 / 4	19.83
Inorganic Mercury	mg/kg		0.0579	0.106	ERM_B16	03/14/2011	4 / 4	0.08365
Inorganic Selenium	mg/kg	0.567 / 3.07	ND	ND			0 / 4	0
Iron	mg/kg		3890	30100	ERM_B60	01/26/2011	16 / 16	15455
Lead	mg/kg		3.41	26.4	ERM_B32	02/23/2011	16 / 16	13.02
Lead-212	pCi/g		0.966	2.88	ERM_B32	02/23/2011	4 / 4	1.637
Lead-214	pCi/g		1.13	3.88	ERM_B32	02/23/2011	4 / 4	2.098
Magnesium	mg/kg		178	2100	ERM_B36	02/22/2011	16 / 16	969.9
Manganese	mg/kg		55.6	712	ERM_B26	03/14/2011	16 / 16	239.6

Table 6. Summary Statistics for Submerged Sediment in Emory River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Mercury	mg/kg	0.043 / 0.057	0.052	0.12	ERM_B13	03/28/2011	14 / 20	0.08445
Methoxychlor	ug/kg	3.6 / 5.5	ND	ND			0 / 4	0
Methyl mercury	mg/kg		0.00049	0.00158	ERM_B28	03/14/2011	4 / 4	0.0007893
Molybdenum	mg/kg	4.98 / 7.68	ND	ND			0 / 16	0
Naphthalene	ug/kg		4.4	13	ERM_B16	03/14/2011	4 / 4	9.85
Nickel	mg/kg		3.72	34.6	ERM_B60	01/26/2011	16 / 16	17.79
Organic Arsenic	mg/kg	0.832 / 12.5	ND	ND			0 / 4	0
Organic Selenium	mg/kg	0.465 / 0.465	1.3	2.25	ERM_B16	03/14/2011	3 / 4	1.82
PCB-1016	ug/kg	1.8 / 2.8	ND	ND			0 / 4	0
PCB-1221	ug/kg	1.8 / 2.8	ND	ND			0 / 4	0
PCB-1232	ug/kg	1.8 / 2.8	ND	ND			0 / 4	0
PCB-1242	ug/kg	1.8 / 2.8	ND	ND			0 / 4	0
PCB-1248	ug/kg	1.8 / 2.8	ND	ND			0 / 4	0
PCB-1254	ug/kg	1.8 / 1.8	6.4	7.7	ERM_B16	03/14/2011	3 / 4	7.2
PCB-1260	ug/kg	1.8 / 1.8	4.7	6.4	ERM_B16	03/14/2011	3 / 4	5.733
Perylene	ug/kg		39	240	ERM_B16	03/14/2011	3 / 3	163
Phenanthrene	ug/kg		1.5	24	ERM_B11	03/15/2011	4 / 4	17.63
Potassium	mg/kg		199	3290	ERM_B32	02/23/2011	16 / 16	1414
Potassium-40	pCi/g		7.37	17.6	ERM_B32	02/23/2011	4 / 4	11.02
Pyrene	ug/kg		32	37	ERM_B11	03/15/2011	3 / 3	34.67
Radium-226	pCi/g		0.861	3.04	ERM_B32	02/23/2011	4 / 4	1.66
Radium-228	pCi/g		0.925	2.76	ERM_B32	02/23/2011	4 / 4	1.589
Selenate	mg/kg	0.313 / 0.517	ND	ND			0 / 4	0
Selenite	mg/kg	0.567 / 3.07	ND	ND			0 / 4	0
Selenium	mg/kg	0.465 / 1.92	1.3	4.59	ERM_B60	01/26/2011	9 / 20	2.9
Silver	mg/kg	0.623 / 0.96	ND	ND			0 / 16	0
Sodium	mg/kg	125 / 192	178	370	ERM_B36	02/22/2011	5 / 16	298.2

Table 6. Summary Statistics for Submerged Sediment in Emory River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Strontium	mg/kg	4.98 / 5.59	10.6	239	ERM_B36	02/22/2011	15 / 16	86.02
Thallium	mg/kg	1.25 / 1.92	2.82	2.82	ERM_B60	01/26/2011	1 / 16	2.82
Thallium-208	pCi/g		0.283	0.971	ERM_B32	02/23/2011	4 / 4	0.5118
Thorium-228	pCi/g		0.55	2.89	ERM_B32	02/23/2011	4 / 4	1.52
Thorium-230	pCi/g		0.835	3.73	ERM_B32	02/23/2011	4 / 4	1.809
Thorium-232	pCi/g		0.699	2.61	ERM_B32	02/23/2011	4 / 4	1.385
Thorium-234	pCi/g	1.32 / 2.57	3.38	6.99	ERM_B32	02/23/2011	2 / 4	5.185
Total Organic Carbon	mg/kg	360 / 360	13000	16000	ERM_B11	03/15/2011	3 / 4	15000
Toxaphene	ug/kg	36 / 55	ND	ND			0 / 4	0
Uranium-234	pCi/g		0.872	3.7	ERM_B32	02/23/2011	4 / 4	1.733
Uranium-235	pCi/g	0.0614 / 0.117	0.164	0.164	ERM_B32	02/23/2011	1 / 4	0.164
Uranium-238	pCi/g		0.803	3.35	ERM_B32	02/23/2011	4 / 4	1.552
Vanadium	mg/kg		3.69	78.5	ERM_B60	01/26/2011	16 / 16	33.67
Zinc	mg/kg		18.7	77.3	ERM_B16	03/14/2011	16 / 16	42.94

Note: For definitions, see the Acronyms section.

Table 7. Summary Statistics for Submerged Sediment in Emory River Reach C Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%	1 / 1	3	73	ERM_C22	03/29/2011	10 / 15	26.7
4,4'-DDD	ug/kg	0.91 / 1.4	ND	ND			0 / 3	0
4,4'-DDE	ug/kg	0.91 / 1.4	ND	ND			0 / 3	0
4,4'-DDT	ug/kg	0.91 / 1.4	ND	ND			0 / 3	0
Acenaphthene	ug/kg	1.1 / 2.3	1.4	1.4	ERM_C21	03/29/2011	1 / 3	1.4
Acenaphthylene	ug/kg	1.1 / 2.3	2.8	2.8	ERM_C21	03/29/2011	1 / 3	2.8
Actinium-228	pCi/g	0.172 / 0.653	0.976	2.75	ERM_C10	04/14/2011	2 / 3	1.863
Aldrin	ug/kg	0.47 / 0.72	ND	ND			0 / 3	0
alpha-BHC	ug/kg	0.47 / 0.72	0.67	0.67	ERM_C21	03/29/2011	1 / 3	0.67
alpha-Chlordane	ug/kg	0.47 / 0.72	ND	ND			0 / 3	0
Aluminum	mg/kg		1430	38800	ERM_C29	03/24/2011	10 / 10	11697
Americium-241	pCi/g	0.0624 / 0.583	ND	ND			0 / 3	0
Anthracene	ug/kg	1.1 / 2.3	2.7	8.1	ERM_C21	03/29/2011	2 / 3	5.4
Antimony	mg/kg	1.14 / 2.7	ND	ND			0 / 10	0
Arsenate	mg/kg	1.19 / 1.19	3.57	17.8	ERM_C10	04/14/2011	2 / 3	10.69
Arsenic	mg/kg	0.26 / 1.47	2.15	76.9	ERM_C10	04/14/2011	9 / 13	18.15
Arsenite	mg/kg		1.72	46.9	ERM_C10	04/14/2011	3 / 3	17.12
Barium	mg/kg		11.9	305	ERM_C10	04/14/2011	10 / 10	84.6
Benzo(a)anthracene	ug/kg		6.6	49	ERM_C21	03/29/2011	3 / 3	24.2
Benzo(a)pyrene	ug/kg		4.1	46	ERM_C21	03/29/2011	3 / 3	23.37
Benzo(b)fluoranthene	ug/kg		8.7	53	ERM_C21	03/29/2011	3 / 3	29.57
Benzo(e)pyrene	ug/kg		7.1	35	ERM_C21	03/29/2011	3 / 3	20.7
Benzo(g,h,i)perylene	ug/kg		3.6	18	ERM_C21	03/29/2011	3 / 3	11.2
Benzo(k)fluoranthene	ug/kg		5.4	48	ERM_C21	03/29/2011	3 / 3	25.47
Beryllium	mg/kg	0.455 / 0.691	0.903	2.86	ERM_C10	04/14/2011	3 / 10	1.758
beta-BHC	ug/kg	0.47 / 0.72	0.87	0.87	ERM_C21	03/29/2011	1 / 3	0.87
Bismuth-214	pCi/g		0.841	3.16	ERM_C10	04/14/2011	3 / 3	1.717

Table 7. Summary Statistics for Submerged Sediment in Emory River Reach C Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Boron	mg/kg	4.55 / 6.91	7.49	40.2	ERM_C10	04/14/2011	4 / 10	21.72
C1-Chrysenes	ug/kg		14	18	ERM_C10	04/14/2011	3 / 3	16
C1-Fluoranthenes/Pyrenes	ug/kg		19	55	ERM_C21	03/29/2011	3 / 3	34.33
C1-Fluorenes	ug/kg		3.2	4.3	ERM_C21	03/29/2011	3 / 3	3.833
C1-Naphthalenes	ug/kg		24	27	ERM_C10	04/14/2011	3 / 3	25.33
C1-Phenanthrenes/Anthracenes	ug/kg		22	35	ERM_C21	03/29/2011	3 / 3	29.33
C2-Chrysenes	ug/kg		5.3	16	ERM_C21	03/29/2011	3 / 3	10.43
C2-Fluoranthenes/Pyrene	ug/kg		25	52	ERM_C21	03/29/2011	3 / 3	35.67
C2-Fluorenes	ug/kg	1.1 / 2.3	7.1	8	ERM_C21	03/29/2011	2 / 3	7.55
C2-Naphthalenes	ug/kg		49	70	ERM_C10	04/14/2011	3 / 3	58.33
C2-Phenanthrenes/Anthracenes	ug/kg		15	23	ERM_C21	03/29/2011	3 / 3	19.67
C3-Chrysenes	ug/kg	1.1 / 2.3	7	7	ERM_C21	03/29/2011	1 / 3	7
C3-Fluoranthenes/Pyrene	ug/kg		11	17	ERM_C21	03/29/2011	3 / 3	14.33
C3-Fluorenes	ug/kg	1.1 / 2.3	6.5	7.1	ERM_C21	03/29/2011	2 / 3	6.8
C3-Naphthalenes	ug/kg		34	61	ERM_C10	04/14/2011	3 / 3	45.67
C3-Phenanthrenes/Anthracenes	ug/kg		7.4	13	ERM_C10	04/14/2011	3 / 3	10.13
C4-Chrysenes	ug/kg	1.1 / 2.3	ND	ND			0 / 3	0
C4-Naphthalenes	ug/kg		19	41	ERM_C10	04/14/2011	3 / 3	28.67
C4-Phenanthrenes/Anthracenes	ug/kg		9.4	20	ERM_C21	03/29/2011	3 / 3	15.47
Cadmium	mg/kg	0.114 / 0.27	ND	ND			0 / 10	0
Calcium	mg/kg	114 / 129	224	3820	ERM_C10	04/14/2011	8 / 10	1140
Cesium-137	pCi/g	0.0575 / 0.0575	0.181	0.246	ERM_C29	03/24/2011	2 / 3	0.2135
Chromium	mg/kg		2.28	39.5	ERM_C29	03/24/2011	10 / 10	13.34
Chrysene	ug/kg		9.2	51	ERM_C21	03/29/2011	3 / 3	27.73
Cobalt	mg/kg		1.53	21.6	ERM_C29	03/24/2011	10 / 10	7.886
Cobalt-60	pCi/g	0.0514 / 0.0847	ND	ND			0 / 3	0
Copper	mg/kg	1.14 / 1.47	1.21	49	ERM_C10	04/14/2011	8 / 10	12.49

Table 7. Summary Statistics for Submerged Sediment in Emory River Reach C Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
delta-BHC	ug/kg	0.47 / 0.72	0.72	0.72	ERM_C21	03/29/2011	1 / 3	0.72
Dibenz(a,h)anthracene	ug/kg	1.1 / 2.3	3.8	6.2	ERM_C21	03/29/2011	2 / 3	5
Dieldrin	ug/kg	0.91 / 1.4	ND	ND			0 / 3	0
Endosulfan I	ug/kg	0.47 / 0.72	ND	ND			0 / 3	0
Endosulfan II	ug/kg	0.91 / 1.4	ND	ND			0 / 3	0
Endosulfan Sulfate	ug/kg	0.91 / 1.4	ND	ND			0 / 3	0
Endrin	ug/kg	0.91 / 1.4	ND	ND			0 / 3	0
Endrin aldehyde	ug/kg	0.91 / 1.4	ND	ND			0 / 3	0
Endrin Ketone	ug/kg	0.91 / 1.4	ND	ND			0 / 3	0
Fluoranthene	ug/kg		22	92	ERM_C21	03/29/2011	3 / 3	51
Fluorene	ug/kg		2.6	4	ERM_C21	03/29/2011	3 / 3	3.167
Fraction of Organic Carbon	%		1.6	3.3	ERM_C21	03/29/2011	3 / 3	2.533
gamma-BHC (Lindane)	ug/kg	0.47 / 0.72	ND	ND			0 / 3	0
gamma-Chlordane	ug/kg	0.47 / 0.72	ND	ND			0 / 3	0
Heptachlor	ug/kg	0.47 / 0.72	ND	ND			0 / 3	0
Heptachlor Epoxide	ug/kg	0.47 / 0.72	ND	ND			0 / 3	0
Hex. Chromium	mg/kg	2.2 / 2.8	ND	ND			0 / 2	0
Indeno(1,2,3-cd)pyrene	ug/kg		2.4	17	ERM_C21	03/29/2011	3 / 3	9.8
Inorganic Arsenic	mg/kg		1.82	64.8	ERM_C10	04/14/2011	3 / 3	24.31
Inorganic Mercury	mg/kg		0.0546	0.123	ERM_C10	04/14/2011	3 / 3	0.0913
Inorganic Selenium	mg/kg	0.546 / 0.648	2.34	2.34	ERM_C10	04/14/2011	1 / 3	2.34
Iron	mg/kg		2480	32200	ERM_C29	03/24/2011	10 / 10	11925
Lead	mg/kg		2.15	29	ERM_C10	04/14/2011	10 / 10	9.908
Lead-212	pCi/g		0.705	2.79	ERM_C10	04/14/2011	3 / 3	1.715
Lead-214	pCi/g		0.961	3.99	ERM_C10	04/14/2011	3 / 3	2.154
Magnesium	mg/kg	114 / 141	135	3460	ERM_C29	03/24/2011	9 / 10	1056
Manganese	mg/kg		24.5	660	ERM_C29	03/24/2011	10 / 10	273.4

Table 7. Summary Statistics for Submerged Sediment in Emory River Reach C Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Mercury	mg/kg	0.037 / 0.068	0.056	0.124	ERM_C10	04/14/2011	5 / 13	0.09498
Methoxychlor	ug/kg	4.7 / 7.2	ND	ND			0 / 3	0
Methyl mercury	mg/kg		0.00055	0.00139	ERM_C21	03/29/2011	3 / 3	0.0008373
Molybdenum	mg/kg	4.55 / 10.8	ND	ND			0 / 10	0
Naphthalene	ug/kg		9.4	11	ERM_C10	04/14/2011	3 / 3	10
Nickel	mg/kg		2.65	35	ERM_C10	04/14/2011	10 / 10	12.64
Organic Arsenic	mg/kg	1.19 / 11.1	1.82	1.82	ERM_C21	03/29/2011	1 / 3	1.82
Organic Selenium	mg/kg	0.673 / 1.18	0.709	2.37	ERM_C10	04/14/2011	2 / 3	1.54
PCB-1016	ug/kg	2.3 / 3.6	ND	ND			0 / 3	0
PCB-1221	ug/kg	2.3 / 3.6	ND	ND			0 / 3	0
PCB-1232	ug/kg	2.3 / 3.6	ND	ND			0 / 3	0
PCB-1242	ug/kg	2.3 / 3.6	ND	ND			0 / 3	0
PCB-1248	ug/kg	2.3 / 3.6	ND	ND			0 / 3	0
PCB-1254	ug/kg	2.3 / 3.6	ND	ND			0 / 3	0
PCB-1260	ug/kg		2.9	34	ERM_C29	03/24/2011	3 / 3	14.83
Perylene	ug/kg		36	310	ERM_C29	03/24/2011	3 / 3	162
Phenanthrene	ug/kg		15	34	ERM_C21	03/29/2011	3 / 3	22
Potassium	mg/kg		171	6310	ERM_C29	03/24/2011	10 / 10	1649
Potassium-40	pCi/g		6.42	20.4	ERM_C10	04/14/2011	3 / 3	14.87
Pyrene	ug/kg		18	67	ERM_C21	03/29/2011	3 / 3	39
Radium-226	pCi/g		0.841	3.16	ERM_C10	04/14/2011	3 / 3	1.717
Radium-228	pCi/g	0.172 / 0.653	0.976	2.75	ERM_C10	04/14/2011	2 / 3	1.863
Selenate	mg/kg	0.432 / 0.513	ND	ND			0 / 3	0
Selenite	mg/kg	0.546 / 0.648	2.34	2.34	ERM_C10	04/14/2011	1 / 3	2.34
Selenium	mg/kg	0.673 / 2.7	0.709	5.16	ERM_C10	04/14/2011	3 / 13	3.526
Silver	mg/kg	0.569 / 1.35	ND	ND			0 / 10	0
Sodium	mg/kg	114 / 270	404	404	ERM_C10	04/14/2011	1 / 10	404

Table 7. Summary Statistics for Submerged Sediment in Emory River Reach C Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Strontium	mg/kg	4.55 / 6.91	4.62	202	ERM_C10	04/14/2011	5 / 10	55.9
Thallium	mg/kg	1.14 / 2.7	ND	ND			0 / 10	0
Thallium-208	pCi/g		0.236	0.721	ERM_C10	04/14/2011	3 / 3	0.4663
Thorium-228	pCi/g		0.724	2.39	ERM_C10	04/14/2011	3 / 3	1.558
Thorium-230	pCi/g		0.677	3.29	ERM_C10	04/14/2011	3 / 3	1.676
Thorium-232	pCi/g		0.656	2.49	ERM_C10	04/14/2011	3 / 3	1.505
Thorium-234	pCi/g	0.598 / 4.65	0.86	0.86	ERM_C21	03/29/2011	1 / 3	0.86
Total Organic Carbon	mg/kg		13000	37000	ERM_C21	03/29/2011	3 / 3	23667
Toxaphene	ug/kg	47 / 72	ND	ND			0 / 3	0
Uranium-234	pCi/g		0.852	3.3	ERM_C10	04/14/2011	3 / 3	1.791
Uranium-235	pCi/g	0.0487 / 0.0599	0.0962	0.13	ERM_C10	04/14/2011	2 / 3	0.1131
Uranium-238	pCi/g		0.933	2.99	ERM_C10	04/14/2011	3 / 3	1.791
Vanadium	mg/kg	2.28 / 2.93	4.73	75.8	ERM_C10	04/14/2011	8 / 10	26.37
Zinc	mg/kg		9.4	111	ERM_C29	03/24/2011	10 / 10	39.44

Note: For definitions, see the Acronyms section.

Table 8. Summary Statistics for Submerged Sediment in Clinch River Reference Sediments

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%	1 / 1	ND	ND			0 / 1	0
4,4'-DDD	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
4,4'-DDE	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
4,4'-DDT	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
Acenaphthene	ug/kg	0.85 / 0.85	ND	ND			0 / 1	0
Acenaphthylene	ug/kg	0.85 / 0.85	ND	ND			0 / 1	0
Actinium-228	pCi/g		0.746	0.746	CRM_RR02	01/05/2011	1 / 1	0.746
Aldrin	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
alpha-BHC	ug/kg		0.5	0.5	CRM_RR02	01/05/2011	1 / 1	0.5
alpha-Chlordane	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Aluminum	mg/kg		10700	11900	CRM_RR01	12/29/2010	3 / 3	11333
Americium-241	pCi/g	0.134 / 0.134	ND	ND			0 / 1	0
Anthracene	ug/kg		1.3	1.3	CRM_RR02	01/05/2011	1 / 1	1.3
Antimony	mg/kg	1.47 / 1.56	ND	ND			0 / 3	0
Arsenate	mg/kg		5.15	5.15	CRM_RR02	01/05/2011	1 / 1	5.15
Arsenic	mg/kg		2.33	9.16	CRM_RR01	12/29/2010	4 / 4	5.363
Arsenite	mg/kg	1.72 / 1.72	ND	ND			0 / 1	0
Barium	mg/kg		64.4	88	CRM_RR01	12/29/2010	3 / 3	73.77
Benzo(a)anthracene	ug/kg		9.1	9.1	CRM_RR02	01/05/2011	1 / 1	9.1
Benzo(a)pyrene	ug/kg		10	10	CRM_RR02	01/05/2011	1 / 1	10
Benzo(b)fluoranthene	ug/kg		16	16	CRM_RR02	01/05/2011	1 / 1	16
Benzo(e)pyrene	ug/kg		10	10	CRM_RR02	01/05/2011	1 / 1	10
Benzo(g,h,i)perylene	ug/kg		8.5	8.5	CRM_RR02	01/05/2011	1 / 1	8.5
Benzo(k)fluoranthene	ug/kg		11	11	CRM_RR02	01/05/2011	1 / 1	11
Beryllium	mg/kg	0.586 / 0.624	0.686	0.686	CRM_RR01	12/29/2010	1 / 3	0.686
beta-BHC	ug/kg		1.6	1.6	CRM_RR02	01/05/2011	1 / 1	1.6
Bismuth-214	pCi/g		0.561	0.561	CRM_RR02	01/05/2011	1 / 1	0.561

Table 8. Summary Statistics for Submerged Sediment in Clinch River Reference Sediments (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Boron	mg/kg		11.3	15.1	CRM_RR03	12/29/2010	3 / 3	12.57
C1-Chrysenes	ug/kg		9.6	9.6	CRM_RR02	01/05/2011	1 / 1	9.6
C1-Fluoranthenes/Pyrenes	ug/kg		19	19	CRM_RR02	01/05/2011	1 / 1	19
C1-Fluorenes	ug/kg		3.8	3.8	CRM_RR02	01/05/2011	1 / 1	3.8
C1-Naphthalenes	ug/kg		14	14	CRM_RR02	01/05/2011	1 / 1	14
C1-Phenanthrenes/Anthracenes	ug/kg		14	14	CRM_RR02	01/05/2011	1 / 1	14
C2-Chrysenes	ug/kg		4.7	4.7	CRM_RR02	01/05/2011	1 / 1	4.7
C2-Fluoranthenes/Pyrene	ug/kg		16	16	CRM_RR02	01/05/2011	1 / 1	16
C2-Fluorenes	ug/kg		2.9	2.9	CRM_RR02	01/05/2011	1 / 1	2.9
C2-Naphthalenes	ug/kg		33	33	CRM_RR02	01/05/2011	1 / 1	33
C2-Phenanthrenes/Anthracenes	ug/kg		9.6	9.6	CRM_RR02	01/05/2011	1 / 1	9.6
C3-Chrysenes	ug/kg		2.1	2.1	CRM_RR02	01/05/2011	1 / 1	2.1
C3-Fluoranthenes/Pyrene	ug/kg		6.5	6.5	CRM_RR02	01/05/2011	1 / 1	6.5
C3-Fluorenes	ug/kg		2.4	2.4	CRM_RR02	01/05/2011	1 / 1	2.4
C3-Naphthalenes	ug/kg		23	23	CRM_RR02	01/05/2011	1 / 1	23
C3-Phenanthrenes/Anthracenes	ug/kg		5.1	5.1	CRM_RR02	01/05/2011	1 / 1	5.1
C4-Chrysenes	ug/kg	0.85 / 0.85	ND	ND			0 / 1	0
C4-Naphthalenes	ug/kg		13	13	CRM_RR02	01/05/2011	1 / 1	13
C4-Phenanthrenes/Anthracenes	ug/kg		1.4	1.4	CRM_RR02	01/05/2011	1 / 1	1.4
Cadmium	mg/kg	0.147 / 0.156	ND	ND			0 / 3	0
Calcium	mg/kg		2160	3110	CRM_RR01	12/29/2010	3 / 3	2487
Cesium-137	pCi/g		2.23	2.23	CRM_RR02	01/05/2011	1 / 1	2.23
Chromium	mg/kg		15.9	27.9	CRM_RR01	12/29/2010	3 / 3	20.53
Chrysene	ug/kg		12	12	CRM_RR02	01/05/2011	1 / 1	12
Cobalt	mg/kg		9.38	11.7	CRM_RR01	12/29/2010	3 / 3	10.3
Cobalt-60	pCi/g	0.0481 / 0.0481	ND	ND			0 / 1	0

Table 8. Summary Statistics for Submerged Sediment in Clinch River Reference Sediments (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Copper	mg/kg		8.47	15.5	CRM_RR01	12/29/2010	3 / 3	10.98
delta-BHC	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Dibenz(a,h)anthracene	ug/kg		2.8	2.8	CRM_RR02	01/05/2011	1 / 1	2.8
Dieldrin	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
Endosulfan I	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Endosulfan II	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
Endosulfan Sulfate	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
Endrin	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
Endrin aldehyde	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
Endrin Ketone	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
Fluoranthene	ug/kg		22	22	CRM_RR02	01/05/2011	1 / 1	22
Fluorene	ug/kg		1.3	1.3	CRM_RR02	01/05/2011	1 / 1	1.3
Fraction of Organic Carbon	%		1.2	1.2	CRM_RR02	01/05/2011	1 / 1	1.2
gamma-BHC (Lindane)	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
gamma-Chlordane	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Heptachlor	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Heptachlor Epoxide	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Hex. Chromium	mg/kg	0.32 / 0.32	ND	ND			0 / 1	0
Indeno(1,2,3-cd)pyrene	ug/kg		8.2	8.2	CRM_RR02	01/05/2011	1 / 1	8.2
Inorganic Arsenic	mg/kg		5.15	5.15	CRM_RR02	01/05/2011	1 / 1	5.15
Inorganic Mercury	mg/kg		0.635	0.635	CRM_RR02	01/05/2011	1 / 1	0.635
Inorganic Selenium	mg/kg	0.312 / 0.312	ND	ND			0 / 1	0
Iron	mg/kg		14700	18900	CRM_RR01	12/29/2010	3 / 3	16200
Lead	mg/kg		12.2	19.2	CRM_RR01	12/29/2010	3 / 3	14.7
Lead-212	pCi/g		0.731	0.731	CRM_RR02	01/05/2011	1 / 1	0.731
Lead-214	pCi/g		0.711	0.711	CRM_RR02	01/05/2011	1 / 1	0.711
Magnesium	mg/kg		1610	1900	CRM_RR03	12/29/2010	3 / 3	1793

Table 8. Summary Statistics for Submerged Sediment in Clinch River Reference Sediments (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Manganese	mg/kg		872	1160	CRM_RR02	01/05/2011	3 / 3	1057
Mercury	mg/kg		0.35	5	CRM_RR01	12/29/2010	4 / 4	1.681
Methoxychlor	ug/kg	4.4 / 4.4	ND	ND			0 / 1	0
Methyl mercury	mg/kg		0.00055	0.00055	CRM_RR02	01/05/2011	1 / 1	0.000554
Molybdenum	mg/kg	5.86 / 6.24	ND	ND			0 / 3	0
Naphthalene	ug/kg		5.4	5.4	CRM_RR02	01/05/2011	1 / 1	5.4
Nickel	mg/kg		10.5	19.4	CRM_RR01	12/29/2010	3 / 3	13.63
Organic Arsenic	mg/kg	4.31 / 4.31	ND	ND			0 / 1	0
Organic Selenium	mg/kg	0.728 / 0.728	ND	ND			0 / 1	0
PCB-1016	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1221	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1232	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1242	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1248	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1254	ug/kg		16	16	CRM_RR02	01/05/2011	1 / 1	16
PCB-1260	ug/kg		10	10	CRM_RR02	01/05/2011	1 / 1	10
PCB-1262	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1268	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
Perylene	ug/kg		33	33	CRM_RR02	01/05/2011	1 / 1	33
Phenanthrene	ug/kg		12	12	CRM_RR02	01/05/2011	1 / 1	12
Potassium	mg/kg		1740	2490	CRM_RR03	12/29/2010	3 / 3	2050
Potassium-40	pCi/g		8.57	8.57	CRM_RR02	01/05/2011	1 / 1	8.57
Pyrene	ug/kg		16	16	CRM_RR02	01/05/2011	1 / 1	16
Radium-226	pCi/g		0.561	0.561	CRM_RR02	01/05/2011	1 / 1	0.561
Radium-228	pCi/g		0.746	0.746	CRM_RR02	01/05/2011	1 / 1	0.746
Selenate	mg/kg	0.247 / 0.247	ND	ND			0 / 1	0
Selenite	mg/kg	0.312 / 0.312	ND	ND			0 / 1	0

Table 8. Summary Statistics for Submerged Sediment in Clinch River Reference Sediments (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Selenium	mg/kg	0.728 / 1.56	ND	ND			0 / 4	0
Silver	mg/kg	0.733 / 0.78	ND	ND			0 / 3	0
Sodium	mg/kg	147 / 156	ND	ND			0 / 3	0
Strontium	mg/kg		10.6	17.6	CRM_RR01	12/29/2010	3 / 3	13.1
Thallium	mg/kg	1.47 / 1.56	ND	ND			0 / 3	0
Thallium-208	pCi/g		0.21	0.21	CRM_RR02	01/05/2011	1 / 1	0.21
Thorium-228	pCi/g		0.413	0.413	CRM_RR02	01/05/2011	1 / 1	0.413
Thorium-230	pCi/g		0.79	0.79	CRM_RR02	01/05/2011	1 / 1	0.79
Thorium-232	pCi/g		0.668	0.668	CRM_RR02	01/05/2011	1 / 1	0.668
Thorium-234	pCi/g	1.22 / 1.22	ND	ND			0 / 1	0
Total Organic Carbon	mg/kg		4300	4300	CRM_RR02	01/05/2011	1 / 1	4300
Toxaphene	ug/kg	44 / 44	ND	ND			0 / 1	0
Uranium-234	pCi/g		0.459	0.459	CRM_RR02	01/05/2011	1 / 1	0.459
Uranium-235	pCi/g	0.099 / 0.099	ND	ND			0 / 1	0
Uranium-238	pCi/g		0.489	0.489	CRM_RR02	01/05/2011	1 / 1	0.489
Vanadium	mg/kg		15.4	21.3	CRM_RR01	12/29/2010	3 / 3	17.83
Zinc	mg/kg		52.1	67.9	CRM_RR01	12/29/2010	3 / 3	57.5

Note: For definitions, see the Acronyms section.

Table 9. Summary Statistics for Submerged Sediment in Clinch River Reach A Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%		13	48	CRM_A01	12/08/2010	8 / 8	32.25
4,4'-DDD	ug/kg	0.99 / 1.4	ND	ND			0 / 3	0
4,4'-DDE	ug/kg	0.99 / 1.4	ND	ND			0 / 3	0
4,4'-DDT	ug/kg	0.99 / 1.4	ND	ND			0 / 3	0
Acenaphthene	ug/kg	1 / 4.3	ND	ND			0 / 3	0
Acenaphthylene	ug/kg	1 / 4.3	ND	ND			0 / 3	0
Actinium-228	pCi/g		1.81	2.19	CRM_A13	12/15/2010	3 / 3	2.06
Aldrin	ug/kg	0.51 / 0.7	ND	ND			0 / 3	0
alpha-BHC	ug/kg	0.51 / 0.51	2	2.1	CRM_A22	12/15/2010	2 / 3	2.05
alpha-Chlordane	ug/kg	0.51 / 0.7	ND	ND			0 / 3	0
Aluminum	mg/kg		15200	44200	CRM_A18	12/15/2010	12 / 12	25383
Americium-241	pCi/g	0.255 / 0.558	ND	ND			0 / 3	0
Anthracene	ug/kg	1 / 4.3	1.5	1.5	CRM_A13	12/15/2010	1 / 3	1.5
Antimony	mg/kg	1.23 / 2.63	ND	ND			0 / 12	0
Arsenate	mg/kg		3.68	15.2	CRM_A13	12/15/2010	3 / 3	8.353
Arsenic	mg/kg		3.89	27.8	CRM_A37	11/18/2010	15 / 15	17.81
Arsenite	mg/kg		5.32	9.41	CRM_A18	12/15/2010	3 / 3	7.467
Barium	mg/kg		130	320	CRM_A15	11/29/2010	12 / 12	234.1
Benzo(a)anthracene	ug/kg		11	25	CRM_A22	12/15/2010	3 / 3	18
Benzo(a)pyrene	ug/kg		11	29	CRM_A22	12/15/2010	3 / 3	20.33
Benzo(b)fluoranthene	ug/kg		15	40	CRM_A22	12/15/2010	3 / 3	28
Benzo(e)pyrene	ug/kg		10	25	CRM_A22	12/15/2010	3 / 3	18
Benzo(g,h,i)perylene	ug/kg		8.2	23	CRM_A22	12/15/2010	3 / 3	16.07
Benzo(k)fluoranthene	ug/kg		13	32	CRM_A22	12/15/2010	3 / 3	22.33
Beryllium	mg/kg		0.788	2.73	CRM_A18	12/15/2010	12 / 12	1.838
beta-BHC	ug/kg		0.75	3.1	CRM_A22	12/15/2010	3 / 3	2.183
Bismuth-214	pCi/g		1.74	2.6	CRM_A13	12/15/2010	3 / 3	2.177

Table 9. Summary Statistics for Submerged Sediment in Clinch River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Boron	mg/kg		14.2	106	CRM_A18	12/15/2010	12 / 12	38.93
C1-Chrysenes	ug/kg		14	25	CRM_A22	12/15/2010	3 / 3	19.33
C1-Fluoranthenes/Pyrenes	ug/kg		16	36	CRM_A22	12/15/2010	3 / 3	26
C1-Fluorenes	ug/kg	1 / 2.8	1.6	4.8	CRM_A22	12/15/2010	2 / 3	3.2
C1-Naphthalenes	ug/kg		13	24	CRM_A22	12/15/2010	3 / 3	18.33
C1-Phenanthrenes/Anthracenes	ug/kg		13	26	CRM_A22	12/15/2010	3 / 3	19.67
C2-Chrysenes	ug/kg		6.2	12	CRM_A22	12/15/2010	3 / 3	9.4
C2-Fluoranthenes/Pyrene	ug/kg		17	31	CRM_A22	12/15/2010	3 / 3	24
C2-Fluorenes	ug/kg		3.6	7.5	CRM_A22	12/15/2010	3 / 3	5.5
C2-Naphthalenes	ug/kg		29	55	CRM_A22	12/15/2010	3 / 3	42
C2-Phenanthrenes/Anthracenes	ug/kg		8.4	18	CRM_A22	12/15/2010	3 / 3	13.13
C3-Chrysenes	ug/kg	1 / 4.3	2.2	4.3	CRM_A18	12/15/2010	2 / 3	3.25
C3-Fluoranthenes/Pyrene	ug/kg		7.6	14	CRM_A22	12/15/2010	3 / 3	10.87
C3-Fluorenes	ug/kg		2.9	5.8	CRM_A22	12/15/2010	3 / 3	4.167
C3-Naphthalenes	ug/kg		22	42	CRM_A22	12/15/2010	3 / 3	32
C3-Phenanthrenes/Anthracenes	ug/kg		4.8	18	CRM_A22	12/15/2010	3 / 3	10.57
C4-Chrysenes	ug/kg	1 / 4.3	1.4	1.4	CRM_A13	12/15/2010	1 / 3	1.4
C4-Naphthalenes	ug/kg		15	26	CRM_A22	12/15/2010	3 / 3	20.33
C4-Phenanthrenes/Anthracenes	ug/kg	1 / 4.3	1.8	3	CRM_A18	12/15/2010	2 / 3	2.4
Cadmium	mg/kg	0.123 / 0.263	ND	ND			0 / 12	0
Calcium	mg/kg		1040	5540	CRM_A24	11/29/2010	12 / 12	3438
Cesium-137	pCi/g		0.792	2.79	CRM_A22	12/15/2010	3 / 3	2.014
Chromium	mg/kg		18.1	50.8	CRM_A18	12/15/2010	12 / 12	29.84
Chrysene	ug/kg		15	33	CRM_A22	12/15/2010	3 / 3	24.33
Cobalt	mg/kg		7.91	23.2	CRM_A18	12/15/2010	12 / 12	17.12
Cobalt-60	pCi/g	0.0861 / 0.0967	ND	ND			0 / 3	0
Copper	mg/kg		6.28	62.4	CRM_A18	12/15/2010	12 / 12	37.02

Table 9. Summary Statistics for Submerged Sediment in Clinch River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
delta-BHC	ug/kg	0.51 / 0.51	1.4	1.5	CRM_A18	12/15/2010	2 / 3	1.45
Dibenz(a,h)anthracene	ug/kg		2.7	7.1	CRM_A22	12/15/2010	3 / 3	5
Dieldrin	ug/kg	0.99 / 1.4	ND	ND			0 / 3	0
Endosulfan I	ug/kg	0.51 / 0.7	ND	ND			0 / 3	0
Endosulfan II	ug/kg	0.99 / 1.4	ND	ND			0 / 3	0
Endosulfan Sulfate	ug/kg	0.99 / 1.4	ND	ND			0 / 3	0
Endrin	ug/kg	0.99 / 1.4	ND	ND			0 / 3	0
Endrin aldehyde	ug/kg	0.99 / 1.4	ND	ND			0 / 3	0
Endrin Ketone	ug/kg	0.99 / 1.4	ND	ND			0 / 3	0
Fluoranthene	ug/kg		26	58	CRM_A22	12/15/2010	3 / 3	42
Fluorene	ug/kg	1 / 4.3	1.1	1.1	CRM_A13	12/15/2010	1 / 3	1.1
Fraction of Organic Carbon	%		1.7	2.1	CRM_A18	12/15/2010	3 / 3	1.967
gamma-BHC (Lindane)	ug/kg	0.51 / 0.7	ND	ND			0 / 3	0
gamma-Chlordane	ug/kg	0.51 / 0.7	ND	ND			0 / 3	0
Heptachlor	ug/kg		0.64	3.4	CRM_A18	12/15/2010	3 / 3	2.113
Heptachlor Epoxide	ug/kg	0.51 / 0.7	ND	ND			0 / 3	0
Hex. Chromium	mg/kg	0.37 / 0.54	ND	ND			0 / 3	0
Indeno(1,2,3-cd)pyrene	ug/kg		7	20	CRM_A22	12/15/2010	3 / 3	13.67
Inorganic Arsenic	mg/kg		9	22.8	CRM_A13	12/15/2010	3 / 3	15.8
Inorganic Mercury	mg/kg		0.437	1.05	CRM_A22	12/15/2010	3 / 3	0.784
Inorganic Selenium	mg/kg	0.591 / 0.612	0.803	0.807	CRM_A13	12/15/2010	2 / 3	0.805
Iron	mg/kg		14000	37000	CRM_A18	12/15/2010	12 / 12	26567
Lead	mg/kg		10.5	31	CRM_A18	12/15/2010	12 / 12	22.03
Lead-212	pCi/g		1.89	2.28	CRM_A13	12/15/2010	3 / 3	2.063
Lead-214	pCi/g		2.43	3.02	CRM_A13	12/15/2010	3 / 3	2.65
Magnesium	mg/kg		1830	4010	CRM_A18	12/15/2010	12 / 12	2649
Manganese	mg/kg		450	2180	CRM_A18	12/15/2010	12 / 12	1190

Table 9. Summary Statistics for Submerged Sediment in Clinch River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Mercury	mg/kg	0.05 / 0.05	0.066	1.3	CRM_A31	11/18/2010	14 / 15	0.6644
Methoxychlor	ug/kg	5.1 / 7	ND	ND			0 / 3	0
Methyl mercury	mg/kg		0.0012	0.00194	CRM_A13	12/15/2010	3 / 3	0.001483
Molybdenum	mg/kg	4.93 / 10.5	ND	ND			0 / 12	0
Naphthalene	ug/kg		5.3	9.3	CRM_A22	12/15/2010	3 / 3	7.3
Nickel	mg/kg		12.2	39.3	CRM_A18	12/15/2010	12 / 12	27.4
Organic Arsenic	mg/kg	1.1 / 12.5	7.28	8.32	CRM_A22	12/15/2010	2 / 3	7.8
Organic Selenium	mg/kg		1.92	3	CRM_A22	12/15/2010	3 / 3	2.61
PCB-1016	ug/kg	2.6 / 3.5	ND	ND			0 / 3	0
PCB-1221	ug/kg	2.6 / 3.5	ND	ND			0 / 3	0
PCB-1232	ug/kg	2.6 / 3.5	ND	ND			0 / 3	0
PCB-1242	ug/kg	2.6 / 3.5	ND	ND			0 / 3	0
PCB-1248	ug/kg	2.6 / 3.5	ND	ND			0 / 3	0
PCB-1254	ug/kg		3.7	11	CRM_A22	12/15/2010	3 / 3	6.9
PCB-1260	ug/kg		5.5	11	CRM_A22	12/15/2010	3 / 3	8
PCB-1262	ug/kg	2.6 / 3.5	ND	ND			0 / 3	0
PCB-1268	ug/kg	2.6 / 3.5	ND	ND			0 / 3	0
Perylene	ug/kg		18	140	CRM_A22	12/15/2010	3 / 3	80.33
Phenanthrene	ug/kg		12	23	CRM_A22	12/15/2010	3 / 3	17.33
Potassium	mg/kg		2250	7120	CRM_A18	12/15/2010	12 / 12	3822
Potassium-40	pCi/g		16.3	21.6	CRM_A22	12/15/2010	3 / 3	19.2
Pyrene	ug/kg		20	46	CRM_A22	12/15/2010	3 / 3	33.33
Radium-226	pCi/g		1.74	2.6	CRM_A13	12/15/2010	3 / 3	2.177
Radium-228	pCi/g		1.81	2.19	CRM_A13	12/15/2010	3 / 3	2.06
Selenate	mg/kg	0.468 / 0.484	ND	ND			0 / 3	0
Selenite	mg/kg	0.591 / 0.612	0.803	0.807	CRM_A13	12/15/2010	2 / 3	0.805
Selenium	mg/kg	0.784 / 2.15	1.56	3.72	CRM_A18	12/15/2010	11 / 15	2.649

Table 9. Summary Statistics for Submerged Sediment in Clinch River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Silver	mg/kg	0.616 / 1.31	ND	ND			0 / 12	0
Sodium	mg/kg	123 / 244	137	491	CRM_A18	12/15/2010	9 / 12	247.6
Strontium	mg/kg		86.7	160	CRM_A13	12/15/2010	3 / 3	127.9
Thallium	mg/kg	1.23 / 2.63	ND	ND			0 / 12	0
Thallium-208	pCi/g		0.562	0.702	CRM_A13	12/15/2010	3 / 3	0.619
Thorium-228	pCi/g		2.01	2.18	CRM_A13	12/15/2010	3 / 3	2.117
Thorium-230	pCi/g		2.3	3.11	CRM_A13	12/15/2010	3 / 3	2.623
Thorium-232	pCi/g		1.63	2	CRM_A18	12/15/2010	3 / 3	1.873
Thorium-234	pCi/g		3.22	5.65	CRM_A13	12/15/2010	3 / 3	4.76
Total Organic Carbon	mg/kg		5900	14000	CRM_A18	12/15/2010	3 / 3	8600
Toxaphene	ug/kg	51 / 70	ND	ND			0 / 3	0
Uranium-234	pCi/g		2.17	2.6	CRM_A13	12/15/2010	3 / 3	2.32
Uranium-235	pCi/g	0.0714 / 0.148	0.167	0.167	CRM_A22	12/15/2010	1 / 3	0.167
Uranium-238	pCi/g		1.73	2.28	CRM_A13	12/15/2010	3 / 3	2.01
Vanadium	mg/kg		25.6	81.2	CRM_A18	12/15/2010	12 / 12	50.44
Zinc	mg/kg		39.4	130	CRM_A31	11/18/2010	12 / 12	90.38

Note: For definitions, see the Acronyms section.

Table 10. Summary Statistics for Submerged Sediment in Clinch River Reach B Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%	1 / 1	1	59	CRM_B39	12/08/2010	21 / 21	30.52
4,4'-DDD	ug/kg	0.97 / 1.1	ND	ND			0 / 3	0
4,4'-DDE	ug/kg	0.97 / 1.1	ND	ND			0 / 3	0
4,4'-DDT	ug/kg	0.97 / 1.1	ND	ND			0 / 3	0
Acenaphthene	ug/kg	1 / 1.1	1	1	CRM_B38	12/20/2010	1 / 3	1
Acenaphthylene	ug/kg	1 / 1.1	1.2	1.2	CRM_B38	12/20/2010	1 / 3	1.2
Actinium-228	pCi/g		1.5	1.9	CRM_B38	12/20/2010	3 / 3	1.677
Aldrin	ug/kg	0.5 / 0.55	ND	ND			0 / 3	0
alpha-BHC	ug/kg	0.5 / 0.55	ND	ND			0 / 3	0
alpha-Chlordane	ug/kg	0.5 / 0.55	ND	ND			0 / 3	0
Aluminum	mg/kg		11600	38300	CRM_B32	12/09/2010	12 / 12	24983
Americium-241	pCi/g	0.0852 / 0.421	ND	ND			0 / 3	0
Anthracene	ug/kg	1 / 1	2.4	2.7	CRM_B38	12/20/2010	2 / 3	2.55
Antimony	mg/kg	1.31 / 2.29	1.46	1.46	CRM_B32	12/09/2010	1 / 12	1.46
Arsenate	mg/kg	1.19 / 6.82	6.51	6.51	CRM_B38	12/20/2010	1 / 3	6.51
Arsenic	mg/kg		8.33	37.8	CRM_B03	01/05/2011	15 / 15	18.41
Arsenite	mg/kg		2.6	16.7	CRM_B06	01/04/2011	3 / 3	8.027
Barium	mg/kg		72.8	417	CRM_B26	12/20/2010	12 / 12	224.6
Benzo(a)anthracene	ug/kg		6.3	18	CRM_B38	12/20/2010	3 / 3	13.1
Benzo(a)pyrene	ug/kg		6.3	21	CRM_B38	12/20/2010	3 / 3	14.43
Benzo(b)fluoranthene	ug/kg		10	27	CRM_B38	12/20/2010	3 / 3	20.67
Benzo(e)pyrene	ug/kg		6.1	19	CRM_B38	12/20/2010	3 / 3	13.7
Benzo(g,h,i)perylene	ug/kg		5.1	13	CRM_B08	01/04/2011	3 / 3	10.37
Benzo(k)fluoranthene	ug/kg		6.6	25	CRM_B38	12/20/2010	3 / 3	16.2
Beryllium	mg/kg		0.686	3.43	CRM_B26	12/20/2010	12 / 12	1.83
beta-BHC	ug/kg	0.5 / 0.52	1.2	1.2	CRM_B08	01/04/2011	1 / 3	1.2
Bismuth-214	pCi/g		1.23	2.25	CRM_B06	01/04/2011	3 / 3	1.733

Table 10. Summary Statistics for Submerged Sediment in Clinch River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Boron	mg/kg		9.14	56.3	CRM_B27	12/14/2010	12 / 12	32.07
C1-Chrysenes	ug/kg		11	17	CRM_B38	12/20/2010	3 / 3	13.67
C1-Fluoranthenes/Pyrenes	ug/kg		12	27	CRM_B08	01/04/2011	3 / 3	22
C1-Fluorenes	ug/kg	1 / 1	1.7	2.4	CRM_B38	12/20/2010	2 / 3	2.05
C1-Naphthalenes	ug/kg		7.2	21	CRM_B38	12/20/2010	3 / 3	14.4
C1-Phenanthrenes/Anthracenes	ug/kg		7.3	20	CRM_B38	12/20/2010	3 / 3	14.43
C2-Chrysenes	ug/kg		3.3	11	CRM_B38	12/20/2010	3 / 3	7.1
C2-Fluoranthenes/Pyrene	ug/kg		12	24	CRM_B38	12/20/2010	3 / 3	19.33
C2-Fluorenes	ug/kg		1.7	5.2	CRM_B38	12/20/2010	3 / 3	3.467
C2-Naphthalenes	ug/kg		17	48	CRM_B38	12/20/2010	3 / 3	33.33
C2-Phenanthrenes/Anthracenes	ug/kg		4.7	14	CRM_B38	12/20/2010	3 / 3	9.9
C3-Chrysenes	ug/kg	1 / 1	3.1	5.4	CRM_B38	12/20/2010	2 / 3	4.25
C3-Fluoranthenes/Pyrene	ug/kg		3.4	11	CRM_B38	12/20/2010	3 / 3	8.133
C3-Fluorenes	ug/kg		1.4	4	CRM_B38	12/20/2010	3 / 3	2.7
C3-Naphthalenes	ug/kg		13	36	CRM_B38	12/20/2010	3 / 3	24.33
C3-Phenanthrenes/Anthracenes	ug/kg		2.2	10	CRM_B38	12/20/2010	3 / 3	6.433
C4-Chrysenes	ug/kg	1 / 1.1	2.3	2.3	CRM_B38	12/20/2010	1 / 3	2.3
C4-Naphthalenes	ug/kg		6.9	19	CRM_B38	12/20/2010	3 / 3	13.3
C4-Phenanthrenes/Anthracenes	ug/kg	1 / 1	2	3.1	CRM_B38	12/20/2010	2 / 3	2.55
Cadmium	mg/kg	0.131 / 0.229	ND	ND			0 / 12	0
Calcium	mg/kg		995	14200	CRM_B06	01/04/2011	12 / 12	4279
Cesium-137	pCi/g		0.646	3.3	CRM_B08	01/04/2011	3 / 3	2.195
Chromium	mg/kg		16.6	56.5	CRM_B26	12/20/2010	12 / 12	31.88
Chrysene	ug/kg		8.9	25	CRM_B38	12/20/2010	3 / 3	17.63
Cobalt	mg/kg		8.43	23.7	CRM_B26	12/20/2010	12 / 12	16.47
Cobalt-60	pCi/g	0.0639 / 0.0871	ND	ND			0 / 3	0
Copper	mg/kg		13.5	46.4	CRM_B38	12/20/2010	12 / 12	28.57

Table 10. Summary Statistics for Submerged Sediment in Clinch River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
delta-BHC	ug/kg	0.5 / 0.55	ND	ND			0 / 3	0
Dibenz(a,h)anthracene	ug/kg		1.6	4.2	CRM_B08	01/04/2011	3 / 3	3.333
Dieldrin	ug/kg	0.97 / 1.1	ND	ND			0 / 3	0
Endosulfan I	ug/kg	0.5 / 0.55	ND	ND			0 / 3	0
Endosulfan II	ug/kg	0.97 / 1.1	ND	ND			0 / 3	0
Endosulfan Sulfate	ug/kg	0.97 / 1.1	ND	ND			0 / 3	0
Endrin	ug/kg	0.97 / 1.1	ND	ND			0 / 3	0
Endrin aldehyde	ug/kg	0.97 / 1.1	ND	ND			0 / 3	0
Endrin Ketone	ug/kg	0.97 / 1.1	ND	ND			0 / 3	0
Fluoranthene	ug/kg		15	47	CRM_B38	12/20/2010	3 / 3	33
Fluorene	ug/kg	1 / 1	1.7	2.3	CRM_B38	12/20/2010	2 / 3	2
Fraction of Organic Carbon	%		1.8	2.1	CRM_B06	01/04/2011	3 / 3	1.967
gamma-BHC (Lindane)	ug/kg	0.5 / 0.55	ND	ND			0 / 3	0
gamma-Chlordane	ug/kg	0.5 / 0.55	ND	ND			0 / 3	0
Heptachlor	ug/kg	0.5 / 0.55	ND	ND			0 / 3	0
Heptachlor Epoxide	ug/kg	0.5 / 0.55	ND	ND			0 / 3	0
Hex. Chromium	mg/kg	0.39 / 0.39	ND	ND			0 / 1	0
Indeno(1,2,3-cd)pyrene	ug/kg		4.8	12	CRM_B08	01/04/2011	3 / 3	9.6
Inorganic Arsenic	mg/kg		9.11	17.5	CRM_B06	01/04/2011	3 / 3	11.91
Inorganic Mercury	mg/kg		0.35	1.54	CRM_B08	01/04/2011	3 / 3	1.067
Inorganic Selenium	mg/kg	0.396 / 0.437	0.809	0.809	CRM_B38	12/20/2010	1 / 3	0.809
Iron	mg/kg		15700	35300	CRM_B26	12/20/2010	12 / 12	25417
Lead	mg/kg		11.4	25.7	CRM_B03	01/05/2011	12 / 12	19.57
Lead-212	pCi/g		1.48	1.83	CRM_B38	12/20/2010	3 / 3	1.703
Lead-214	pCi/g		1.51	2.43	CRM_B06	01/04/2011	3 / 3	2.023
Magnesium	mg/kg		873	4280	CRM_B32	12/09/2010	12 / 12	2469
Manganese	mg/kg		312	1570	CRM_B08	01/04/2011	12 / 12	871

Table 10. Summary Statistics for Submerged Sediment in Clinch River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Mercury	mg/kg		0.053	1.54	CRM_B08	01/04/2011	15 / 15	0.5585
Methoxychlor	ug/kg	5 / 5.5	ND	ND			0 / 3	0
Methyl mercury	mg/kg		0.00113	0.00248	CRM_B06	01/04/2011	3 / 3	0.001677
Molybdenum	mg/kg	5.26 / 9.17	ND	ND			0 / 12	0
Naphthalene	ug/kg		3.1	8.7	CRM_B38	12/20/2010	3 / 3	5.9
Nickel	mg/kg		9.91	43.1	CRM_B26	12/20/2010	12 / 12	26.58
Organic Arsenic	mg/kg	1.19 / 6.82	2.2	2.2	CRM_B38	12/20/2010	1 / 3	2.2
Organic Selenium	mg/kg	0.754 / 0.754	1.16	1.55	CRM_B06	01/04/2011	2 / 3	1.355
PCB-1016	ug/kg	2.5 / 2.7	ND	ND			0 / 3	0
PCB-1221	ug/kg	2.5 / 2.7	ND	ND			0 / 3	0
PCB-1232	ug/kg	2.5 / 2.7	ND	ND			0 / 3	0
PCB-1242	ug/kg	2.5 / 2.7	ND	ND			0 / 3	0
PCB-1248	ug/kg	2.5 / 2.7	ND	ND			0 / 3	0
PCB-1254	ug/kg		9	16	CRM_B08	01/04/2011	3 / 3	11.63
PCB-1260	ug/kg		5.3	8.3	CRM_B08	01/04/2011	3 / 3	7.067
PCB-1262	ug/kg	2.5 / 2.7	ND	ND			0 / 3	0
PCB-1268	ug/kg	2.5 / 2.7	ND	ND			0 / 3	0
Perylene	ug/kg		12	110	CRM_B38	12/20/2010	3 / 3	61
Phenanthrene	ug/kg		7	20	CRM_B38	12/20/2010	3 / 3	14.33
Potassium	mg/kg		1620	7890	CRM_B32	12/09/2010	12 / 12	3943
Potassium-40	pCi/g		14.1	19.4	CRM_B08	01/04/2011	3 / 3	16.97
Pyrene	ug/kg		11	32	CRM_B38	12/20/2010	3 / 3	23.33
Radium-226	pCi/g		1.23	2.25	CRM_B06	01/04/2011	3 / 3	1.733
Radium-228	pCi/g		1.5	1.9	CRM_B38	12/20/2010	3 / 3	1.677
Selenate	mg/kg	0.314 / 0.429	ND	ND			0 / 3	0
Selenite	mg/kg	0.396 / 0.437	0.809	0.809	CRM_B38	12/20/2010	1 / 3	0.809
Selenium	mg/kg	0.754 / 1.97	1.16	3.5	CRM_B26	12/20/2010	7 / 15	2.32

Table 10. Summary Statistics for Submerged Sediment in Clinch River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Silver	mg/kg	0.657 / 1.15	ND	ND			0 / 12	0
Sodium	mg/kg	131 / 158	212	480	CRM_B26	12/20/2010	9 / 12	293.6
Strontium	mg/kg		28.4	231	CRM_B26	12/20/2010	10 / 10	100.2
Thallium	mg/kg	1.31 / 2.29	ND	ND			0 / 12	0
Thallium-208	pCi/g		0.42	0.504	CRM_B38	12/20/2010	3 / 3	0.4757
Thorium-228	pCi/g		1.65	1.85	CRM_B06	01/04/2011	3 / 3	1.723
Thorium-230	pCi/g		1.67	2.47	CRM_B06	01/04/2011	3 / 3	2.117
Thorium-232	pCi/g		1.45	1.82	CRM_B06	01/04/2011	3 / 3	1.58
Thorium-234	pCi/g	0.82 / 3.57	1.96	2.73	CRM_B06	01/04/2011	2 / 3	2.345
Total Organic Carbon	mg/kg		4100	9200	CRM_B06	01/04/2011	3 / 3	6400
Toxaphene	ug/kg	50 / 55	ND	ND			0 / 3	0
Uranium-234	pCi/g		0.969	1.78	CRM_B06	01/04/2011	3 / 3	1.396
Uranium-235	pCi/g	0.0832 / 0.122	0.0999	0.0999	CRM_B06	01/04/2011	1 / 3	0.0999
Uranium-238	pCi/g		1.35	1.89	CRM_B06	01/04/2011	3 / 3	1.543
Vanadium	mg/kg		23.8	89.9	CRM_B26	12/20/2010	12 / 12	51.4
Zinc	mg/kg		38.7	103	CRM_B38	12/20/2010	12 / 12	74.93

Note: For definitions, see the Acronyms section.

Table 11. Summary Statistics for Submerged Sediment in Tennessee River Reference Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%	1 / 1	ND	ND			0 / 1	0
4,4'-DDD	ug/kg	0.84 / 0.84	ND	ND			0 / 1	0
4,4'-DDE	ug/kg	0.84 / 0.84	ND	ND			0 / 1	0
4,4'-DDT	ug/kg	0.84 / 0.84	ND	ND			0 / 1	0
Acenaphthene	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
Acenaphthylene	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
Actinium-228	pCi/g		1.45	1.45	TRM_RR03	11/17/2010	1 / 1	1.45
Aldrin	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
alpha-BHC	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
alpha-Chlordane	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Aluminum	mg/kg		20400	56100	TRM_RR02	11/15/2010	3 / 3	32433
Americium-241	pCi/g	0.25 / 0.25	ND	ND			0 / 1	0
Anthracene	ug/kg		1.9	1.9	TRM_RR03	11/17/2010	1 / 1	1.9
Antimony	mg/kg	1.37 / 1.55	ND	ND			0 / 3	0
Arsenate	mg/kg		0.811	0.811	TRM_RR03	11/17/2010	1 / 1	0.811
Arsenic	mg/kg		3.12	10.9	TRM_RR02	11/15/2010	4 / 4	5.625
Arsenite	mg/kg		0.183	0.183	TRM_RR03	11/17/2010	1 / 1	0.183
Barium	mg/kg		132	466	TRM_RR02	11/15/2010	3 / 3	247
Benzo(a)anthracene	ug/kg		11	11	TRM_RR03	11/17/2010	1 / 1	11
Benzo(a)pyrene	ug/kg		10	10	TRM_RR03	11/17/2010	1 / 1	10
Benzo(b)fluoranthene	ug/kg		11	11	TRM_RR03	11/17/2010	1 / 1	11
Benzo(e)pyrene	ug/kg		7.9	7.9	TRM_RR03	11/17/2010	1 / 1	7.9
Benzo(g,h,i)perylene	ug/kg		8.1	8.1	TRM_RR03	11/17/2010	1 / 1	8.1
Benzo(k)fluoranthene	ug/kg		9.9	9.9	TRM_RR03	11/17/2010	1 / 1	9.9
Beryllium	mg/kg	0.547 / 0.605	0.65	1.59	TRM_RR02	11/15/2010	2 / 3	1.12
beta-BHC	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Bismuth-214	pCi/g		0.974	0.974	TRM_RR03	11/17/2010	1 / 1	0.974

Table 11. Summary Statistics for Submerged Sediment in Tennessee River Reference Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Boron	mg/kg		9.17	27.3	TRM_RR02	11/15/2010	3 / 3	15.42
C1-Chrysenes	ug/kg		6	6	TRM_RR03	11/17/2010	1 / 1	6
C1-Fluoranthenes/Pyrenes	ug/kg		12	12	TRM_RR03	11/17/2010	1 / 1	12
C1-Fluorenes	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
C1-Naphthalenes	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
C1-Phenanthrenes/Anthracenes	ug/kg		5	5	TRM_RR03	11/17/2010	1 / 1	5
C2-Chrysenes	ug/kg		2.7	2.7	TRM_RR03	11/17/2010	1 / 1	2.7
C2-Fluoranthenes/Pyrene	ug/kg		5.1	5.1	TRM_RR03	11/17/2010	1 / 1	5.1
C2-Fluorenes	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
C2-Naphthalenes	ug/kg		1.9	1.9	TRM_RR03	11/17/2010	1 / 1	1.9
C2-Phenanthrenes/Anthracenes	ug/kg		3.4	3.4	TRM_RR03	11/17/2010	1 / 1	3.4
C3-Chrysenes	ug/kg		1.5	1.5	TRM_RR03	11/17/2010	1 / 1	1.5
C3-Fluoranthenes/Pyrene	ug/kg		2.3	2.3	TRM_RR03	11/17/2010	1 / 1	2.3
C3-Fluorenes	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
C3-Naphthalenes	ug/kg		1.4	1.4	TRM_RR03	11/17/2010	1 / 1	1.4
C3-Phenanthrenes/Anthracenes	ug/kg		1.3	1.3	TRM_RR03	11/17/2010	1 / 1	1.3
C4-Chrysenes	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
C4-Naphthalenes	ug/kg		1.2	1.2	TRM_RR03	11/17/2010	1 / 1	1.2
C4-Phenanthrenes/Anthracenes	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
Cadmium	mg/kg	0.137 / 0.155	ND	ND			0 / 3	0
Calcium	mg/kg		2020	2200	TRM_RR02	11/15/2010	3 / 3	2100
Cesium-137	pCi/g	0.0433 / 0.0433	ND	ND			0 / 1	0
Chromium	mg/kg		18	51.1	TRM_RR02	11/15/2010	3 / 3	29.87
Chrysene	ug/kg		11	11	TRM_RR03	11/17/2010	1 / 1	11
Cobalt	mg/kg		9.26	19.7	TRM_RR02	11/15/2010	3 / 3	13.39
Cobalt-60	pCi/g	0.0458 / 0.0458	ND	ND			0 / 1	0
Copper	mg/kg		7.84	13.5	TRM_RR01	11/15/2010	3 / 3	10.55

Table 11. Summary Statistics for Submerged Sediment in Tennessee River Reference Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
delta-BHC	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Dibenz(a,h)anthracene	ug/kg		2	2	TRM_RR03	11/17/2010	1 / 1	2
Dieldrin	ug/kg	0.84 / 0.84	ND	ND			0 / 1	0
Endosulfan I	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Endosulfan II	ug/kg	0.84 / 0.84	ND	ND			0 / 1	0
Endosulfan Sulfate	ug/kg	0.84 / 0.84	ND	ND			0 / 1	0
Endrin	ug/kg	0.84 / 0.84	ND	ND			0 / 1	0
Endrin aldehyde	ug/kg	0.84 / 0.84	ND	ND			0 / 1	0
Endrin Ketone	ug/kg	0.84 / 0.84	ND	ND			0 / 1	0
Fluoranthene	ug/kg		18	18	TRM_RR03	11/17/2010	1 / 1	18
Fluorene	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
Fraction of Organic Carbon	%		0.76	0.76	TRM_RR03	11/17/2010	1 / 1	0.76
gamma-BHC (Lindane)	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
gamma-Chlordane	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Heptachlor	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Heptachlor Epoxide	ug/kg	0.44 / 0.44	ND	ND			0 / 1	0
Hex. Chromium	mg/kg	0.32 / 0.32	ND	ND			0 / 1	0
Indeno(1,2,3-cd)pyrene	ug/kg		7.2	7.2	TRM_RR03	11/17/2010	1 / 1	7.2
Inorganic Arsenic	mg/kg		0.993	0.993	TRM_RR03	11/17/2010	1 / 1	0.993
Inorganic Mercury	mg/kg		0.0367	0.0367	TRM_RR03	11/17/2010	1 / 1	0.0367
Inorganic Selenium	mg/kg	0.312 / 0.312	ND	ND			0 / 1	0
Iron	mg/kg		20000	45800	TRM_RR02	11/15/2010	3 / 3	28933
Lead	mg/kg		11.3	28.4	TRM_RR02	11/15/2010	3 / 3	19.47
Lead-212	pCi/g		1.52	1.52	TRM_RR03	11/17/2010	1 / 1	1.52
Lead-214	pCi/g		1.16	1.16	TRM_RR03	11/17/2010	1 / 1	1.16
Magnesium	mg/kg		2690	3690	TRM_RR02	11/15/2010	3 / 3	3043
Manganese	mg/kg		889	3660	TRM_RR02	11/15/2010	3 / 3	1876

Table 11. Summary Statistics for Submerged Sediment in Tennessee River Reference Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Mercury	mg/kg	0.055 / 0.063	0.0367	0.066	TRM_RR01	11/15/2010	2 / 4	0.05135
Methoxychlor	ug/kg	4.4 / 4.4	ND	ND			0 / 1	0
Methyl mercury	mg/kg	0.014 / 0.014	ND	ND			0 / 1	0
Molybdenum	mg/kg	5.47 / 6.19	ND	ND			0 / 3	0
Naphthalene	ug/kg	0.86 / 0.86	ND	ND			0 / 1	0
Nickel	mg/kg		9.89	18.1	TRM_RR02	11/15/2010	3 / 3	13.03
Organic Arsenic	mg/kg		2.12	2.12	TRM_RR03	11/17/2010	1 / 1	2.12
Organic Selenium	mg/kg		1.05	1.05	TRM_RR03	11/17/2010	1 / 1	1.05
PCB-1016	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1221	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1232	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1242	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1248	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1254	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1260	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1262	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
PCB-1268	ug/kg	2.2 / 2.2	ND	ND			0 / 1	0
Perylene	ug/kg		40	40	TRM_RR03	11/17/2010	1 / 1	40
Phenanthrene	ug/kg		8.6	8.6	TRM_RR03	11/17/2010	1 / 1	8.6
Potassium	mg/kg		2770	7420	TRM_RR02	11/15/2010	3 / 3	4400
Potassium-40	pCi/g		16.1	16.1	TRM_RR03	11/17/2010	1 / 1	16.1
Pyrene	ug/kg		22	22	TRM_RR03	11/17/2010	1 / 1	22
Radium-226	pCi/g		0.974	0.974	TRM_RR03	11/17/2010	1 / 1	0.974
Radium-228	pCi/g		1.45	1.45	TRM_RR03	11/17/2010	1 / 1	1.45
Selenate	mg/kg	0.247 / 0.247	ND	ND			0 / 1	0
Selenite	mg/kg	0.312 / 0.312	ND	ND			0 / 1	0
Selenium	mg/kg	0.31 / 1.55	1.05	1.05	TRM_RR03	11/17/2010	1 / 4	1.05

Table 11. Summary Statistics for Submerged Sediment in Tennessee River Reference Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Silver	mg/kg	0.683 / 0.774	ND	ND			0 / 3	0
Sodium	mg/kg	137 / 155	518	518	TRM_RR02	11/15/2010	1 / 3	518
Thallium	mg/kg	1.37 / 1.55	ND	ND			0 / 3	0
Thallium-208	pCi/g		0.423	0.423	TRM_RR03	11/17/2010	1 / 1	0.423
Thorium-228	pCi/g		1.38	1.38	TRM_RR03	11/17/2010	1 / 1	1.38
Thorium-230	pCi/g		0.678	0.678	TRM_RR03	11/17/2010	1 / 1	0.678
Thorium-232	pCi/g		1.36	1.36	TRM_RR03	11/17/2010	1 / 1	1.36
Thorium-234	pCi/g	2.15 / 2.15	ND	ND			0 / 1	0
Total Organic Carbon	mg/kg	1400 / 1400	ND	ND			0 / 1	0
Toxaphene	ug/kg	44 / 44	ND	ND			0 / 1	0
Uranium-234	pCi/g		0.63	0.63	TRM_RR03	11/17/2010	1 / 1	0.63
Uranium-235	pCi/g	0.0619 / 0.0619	ND	ND			0 / 1	0
Uranium-238	pCi/g		0.685	0.685	TRM_RR03	11/17/2010	1 / 1	0.685
Vanadium	mg/kg		27.7	75.9	TRM_RR02	11/15/2010	3 / 3	44
Zinc	mg/kg		66.3	110	TRM_RR01	11/15/2010	3 / 3	88.73

Note: For definitions, see the Acronyms section.

Table 12. Summary Statistics for Submerged Sediment in Tennessee River Reach A Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%	1 / 1	2	2	TRM_A05	10/28/2010	1 / 2	2
4,4'-DDD	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
4,4'-DDE	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
4,4'-DDT	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
Acenaphthene	ug/kg	12 / 12	ND	ND			0 / 1	0
Acenaphthylene	ug/kg	12 / 12	ND	ND			0 / 1	0
Aldrin	ug/kg	0.89 / 0.89	ND	ND			0 / 1	0
alpha-BHC	ug/kg		1.9	1.9	TRM_A10	11/01/2010	1 / 1	1.9
alpha-Chlordane	ug/kg	0.89 / 0.89	ND	ND			0 / 1	0
Aluminum	mg/kg		9660	59500	TRM_A10	11/01/2010	4 / 4	42740
Anthracene	ug/kg	12 / 12	ND	ND			0 / 1	0
Antimony	mg/kg	1.38 / 2.79	ND	ND			0 / 4	0
Arsenate	mg/kg		1.48	1.48	TRM_A10	11/11/2010	1 / 1	1.48
Arsenic	mg/kg		4.66	16.2	TRM_A01	11/15/2010	5 / 5	11.19
Arsenite	mg/kg		2.09	2.09	TRM_A10	11/11/2010	1 / 1	2.09
Barium	mg/kg		98.2	328	TRM_A10	11/01/2010	4 / 4	252.3
Benzo(a)anthracene	ug/kg		20	20	TRM_A10	11/01/2010	1 / 1	20
Benzo(a)pyrene	ug/kg		26	26	TRM_A10	11/01/2010	1 / 1	26
Benzo(b)fluoranthene	ug/kg		34	34	TRM_A10	11/01/2010	1 / 1	34
Benzo(e)pyrene	ug/kg		25	25	TRM_A10	11/01/2010	1 / 1	25
Benzo(g,h,i)perylene	ug/kg		33	33	TRM_A10	11/01/2010	1 / 1	33
Benzo(k)fluoranthene	ug/kg		30	30	TRM_A10	11/01/2010	1 / 1	30
Beryllium	mg/kg	0.551 / 0.551	1.71	2.19	TRM_A01	11/15/2010	3 / 4	1.97
beta-BHC	ug/kg		4.3	4.3	TRM_A10	11/01/2010	1 / 1	4.3
Boron	mg/kg	5.51 / 5.51	32.4	42.2	TRM_A10	11/01/2010	3 / 4	36.37
C1-Chrysenes	ug/kg		14	14	TRM_A10	11/01/2010	1 / 1	14
C1-Fluoranthenes/Pyrenes	ug/kg		37	37	TRM_A10	11/01/2010	1 / 1	37
C1-Fluorenes	ug/kg	12 / 12	ND	ND			0 / 1	0

Table 12. Summary Statistics for Submerged Sediment in Tennessee River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
C1-Naphthalenes	ug/kg		13	13	TRM_A10	11/01/2010	1 / 1	13
C1-Phenanthrenes/Anthracenes	ug/kg		20	20	TRM_A10	11/01/2010	1 / 1	20
C2-Chrysenes	ug/kg	12 / 12	ND	ND			0 / 1	0
C2-Fluoranthenes/Pyrene	ug/kg		32	32	TRM_A10	11/01/2010	1 / 1	32
C2-Fluorenes	ug/kg	12 / 12	ND	ND			0 / 1	0
C2-Naphthalenes	ug/kg		31	31	TRM_A10	11/01/2010	1 / 1	31
C2-Phenanthrenes/Anthracenes	ug/kg		15	15	TRM_A10	11/01/2010	1 / 1	15
C3-Chrysenes	ug/kg	12 / 12	ND	ND			0 / 1	0
C3-Fluoranthenes/Pyrene	ug/kg	12 / 12	ND	ND			0 / 1	0
C3-Fluorenes	ug/kg	12 / 12	ND	ND			0 / 1	0
C3-Naphthalenes	ug/kg		27	27	TRM_A10	11/01/2010	1 / 1	27
C3-Phenanthrenes/Anthracenes	ug/kg	12 / 12	ND	ND			0 / 1	0
C4-Chrysenes	ug/kg	12 / 12	ND	ND			0 / 1	0
C4-Naphthalenes	ug/kg		15	15	TRM_A10	11/01/2010	1 / 1	15
C4-Phenanthrenes/Anthracenes	ug/kg	12 / 12	ND	ND			0 / 1	0
Cadmium	mg/kg	0.138 / 0.279	ND	ND			0 / 4	0
Calcium	mg/kg		1370	3830	TRM_A01	11/15/2010	4 / 4	2808
Chromium	mg/kg		14.6	51	TRM_A10	11/01/2010	4 / 4	39.38
Chrysene	ug/kg		26	26	TRM_A10	11/01/2010	1 / 1	26
Cobalt	mg/kg		5.96	25.2	TRM_A10	11/01/2010	4 / 4	19.04
Copper	mg/kg		6.31	43.6	TRM_A01	11/15/2010	4 / 4	32.53
delta-BHC	ug/kg		2.6	2.6	TRM_A10	11/01/2010	1 / 1	2.6
Dibenz(a,h)anthracene	ug/kg	12 / 12	ND	ND			0 / 1	0
Dieldrin	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
Endosulfan I	ug/kg	0.89 / 0.89	ND	ND			0 / 1	0
Endosulfan II	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
Endosulfan Sulfate	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0

Table 12. Summary Statistics for Submerged Sediment in Tennessee River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Endrin	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
Endrin aldehyde	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
Endrin Ketone	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
Fluoranthene	ug/kg		44	44	TRM_A10	11/01/2010	1 / 1	44
Fluorene	ug/kg	12 / 12	ND	ND			0 / 1	0
Fraction of Organic Carbon	%		2.8	2.8	TRM_A10	11/01/2010	1 / 1	2.8
gamma-BHC (Lindane)	ug/kg		1.5	1.5	TRM_A10	11/01/2010	1 / 1	1.5
gamma-Chlordane	ug/kg	0.89 / 0.89	ND	ND			0 / 1	0
Heptachlor	ug/kg		4.6	4.6	TRM_A10	11/01/2010	1 / 1	4.6
Heptachlor Epoxide	ug/kg	0.89 / 0.89	ND	ND			0 / 1	0
Hex. Chromium	mg/kg	0.58 / 0.58	ND	ND			0 / 1	0
Indeno(1,2,3-cd)pyrene	ug/kg		26	26	TRM_A10	11/01/2010	1 / 1	26
Inorganic Arsenic	mg/kg		3.58	3.58	TRM_A10	11/11/2010	1 / 1	3.58
Inorganic Mercury	mg/kg		0.584	0.584	TRM_A10	11/11/2010	1 / 1	0.584
Inorganic Selenium	mg/kg	0.797 / 0.797	ND	ND			0 / 1	0
Iron	mg/kg		12500	46700	TRM_A10	11/01/2010	4 / 4	34950
Lead	mg/kg		10.3	43.9	TRM_A10	11/01/2010	4 / 4	32.9
Magnesium	mg/kg		1290	4960	TRM_A10	11/01/2010	4 / 4	3770
Manganese	mg/kg		1340	2430	TRM_A10	11/01/2010	4 / 4	2013
Mercury	mg/kg	0.054 / 0.12	0.37	0.585	TRM_A10	11/11/2010	4 / 5	0.5038
Methoxychlor	ug/kg	8.9 / 8.9	ND	ND			0 / 1	0
Methyl mercury	mg/kg		0.00041	0.00041	TRM_A10	11/11/2010	1 / 1	0.000411
Molybdenum	mg/kg	5.51 / 11.2	ND	ND			0 / 4	0
Naphthalene	ug/kg	12 / 12	ND	ND			0 / 1	0
Nickel	mg/kg		6.7	34.8	TRM_A10	11/01/2010	4 / 4	26.75
Organic Arsenic	mg/kg		3.83	3.83	TRM_A10	11/11/2010	1 / 1	3.83
Organic Selenium	mg/kg	0.885 / 0.885	ND	ND			0 / 1	0
PCB-1016	ug/kg	4.5 / 4.5	ND	ND			0 / 1	0

Table 12. Summary Statistics for Submerged Sediment in Tennessee River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
PCB-1221	ug/kg	4.5 / 4.5	ND	ND			0 / 1	0
PCB-1232	ug/kg	4.5 / 4.5	ND	ND			0 / 1	0
PCB-1242	ug/kg	4.5 / 4.5	ND	ND			0 / 1	0
PCB-1248	ug/kg	4.5 / 4.5	ND	ND			0 / 1	0
PCB-1254	ug/kg		14	14	TRM_A10	11/01/2010	1 / 1	14
PCB-1260	ug/kg		6.7	6.7	TRM_A10	11/01/2010	1 / 1	6.7
PCB-1262	ug/kg	4.5 / 4.5	ND	ND			0 / 1	0
PCB-1268	ug/kg	4.5 / 4.5	ND	ND			0 / 1	0
Perylene	ug/kg		430	430	TRM_A10	11/01/2010	1 / 1	430
Phenanthrene	ug/kg		16	16	TRM_A10	11/01/2010	1 / 1	16
Potassium	mg/kg		1360	8610	TRM_A10	11/01/2010	4 / 4	6060
Pyrene	ug/kg		52	52	TRM_A10	11/01/2010	1 / 1	52
Selenate	mg/kg	0.411 / 0.411	ND	ND			0 / 1	0
Selenite	mg/kg	0.797 / 0.797	ND	ND			0 / 1	0
Selenium	mg/kg	0.885 / 2.79	1.4	1.4	TRM_A10	11/11/2010	1 / 5	1.4
Silver	mg/kg	0.689 / 1.4	ND	ND			0 / 4	0
Sodium	mg/kg	138 / 138	347	425	TRM_A01	11/15/2010	3 / 4	390.7
Thallium	mg/kg	1.38 / 2.79	ND	ND			0 / 4	0
Total Organic Carbon	mg/kg		6800	6800	TRM_A10	11/01/2010	1 / 1	6800
Toxaphene	ug/kg	89 / 89	ND	ND			0 / 1	0
Vanadium	mg/kg		17.3	81.6	TRM_A10	11/01/2010	4 / 4	61.25
Zinc	mg/kg		64.6	207	TRM_A10	11/01/2010	4 / 4	160.2

Note: For definitions, see the Acronyms section.

Table 13. Summary Statistics for Submerged Sediment in Tennessee River Reach B Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%	1 / 1	33	33	TRM_B14	11/02/2010	1 / 3	33
4,4'-DDD	ug/kg	1 / 1	ND	ND			0 / 1	0
4,4'-DDE	ug/kg	1 / 1	ND	ND			0 / 1	0
4,4'-DDT	ug/kg	1 / 1	ND	ND			0 / 1	0
Acenaphthene	ug/kg	1 / 1.7	ND	ND			0 / 1	0
Acenaphthylene	ug/kg	1 / 1.7	ND	ND			0 / 1	0
Aldrin	ug/kg	0.53 / 0.53	ND	ND			0 / 1	0
alpha-BHC	ug/kg	0.53 / 0.53	ND	ND			0 / 1	0
alpha-Chlordane	ug/kg	0.53 / 0.53	ND	ND			0 / 1	0
Aluminum	mg/kg		21200	44000	TRM_B09	11/03/2010	4 / 4	32625
Anthracene	ug/kg		1.2	2.7	TRM_B07	11/08/2010	1 / 1	2.7
Antimony	mg/kg	1.31 / 2.26	1.5	1.5	TRM_B02	11/04/2010	1 / 4	1.5
Arsenate	mg/kg		9.7	11.6	TRM_B07	11/08/2010	1 / 1	11.6
Arsenic	mg/kg		6.61	20.2	TRM_B07	11/08/2010	5 / 5	16.14
Arsenite	mg/kg		4.9	8.84	TRM_B07	11/08/2010	1 / 1	8.84
Barium	mg/kg		191	373	TRM_B09	11/03/2010	4 / 4	271.5
Benzo(a)anthracene	ug/kg		7.3	24	TRM_B07	11/08/2010	1 / 1	24
Benzo(a)pyrene	ug/kg		7.7	26	TRM_B07	11/08/2010	1 / 1	26
Benzo(b)fluoranthene	ug/kg		8.7	37	TRM_B07	11/08/2010	1 / 1	37
Benzo(e)pyrene	ug/kg		6.1	24	TRM_B07	11/08/2010	1 / 1	24
Benzo(g,h,i)perylene	ug/kg		7	26	TRM_B07	11/08/2010	1 / 1	26
Benzo(k)fluoranthene	ug/kg		8.2	24	TRM_B07	11/08/2010	1 / 1	24
Beryllium	mg/kg		1.61	2.16	TRM_B07	11/08/2010	4 / 4	1.903
beta-BHC	ug/kg	0.53 / 0.53	ND	ND			0 / 1	0
Boron	mg/kg		17.2	25.5	TRM_B12	11/02/2010	4 / 4	21.05
C1-Chrysenes	ug/kg		3.7	17	TRM_B07	11/08/2010	1 / 1	17
C1-Fluoranthenes/Pyrenes	ug/kg		9.3	35	TRM_B07	11/08/2010	1 / 1	35
C1-Fluorenes	ug/kg	1 / 1	2.7	2.7	TRM_B07	11/08/2010	1 / 1	2.7

Table 13. Summary Statistics for Submerged Sediment in Tennessee River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
C1-Naphthalenes	ug/kg		3.1	27	TRM_B07	11/08/2010	1 / 1	27
C1-Phenanthrenes/Anthracenes	ug/kg		3.8	23	TRM_B07	11/08/2010	1 / 1	23
C2-Chrysenes	ug/kg		1.6	8.3	TRM_B07	11/08/2010	1 / 1	8.3
C2-Fluoranthenes/Pyrene	ug/kg		8.1	38	TRM_B07	11/08/2010	1 / 1	38
C2-Fluorenes	ug/kg	1 / 1	5	5	TRM_B07	11/08/2010	1 / 1	5
C2-Naphthalenes	ug/kg		6.5	57	TRM_B07	11/08/2010	1 / 1	57
C2-Phenanthrenes/Anthracenes	ug/kg		2.3	16	TRM_B07	11/08/2010	1 / 1	16
C3-Chrysenes	ug/kg	1 / 1	3.3	3.3	TRM_B07	11/08/2010	1 / 1	3.3
C3-Fluoranthenes/Pyrene	ug/kg		1.8	11	TRM_B07	11/08/2010	1 / 1	11
C3-Fluorenes	ug/kg	1 / 1.7	ND	ND			0 / 1	0
C3-Naphthalenes	ug/kg		5	39	TRM_B07	11/08/2010	1 / 1	39
C3-Phenanthrenes/Anthracenes	ug/kg		1.1	6.2	TRM_B07	11/08/2010	1 / 1	6.2
C4-Chrysenes	ug/kg	1 / 1.7	ND	ND			0 / 1	0
C4-Naphthalenes	ug/kg		2.7	23	TRM_B07	11/08/2010	1 / 1	23
C4-Phenanthrenes/Anthracenes	ug/kg		1.3	8	TRM_B07	11/08/2010	1 / 1	8
Cadmium	mg/kg	0.131 / 0.226	ND	ND			0 / 4	0
Calcium	mg/kg		2630	3320	TRM_B09	11/03/2010	4 / 4	3080
Chromium	mg/kg		25.2	37.7	TRM_B09	11/03/2010	4 / 4	33.38
Chrysene	ug/kg		10	33	TRM_B07	11/08/2010	1 / 1	33
Cobalt	mg/kg		13.4	19.5	TRM_B09	11/03/2010	4 / 4	17.1
Copper	mg/kg		18.3	38	TRM_B12	11/02/2010	4 / 4	28.63
delta-BHC	ug/kg	0.53 / 0.53	ND	ND			0 / 1	0
Dibenz(a,h)anthracene	ug/kg		1.8	7.8	TRM_B07	11/08/2010	1 / 1	7.8
Dieldrin	ug/kg	1 / 1	ND	ND			0 / 1	0
Endosulfan I	ug/kg	0.53 / 0.53	ND	ND			0 / 1	0
Endosulfan II	ug/kg	1 / 1	ND	ND			0 / 1	0
Endosulfan Sulfate	ug/kg	1 / 1	ND	ND			0 / 1	0

Table 13. Summary Statistics for Submerged Sediment in Tennessee River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Endrin	ug/kg	1 / 1	ND	ND			0 / 1	0
Endrin aldehyde	ug/kg	1 / 1	ND	ND			0 / 1	0
Endrin Ketone	ug/kg	1 / 1	ND	ND			0 / 1	0
Fluoranthene	ug/kg		15	46	TRM_B07	11/08/2010	1 / 1	46
Fluorene	ug/kg	1 / 1	2.4	2.4	TRM_B07	11/08/2010	1 / 1	2.4
Fraction of Organic Carbon	%		2	2	TRM_B07	11/08/2010	1 / 1	2
gamma-BHC (Lindane)	ug/kg	0.53 / 0.53	ND	ND			0 / 1	0
gamma-Chlordane	ug/kg	0.53 / 0.53	ND	ND			0 / 1	0
Heptachlor	ug/kg	0.53 / 0.53	ND	ND			0 / 1	0
Heptachlor Epoxide	ug/kg	0.53 / 0.53	ND	ND			0 / 1	0
Hex. Chromium	mg/kg	0.38 / 0.38	ND	ND			0 / 1	0
Indeno(1,2,3-cd)pyrene	ug/kg		6.2	22	TRM_B07	11/08/2010	1 / 1	22
Inorganic Arsenic	mg/kg		16.5	18.5	TRM_B07	11/08/2010	1 / 1	18.5
Inorganic Mercury	mg/kg		0.519	0.543	TRM_B07	11/08/2010	1 / 1	0.543
Inorganic Selenium	mg/kg	0.94 / 0.981	ND	ND			0 / 1	0
Iron	mg/kg		19800	35600	TRM_B09	11/03/2010	4 / 4	28600
Lead	mg/kg		19.5	30.6	TRM_B12	11/02/2010	4 / 4	24.3
Magnesium	mg/kg		1900	5490	TRM_B09	11/03/2010	4 / 4	3388
Manganese	mg/kg		822	1990	TRM_B12	11/02/2010	4 / 4	1187
Mercury	mg/kg	0.054 / 0.054	0.27	0.546	TRM_B07	11/08/2010	4 / 5	0.439
Methoxychlor	ug/kg	5.3 / 5.3	ND	ND			0 / 1	0
Methyl mercury	mg/kg		0.00272	0.00296	TRM_B07	11/08/2010	1 / 1	0.00296
Molybdenum	mg/kg	5.26 / 9.03	ND	ND			0 / 4	0
Naphthalene	ug/kg		1.6	11	TRM_B07	11/08/2010	1 / 1	11
Nickel	mg/kg		22.9	28.8	TRM_B07	11/08/2010	4 / 4	25.73
Organic Arsenic	mg/kg	7.89 / 8.19	ND	ND			0 / 1	0
Organic Selenium	mg/kg		1.44	1.86	TRM_B07	11/08/2010	1 / 1	1.86
PCB-1016	ug/kg	2.6 / 2.6	ND	ND			0 / 1	0

Table 13. Summary Statistics for Submerged Sediment in Tennessee River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
PCB-1221	ug/kg	2.6 / 2.6	ND	ND			0 / 1	0
PCB-1232	ug/kg	2.6 / 2.6	ND	ND			0 / 1	0
PCB-1242	ug/kg	2.6 / 2.6	ND	ND			0 / 1	0
PCB-1248	ug/kg	2.6 / 2.6	ND	ND			0 / 1	0
PCB-1254	ug/kg		8	9	TRM_B07	11/08/2010	1 / 1	9
PCB-1260	ug/kg		5.2	5.2	TRM_B07	11/08/2010	1 / 1	5.2
PCB-1262	ug/kg	2.6 / 2.6	ND	ND			0 / 1	0
PCB-1268	ug/kg	2.6 / 2.6	ND	ND			0 / 1	0
Perylene	ug/kg		6	62	TRM_B07	11/08/2010	1 / 1	62
Phenanthrene	ug/kg		6.6	23	TRM_B07	11/08/2010	1 / 1	23
Potassium	mg/kg		2920	6290	TRM_B09	11/03/2010	4 / 4	4620
Pyrene	ug/kg		18	56	TRM_B07	11/08/2010	1 / 1	56
Selenate	mg/kg	0.464 / 0.501	ND	ND			0 / 1	0
Selenite	mg/kg	0.94 / 0.981	ND	ND			0 / 1	0
Selenium	mg/kg	0.905 / 2.26	2.05	2.8	TRM_B07	11/08/2010	3 / 5	2.337
Silver	mg/kg	0.657 / 1.13	ND	ND			0 / 4	0
Sodium	mg/kg		238	320	TRM_B09	11/03/2010	4 / 4	287.5
Thallium	mg/kg	1.31 / 2.26	ND	ND			0 / 4	0
Total Organic Carbon	mg/kg		15000	17000	TRM_B07	11/08/2010	1 / 1	17000
Toxaphene	ug/kg	53 / 53	ND	ND			0 / 1	0
Vanadium	mg/kg		48.3	61.9	TRM_B12	11/02/2010	4 / 4	56.7
Zinc	mg/kg		64.9	144	TRM_B12	11/02/2010	4 / 4	101.4

Note: For definitions, see the Acronyms section.

Table 14. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reference Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%	1 / 1	ND	ND			0 / 1	0
4,4'-DDD	ug/kg	0.62 / 0.82	ND	ND			0 / 2	0
4,4'-DDE	ug/kg	0.61 / 0.83	ND	ND			0 / 2	0
4,4'-DDT	ug/kg	0.62 / 0.82	ND	ND			0 / 2	0
Acenaphthene	ug/kg	0.61 / 0.84	ND	ND			0 / 2	0
Acenaphthylene	ug/kg	0.61 / 0.84	ND	ND			0 / 2	0
Actinium-228	pCi/g		0.605	0.734	ERM_RR01	01/25/2011	2 / 2	0.6695
Aldrin	ug/kg	0.31 / 0.43	ND	ND			0 / 2	0
alpha-BHC	ug/kg	0.31 / 0.43	ND	ND			0 / 2	0
alpha-Chlordane	ug/kg	0.31 / 0.43	ND	ND			0 / 2	0
Aluminum	mg/kg		2360	14800	ERM_RR04	01/25/2011	5 / 5	8594
Americium-241	pCi/g	0.0361 / 0.21	ND	ND			0 / 2	0
Anthracene	ug/kg	0.61 / 0.61	2.3	2.3	ERM_RR03	01/25/2011	1 / 2	2.3
Antimony	mg/kg	1.19 / 1.6	ND	ND			0 / 5	0
Arsenate	mg/kg		1.4	2.34	ERM_RR01	01/25/2011	2 / 2	1.87
Arsenic	mg/kg	0.234 / 1.36	1.83	5.4	ERM_RR04	01/25/2011	6 / 7	3.235
Arsenite	mg/kg		0.204	0.425	ERM_RR03	01/25/2011	2 / 2	0.3145
Barium	mg/kg		18.5	90.4	ERM_RR03	01/25/2011	5 / 5	45.38
Benzo(a)anthracene	ug/kg		1.3	16	ERM_RR03	01/25/2011	2 / 2	8.65
Benzo(a)pyrene	ug/kg		1.5	16	ERM_RR03	01/25/2011	2 / 2	8.75
Benzo(b)fluoranthene	ug/kg		1.9	28	ERM_RR03	01/25/2011	2 / 2	14.95
Benzo(e)pyrene	ug/kg		1.2	15	ERM_RR03	01/25/2011	2 / 2	8.1
Benzo(g,h,i)perylene	ug/kg		1	6.5	ERM_RR03	01/25/2011	2 / 2	3.75
Benzo(k)fluoranthene	ug/kg		1.7	17	ERM_RR03	01/25/2011	2 / 2	9.35
Beryllium	mg/kg	0.476 / 0.619	0.769	0.769	ERM_RR03	01/25/2011	1 / 5	0.769
beta-BHC	ug/kg	0.31 / 0.31	0.73	0.73	ERM_RR03	01/25/2011	1 / 2	0.73
Bismuth-214	pCi/g		0.598	0.689	ERM_RR03	01/25/2011	2 / 2	0.6435
Boron	mg/kg	4.76 / 6.41	ND	ND			0 / 5	0

Table 14. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reference Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
C1-Chrysenes	ug/kg	0.61 / 0.61	8.4	8.4	ERM_RR03	01/25/2011	1 / 2	8.4
C1-Fluoranthenes/Pyrenes	ug/kg		2	23	ERM_RR03	01/25/2011	2 / 2	12.5
C1-Fluorenes	ug/kg	0.61 / 0.61	2	2	ERM_RR03	01/25/2011	1 / 2	2
C1-Naphthalenes	ug/kg	0.61 / 0.61	11	11	ERM_RR03	01/25/2011	1 / 2	11
C1-Phenanthrenes/Anthracenes	ug/kg		0.78	15	ERM_RR03	01/25/2011	2 / 2	7.89
C2-Chrysenes	ug/kg	0.61 / 0.61	4.5	4.5	ERM_RR03	01/25/2011	1 / 2	4.5
C2-Fluoranthenes/Pyrene	ug/kg	0.61 / 0.84	ND	ND			0 / 2	0
C2-Fluorenes	ug/kg	0.61 / 0.61	4.4	4.4	ERM_RR03	01/25/2011	1 / 2	4.4
C2-Naphthalenes	ug/kg		0.91	28	ERM_RR03	01/25/2011	2 / 2	14.46
C2-Phenanthrenes/Anthracenes	ug/kg	0.61 / 0.61	11	11	ERM_RR03	01/25/2011	1 / 2	11
C3-Chrysenes	ug/kg	0.61 / 0.84	ND	ND			0 / 2	0
C3-Fluoranthenes/Pyrene	ug/kg	0.61 / 0.84	ND	ND			0 / 2	0
C3-Fluorenes	ug/kg	0.61 / 0.61	2.6	2.6	ERM_RR03	01/25/2011	1 / 2	2.6
C3-Naphthalenes	ug/kg	0.61 / 0.61	22	22	ERM_RR03	01/25/2011	1 / 2	22
C3-Phenanthrenes/Anthracenes	ug/kg	0.61 / 0.61	5	5	ERM_RR03	01/25/2011	1 / 2	5
C4-Chrysenes	ug/kg	0.61 / 0.84	ND	ND			0 / 2	0
C4-Naphthalenes	ug/kg	0.61 / 0.61	13	13	ERM_RR03	01/25/2011	1 / 2	13
C4-Phenanthrenes/Anthracenes	ug/kg	0.61 / 0.61	25	25	ERM_RR03	01/25/2011	1 / 2	25
Cadmium	mg/kg	0.119 / 0.16	ND	ND			0 / 5	0
Calcium	mg/kg		193	1630	ERM_RR03	01/25/2011	5 / 5	764.4
Cesium-137	pCi/g	0.035 / 0.0353	0.049	0.049	ERM_RR03	01/25/2011	1 / 2	0.049
Chromium	mg/kg		2.96	13.8	ERM_RR04	01/25/2011	5 / 5	9.008
Chrysene	ug/kg		1.6	19	ERM_RR03	01/25/2011	2 / 2	10.3
Cobalt	mg/kg		1.82	10.5	ERM_RR03	01/25/2011	5 / 5	5.696
Cobalt-60	pCi/g	0.0297 / 0.0362	ND	ND			0 / 2	0
Copper	mg/kg	1.19 / 1.36	4.03	6.83	ERM_RR03	01/25/2011	5 / 5	5.46
delta-BHC	ug/kg	0.31 / 0.43	ND	ND			0 / 2	0

Table 14. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reference Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Dibenz(a,h)anthracene	ug/kg	0.61 / 0.61	2.2	2.2	ERM_RR03	01/25/2011	1 / 2	2.2
Dieldrin	ug/kg	0.61 / 0.83	ND	ND			0 / 2	0
Endosulfan I	ug/kg	0.31 / 0.43	ND	ND			0 / 2	0
Endosulfan II	ug/kg	0.61 / 0.83	ND	ND			0 / 2	0
Endosulfan Sulfate	ug/kg	0.61 / 0.83	ND	ND			0 / 2	0
Endrin	ug/kg	0.61 / 0.83	ND	ND			0 / 2	0
Endrin aldehyde	ug/kg	0.61 / 0.83	ND	ND			0 / 2	0
Endrin Ketone	ug/kg	0.61 / 0.83	ND	ND			0 / 2	0
Fluoranthene	ug/kg		3.2	34	ERM_RR03	01/25/2011	2 / 2	18.6
Fluorene	ug/kg	0.61 / 0.61	2.2	2.2	ERM_RR03	01/25/2011	1 / 2	2.2
Fraction of Organic Carbon	%		0.33	3.3	ERM_RR03	01/25/2011	2 / 2	1.815
gamma-BHC (Lindane)	ug/kg	0.31 / 0.43	ND	ND			0 / 2	0
gamma-Chlordane	ug/kg	0.31 / 0.43	ND	ND			0 / 2	0
Heptachlor	ug/kg	0.31 / 0.43	ND	ND			0 / 2	0
Heptachlor Epoxide	ug/kg	0.31 / 0.43	ND	ND			0 / 2	0
Hex. Chromium	mg/kg	0.25 / 1.6	0.37	0.37	ERM_RR01	01/25/2011	1 / 2	0.37
Indeno(1,2,3-cd)pyrene	ug/kg		1	6.8	ERM_RR03	01/25/2011	2 / 2	3.9
Inorganic Arsenic	mg/kg		1.83	2.54	ERM_RR01	01/25/2011	2 / 2	2.185
Inorganic Mercury	mg/kg		0.0164	0.0335	ERM_RR03	01/25/2011	2 / 2	0.02495
Inorganic Selenium	mg/kg	0.424 / 0.525	ND	ND			0 / 2	0
Iron	mg/kg		2910	18500	ERM_RR04	01/25/2011	5 / 5	11126
Lead	mg/kg		2.75	10.4	ERM_RR03	01/25/2011	5 / 5	7.066
Lead-212	pCi/g		0.619	0.691	ERM_RR01	01/25/2011	2 / 2	0.655
Lead-214	pCi/g		0.717	0.764	ERM_RR03	01/25/2011	2 / 2	0.7405
Magnesium	mg/kg		188	1490	ERM_RR04	01/25/2011	5 / 5	773.2
Manganese	mg/kg		21.8	689	ERM_RR03	01/25/2011	5 / 5	315.4
Mercury	mg/kg	0.047 / 0.064	0.0164	0.0345	ERM_RR03	01/25/2011	2 / 7	0.02545
Methoxychlor	ug/kg	3.1 / 4.3	ND	ND			0 / 2	0

Table 14. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reference Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Methyl mercury	mg/kg		0.00002	0.00105	ERM_RR03	01/25/2011	2 / 2	0.000537
Molybdenum	mg/kg	4.76 / 6.41	ND	ND			0 / 5	0
Naphthalene	ug/kg	0.61 / 0.61	3.9	3.9	ERM_RR03	01/25/2011	1 / 2	3.9
Nickel	mg/kg		3.1	14.7	ERM_RR03	01/25/2011	5 / 5	7.726
Organic Arsenic	mg/kg		0.415	1.11	ERM_RR03	01/25/2011	2 / 2	0.7625
Organic Selenium	mg/kg	0.607 / 0.924	ND	ND			0 / 2	0
PCB-1016	ug/kg	1.6 / 2.1	ND	ND			0 / 2	0
PCB-1221	ug/kg	1.6 / 2.1	ND	ND			0 / 2	0
PCB-1232	ug/kg	1.6 / 2.1	ND	ND			0 / 2	0
PCB-1242	ug/kg	1.6 / 2.1	ND	ND			0 / 2	0
PCB-1248	ug/kg	1.6 / 2.1	ND	ND			0 / 2	0
PCB-1254	ug/kg	1.6 / 1.6	3.2	3.2	ERM_RR03	01/25/2011	1 / 2	3.2
PCB-1260	ug/kg	1.6 / 1.6	4.6	4.6	ERM_RR03	01/25/2011	1 / 2	4.6
PCB-1262	ug/kg	1.6 / 2.1	ND	ND			0 / 2	0
PCB-1268	ug/kg	1.6 / 2.1	ND	ND			0 / 2	0
Perylene	ug/kg	0.61 / 0.61	41	41	ERM_RR03	01/25/2011	1 / 2	41
Phenanthrene	ug/kg		2.2	17	ERM_RR03	01/25/2011	2 / 2	9.6
Potassium	mg/kg		266	1480	ERM_RR03	01/25/2011	5 / 5	835.6
Potassium-40	pCi/g		4.27	5.1	ERM_RR01	01/25/2011	2 / 2	4.685
Pyrene	ug/kg		2.9	33	ERM_RR03	01/25/2011	2 / 2	17.95
Radium-226	pCi/g		0.598	0.689	ERM_RR03	01/25/2011	2 / 2	0.6435
Radium-228	pCi/g		0.605	0.734	ERM_RR01	01/25/2011	2 / 2	0.6695
Selenate	mg/kg	0.335 / 0.415	ND	ND			0 / 2	0
Selenite	mg/kg	0.424 / 0.525	ND	ND			0 / 2	0
Selenium	mg/kg	0.607 / 1.6	ND	ND			0 / 7	0
Silver	mg/kg	0.595 / 0.801	ND	ND			0 / 5	0
Sodium	mg/kg	119 / 160	ND	ND			0 / 5	0
Strontium	mg/kg	4.76 / 6.19	5.31	16.3	ERM_RR03	01/25/2011	3 / 5	9.537

Table 14. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reference Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Thallium	mg/kg	1.19 / 1.6	ND	ND			0 / 5	0
Thallium-208	pCi/g		0.202	0.227	ERM_RR01	01/25/2011	2 / 2	0.2145
Thorium-228	pCi/g		0.545	0.874	ERM_RR03	01/25/2011	2 / 2	0.7095
Thorium-230	pCi/g		0.494	0.516	ERM_RR01	01/25/2011	2 / 2	0.505
Thorium-232	pCi/g		0.483	0.72	ERM_RR03	01/25/2011	2 / 2	0.6015
Thorium-234	pCi/g	0.351 / 1.62	1.27	1.27	ERM_RR01	01/25/2011	1 / 2	1.27
Total Organic Carbon	mg/kg	2400 / 2400	27000	27000	ERM_RR03	01/25/2011	1 / 2	27000
Toxaphene	ug/kg	31 / 43	ND	ND			0 / 2	0
Uranium-234	pCi/g		0.483	0.497	ERM_RR01	01/25/2011	2 / 2	0.49
Uranium-235	pCi/g		0.0453	0.0648	ERM_RR03	01/25/2011	2 / 2	0.05505
Uranium-238	pCi/g		0.513	0.515	ERM_RR03	01/25/2011	2 / 2	0.514
Vanadium	mg/kg		3.4	26.3	ERM_RR04	01/25/2011	5 / 5	14.42
Zinc	mg/kg		12.7	54.1	ERM_RR03	01/25/2011	5 / 5	32.38

Note: For definitions, see the Acronyms section.

Table 15. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach A Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%	1 / 1	ND	ND			0 / 1	0
4,4'-DDD	ug/kg	0.65 / 7.7	ND	ND			0 / 3	0
4,4'-DDE	ug/kg	0.65 / 7.7	ND	ND			0 / 3	0
4,4'-DDT	ug/kg	0.65 / 7.7	ND	ND			0 / 3	0
Acenaphthene	ug/kg	0.67 / 0.78	ND	ND			0 / 3	0
Acenaphthylene	ug/kg	0.67 / 0.78	ND	ND			0 / 3	0
Actinium-228	pCi/g		1.23	1.68	ERM_A08	01/18/2011	3 / 3	1.477
Aldrin	ug/kg	0.33 / 4	ND	ND			0 / 3	0
alpha-BHC	ug/kg	0.33 / 4	ND	ND			0 / 3	0
alpha-Chlordane	ug/kg	0.33 / 0.39	23	23	ERM_A08	01/18/2011	1 / 3	23
Aluminum	mg/kg		13800	76500	ERM_A05	01/14/2011	12 / 12	29850
Americium-241	pCi/g	0.072 / 0.203	ND	ND			0 / 3	0
Anthracene	ug/kg	0.67 / 0.78	1	1	ERM_A04	01/19/2011	1 / 3	1
Antimony	mg/kg	1.18 / 1.96	1.27	1.8	ERM_A06	01/14/2011	4 / 12	1.56
Arsenate	mg/kg		14	14.8	ERM_A04	01/19/2011	3 / 3	14.4
Arsenic	mg/kg		5.02	32.3	ERM_A06	01/14/2011	15 / 15	14.96
Arsenite	mg/kg		0.245	9.05	ERM_A04	01/19/2011	3 / 3	3.191
Barium	mg/kg		84.5	245	ERM_A03	01/19/2011	12 / 12	142.2
Benzo(a)anthracene	ug/kg	0.67 / 0.67	6.6	7.7	ERM_A04	01/19/2011	2 / 3	7.15
Benzo(a)pyrene	ug/kg	0.67 / 0.67	5.1	7.9	ERM_A04	01/19/2011	2 / 3	6.5
Benzo(b)fluoranthene	ug/kg	0.67 / 0.67	8.6	27	ERM_A04	01/19/2011	2 / 3	17.8
Benzo(e)pyrene	ug/kg	0.67 / 0.67	4.7	12	ERM_A04	01/19/2011	2 / 3	8.35
Benzo(g,h,i)perylene	ug/kg	0.67 / 0.67	2.1	2.2	ERM_A08	01/18/2011	2 / 3	2.15
Benzo(k)fluoranthene	ug/kg	0.67 / 0.67	5.7	18	ERM_A04	01/19/2011	2 / 3	11.85
Beryllium	mg/kg	0.472 / 0.495	0.59	2.19	ERM_A05	01/14/2011	11 / 12	1.265
beta-BHC	ug/kg	0.33 / 4	0.62	0.62	ERM_A04	01/19/2011	1 / 3	0.62
Bismuth-214	pCi/g		0.969	1.08	ERM_A04	01/19/2011	3 / 3	1.03

Table 15. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Boron	mg/kg		6.01	88	ERM_A05	01/14/2011	12 / 12	23.25
C1-Chrysenes	ug/kg	0.67 / 0.67	4.3	9.9	ERM_A04	01/19/2011	2 / 3	7.1
C1-Fluoranthenes/Pyrenes	ug/kg	0.67 / 0.67	5.7	15	ERM_A04	01/19/2011	2 / 3	10.35
C1-Fluorenes	ug/kg	0.67 / 0.78	ND	ND			0 / 3	0
C1-Naphthalenes	ug/kg	0.67 / 0.67	1.1	1.3	ERM_A04	01/19/2011	2 / 3	1.2
C1-Phenanthrenes/Anthracenes	ug/kg	0.67 / 0.67	1.9	2	ERM_A08	01/18/2011	2 / 3	1.95
C2-Chrysenes	ug/kg	0.67 / 0.67	2.1	5	ERM_A04	01/19/2011	2 / 3	3.55
C2-Fluoranthenes/Pyrene	ug/kg	0.67 / 0.67	5.1	13	ERM_A04	01/19/2011	2 / 3	9.05
C2-Fluorenes	ug/kg	0.67 / 0.78	ND	ND			0 / 3	0
C2-Naphthalenes	ug/kg	0.67 / 0.67	2.3	5.3	ERM_A04	01/19/2011	2 / 3	3.8
C2-Phenanthrenes/Anthracenes	ug/kg	0.67 / 0.67	2	2.6	ERM_A04	01/19/2011	2 / 3	2.3
C3-Chrysenes	ug/kg	0.67 / 0.78	ND	ND			0 / 3	0
C3-Fluoranthenes/Pyrene	ug/kg	0.67 / 0.78	6.7	6.7	ERM_A04	01/19/2011	1 / 3	6.7
C3-Fluorenes	ug/kg	0.67 / 0.78	ND	ND			0 / 3	0
C3-Naphthalenes	ug/kg	0.67 / 0.67	1.8	3	ERM_A04	01/19/2011	2 / 3	2.4
C3-Phenanthrenes/Anthracenes	ug/kg	0.67 / 0.76	1.1	1.1	ERM_A08	01/18/2011	1 / 3	1.1
C4-Chrysenes	ug/kg	0.67 / 0.78	ND	ND			0 / 3	0
C4-Naphthalenes	ug/kg	0.67 / 0.67	1.6	21	ERM_A04	01/19/2011	2 / 3	11.3
C4-Phenanthrenes/Anthracenes	ug/kg	0.67 / 0.67	0.9	67	ERM_A04	01/19/2011	2 / 3	33.95
Cadmium	mg/kg	0.118 / 0.196	ND	ND			0 / 12	0
Calcium	mg/kg		521	3630	ERM_A03	01/19/2011	12 / 12	1712
Cesium-137	pCi/g	0.0507 / 0.0728	0.406	0.406	ERM_A04	01/19/2011	1 / 3	0.406
Chromium	mg/kg		15.2	86	ERM_A05	01/14/2011	12 / 12	38.79
Chrysene	ug/kg	0.67 / 0.67	6.1	13	ERM_A04	01/19/2011	2 / 3	9.55
Cobalt	mg/kg		7.74	46.6	ERM_A06	01/14/2011	12 / 12	18.75
Cobalt-60	pCi/g	0.0526 / 0.0589	ND	ND			0 / 3	0
Copper	mg/kg		6.08	31.7	ERM_A06	01/14/2011	12 / 12	17.57

Table 15. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
delta-BHC	ug/kg	0.33 / 4	ND	ND			0 / 3	0
Dibenz(a,h)anthracene	ug/kg	0.67 / 0.67	0.94	1.2	ERM_A04	01/19/2011	2 / 3	1.07
Dieldrin	ug/kg	0.65 / 7.7	ND	ND			0 / 3	0
Endosulfan I	ug/kg	0.33 / 4	ND	ND			0 / 3	0
Endosulfan II	ug/kg	0.65 / 7.7	ND	ND			0 / 3	0
Endosulfan Sulfate	ug/kg	0.65 / 7.7	ND	ND			0 / 3	0
Endrin	ug/kg	0.65 / 7.7	ND	ND			0 / 3	0
Endrin aldehyde	ug/kg	0.65 / 7.7	ND	ND			0 / 3	0
Endrin Ketone	ug/kg	0.65 / 7.7	ND	ND			0 / 3	0
Fluoranthene	ug/kg	0.67 / 0.67	10	12	ERM_A08	01/18/2011	2 / 3	11
Fluorene	ug/kg	0.67 / 0.78	ND	ND			0 / 3	0
Fraction of Organic Carbon	%		1	9.8	ERM_A04	01/19/2011	3 / 3	4.033
gamma-BHC (Lindane)	ug/kg	0.33 / 4	ND	ND			0 / 3	0
gamma-Chlordane	ug/kg	0.33 / 0.39	36	36	ERM_A08	01/18/2011	1 / 3	36
Heptachlor	ug/kg	0.33 / 4	ND	ND			0 / 3	0
Heptachlor Epoxide	ug/kg	0.33 / 4	ND	ND			0 / 3	0
Hex. Chromium	mg/kg	0.26 / 0.33	0.58	1.2	ERM_A11	01/18/2011	2 / 3	0.89
Indeno(1,2,3-cd)pyrene	ug/kg	0.67 / 0.67	2.4	2.9	ERM_A04	01/19/2011	2 / 3	2.65
Inorganic Arsenic	mg/kg		14.3	23.9	ERM_A04	01/19/2011	3 / 3	17.63
Inorganic Mercury	mg/kg		0.0194	0.0573	ERM_A08	01/18/2011	3 / 3	0.03887
Inorganic Selenium	mg/kg	0.327 / 0.512	0.485	0.485	ERM_A11	01/18/2011	1 / 3	0.485
Iron	mg/kg		13300	48200	ERM_A05	01/14/2011	12 / 12	32967
Lead	mg/kg		12.5	126	ERM_A06	01/14/2011	12 / 12	27.63
Lead-212	pCi/g		1.44	1.91	ERM_A08	01/18/2011	3 / 3	1.603
Lead-214	pCi/g		1.28	1.42	ERM_A04	01/19/2011	3 / 3	1.33
Magnesium	mg/kg		1010	9000	ERM_A05	01/14/2011	12 / 12	2544
Manganese	mg/kg		289	2910	ERM_A06	01/14/2011	12 / 12	955.6

Table 15. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Mercury	mg/kg	0.049 / 0.066	0.0194	0.13	ERM_A06	01/14/2011	9 / 15	0.0718
Methoxychlor	ug/kg	3.3 / 40	ND	ND			0 / 3	0
Methyl mercury	mg/kg		0.00001	0.00049	ERM_A04	01/19/2011	3 / 3	0.0001993
Molybdenum	mg/kg	4.72 / 7.83	ND	ND			0 / 12	0
Naphthalene	ug/kg	0.67 / 0.78	0.77	0.77	ERM_A04	01/19/2011	1 / 3	0.77
Nickel	mg/kg		7.42	40.6	ERM_A05	01/14/2011	12 / 12	19.83
Organic Arsenic	mg/kg	1.5 / 3.51	2.01	2.01	ERM_A08	01/18/2011	1 / 3	2.01
Organic Selenium	mg/kg	0.584 / 0.641	1.04	1.28	ERM_A08	01/18/2011	2 / 3	1.16
PCB-1016	ug/kg	1.7 / 1.9	ND	ND			0 / 3	0
PCB-1221	ug/kg	1.7 / 1.9	ND	ND			0 / 3	0
PCB-1232	ug/kg	1.7 / 1.9	ND	ND			0 / 3	0
PCB-1242	ug/kg	1.7 / 1.9	ND	ND			0 / 3	0
PCB-1248	ug/kg	1.7 / 1.9	ND	ND			0 / 3	0
PCB-1254	ug/kg	1.7 / 1.9	ND	ND			0 / 3	0
PCB-1260	ug/kg	1.7 / 1.9	ND	ND			0 / 3	0
PCB-1262	ug/kg	1.7 / 1.9	ND	ND			0 / 3	0
PCB-1268	ug/kg	1.7 / 1.9	ND	ND			0 / 3	0
Perylene	ug/kg	0.67 / 0.67	2.1	5.8	ERM_A04	01/19/2011	2 / 3	3.95
Phenanthrene	ug/kg	0.67 / 0.67	1.4	2.1	ERM_A08	01/18/2011	2 / 3	1.75
Potassium	mg/kg		1240	24700	ERM_A05	01/14/2011	12 / 12	4679
Potassium-40	pCi/g		14.9	23.3	ERM_A08	01/18/2011	3 / 3	18.23
Pyrene	ug/kg	0.67 / 0.67	11	17	ERM_A04	01/19/2011	2 / 3	14
Radium-226	pCi/g		0.969	1.08	ERM_A04	01/19/2011	3 / 3	1.03
Radium-228	pCi/g		1.23	1.68	ERM_A08	01/18/2011	3 / 3	1.477
Selenate	mg/kg	0.259 / 0.405	ND	ND			0 / 3	0
Selenite	mg/kg	0.327 / 0.512	0.485	0.485	ERM_A11	01/18/2011	1 / 3	0.485
Selenium	mg/kg	0.584 / 1.57	0.819	3.05	ERM_A01	01/19/2011	6 / 15	1.75

Table 15. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Silver	mg/kg	0.59 / 0.978	ND	ND			0 / 12	0
Sodium	mg/kg	118 / 157	190	257	ERM_A01	01/19/2011	3 / 12	218
Strontium	mg/kg		9.94	149	ERM_A03	01/19/2011	12 / 12	39.87
Thallium	mg/kg	1.18 / 1.96	ND	ND			0 / 12	0
Thallium-208	pCi/g		0.32	0.566	ERM_A08	01/18/2011	3 / 3	0.4287
Thorium-228	pCi/g		1.23	1.8	ERM_A08	01/18/2011	3 / 3	1.523
Thorium-230	pCi/g		1.03	1.55	ERM_A08	01/18/2011	3 / 3	1.337
Thorium-232	pCi/g		0.95	1.61	ERM_A04	01/19/2011	3 / 3	1.313
Thorium-234	pCi/g	0.778 / 1.88	0.981	0.981	ERM_A08	01/18/2011	1 / 3	0.981
Total Organic Carbon	mg/kg	330 / 2300	3800	12000	ERM_A04	01/19/2011	2 / 3	7900
Toxaphene	ug/kg	33 / 400	ND	ND			0 / 3	0
Uranium-234	pCi/g		0.822	1.31	ERM_A04	01/19/2011	3 / 3	1.004
Uranium-235	pCi/g	0.0797 / 0.167	ND	ND			0 / 3	0
Uranium-238	pCi/g		0.999	1.26	ERM_A04	01/19/2011	3 / 3	1.12
Vanadium	mg/kg		24.2	80.1	ERM_A06	01/14/2011	12 / 12	46.9
Zinc	mg/kg		27.3	132	ERM_A06	01/14/2011	12 / 12	58.99

Note: For definitions, see the Acronyms section.

Table 16. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach B Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%		7	7	ERM_B02	01/24/2011	1 / 1	7
4,4'-DDD	ug/kg	0.64 / 0.92	ND	ND			0 / 4	0
4,4'-DDE	ug/kg	0.64 / 0.93	ND	ND			0 / 4	0
4,4'-DDT	ug/kg	0.64 / 0.92	3.3	3.3	ERM_B02	01/24/2011	1 / 4	3.3
Acenaphthene	ug/kg	0.65 / 2.9	1.9	1.9	ERM_B07	01/24/2011	1 / 3	1.9
Acenaphthylene	ug/kg	0.65 / 2.9	ND	ND			0 / 3	0
Actinium-228	pCi/g		0.828	2.82	ERM_B12	01/19/2011	4 / 4	1.556
Aldrin	ug/kg	0.33 / 0.48	ND	ND			0 / 4	0
alpha-BHC	ug/kg	0.33 / 0.48	ND	ND			0 / 4	0
alpha-Chlordane	ug/kg	0.33 / 0.48	ND	ND			0 / 4	0
Aluminum	mg/kg		3320	39400	ERM_B14	01/19/2011	16 / 16	17278
Americium-241	pCi/g	0.0976 / 0.264	ND	ND			0 / 4	0
Anthracene	ug/kg	0.65 / 0.65	4.3	21	ERM_B02	01/24/2011	2 / 3	12.65
Antimony	mg/kg	1.22 / 1.85	2.26	2.26	ERM_B12	01/19/2011	1 / 16	2.26
Arsenate	mg/kg		2	54.8	ERM_B12	01/19/2011	4 / 4	15.89
Arsenic	mg/kg	0.212 / 1.36	3.15	62.4	ERM_B12	01/19/2011	19 / 20	15.24
Arsenite	mg/kg		0.208	9.14	ERM_B12	01/19/2011	4 / 4	4.227
Barium	mg/kg		20.4	478	ERM_B12	01/19/2011	16 / 16	128.7
Benzo(a)anthracene	ug/kg		2	55	ERM_B02	01/24/2011	3 / 3	25.67
Benzo(a)pyrene	ug/kg		1.8	61	ERM_B02	01/24/2011	3 / 3	26.93
Benzo(b)fluoranthene	ug/kg		3.1	90	ERM_B02	01/24/2011	3 / 3	39.7
Benzo(e)pyrene	ug/kg		1.8	51	ERM_B02	01/24/2011	3 / 3	22.93
Benzo(g,h,i)perylene	ug/kg		1.1	26	ERM_B02	01/24/2011	3 / 3	12.07
Benzo(k)fluoranthene	ug/kg		2	65	ERM_B02	01/24/2011	3 / 3	28.33
Beryllium	mg/kg	0.488 / 0.563	0.672	3.52	ERM_B12	01/19/2011	13 / 16	1.231
beta-BHC	ug/kg	0.33 / 0.48	ND	ND			0 / 4	0
Bismuth-214	pCi/g		0.764	3.68	ERM_B12	01/19/2011	4 / 4	1.53
Boron	mg/kg	4.88 / 7.39	5.31	51.8	ERM_B12	01/19/2011	10 / 16	20.65

Table 16. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
C1-Chrysenes	ug/kg		2	29	ERM_B02	01/24/2011	3 / 3	13.57
C1-Fluoranthenes/Pyrenes	ug/kg		0.88	59	ERM_B02	01/24/2011	4 / 4	21.75
C1-Fluorenes	ug/kg	0.65 / 2.9	1.1	3	ERM_B07	01/24/2011	2 / 4	2.05
C1-Naphthalenes	ug/kg		1.7	16	ERM_B07	01/24/2011	4 / 4	8.975
C1-Phenanthrenes/Anthracenes	ug/kg		1.8	22	ERM_B07	01/24/2011	4 / 4	11.2
C2-Chrysenes	ug/kg		1	23	ERM_B02	01/24/2011	3 / 3	11.27
C2-Fluoranthenes/Pyrene	ug/kg		2	40	ERM_B02	01/24/2011	3 / 3	22.67
C2-Fluorenes	ug/kg	0.65 / 0.65	2.3	5.6	ERM_B07	01/24/2011	3 / 4	4.067
C2-Naphthalenes	ug/kg		4.1	42	ERM_B07	01/24/2011	4 / 4	22.28
C2-Phenanthrenes/Anthracenes	ug/kg		1.6	15	ERM_B02	01/24/2011	4 / 4	8.35
C3-Chrysenes	ug/kg	0.65 / 2.9	ND	ND			0 / 3	0
C3-Fluoranthenes/Pyrene	ug/kg		1.1	21	ERM_B02	01/24/2011	3 / 3	11.03
C3-Fluorenes	ug/kg	0.65 / 0.65	3.5	4.3	ERM_B07	01/24/2011	2 / 3	3.9
C3-Naphthalenes	ug/kg		2.2	31	ERM_B07	01/24/2011	4 / 4	17.05
C3-Phenanthrenes/Anthracenes	ug/kg	0.65 / 0.65	1.4	12	ERM_B02	01/24/2011	3 / 4	7.067
C4-Chrysenes	ug/kg	0.65 / 2.9	ND	ND			0 / 3	0
C4-Naphthalenes	ug/kg		1.7	19	ERM_B07	01/24/2011	4 / 4	10.53
C4-Phenanthrenes/Anthracenes	ug/kg		1.1	22	ERM_B02	01/24/2011	4 / 4	10.83
Cadmium	mg/kg	0.122 / 0.185	ND	ND			0 / 16	0
Calcium	mg/kg		232	7590	ERM_B12	01/19/2011	16 / 16	1550
Cesium-137	pCi/g	0.0247 / 0.0737	0.0462	0.0743	ERM_B02	01/24/2011	2 / 4	0.06025
Chromium	mg/kg		5.27	42.4	ERM_B13	01/19/2011	16 / 16	21.81
Chrysene	ug/kg		2.2	80	ERM_B02	01/24/2011	3 / 3	34.73
Cobalt	mg/kg		2.59	38.1	ERM_B09	01/20/2011	16 / 16	13.99
Cobalt-60	pCi/g	0.0293 / 0.0734	ND	ND			0 / 4	0
Copper	mg/kg		1.64	47.1	ERM_B12	01/19/2011	16 / 16	15.98
delta-BHC	ug/kg	0.33 / 0.48	ND	ND			0 / 4	0

Table 16. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Dibenz(a,h)anthracene	ug/kg	0.65 / 0.65	3.1	10	ERM_B02	01/24/2011	2 / 3	6.55
Dieldrin	ug/kg	0.64 / 0.93	ND	ND			0 / 4	0
Endosulfan I	ug/kg	0.33 / 0.48	ND	ND			0 / 4	0
Endosulfan II	ug/kg	0.64 / 0.93	ND	ND			0 / 4	0
Endosulfan Sulfate	ug/kg	0.64 / 0.93	ND	ND			0 / 4	0
Endrin	ug/kg	0.64 / 0.93	ND	ND			0 / 4	0
Endrin aldehyde	ug/kg	0.64 / 0.93	ND	ND			0 / 4	0
Endrin Ketone	ug/kg	0.64 / 0.93	ND	ND			0 / 4	0
Fluoranthene	ug/kg		3.7	74	ERM_B02	01/24/2011	3 / 3	39.57
Fluorene	ug/kg	0.65 / 0.65	2.9	4.1	ERM_B02	01/24/2011	2 / 3	3.5
Fraction of Organic Carbon	%		0.54	2.5	ERM_B02	01/24/2011	4 / 4	1.24
gamma-BHC (Lindane)	ug/kg	0.33 / 0.48	ND	ND			0 / 4	0
gamma-Chlordane	ug/kg	0.33 / 0.48	ND	ND			0 / 4	0
Heptachlor	ug/kg	0.33 / 0.48	ND	ND			0 / 4	0
Heptachlor Epoxide	ug/kg	0.33 / 0.48	ND	ND			0 / 4	0
Hex. Chromium	mg/kg	0.25 / 0.74	0.35	0.45	ERM_B12	01/19/2011	2 / 4	0.4
Indeno(1,2,3-cd)pyrene	ug/kg		1.1	28	ERM_B02	01/24/2011	3 / 3	12.57
Inorganic Arsenic	mg/kg		3.65	63.9	ERM_B12	01/19/2011	4 / 4	20.11
Inorganic Mercury	mg/kg		0.0088	0.0857	ERM_B12	01/19/2011	4 / 4	0.04393
Inorganic Selenium	mg/kg	0.321 / 0.529	1.58	1.58	ERM_B12	01/19/2011	1 / 4	1.58
Iron	mg/kg		3420	37000	ERM_B14	01/19/2011	16 / 16	20658
Lead	mg/kg		3.06	79.5	ERM_B14	01/19/2011	16 / 16	20.28
Lead-212	pCi/g		0.892	3.07	ERM_B12	01/19/2011	4 / 4	1.644
Lead-214	pCi/g		0.738	4.1	ERM_B12	01/19/2011	4 / 4	1.727
Magnesium	mg/kg		245	4550	ERM_B13	01/19/2011	16 / 16	1527
Manganese	mg/kg		43.6	4120	ERM_B06	01/25/2011	16 / 16	828.3
Mercury	mg/kg	0.048 / 0.073	0.00884	0.12	ERM_B14	01/19/2011	9 / 20	0.06528
Methoxychlor	ug/kg	3.3 / 4.8	ND	ND			0 / 4	0

Table 16. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Methyl mercury	mg/kg		0.00004	0.0011	ERM_B02	01/24/2011	4 / 4	0.0004505
Molybdenum	mg/kg	4.88 / 7.39	ND	ND			0 / 16	0
Naphthalene	ug/kg		0.8	6	ERM_B07	01/24/2011	4 / 4	3.95
Nickel	mg/kg		4.2	54.7	ERM_B14	01/19/2011	16 / 16	19.43
Organic Arsenic	mg/kg	0.599 / 10.7	1.52	1.52	ERM_B07	01/24/2011	1 / 4	1.52
Organic Selenium	mg/kg	0.55 / 0.895	0.821	2.32	ERM_B12	01/19/2011	3 / 4	1.327
PCB-1016	ug/kg	1.6 / 2.4	ND	ND			0 / 4	0
PCB-1221	ug/kg	1.6 / 2.4	ND	ND			0 / 4	0
PCB-1232	ug/kg	1.6 / 2.4	ND	ND			0 / 4	0
PCB-1242	ug/kg	1.6 / 2.4	ND	ND			0 / 4	0
PCB-1248	ug/kg	1.6 / 2.4	ND	ND			0 / 4	0
PCB-1254	ug/kg	1.6 / 2.4	3.2	3.2	ERM_B02	01/24/2011	1 / 4	3.2
PCB-1260	ug/kg	1.6 / 1.9	3.2	5.2	ERM_B02	01/24/2011	2 / 4	4.2
PCB-1262	ug/kg	1.6 / 2.4	ND	ND			0 / 4	0
PCB-1268	ug/kg	1.6 / 2.4	ND	ND			0 / 4	0
Perylene	ug/kg		2.5	65	ERM_B07	01/24/2011	3 / 3	35.83
Phenanthrene	ug/kg		1.2	26	ERM_B07	01/24/2011	4 / 4	12.7
Potassium	mg/kg		301	11700	ERM_B13	01/19/2011	16 / 16	2575
Potassium-40	pCi/g		5.38	42.8	ERM_B13	01/19/2011	4 / 4	18.54
Pyrene	ug/kg		3.7	71	ERM_B02	01/24/2011	3 / 3	37.23
Radium-226	pCi/g		0.764	3.68	ERM_B12	01/19/2011	4 / 4	1.53
Radium-228	pCi/g		0.828	2.82	ERM_B12	01/19/2011	4 / 4	1.556
Selenate	mg/kg	0.254 / 0.408	ND	ND			0 / 4	0
Selenite	mg/kg	0.321 / 0.529	1.58	1.58	ERM_B12	01/19/2011	1 / 4	1.58
Selenium	mg/kg	0.55 / 1.85	0.821	3.9	ERM_B12	01/19/2011	7 / 20	1.924
Silver	mg/kg	0.611 / 0.924	ND	ND			0 / 16	0
Sodium	mg/kg	122 / 185	498	498	ERM_B12	01/19/2011	1 / 16	498
Strontium	mg/kg	4.88 / 5.46	5.66	321	ERM_B12	01/19/2011	15 / 16	44.08

Table 16. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Thallium	mg/kg	1.22 / 1.85	ND	ND			0 / 16	0
Thallium-208	pCi/g		0.215	0.938	ERM_B12	01/19/2011	4 / 4	0.4633
Thorium-228	pCi/g		0.731	2.64	ERM_B12	01/19/2011	4 / 4	1.343
Thorium-230	pCi/g		0.646	4.11	ERM_B12	01/19/2011	4 / 4	1.586
Thorium-232	pCi/g		0.613	3.03	ERM_B12	01/19/2011	4 / 4	1.578
Thorium-234	pCi/g	0.821 / 1.65	4.37	4.37	ERM_B12	01/19/2011	1 / 4	4.37
Total Organic Carbon	mg/kg	400 / 1300	3500	19000	ERM_B02	01/24/2011	3 / 4	11500
Toxaphene	ug/kg	33 / 48	ND	ND			0 / 4	0
Uranium-234	pCi/g		0.715	2.94	ERM_B12	01/19/2011	4 / 4	1.313
Uranium-235	pCi/g	0.00959 / 0.105	0.0473	0.13	ERM_B12	01/19/2011	3 / 4	0.08147
Uranium-238	pCi/g		0.727	3.53	ERM_B12	01/19/2011	4 / 4	1.517
Vanadium	mg/kg		5.08	78.6	ERM_B12	01/19/2011	16 / 16	30.43
Zinc	mg/kg		15.8	113	ERM_B14	01/19/2011	16 / 16	45.3

Note: For definitions, see the Acronyms section.

Table 17. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach C Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%	1 / 1	ND	ND			0 / 1	0
4,4'-DDD	ug/kg	0.68 / 0.79	ND	ND			0 / 2	0
4,4'-DDE	ug/kg	0.69 / 0.82	ND	ND			0 / 2	0
4,4'-DDT	ug/kg	0.68 / 0.79	ND	ND			0 / 2	0
Acenaphthene	ug/kg	0.7 / 1.6	ND	ND			0 / 2	0
Acenaphthylene	ug/kg	0.7 / 1.6	ND	ND			0 / 2	0
Actinium-228	pCi/g		0.622	1.07	ERM_C01	01/24/2011	2 / 2	0.846
Aldrin	ug/kg	0.36 / 0.42	ND	ND			0 / 2	0
alpha-BHC	ug/kg	0.36 / 0.42	ND	ND			0 / 2	0
alpha-Chlordane	ug/kg	0.36 / 0.42	ND	ND			0 / 2	0
Aluminum	mg/kg		1900	27100	ERM_C01	01/24/2011	10 / 10	9164
Americium-241	pCi/g	0.0946 / 0.185	ND	ND			0 / 2	0
Anthracene	ug/kg	0.7 / 0.7	2.2	2.2	ERM_C06	01/24/2011	1 / 2	2.2
Antimony	mg/kg	1.26 / 1.58	ND	ND			0 / 10	0
Arsenate	mg/kg		1.15	2.02	ERM_C01	01/24/2011	2 / 2	1.585
Arsenic	mg/kg	0.27 / 1.58	1.79	5.17	ERM_C01	01/24/2011	9 / 12	2.947
Arsenite	mg/kg		0.214	0.98	ERM_C06	01/24/2011	2 / 2	0.597
Barium	mg/kg		17	447	ERM_C10	01/20/2011	10 / 10	92.48
Benzo(a)anthracene	ug/kg		1.7	19	ERM_C06	01/24/2011	2 / 2	10.35
Benzo(a)pyrene	ug/kg		1.7	21	ERM_C06	01/24/2011	2 / 2	11.35
Benzo(b)fluoranthene	ug/kg		2.6	36	ERM_C06	01/24/2011	2 / 2	19.3
Benzo(e)pyrene	ug/kg		1.6	21	ERM_C06	01/24/2011	2 / 2	11.3
Benzo(g,h,i)perylene	ug/kg		0.97	11	ERM_C06	01/24/2011	2 / 2	5.985
Benzo(k)fluoranthene	ug/kg		1.6	23	ERM_C06	01/24/2011	2 / 2	12.3
Beryllium	mg/kg	0.506 / 0.633	0.541	1.09	ERM_C10	01/20/2011	3 / 10	0.9003
beta-BHC	ug/kg	0.36 / 0.42	ND	ND			0 / 2	0
Bismuth-214	pCi/g		0.541	0.945	ERM_C01	01/24/2011	2 / 2	0.743
Boron	mg/kg	5.06 / 6.33	9.05	10.3	ERM_C10	01/20/2011	2 / 10	9.675

Table 17. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach C Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
C1-Chrysenes	ug/kg	0.7 / 0.7	10	10	ERM_C06	01/24/2011	1 / 2	10
C1-Fluoranthenes/Pyrenes	ug/kg		2.8	25	ERM_C06	01/24/2011	2 / 2	13.9
C1-Fluorenes	ug/kg	0.7 / 0.7	2.7	2.7	ERM_C06	01/24/2011	1 / 2	2.7
C1-Naphthalenes	ug/kg		1.2	21	ERM_C06	01/24/2011	2 / 2	11.1
C1-Phenanthrenes/Anthracenes	ug/kg		1.7	22	ERM_C06	01/24/2011	2 / 2	11.85
C2-Chrysenes	ug/kg	0.7 / 0.7	11	11	ERM_C06	01/24/2011	1 / 2	11
C2-Fluoranthenes/Pyrene	ug/kg	0.7 / 0.7	29	29	ERM_C06	01/24/2011	1 / 2	29
C2-Fluorenes	ug/kg	0.7 / 1.6	ND	ND			0 / 2	0
C2-Naphthalenes	ug/kg		2.9	45	ERM_C06	01/24/2011	2 / 2	23.95
C2-Phenanthrenes/Anthracenes	ug/kg		1.9	16	ERM_C06	01/24/2011	2 / 2	8.95
C3-Chrysenes	ug/kg	0.7 / 1.6	ND	ND			0 / 2	0
C3-Fluoranthenes/Pyrene	ug/kg	0.7 / 0.7	12	12	ERM_C06	01/24/2011	1 / 2	12
C3-Fluorenes	ug/kg	0.7 / 1.6	ND	ND			0 / 2	0
C3-Naphthalenes	ug/kg		2.8	31	ERM_C06	01/24/2011	2 / 2	16.9
C3-Phenanthrenes/Anthracenes	ug/kg		0.81	9.1	ERM_C06	01/24/2011	2 / 2	4.955
C4-Chrysenes	ug/kg	0.7 / 1.6	ND	ND			0 / 2	0
C4-Naphthalenes	ug/kg		1.4	18	ERM_C06	01/24/2011	2 / 2	9.7
C4-Phenanthrenes/Anthracenes	ug/kg		1.5	45	ERM_C06	01/24/2011	2 / 2	23.25
Cadmium	mg/kg	0.126 / 0.158	ND	ND			0 / 10	0
Calcium	mg/kg		146	1200	ERM_C10	01/20/2011	10 / 10	537.9
Cesium-137	pCi/g	0.0307 / 0.0307	0.0496	0.0496	ERM_C06	01/24/2011	1 / 2	0.0496
Chromium	mg/kg		3.18	24.3	ERM_C10	01/20/2011	10 / 10	9.959
Chrysene	ug/kg		2	27	ERM_C06	01/24/2011	2 / 2	14.5
Cobalt	mg/kg		2.62	20.4	ERM_C10	01/20/2011	10 / 10	7.144
Cobalt-60	pCi/g	0.0299 / 0.03	ND	ND			0 / 2	0
Copper	mg/kg		2	13.2	ERM_C10	01/20/2011	10 / 10	5.076
delta-BHC	ug/kg	0.36 / 0.42	ND	ND			0 / 2	0

Table 17. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach C Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Dibenz(a,h)anthracene	ug/kg	0.7 / 0.7	3.1	3.1	ERM_C06	01/24/2011	1 / 2	3.1
Dieldrin	ug/kg	0.69 / 0.82	ND	ND			0 / 2	0
Endosulfan I	ug/kg	0.36 / 0.42	ND	ND			0 / 2	0
Endosulfan II	ug/kg	0.69 / 0.82	ND	ND			0 / 2	0
Endosulfan Sulfate	ug/kg	0.69 / 0.82	ND	ND			0 / 2	0
Endrin	ug/kg	0.69 / 0.82	ND	ND			0 / 2	0
Endrin aldehyde	ug/kg	0.69 / 0.82	ND	ND			0 / 2	0
Endrin Ketone	ug/kg	0.69 / 0.82	ND	ND			0 / 2	0
Fluoranthene	ug/kg		3.8	49	ERM_C06	01/24/2011	2 / 2	26.4
Fluorene	ug/kg	0.7 / 0.7	2.4	2.4	ERM_C06	01/24/2011	1 / 2	2.4
Fraction of Organic Carbon	%		1.2	2.1	ERM_C06	01/24/2011	2 / 2	1.65
gamma-BHC (Lindane)	ug/kg	0.36 / 0.42	ND	ND			0 / 2	0
gamma-Chlordane	ug/kg	0.36 / 0.42	ND	ND			0 / 2	0
Heptachlor	ug/kg	0.36 / 0.42	ND	ND			0 / 2	0
Heptachlor Epoxide	ug/kg	0.36 / 0.42	ND	ND			0 / 2	0
Hex. Chromium	mg/kg	0.55 / 0.62	ND	ND			0 / 2	0
Indeno(1,2,3-cd)pyrene	ug/kg		0.91	11	ERM_C06	01/24/2011	2 / 2	5.955
Inorganic Arsenic	mg/kg		2.13	2.23	ERM_C01	01/24/2011	2 / 2	2.18
Inorganic Mercury	mg/kg		0.0236	0.0239	ERM_C01	01/24/2011	2 / 2	0.02375
Inorganic Selenium	mg/kg	0.397 / 0.452	ND	ND			0 / 2	0
Iron	mg/kg		3300	19100	ERM_C01	01/24/2011	10 / 10	9607
Lead	mg/kg		2.45	14	ERM_C10	01/20/2011	10 / 10	6.688
Lead-212	pCi/g		0.553	1.16	ERM_C01	01/24/2011	2 / 2	0.8565
Lead-214	pCi/g		0.693	1.18	ERM_C01	01/24/2011	2 / 2	0.9365
Magnesium	mg/kg		142	2920	ERM_C10	01/20/2011	10 / 10	799.7
Manganese	mg/kg		34.4	2940	ERM_C10	01/20/2011	10 / 10	557.4
Mercury	mg/kg	0.051 / 0.064	0.0236	0.0243	ERM_C01	01/24/2011	2 / 12	0.02395
Methoxychlor	ug/kg	3.6 / 4.2	ND	ND			0 / 2	0

Table 17. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach C Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Methyl mercury	mg/kg		0.00009	0.00038	ERM_C01	01/24/2011	2 / 2	0.000236
Molybdenum	mg/kg	5.06 / 6.33	ND	ND			0 / 10	0
Naphthalene	ug/kg	0.7 / 0.7	8.8	8.8	ERM_C06	01/24/2011	1 / 2	8.8
Nickel	mg/kg		2.85	22.4	ERM_C10	01/20/2011	10 / 10	8.556
Organic Arsenic	mg/kg		0.624	0.847	ERM_C01	01/24/2011	2 / 2	0.7355
Organic Selenium	mg/kg	0.699 / 0.779	ND	ND			0 / 2	0
PCB-1016	ug/kg	1.8 / 2.1	ND	ND			0 / 2	0
PCB-1221	ug/kg	1.8 / 2.1	ND	ND			0 / 2	0
PCB-1232	ug/kg	1.8 / 2.1	ND	ND			0 / 2	0
PCB-1242	ug/kg	1.8 / 2.1	ND	ND			0 / 2	0
PCB-1248	ug/kg	1.8 / 2.1	ND	ND			0 / 2	0
PCB-1254	ug/kg	1.8 / 1.8	2.9	2.9	ERM_C06	01/24/2011	1 / 2	2.9
PCB-1260	ug/kg	1.8 / 1.8	4.1	4.1	ERM_C06	01/24/2011	1 / 2	4.1
PCB-1262	ug/kg	1.8 / 2.1	ND	ND			0 / 2	0
PCB-1268	ug/kg	1.8 / 2.1	ND	ND			0 / 2	0
Perylene	ug/kg		6.6	37	ERM_C06	01/24/2011	2 / 2	21.8
Phenanthrene	ug/kg		1.8	25	ERM_C06	01/24/2011	2 / 2	13.4
Potassium	mg/kg		169	3340	ERM_C10	01/20/2011	10 / 10	1039
Potassium-40	pCi/g		3.64	7.43	ERM_C01	01/24/2011	2 / 2	5.535
Pyrene	ug/kg		3.3	41	ERM_C06	01/24/2011	2 / 2	22.15
Radium-226	pCi/g		0.541	0.945	ERM_C01	01/24/2011	2 / 2	0.743
Radium-228	pCi/g		0.622	1.07	ERM_C01	01/24/2011	2 / 2	0.846
Selenate	mg/kg	0.314 / 0.315	ND	ND			0 / 2	0
Selenite	mg/kg	0.397 / 0.452	ND	ND			0 / 2	0
Selenium	mg/kg	0.699 / 1.58	ND	ND			0 / 12	0
Silver	mg/kg	0.632 / 0.791	ND	ND			0 / 10	0
Sodium	mg/kg	126 / 158	158	158	ERM_C01	01/24/2011	1 / 10	158
Strontium	mg/kg	5.06 / 6.33	6.35	19.9	ERM_C01	01/24/2011	4 / 10	11.83

Table 17. Summary Statistics for Seasonally-Exposed Sediment in Emory River Reach C Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Thallium	mg/kg	1.26 / 1.58	ND	ND			0 / 10	0
Thallium-208	pCi/g		0.183	0.309	ERM_C01	01/24/2011	2 / 2	0.246
Thorium-228	pCi/g		0.492	0.81	ERM_C01	01/24/2011	2 / 2	0.651
Thorium-230	pCi/g		0.38	5.21	ERM_C01	01/24/2011	2 / 2	2.795
Thorium-232	pCi/g		0.338	0.961	ERM_C01	01/24/2011	2 / 2	0.6495
Thorium-234	pCi/g	0.816 / 1.68	2.36	2.36	ERM_C01	01/24/2011	1 / 2	2.36
Total Organic Carbon	mg/kg		8800	12000	ERM_C06	01/24/2011	2 / 2	10400
Toxaphene	ug/kg	36 / 42	ND	ND			0 / 2	0
Uranium-234	pCi/g		0.484	0.871	ERM_C01	01/24/2011	2 / 2	0.6775
Uranium-235	pCi/g		0.0331	0.0532	ERM_C01	01/24/2011	2 / 2	0.04315
Uranium-238	pCi/g		0.476	0.809	ERM_C01	01/24/2011	2 / 2	0.6425
Vanadium	mg/kg		3.1	36.6	ERM_C01	01/24/2011	10 / 10	13.08
Zinc	mg/kg		12	84.8	ERM_C10	01/20/2011	10 / 10	32.35

Note: For definitions, see the Acronyms section.

Table 18. Summary Statistics for Seasonally-Exposed Sediment in Clinch River Reach A Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%	1 / 1	ND	ND			0 / 1	0
4,4'-DDD	ug/kg	0.64 / 0.71	ND	ND			0 / 3	0
4,4'-DDE	ug/kg	0.64 / 0.71	ND	ND			0 / 3	0
4,4'-DDT	ug/kg	0.64 / 0.71	ND	ND			0 / 3	0
Acenaphthene	ug/kg	0.64 / 0.73	ND	ND			0 / 3	0
Acenaphthylene	ug/kg	0.64 / 0.71	0.79	0.79	CRM_A10	12/15/2010	1 / 3	0.79
Actinium-228	pCi/g		0.453	2.02	CRM_A02	12/20/2010	3 / 3	1.318
Aldrin	ug/kg	0.33 / 0.37	ND	ND			0 / 3	0
alpha-BHC	ug/kg	0.33 / 0.37	ND	ND			0 / 3	0
alpha-Chlordane	ug/kg	0.33 / 0.37	ND	ND			0 / 3	0
Aluminum	mg/kg		7370	143000	CRM_A04	12/20/2010	12 / 12	44081
Americium-241	pCi/g	0.119 / 0.451	ND	ND			0 / 3	0
Anthracene	ug/kg	0.64 / 0.71	0.9	1.1	CRM_A10	12/15/2010	2 / 3	1
Antimony	mg/kg	1.25 / 1.63	1.32	2.52	CRM_A04	12/20/2010	3 / 12	1.787
Arsenate	mg/kg	1.23 / 8.61	1.9	23.3	CRM_A10	12/15/2010	2 / 3	12.6
Arsenic	mg/kg		5.2	63.4	CRM_A04	12/20/2010	15 / 15	18.84
Arsenite	mg/kg		0.192	2.99	CRM_A03	12/20/2010	3 / 3	1.667
Barium	mg/kg		50.7	190	CRM_A02	12/20/2010	12 / 12	110.3
Benzo(a)anthracene	ug/kg		0.78	8.3	CRM_A10	12/15/2010	3 / 3	5.227
Benzo(a)pyrene	ug/kg		0.87	9.1	CRM_A10	12/15/2010	3 / 3	5.79
Benzo(b)fluoranthene	ug/kg		1.2	11	CRM_A10	12/15/2010	3 / 3	6.733
Benzo(e)pyrene	ug/kg		0.86	6.7	CRM_A10	12/15/2010	3 / 3	4.453
Benzo(g,h,i)perylene	ug/kg		0.82	6.4	CRM_A10	12/15/2010	3 / 3	3.873
Benzo(k)fluoranthene	ug/kg		0.91	9.7	CRM_A10	12/15/2010	3 / 3	6.17
Beryllium	mg/kg	0.502 / 0.524	0.623	4.39	CRM_A04	12/20/2010	10 / 12	1.308
beta-BHC	ug/kg	0.33 / 0.37	0.83	0.83	CRM_A03	12/20/2010	1 / 3	0.83
Bismuth-214	pCi/g		0.417	1.63	CRM_A02	12/20/2010	3 / 3	0.9343

Table 18. Summary Statistics for Seasonally-Exposed Sediment in Clinch River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Boron	mg/kg		8.63	60.5	CRM_A10	12/15/2010	12 / 12	42.69
C1-Chrysenes	ug/kg		0.75	8.2	CRM_A10	12/15/2010	3 / 3	5.017
C1-Fluoranthenes/Pyrenes	ug/kg		1.5	11	CRM_A03	12/20/2010	3 / 3	7.5
C1-Fluorenes	ug/kg	0.64 / 0.73	1.5	1.5	CRM_A03	12/20/2010	1 / 3	1.5
C1-Naphthalenes	ug/kg		1.7	6.3	CRM_A03	12/20/2010	3 / 3	3.633
C1-Phenanthrenes/Anthracenes	ug/kg		1.6	7.6	CRM_A03	12/20/2010	3 / 3	5
C2-Chrysenes	ug/kg	0.64 / 0.71	3.9	4.5	CRM_A03	12/20/2010	2 / 3	4.2
C2-Fluoranthenes/Pyrene	ug/kg		1.5	9.5	CRM_A03	12/20/2010	3 / 3	6.8
C2-Fluorenes	ug/kg	0.64 / 0.71	1.4	2.4	CRM_A03	12/20/2010	2 / 3	1.9
C2-Naphthalenes	ug/kg		4	16	CRM_A03	12/20/2010	3 / 3	9.133
C2-Phenanthrenes/Anthracenes	ug/kg		1.2	6.3	CRM_A03	12/20/2010	3 / 3	3.767
C3-Chrysenes	ug/kg	0.64 / 0.71	1.5	2.6	CRM_A03	12/20/2010	2 / 3	2.05
C3-Fluoranthenes/Pyrene	ug/kg		0.75	5.1	CRM_A03	12/20/2010	3 / 3	3.317
C3-Fluorenes	ug/kg	0.64 / 0.71	0.79	3.7	CRM_A03	12/20/2010	2 / 3	2.245
C3-Naphthalenes	ug/kg		2.3	14	CRM_A03	12/20/2010	3 / 3	7.6
C3-Phenanthrenes/Anthracenes	ug/kg		0.76	3.9	CRM_A03	12/20/2010	3 / 3	2.353
C4-Chrysenes	ug/kg	0.64 / 0.71	0.87	1.3	CRM_A03	12/20/2010	2 / 3	1.085
C4-Naphthalenes	ug/kg		2.1	9.4	CRM_A03	12/20/2010	3 / 3	5.3
C4-Phenanthrenes/Anthracenes	ug/kg	0.64 / 0.71	0.83	1.7	CRM_A03	12/20/2010	2 / 3	1.265
Cadmium	mg/kg	0.125 / 0.164	ND	ND			0 / 12	0
Calcium	mg/kg		440	3430	CRM_A08	12/15/2010	12 / 12	1669
Cesium-137	pCi/g	0.0336 / 0.0852	1.01	1.07	CRM_A10	12/15/2010	2 / 3	1.04
Chromium	mg/kg		14.8	125	CRM_A02	12/20/2010	12 / 12	50.15
Chrysene	ug/kg		1.2	9.3	CRM_A10	12/15/2010	3 / 3	6.2
Cobalt	mg/kg		4.52	18	CRM_A12	12/14/2010	12 / 12	10.95
Cobalt-60	pCi/g	0.038 / 0.0749	ND	ND			0 / 3	0
Copper	mg/kg		5.52	90.4	CRM_A04	12/20/2010	12 / 12	23.99
delta-BHC	ug/kg	0.33 / 0.37	ND	ND			0 / 3	0

Table 18. Summary Statistics for Seasonally-Exposed Sediment in Clinch River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Dibenz(a,h)anthracene	ug/kg	0.64 / 0.71	1.5	2.2	CRM_A10	12/15/2010	2 / 3	1.85
Dieldrin	ug/kg	0.64 / 0.71	ND	ND			0 / 3	0
Endosulfan I	ug/kg	0.33 / 0.37	ND	ND			0 / 3	0
Endosulfan II	ug/kg	0.64 / 0.71	ND	ND			0 / 3	0
Endosulfan Sulfate	ug/kg	0.64 / 0.71	ND	ND			0 / 3	0
Endrin	ug/kg	0.64 / 0.71	ND	ND			0 / 3	0
Endrin aldehyde	ug/kg	0.64 / 0.71	ND	ND			0 / 3	0
Endrin Ketone	ug/kg	0.64 / 0.71	ND	ND			0 / 3	0
Fluoranthene	ug/kg		2	18	CRM_A10	12/15/2010	3 / 3	11.33
Fluorene	ug/kg	0.64 / 0.73	0.81	0.81	CRM_A03	12/20/2010	1 / 3	0.81
Fraction of Organic Carbon	%		0.55	1.4	CRM_A02	12/20/2010	3 / 3	0.9367
gamma-BHC (Lindane)	ug/kg	0.33 / 0.37	ND	ND			0 / 3	0
gamma-Chlordane	ug/kg	0.33 / 0.37	ND	ND			0 / 3	0
Heptachlor	ug/kg	0.33 / 0.37	0.35	0.35	CRM_A03	12/20/2010	1 / 3	0.35
Heptachlor Epoxide	ug/kg	0.33 / 0.37	ND	ND			0 / 3	0
Hex. Chromium	mg/kg	0.27 / 0.29	0.83	0.83	CRM_A02	12/20/2010	1 / 3	0.83
Indeno(1,2,3-cd)pyrene	ug/kg	0.64 / 0.71	3.9	6.1	CRM_A10	12/15/2010	2 / 3	5
Inorganic Arsenic	mg/kg		2.09	25.1	CRM_A10	12/15/2010	3 / 3	11.98
Inorganic Mercury	mg/kg		0.114	0.366	CRM_A03	12/20/2010	3 / 3	0.212
Inorganic Selenium	mg/kg	0.315 / 0.315	0.404	0.454	CRM_A10	12/15/2010	2 / 3	0.429
Iron	mg/kg		14500	93800	CRM_A04	12/20/2010	12 / 12	39600
Lead	mg/kg		12.1	102	CRM_A04	12/20/2010	12 / 12	32.84
Lead-212	pCi/g		0.577	2.16	CRM_A02	12/20/2010	3 / 3	1.416
Lead-214	pCi/g		0.536	1.92	CRM_A02	12/20/2010	3 / 3	1.144
Magnesium	mg/kg		400	5780	CRM_A09	12/15/2010	12 / 12	2746
Manganese	mg/kg		160	1700	CRM_A10	12/15/2010	12 / 12	666.4
Mercury	mg/kg	0.05 / 0.059	0.07	0.39	CRM_A03	12/20/2010	13 / 15	0.1778
Methoxychlor	ug/kg	3.3 / 3.7	ND	ND			0 / 3	0

Table 18. Summary Statistics for Seasonally-Exposed Sediment in Clinch River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Methyl mercury	mg/kg		0.00003	0.00013	CRM_A03	12/20/2010	3 / 3	8.467E-05
Molybdenum	mg/kg	5.02 / 6.55	ND	ND			0 / 12	0
Naphthalene	ug/kg		0.8	2.4	CRM_A03	12/20/2010	3 / 3	1.467
Nickel	mg/kg		3.24	135	CRM_A04	12/20/2010	12 / 12	26.78
Organic Arsenic	mg/kg	1.23 / 8.61	5.06	11.1	CRM_A02	12/20/2010	2 / 3	8.08
Organic Selenium	mg/kg	0.421 / 0.679	0.733	0.733	CRM_A03	12/20/2010	1 / 3	0.733
PCB-1016	ug/kg	1.6 / 1.8	ND	ND			0 / 3	0
PCB-1221	ug/kg	1.6 / 1.8	ND	ND			0 / 3	0
PCB-1232	ug/kg	1.6 / 1.8	ND	ND			0 / 3	0
PCB-1242	ug/kg	1.6 / 1.8	ND	ND			0 / 3	0
PCB-1248	ug/kg	1.6 / 1.8	ND	ND			0 / 3	0
PCB-1254	ug/kg	1.6 / 1.8	8.2	8.2	CRM_A03	12/20/2010	1 / 3	8.2
PCB-1260	ug/kg	1.6 / 1.8	2.7	6.1	CRM_A03	12/20/2010	2 / 3	4.4
PCB-1262	ug/kg	1.6 / 1.8	ND	ND			0 / 3	0
PCB-1268	ug/kg	1.6 / 1.8	ND	ND			0 / 3	0
Perylene	ug/kg	0.71 / 0.71	25	34	CRM_A03	12/20/2010	2 / 3	29.5
Phenanthrene	ug/kg		1.2	8.1	CRM_A10	12/15/2010	3 / 3	5.267
Potassium	mg/kg		443	8880	CRM_A10	12/15/2010	12 / 12	5066
Potassium-40	pCi/g		3.32	21.6	CRM_A10	12/15/2010	3 / 3	12.31
Pyrene	ug/kg		1.6	13	CRM_A10	12/15/2010	3 / 3	8.533
Radium-226	pCi/g		0.417	1.63	CRM_A02	12/20/2010	3 / 3	0.9343
Radium-228	pCi/g		0.453	2.02	CRM_A02	12/20/2010	3 / 3	1.318
Selenate	mg/kg	0.25 / 0.278	ND	ND			0 / 3	0
Selenite	mg/kg	0.315 / 0.315	0.404	0.454	CRM_A10	12/15/2010	2 / 3	0.429
Selenium	mg/kg	0.421 / 1.64	0.733	1.04	CRM_A10	12/15/2010	3 / 15	0.866
Silver	mg/kg	0.627 / 0.819	ND	ND			0 / 12	0
Sodium	mg/kg	125 / 163	199	284	CRM_A01	12/20/2010	4 / 12	259
Strontium	mg/kg		6.27	43.6	CRM_A04	12/20/2010	12 / 12	21.54

Table 18. Summary Statistics for Seasonally-Exposed Sediment in Clinch River Reach A Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Thallium	mg/kg	1.25 / 1.64	ND	ND			0 / 12	0
Thallium-208	pCi/g		0.19	0.691	CRM_A02	12/20/2010	3 / 3	0.4167
Thorium-228	pCi/g		0.547	2.51	CRM_A02	12/20/2010	3 / 3	1.499
Thorium-230	pCi/g		0.571	1.61	CRM_A02	12/20/2010	3 / 3	0.9917
Thorium-232	pCi/g		0.492	1.84	CRM_A02	12/20/2010	3 / 3	1.214
Thorium-234	pCi/g	1.01 / 3.38	ND	ND			0 / 3	0
Total Organic Carbon	mg/kg	1300 / 1400	1600	1800	CRM_A10	12/15/2010	2 / 3	1700
Toxaphene	ug/kg	33 / 37	ND	ND			0 / 3	0
Uranium-234	pCi/g		0.419	1.52	CRM_A02	12/20/2010	3 / 3	0.9417
Uranium-235	pCi/g	0.0587 / 0.0877	0.0783	0.206	CRM_A02	12/20/2010	2 / 3	0.1422
Uranium-238	pCi/g		0.317	1.42	CRM_A02	12/20/2010	3 / 3	0.8567
Vanadium	mg/kg		21.1	193	CRM_A04	12/20/2010	12 / 12	60.53
Zinc	mg/kg		27.5	460	CRM_A04	12/20/2010	12 / 12	122.5

Note: For definitions, see the Acronyms section.

Table 19. Summary Statistics for Seasonally-Exposed Sediment in Clinch River Reach B Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%	1 / 1	1	1	CRM_B06	01/18/2011	1 / 2	1
4,4'-DDD	ug/kg	0.61 / 0.8	1.2	1.2	CRM_B11	01/17/2011	1 / 3	1.2
4,4'-DDE	ug/kg	0.61 / 0.8	ND	ND			0 / 3	0
4,4'-DDT	ug/kg	0.61 / 0.8	ND	ND			0 / 3	0
Acenaphthene	ug/kg	0.61 / 1.3	ND	ND			0 / 3	0
Acenaphthylene	ug/kg	0.61 / 1.3	ND	ND			0 / 3	0
Actinium-228	pCi/g	0.134 / 0.772	0.826	1.88	CRM_B08	01/17/2011	3 / 3	1.262
Aldrin	ug/kg	0.31 / 0.41	ND	ND			0 / 3	0
alpha-BHC	ug/kg	0.31 / 0.34	0.47	0.47	CRM_B06	01/18/2011	1 / 3	0.47
alpha-Chlordane	ug/kg	0.31 / 0.41	ND	ND			0 / 3	0
Aluminum	mg/kg		9870	59400	CRM_B08	01/17/2011	12 / 12	28081
Americium-241	pCi/g	0.119 / 0.268	ND	ND			0 / 3	0
Anthracene	ug/kg	0.61 / 0.82	1	1.9	CRM_B11	01/17/2011	1 / 3	1.9
Antimony	mg/kg	1.2 / 2.95	1.3	1.73	CRM_B06	01/18/2011	3 / 12	1.53
Arsenate	mg/kg		6	10.9	CRM_B11	01/17/2011	3 / 3	9.05
Arsenic	mg/kg		5.4	82.6	CRM_B10	01/13/2011	15 / 15	16.77
Arsenite	mg/kg		1.17	3.74	CRM_B06	01/18/2011	3 / 3	2.857
Barium	mg/kg		50.2	216	CRM_B07	01/13/2011	12 / 12	114.9
Benzo(a)anthracene	ug/kg		0.8	15	CRM_B11	01/17/2011	3 / 3	5.7
Benzo(a)pyrene	ug/kg		0.96	14	CRM_B11	01/17/2011	3 / 3	5.453
Benzo(b)fluoranthene	ug/kg		1.5	23	CRM_B11	01/17/2011	3 / 3	9.033
Benzo(e)pyrene	ug/kg		0.97	16	CRM_B11	01/17/2011	3 / 3	6.19
Benzo(g,h,i)perylene	ug/kg		0.67	10	CRM_B11	01/17/2011	3 / 3	3.867
Benzo(k)fluoranthene	ug/kg		1	16	CRM_B11	01/17/2011	3 / 3	6.233
Beryllium	mg/kg	0.48 / 1.18	0.498	1.7	CRM_B06	01/18/2011	8 / 12	0.9599
beta-BHC	ug/kg	0.31 / 0.34	0.67	0.67	CRM_B06	01/18/2011	1 / 3	0.67
Bismuth-214	pCi/g		0.61	0.925	CRM_B08	01/17/2011	3 / 3	0.792
Boron	mg/kg	4.8 / 11.8	8.02	45.7	CRM_B08	01/17/2011	11 / 12	20.32

Table 19. Summary Statistics for Seasonally-Exposed Sediment in Clinch River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
C1-Chrysenes	ug/kg		0.99	14	CRM_B11	01/17/2011	3 / 3	5.463
C1-Fluoranthenes/Pyrenes	ug/kg		1.4	27	CRM_B11	01/17/2011	3 / 3	10.47
C1-Fluorenes	ug/kg	0.61 / 0.82	1.7	2.8	CRM_B11	01/17/2011	1 / 3	2.8
C1-Naphthalenes	ug/kg		0.71	16	CRM_B11	01/17/2011	3 / 3	5.97
C1-Phenanthrenes/Anthracenes	ug/kg		1.1	18	CRM_B11	01/17/2011	3 / 3	6.767
C2-Chrysenes	ug/kg	0.61 / 0.82	6.6	15	CRM_B11	01/17/2011	1 / 3	15
C2-Fluoranthenes/Pyrene	ug/kg		1.4	24	CRM_B11	01/17/2011	3 / 3	9.067
C2-Fluorenes	ug/kg	0.61 / 0.82	0.94	5.1	CRM_B11	01/17/2011	2 / 3	3.02
C2-Naphthalenes	ug/kg		2	40	CRM_B11	01/17/2011	3 / 3	14.9
C2-Phenanthrenes/Anthracenes	ug/kg		1.1	15	CRM_B11	01/17/2011	3 / 3	5.9
C3-Chrysenes	ug/kg	0.61 / 0.82	3.1	7.2	CRM_B11	01/17/2011	1 / 3	7.2
C3-Fluoranthenes/Pyrene	ug/kg		1	12	CRM_B11	01/17/2011	3 / 3	4.667
C3-Fluorenes	ug/kg	0.61 / 0.82	1.3	6.8	CRM_B11	01/17/2011	2 / 3	4.05
C3-Naphthalenes	ug/kg		1.7	34	CRM_B11	01/17/2011	3 / 3	12.47
C3-Phenanthrenes/Anthracenes	ug/kg	0.61 / 0.82	0.91	10	CRM_B11	01/17/2011	2 / 3	5.455
C4-Chrysenes	ug/kg	0.61 / 0.82	0.93	2	CRM_B11	01/17/2011	1 / 3	2
C4-Naphthalenes	ug/kg	0.61 / 0.61	1.3	20	CRM_B11	01/17/2011	2 / 3	10.65
C4-Phenanthrenes/Anthracenes	ug/kg		0.93	14	CRM_B06	01/18/2011	3 / 3	8.01
Cadmium	mg/kg	0.12 / 0.295	ND	ND			0 / 12	0
Calcium	mg/kg		262	4140	CRM_B03	01/19/2011	12 / 12	1642
Cesium-137	pCi/g		0.376	2.84	CRM_B11	01/17/2011	3 / 3	1.228
Chromium	mg/kg		13.4	71.3	CRM_B08	01/17/2011	12 / 12	39.65
Chrysene	ug/kg		1.1	18	CRM_B11	01/17/2011	3 / 3	7.067
Cobalt	mg/kg		4.55	23.8	CRM_B10	01/13/2011	12 / 12	14.91
Cobalt-60	pCi/g	0.0433 / 0.0719	ND	ND			0 / 3	0
Copper	mg/kg		7.2	46.8	CRM_B10	01/13/2011	12 / 12	16.9
delta-BHC	ug/kg	0.31 / 0.41	ND	ND			0 / 3	0

Table 19. Summary Statistics for Seasonally-Exposed Sediment in Clinch River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Dibenz(a,h)anthracene	ug/kg	0.61 / 0.82	1.6	3.1	CRM_B11	01/17/2011	1 / 3	3.1
Dieldrin	ug/kg	0.61 / 0.8	ND	ND			0 / 3	0
Endosulfan I	ug/kg	0.31 / 0.41	ND	ND			0 / 3	0
Endosulfan II	ug/kg	0.61 / 0.8	ND	ND			0 / 3	0
Endosulfan Sulfate	ug/kg	0.61 / 0.8	ND	ND			0 / 3	0
Endrin	ug/kg	0.61 / 0.8	ND	ND			0 / 3	0
Endrin aldehyde	ug/kg	0.61 / 0.8	ND	ND			0 / 3	0
Endrin Ketone	ug/kg	0.61 / 0.8	ND	ND			0 / 3	0
Fluoranthene	ug/kg		1.6	26	CRM_B11	01/17/2011	3 / 3	10.13
Fluorene	ug/kg	0.61 / 0.82	0.85	1.9	CRM_B11	01/17/2011	1 / 3	1.9
Fraction of Organic Carbon	%		0.69	0.84	CRM_B08	01/17/2011	3 / 3	0.7867
gamma-BHC (Lindane)	ug/kg	0.31 / 0.41	ND	ND			0 / 3	0
gamma-Chlordane	ug/kg	0.31 / 0.41	ND	ND			0 / 3	0
Heptachlor	ug/kg	0.31 / 0.41	ND	ND			0 / 3	0
Heptachlor Epoxide	ug/kg	0.31 / 0.41	ND	ND			0 / 3	0
Hex. Chromium	mg/kg	0.25 / 0.33	0.34	0.84	CRM_B08	01/17/2011	2 / 3	0.59
Indeno(1,2,3-cd)pyrene	ug/kg		0.65	8.6	CRM_B11	01/17/2011	3 / 3	3.393
Inorganic Arsenic	mg/kg		8.56	14.6	CRM_B11	01/17/2011	3 / 3	11.92
Inorganic Mercury	mg/kg		0.0673	1.21	CRM_B11	01/17/2011	3 / 3	0.4543
Inorganic Selenium	mg/kg	0.301 / 0.439	ND	ND			0 / 3	0
Iron	mg/kg		14800	49200	CRM_B10	01/13/2011	12 / 12	29600
Lead	mg/kg		12.3	86.7	CRM_B10	01/13/2011	12 / 12	29.03
Lead-212	pCi/g		0.971	1.59	CRM_B08	01/17/2011	3 / 3	1.343
Lead-214	pCi/g		0.823	0.873	CRM_B06	01/18/2011	3 / 3	0.8547
Magnesium	mg/kg		807	7150	CRM_B08	01/17/2011	12 / 12	2382
Manganese	mg/kg		145	3540	CRM_B07	01/13/2011	12 / 12	1171
Mercury	mg/kg	0.047 / 0.055	0.065	1.21	CRM_B11	01/17/2011	13 / 15	0.2882
Methoxychlor	ug/kg	3.1 / 4.1	ND	ND			0 / 3	0

Table 19. Summary Statistics for Seasonally-Exposed Sediment in Clinch River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Methyl mercury	mg/kg		0.00017	0.00125	CRM_B11	01/17/2011	3 / 3	0.000562
Molybdenum	mg/kg	4.8 / 11.8	ND	ND			0 / 12	0
Naphthalene	ug/kg	0.61 / 0.82	2.2	6.1	CRM_B11	01/17/2011	1 / 3	6.1
Nickel	mg/kg		5.81	36.9	CRM_B08	01/17/2011	12 / 12	15.61
Organic Arsenic	mg/kg	1.23 / 3.4	ND	ND			0 / 3	0
Organic Selenium	mg/kg		0.729	0.961	CRM_B08	01/17/2011	3 / 3	0.8463
PCB-1016	ug/kg	1.6 / 2.1	ND	ND			0 / 3	0
PCB-1221	ug/kg	1.6 / 2.1	ND	ND			0 / 3	0
PCB-1232	ug/kg	1.6 / 2.1	ND	ND			0 / 3	0
PCB-1242	ug/kg	1.6 / 2.1	ND	ND			0 / 3	0
PCB-1248	ug/kg	1.6 / 2.1	ND	ND			0 / 3	0
PCB-1254	ug/kg	1.6 / 2.1	10	14	CRM_B11	01/17/2011	1 / 3	14
PCB-1260	ug/kg	1.6 / 2.1	8.4	11	CRM_B11	01/17/2011	1 / 3	11
PCB-1262	ug/kg	1.6 / 2.1	ND	ND			0 / 3	0
PCB-1268	ug/kg	1.6 / 2.1	ND	ND			0 / 3	0
Perylene	ug/kg	0.61 / 0.61	5.4	38	CRM_B11	01/17/2011	2 / 3	21.7
Phenanthrene	ug/kg		0.9	13	CRM_B11	01/17/2011	3 / 3	5
Potassium	mg/kg		983	18100	CRM_B08	01/17/2011	12 / 12	4548
Potassium-40	pCi/g		6.62	28.1	CRM_B08	01/17/2011	3 / 3	19.61
Pyrene	ug/kg		1.5	30	CRM_B11	01/17/2011	3 / 3	11.43
Radium-226	pCi/g		0.61	0.925	CRM_B08	01/17/2011	3 / 3	0.792
Radium-228	pCi/g	0.134 / 0.772	0.826	1.88	CRM_B08	01/17/2011	3 / 3	1.262
Selenate	mg/kg	0.239 / 0.348	ND	ND			0 / 3	0
Selenite	mg/kg	0.301 / 0.439	ND	ND			0 / 3	0
Selenium	mg/kg	0.437 / 2.95	0.729	1.77	CRM_B07	01/13/2011	4 / 15	1.077
Silver	mg/kg	0.6 / 1.48	ND	ND			0 / 12	0
Sodium	mg/kg	120 / 295	178	219	CRM_B08	01/17/2011	3 / 12	195.3
Strontium	mg/kg		7.27	42.1	CRM_B03	01/19/2011	12 / 12	17.77

Table 19. Summary Statistics for Seasonally-Exposed Sediment in Clinch River Reach B Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Thallium	mg/kg	1.2 / 2.95	1.35	3.11	CRM_B07	01/13/2011	3 / 12	2.11
Thallium-208	pCi/g		0.265	0.411	CRM_B08	01/17/2011	3 / 3	0.36
Thorium-228	pCi/g		0.652	1.42	CRM_B06	01/18/2011	3 / 3	1.202
Thorium-230	pCi/g		0.952	1.24	CRM_B11	01/17/2011	3 / 3	1.048
Thorium-232	pCi/g		0.508	1.36	CRM_B08	01/17/2011	3 / 3	1.133
Thorium-234	pCi/g	1.07 / 2.3	2.08	2.08	CRM_B11	01/17/2011	1 / 3	2.08
Total Organic Carbon	mg/kg	360 / 1500	3000	4500	CRM_B11	01/17/2011	2 / 3	3750
Toxaphene	ug/kg	31 / 41	ND	ND			0 / 3	0
Uranium-234	pCi/g		0.79	1.2	CRM_B11	01/17/2011	3 / 3	0.9557
Uranium-235	pCi/g	0.0835 / 0.177	ND	ND			0 / 3	0
Uranium-238	pCi/g		0.76	1.15	CRM_B08	01/17/2011	3 / 3	1.093
Vanadium	mg/kg		22.9	63.5	CRM_B10	01/13/2011	12 / 12	43.83
Zinc	mg/kg		30.3	194	CRM_B10	01/13/2011	12 / 12	68.66

Note: For definitions, see the Acronyms section.

Table 20. Summary Statistics for Seasonally-Exposed Sediment at the Emory River Intake Locations

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
% Ash	%		11	11	ERM_INT01	01/25/2011	1 / 1	11
4,4'-DDD	ug/kg	0.67 / 0.67	ND	ND			0 / 1	0
4,4'-DDE	ug/kg	0.66 / 0.66	ND	ND			0 / 1	0
4,4'-DDT	ug/kg	0.67 / 0.67	ND	ND			0 / 1	0
Acenaphthene	ug/kg	0.66 / 0.66	ND	ND			0 / 1	0
Acenaphthylene	ug/kg	0.66 / 0.66	ND	ND			0 / 1	0
Actinium-228	pCi/g		0.705	0.705	ERM_INT01	01/25/2011	1 / 1	0.705
Aldrin	ug/kg	0.34 / 0.34	ND	ND			0 / 1	0
alpha-BHC	ug/kg	0.34 / 0.34	ND	ND			0 / 1	0
alpha-Chlordane	ug/kg	0.34 / 0.34	ND	ND			0 / 1	0
Aluminum	mg/kg		10900	29200	ERM_INT02	01/25/2011	2 / 2	20050
Americium-241	pCi/g	0.0988 / 0.0988	ND	ND			0 / 1	0
Anthracene	ug/kg	0.66 / 0.66	ND	ND			0 / 1	0
Antimony	mg/kg	1.18 / 1.37	1.39	1.39	ERM_INT02	01/25/2011	1 / 2	1.39
Arsenate	mg/kg		17	17	ERM_INT01	01/25/2011	1 / 1	17
Arsenic	mg/kg		22.8	38	ERM_INT02	01/25/2011	3 / 3	29.9
Arsenite	mg/kg		11.3	11.3	ERM_INT01	01/25/2011	1 / 1	11.3
Barium	mg/kg		71.3	127	ERM_INT02	01/25/2011	2 / 2	99.15
Benzo(a)anthracene	ug/kg		3.1	3.1	ERM_INT01	01/25/2011	1 / 1	3.1
Benzo(a)pyrene	ug/kg		2.4	2.4	ERM_INT01	01/25/2011	1 / 1	2.4
Benzo(b)fluoranthene	ug/kg		5.2	5.2	ERM_INT01	01/25/2011	1 / 1	5.2
Benzo(e)pyrene	ug/kg		5.9	5.9	ERM_INT01	01/25/2011	1 / 1	5.9
Benzo(g,h,i)perylene	ug/kg		3.4	3.4	ERM_INT01	01/25/2011	1 / 1	3.4
Benzo(k)fluoranthene	ug/kg		2.3	2.3	ERM_INT01	01/25/2011	1 / 1	2.3
Beryllium	mg/kg		0.656	1.13	ERM_INT02	01/25/2011	2 / 2	0.893
beta-BHC	ug/kg		1	1	ERM_INT01	01/25/2011	1 / 1	1
Bismuth-214	pCi/g		0.681	0.681	ERM_INT01	01/25/2011	1 / 1	0.681
Boron	mg/kg		10.3	14.1	ERM_INT02	01/25/2011	2 / 2	12.2

Table 20. Summary Statistics for Seasonally-Exposed Sediment at the Emory River Intake Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
C1-Chrysenes	ug/kg		4.8	4.8	ERM_INT01	01/25/2011	1 / 1	4.8
C1-Fluoranthenes/Pyrenes	ug/kg		10	10	ERM_INT01	01/25/2011	1 / 1	10
C1-Fluorenes	ug/kg		1.5	1.5	ERM_INT01	01/25/2011	1 / 1	1.5
C1-Naphthalenes	ug/kg		5.2	5.2	ERM_INT01	01/25/2011	1 / 1	5.2
C1-Phenanthrenes/Anthracenes	ug/kg		13	13	ERM_INT01	01/25/2011	1 / 1	13
C2-Chrysenes	ug/kg		4.5	4.5	ERM_INT01	01/25/2011	1 / 1	4.5
C2-Fluoranthenes/Pyrene	ug/kg		12	12	ERM_INT01	01/25/2011	1 / 1	12
C2-Fluorenes	ug/kg		3.9	3.9	ERM_INT01	01/25/2011	1 / 1	3.9
C2-Naphthalenes	ug/kg		14	14	ERM_INT01	01/25/2011	1 / 1	14
C2-Phenanthrenes/Anthracenes	ug/kg		8.5	8.5	ERM_INT01	01/25/2011	1 / 1	8.5
C3-Chrysenes	ug/kg	0.66 / 0.66	ND	ND			0 / 1	0
C3-Fluoranthenes/Pyrene	ug/kg		7.6	7.6	ERM_INT01	01/25/2011	1 / 1	7.6
C3-Fluorenes	ug/kg		2.4	2.4	ERM_INT01	01/25/2011	1 / 1	2.4
C3-Naphthalenes	ug/kg		14	14	ERM_INT01	01/25/2011	1 / 1	14
C3-Phenanthrenes/Anthracenes	ug/kg		4.8	4.8	ERM_INT01	01/25/2011	1 / 1	4.8
C4-Chrysenes	ug/kg	0.66 / 0.66	ND	ND			0 / 1	0
C4-Naphthalenes	ug/kg		9.5	9.5	ERM_INT01	01/25/2011	1 / 1	9.5
C4-Phenanthrenes/Anthracenes	ug/kg		3.8	3.8	ERM_INT01	01/25/2011	1 / 1	3.8
Cadmium	mg/kg	0.118 / 0.137	ND	ND			0 / 2	0
Calcium	mg/kg		3090	58700	ERM_INT02	01/25/2011	2 / 2	30895
Cesium-137	pCi/g		0.328	0.328	ERM_INT01	01/25/2011	1 / 1	0.328
Chromium	mg/kg		13.4	40	ERM_INT02	01/25/2011	2 / 2	26.7
Chrysene	ug/kg		5.5	5.5	ERM_INT01	01/25/2011	1 / 1	5.5
Cobalt	mg/kg		5.91	17.6	ERM_INT02	01/25/2011	2 / 2	11.76
Cobalt-60	pCi/g	0.0252 / 0.0252	ND	ND			0 / 1	0
Copper	mg/kg		9.93	31.1	ERM_INT02	01/25/2011	2 / 2	20.52
delta-BHC	ug/kg	0.34 / 0.34	ND	ND			0 / 1	0

Table 20. Summary Statistics for Seasonally-Exposed Sediment at the Emory River Intake Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Dibenz(a,h)anthracene	ug/kg		0.73	0.73	ERM_INT01	01/25/2011	1 / 1	0.73
Dieldrin	ug/kg	0.66 / 0.66	ND	ND			0 / 1	0
Endosulfan I	ug/kg	0.34 / 0.34	ND	ND			0 / 1	0
Endosulfan II	ug/kg	0.66 / 0.66	ND	ND			0 / 1	0
Endosulfan Sulfate	ug/kg	0.66 / 0.66	ND	ND			0 / 1	0
Endrin	ug/kg	0.66 / 0.66	ND	ND			0 / 1	0
Endrin aldehyde	ug/kg	0.66 / 0.66	ND	ND			0 / 1	0
Endrin Ketone	ug/kg	0.66 / 0.66	ND	ND			0 / 1	0
Fluoranthene	ug/kg		6.4	6.4	ERM_INT01	01/25/2011	1 / 1	6.4
Fluorene	ug/kg		0.75	0.75	ERM_INT01	01/25/2011	1 / 1	0.75
Fraction of Organic Carbon	%		0.51	0.51	ERM_INT01	01/25/2011	1 / 1	0.51
gamma-BHC (Lindane)	ug/kg	0.34 / 0.34	ND	ND			0 / 1	0
gamma-Chlordane	ug/kg	0.34 / 0.34	ND	ND			0 / 1	0
Heptachlor	ug/kg		0.55	0.55	ERM_INT01	01/25/2011	1 / 1	0.55
Heptachlor Epoxide	ug/kg	0.34 / 0.34	ND	ND			0 / 1	0
Hex. Chromium	mg/kg	0.55 / 0.55	ND	ND			0 / 1	0
Indeno(1,2,3-cd)pyrene	ug/kg		1.5	1.5	ERM_INT01	01/25/2011	1 / 1	1.5
Inorganic Arsenic	mg/kg		28.3	28.3	ERM_INT01	01/25/2011	1 / 1	28.3
Inorganic Mercury	mg/kg		0.0978	0.0978	ERM_INT01	01/25/2011	1 / 1	0.0978
Inorganic Selenium	mg/kg	0.434 / 0.434	ND	ND			0 / 1	0
Iron	mg/kg		22800	40000	ERM_INT02	01/25/2011	2 / 2	31400
Lead	mg/kg		10.3	51.3	ERM_INT02	01/25/2011	2 / 2	30.8
Lead-212	pCi/g		0.737	0.737	ERM_INT01	01/25/2011	1 / 1	0.737
Lead-214	pCi/g		0.834	0.834	ERM_INT01	01/25/2011	1 / 1	0.834
Magnesium	mg/kg		1040	7070	ERM_INT02	01/25/2011	2 / 2	4055
Manganese	mg/kg		209	1410	ERM_INT02	01/25/2011	2 / 2	809.5
Mercury	mg/kg		0.0983	0.12	ERM_INT02	01/25/2011	3 / 3	0.1094
Methoxychlor	ug/kg	3.4 / 3.4	ND	ND			0 / 1	0

Table 20. Summary Statistics for Seasonally-Exposed Sediment at the Emory River Intake Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Methyl mercury	mg/kg		0.00048	0.00048	ERM_INT01	01/25/2011	1 / 1	0.000482
Molybdenum	mg/kg	4.71 / 5.47	ND	ND			0 / 2	0
Naphthalene	ug/kg		1.6	1.6	ERM_INT01	01/25/2011	1 / 1	1.6
Nickel	mg/kg		9.46	22.9	ERM_INT02	01/25/2011	2 / 2	16.18
Organic Arsenic	mg/kg	3.85 / 3.85	ND	ND			0 / 1	0
Organic Selenium	mg/kg	0.659 / 0.659	ND	ND			0 / 1	0
PCB-1016	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
PCB-1221	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
PCB-1232	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
PCB-1242	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
PCB-1248	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
PCB-1254	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
PCB-1260	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
PCB-1262	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
PCB-1268	ug/kg	1.7 / 1.7	ND	ND			0 / 1	0
Perylene	ug/kg		5.1	5.1	ERM_INT01	01/25/2011	1 / 1	5.1
Phenanthrene	ug/kg		8.1	8.1	ERM_INT01	01/25/2011	1 / 1	8.1
Potassium	mg/kg		1410	4070	ERM_INT02	01/25/2011	2 / 2	2740
Potassium-40	pCi/g		5.17	5.17	ERM_INT01	01/25/2011	1 / 1	5.17
Pyrene	ug/kg		6.3	6.3	ERM_INT01	01/25/2011	1 / 1	6.3
Radium-226	pCi/g		0.681	0.681	ERM_INT01	01/25/2011	1 / 1	0.681
Radium-228	pCi/g		0.705	0.705	ERM_INT01	01/25/2011	1 / 1	0.705
Selenate	mg/kg	0.26 / 0.26	ND	ND			0 / 1	0
Selenite	mg/kg	0.434 / 0.434	ND	ND			0 / 1	0
Selenium	mg/kg	0.659 / 1.37	1	1	ERM_INT01	01/25/2011	1 / 3	1
Silver	mg/kg	0.589 / 0.684	ND	ND			0 / 2	0
Sodium	mg/kg	118 / 137	ND	ND			0 / 2	0
Strontium	mg/kg		31.9	80.4	ERM_INT02	01/25/2011	2 / 2	56.15

Table 20. Summary Statistics for Seasonally-Exposed Sediment at the Emory River Intake Locations (continued)

Analyte	Units	Detection Limit Range	Min. Detected Result	Max. Detected Result	Location of Max. Detected Result	Date of Max. Detected Result	Number of Detections / Samples	Mean of Detections
Thallium	mg/kg	1.18 / 1.37	ND	ND			0 / 2	0
Thallium-208	pCi/g		0.175	0.175	ERM_INT01	01/25/2011	1 / 1	0.175
Thorium-228	pCi/g		0.47	0.47	ERM_INT01	01/25/2011	1 / 1	0.47
Thorium-230	pCi/g		0.555	0.555	ERM_INT01	01/25/2011	1 / 1	0.555
Thorium-232	pCi/g		0.61	0.61	ERM_INT01	01/25/2011	1 / 1	0.61
Thorium-234	pCi/g	0.91 / 0.91	ND	ND			0 / 1	0
Total Organic Carbon	mg/kg	3000 / 3000	ND	ND			0 / 1	0
Toxaphene	ug/kg	34 / 34	ND	ND			0 / 1	0
Uranium-234	pCi/g		0.736	0.736	ERM_INT01	01/25/2011	1 / 1	0.736
Uranium-235	pCi/g		0.0577	0.0577	ERM_INT01	01/25/2011	1 / 1	0.0577
Uranium-238	pCi/g		0.7	0.7	ERM_INT01	01/25/2011	1 / 1	0.7
Vanadium	mg/kg		25.9	54.7	ERM_INT02	01/25/2011	2 / 2	40.3
Zinc	mg/kg		29.9	90.4	ERM_INT02	01/25/2011	2 / 2	60.15

Note: For definitions, see the Acronyms section.

Table 21. Distribution of Ash Deposits by River Reach

River Reach	>50% Ash & >1.0' Thick	>50% Ash & <1.0' Thick	<50% Ash
Tennessee Reach A	0	0	12
Tennessee Reach B	0	0	14
Tennessee Reference Reach	0	0	3
Total:	**0**	**0**	**29**
Clinch Reach A	0	1	36
Clinch Reach B	4	5	30
Clinch Reference Reach	0	0	3
Total:	**4**	**6**	**69**
Emory Reach A	4	3	38
Emory Reach B	15	2	47
Emory Reach C	1	1	33
Emory Reference Reach	0	0	11
Total:	**20**	**6**	**129**
KIF Plant Intake	0	0	5
Total:	**0**	**0**	**5**
RIVER SYSTEM TOTAL:	**24**	**12**	**232**

Figures

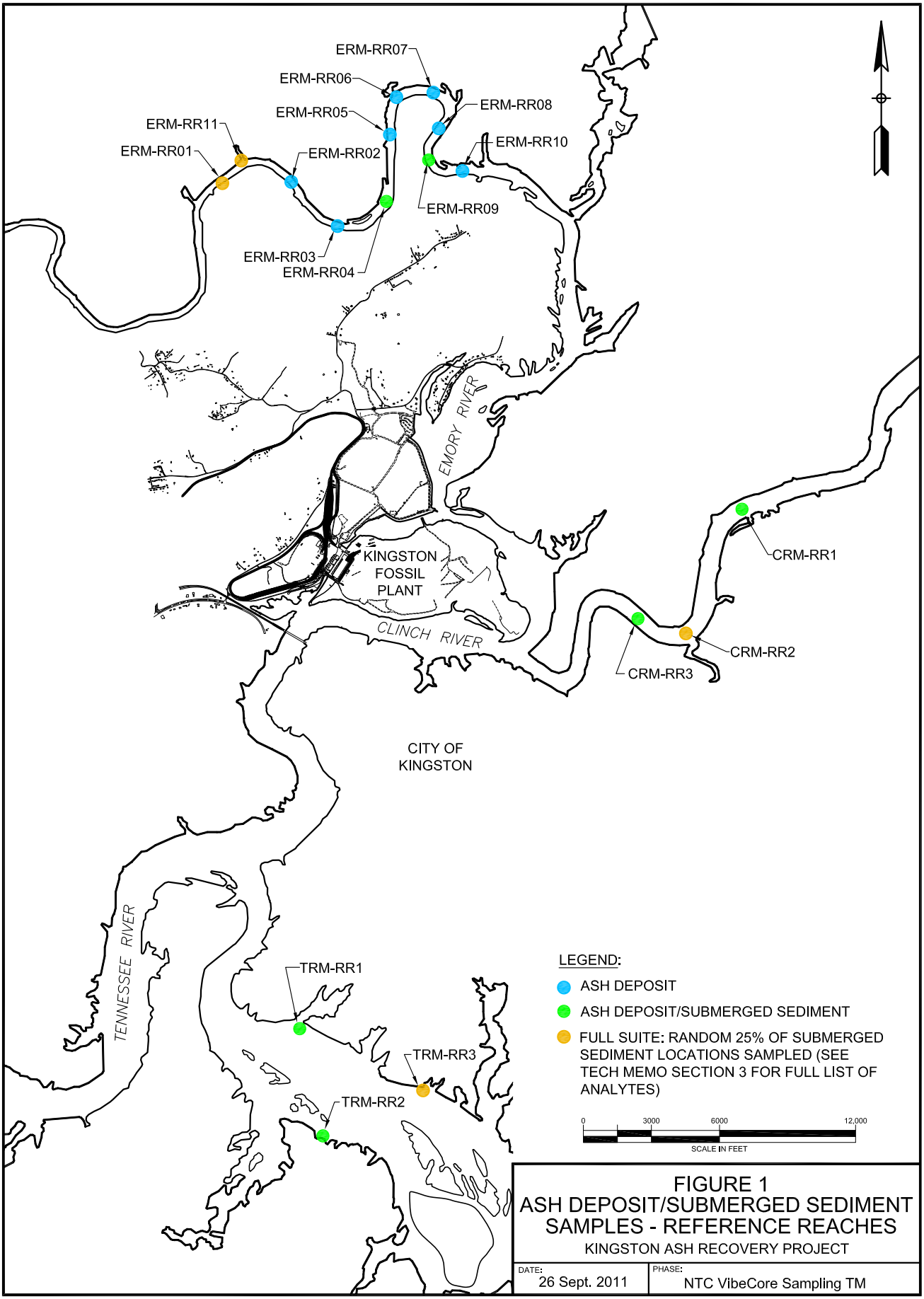
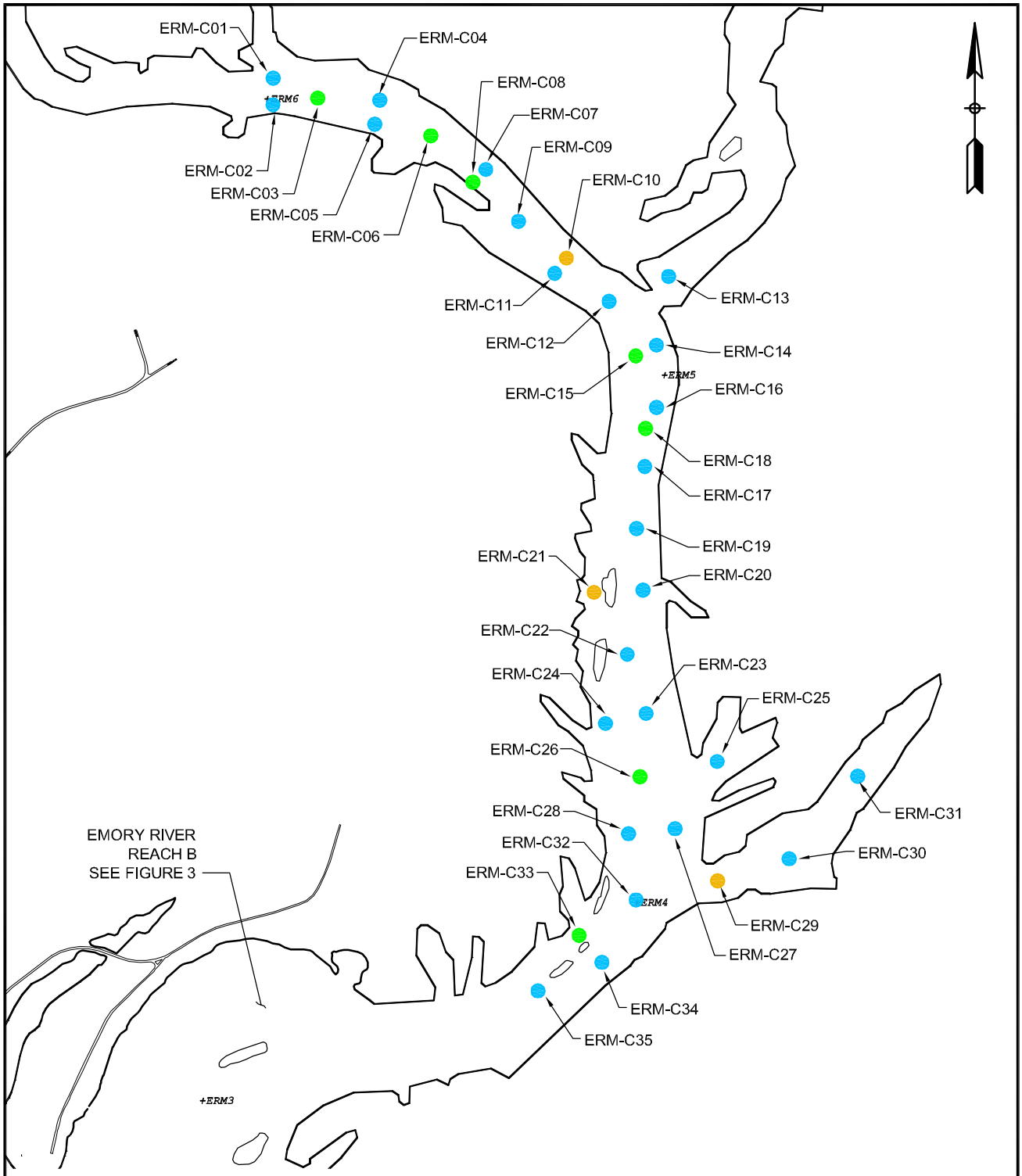


FIGURE 1
ASH DEPOSIT/SUBMERGED SEDIMENT SAMPLES - REFERENCE REACHES
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 01 Ash-Sed-River Reaches.dwg Sep 29,2011 -bperatro



LEGEND:

- ASH DEPOSIT
- ASH DEPOSIT/SUBMERGED SEDIMENT
- FULL SUITE: RANDOM 25% OF SUBMERGED SEDIMENT LOCATIONS SAMPLED (SEE TECH MEMO SECTION 3 FOR FULL LIST OF ANALYTES)

0 750 1500 3000
SCALE IN FEET

FIGURE 2
ASH DEPOSIT/SUBMERGED SEDIMENT SAMPLES - EMORY RIVER REACH C
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 02 Ash-Sed-Emory C.dwg Sep 26,2011 -bperaro

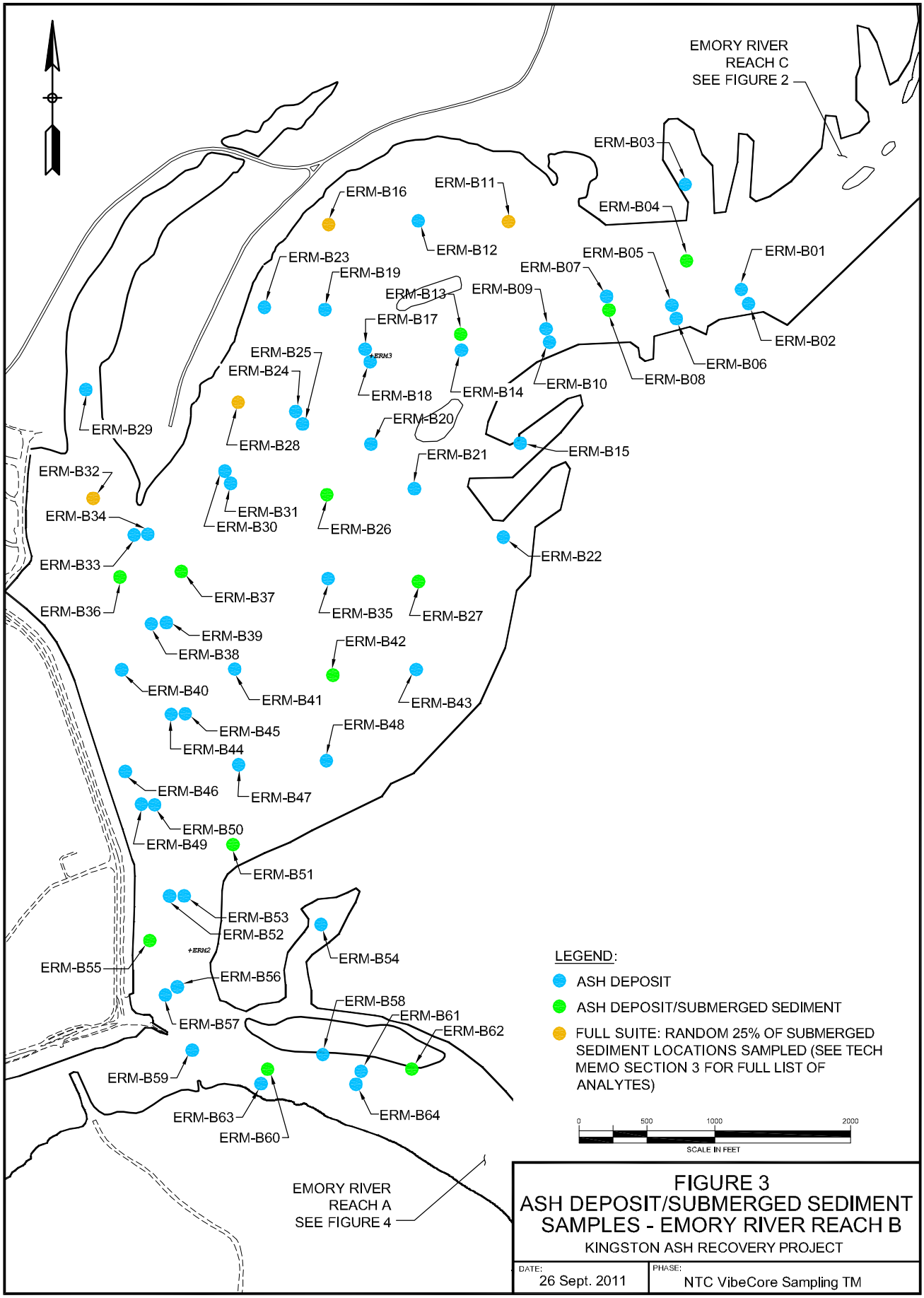


FIGURE 3
ASH DEPOSIT/SUBMERGED SEDIMENT SAMPLES - EMORY RIVER REACH B

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 03 Ash-Sed-Emory B.dwg Sep 26,2011 -bperaro

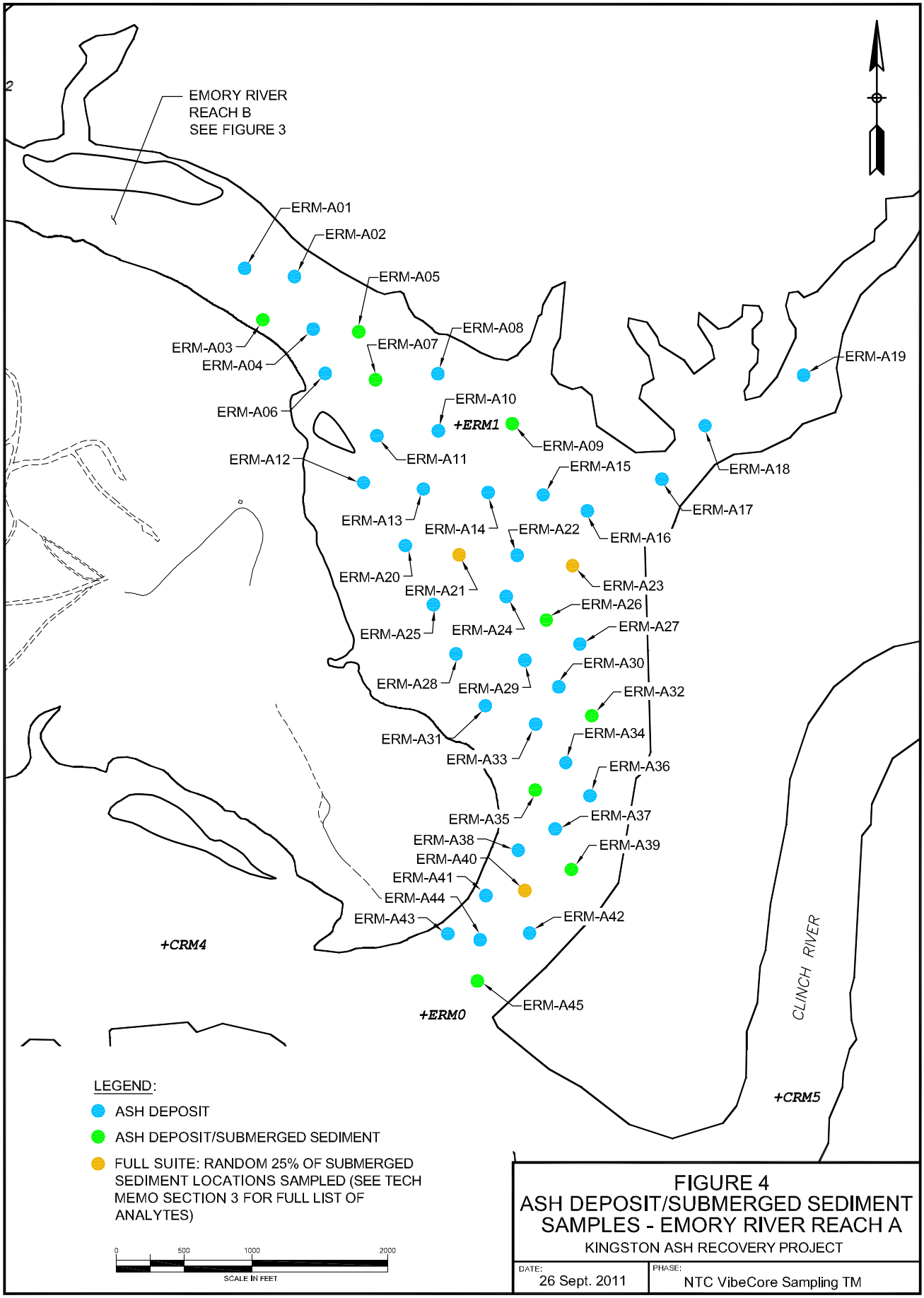


FIGURE 4
ASH DEPOSIT/SUBMERGED SEDIMENT SAMPLES - EMORY RIVER REACH A
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 04 Ash-Sed-Emory A.dwg Sep 26,2011 -bperairo

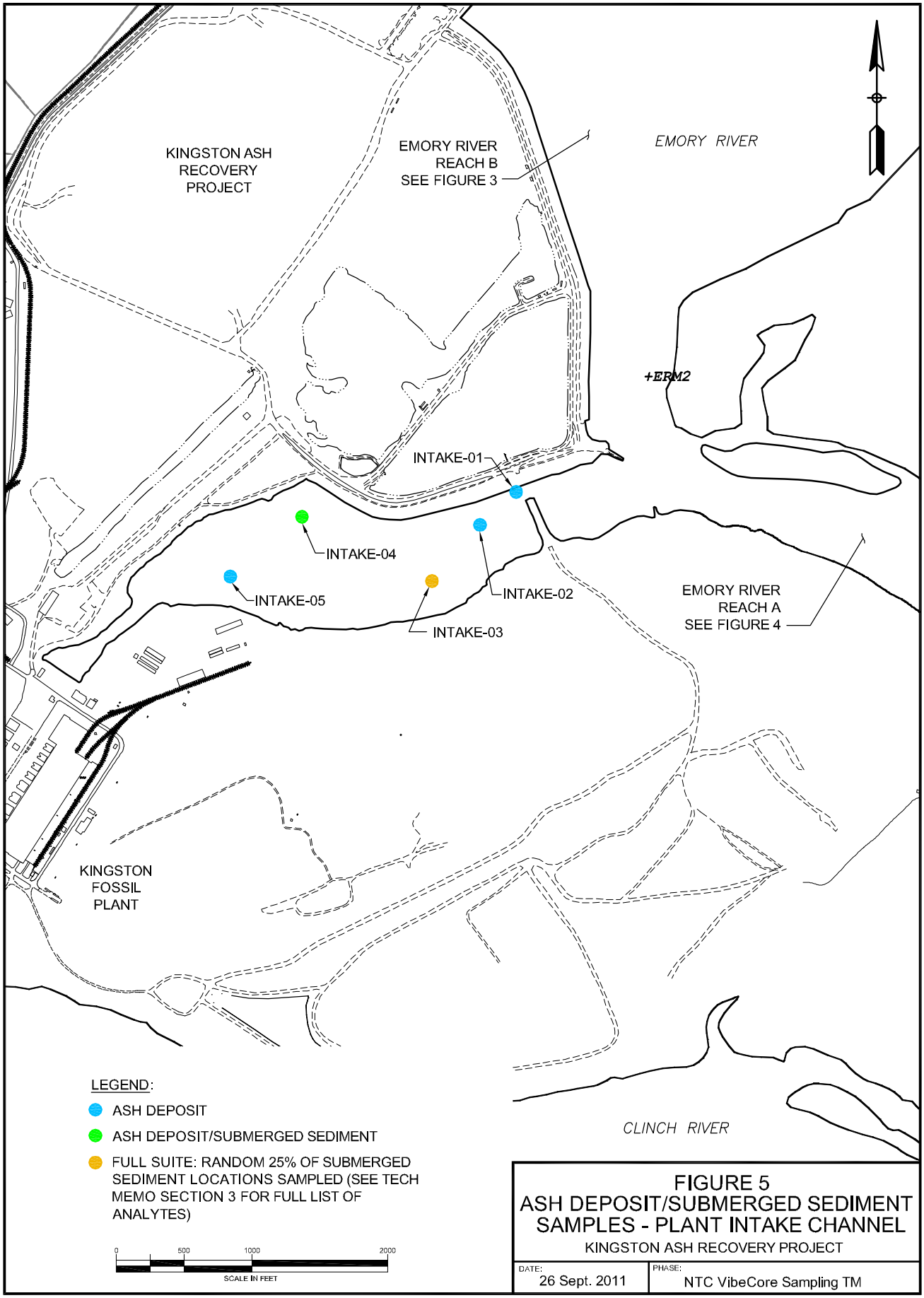


FIGURE 5
ASH DEPOSIT/SUBMERGED SEDIMENT SAMPLES - PLANT INTAKE CHANNEL
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 05 Ash-Sed-Plant Intake.dwg Sep 26,2011 -bperatro

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 06 Ash-Sed-Clinch B.dwg Sep 26,2011 -bperatro

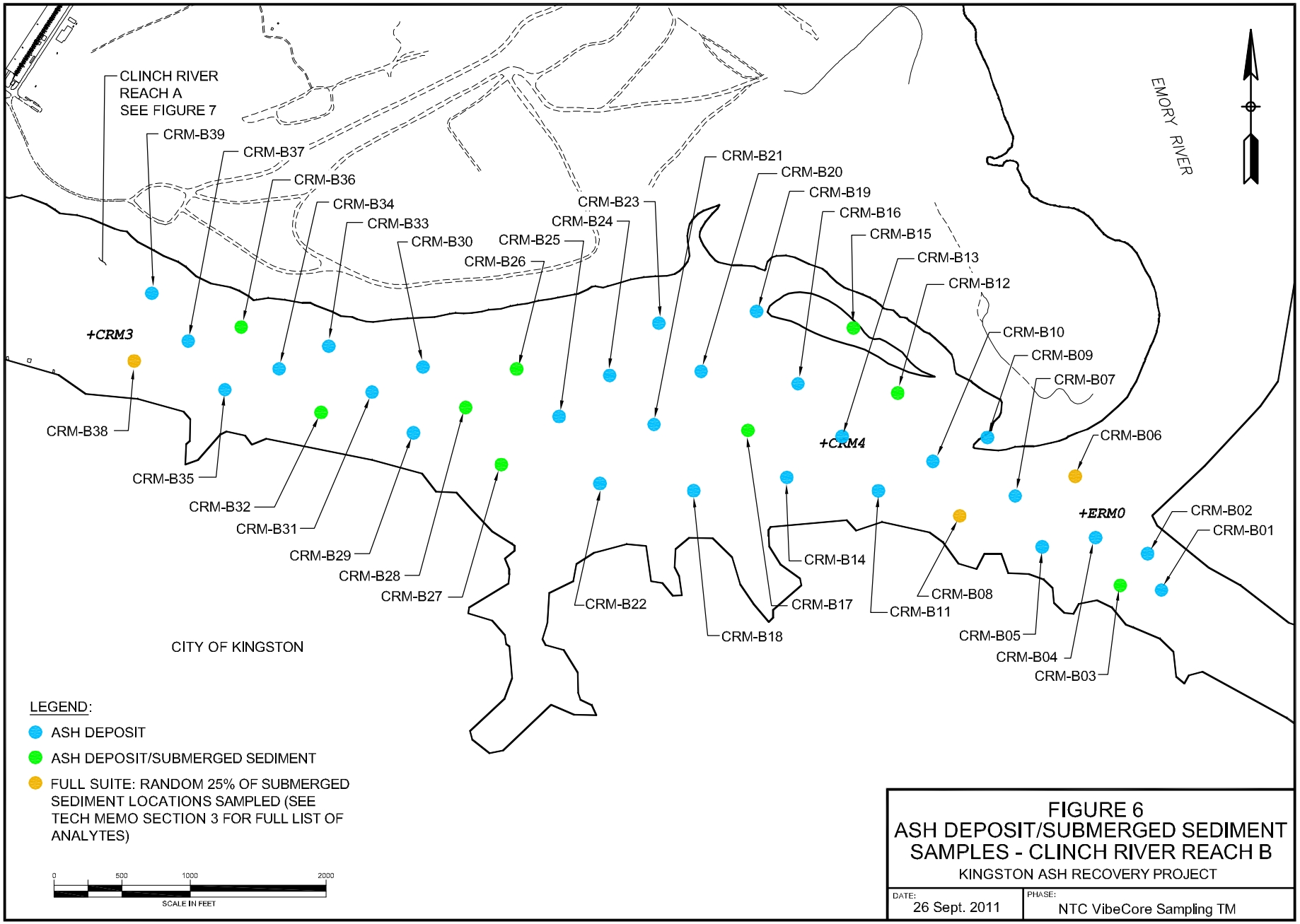


FIGURE 6
ASH DEPOSIT/SUBMERGED SEDIMENT SAMPLES - CLINCH RIVER REACH B

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

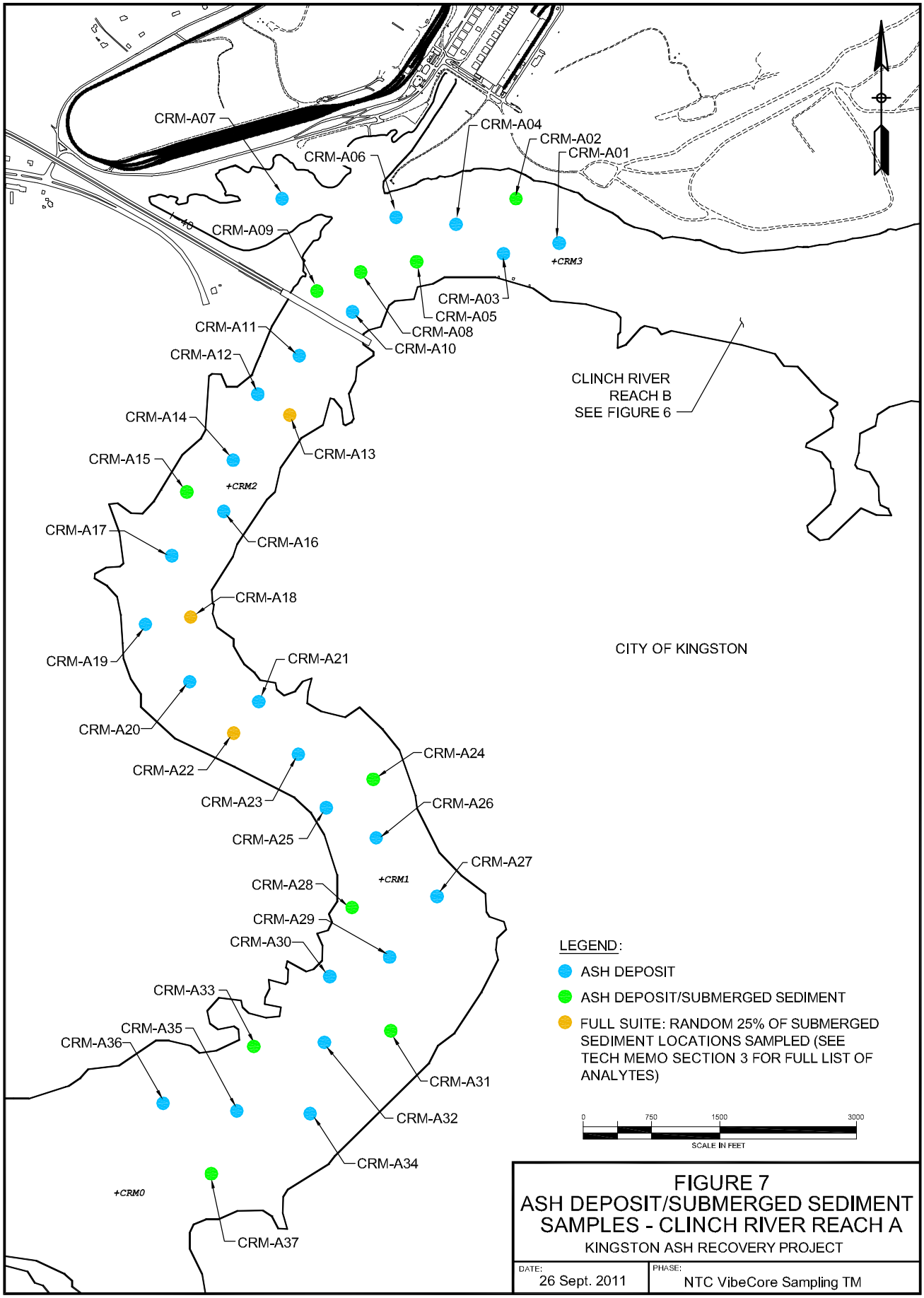


FIGURE 7
ASH DEPOSIT/SUBMERGED SEDIMENT SAMPLES - CLINCH RIVER REACH A
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 07 Ash-Sed-Clinch A.dwg Sep 26,2011 -bperaro

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 08 Ash-Sed-Tennessee.dwg Sep 26,2011 -bperatro

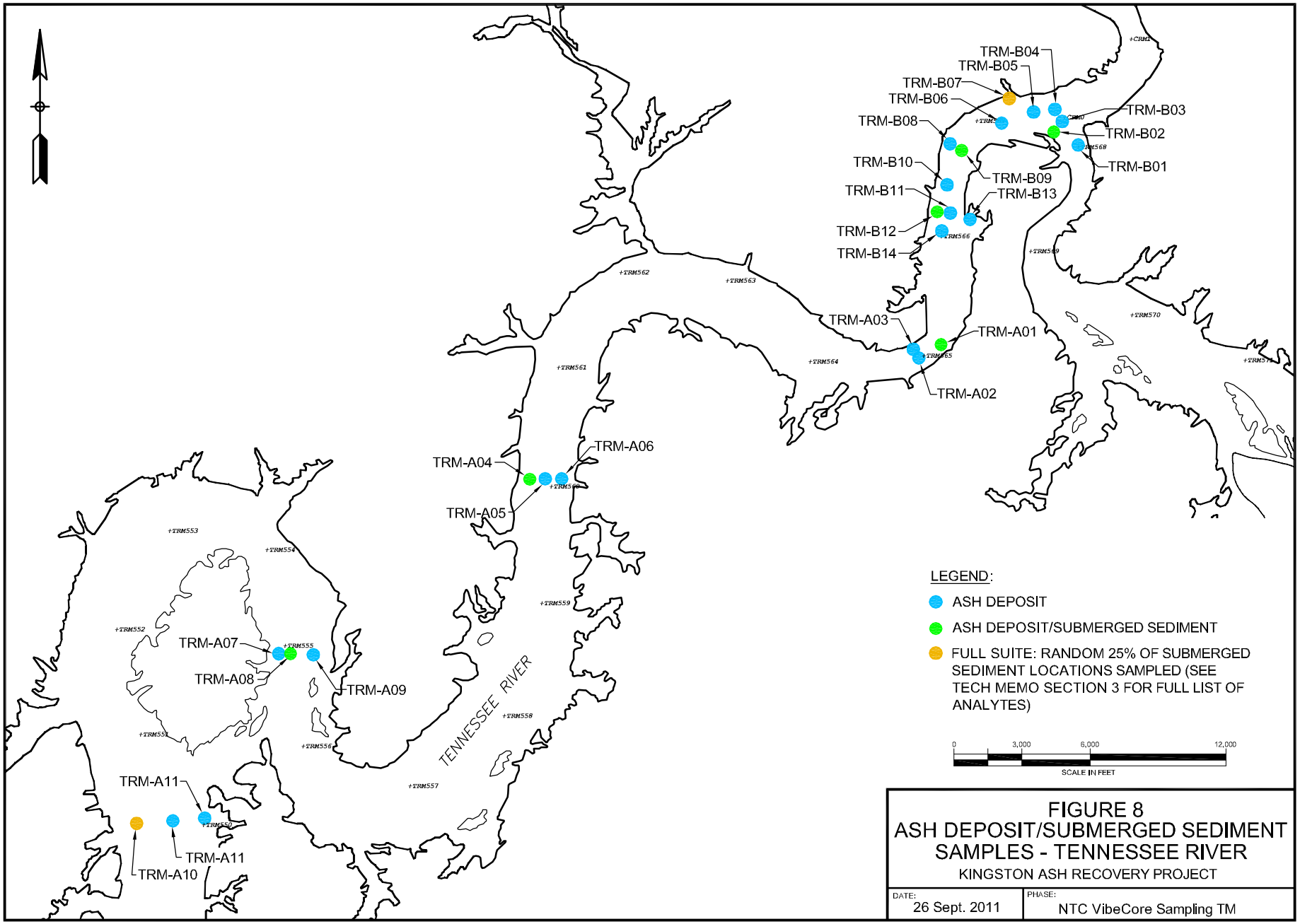


FIGURE 8
ASH DEPOSIT/SUBMERGED SEDIMENT SAMPLES - TENNESSEE RIVER

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

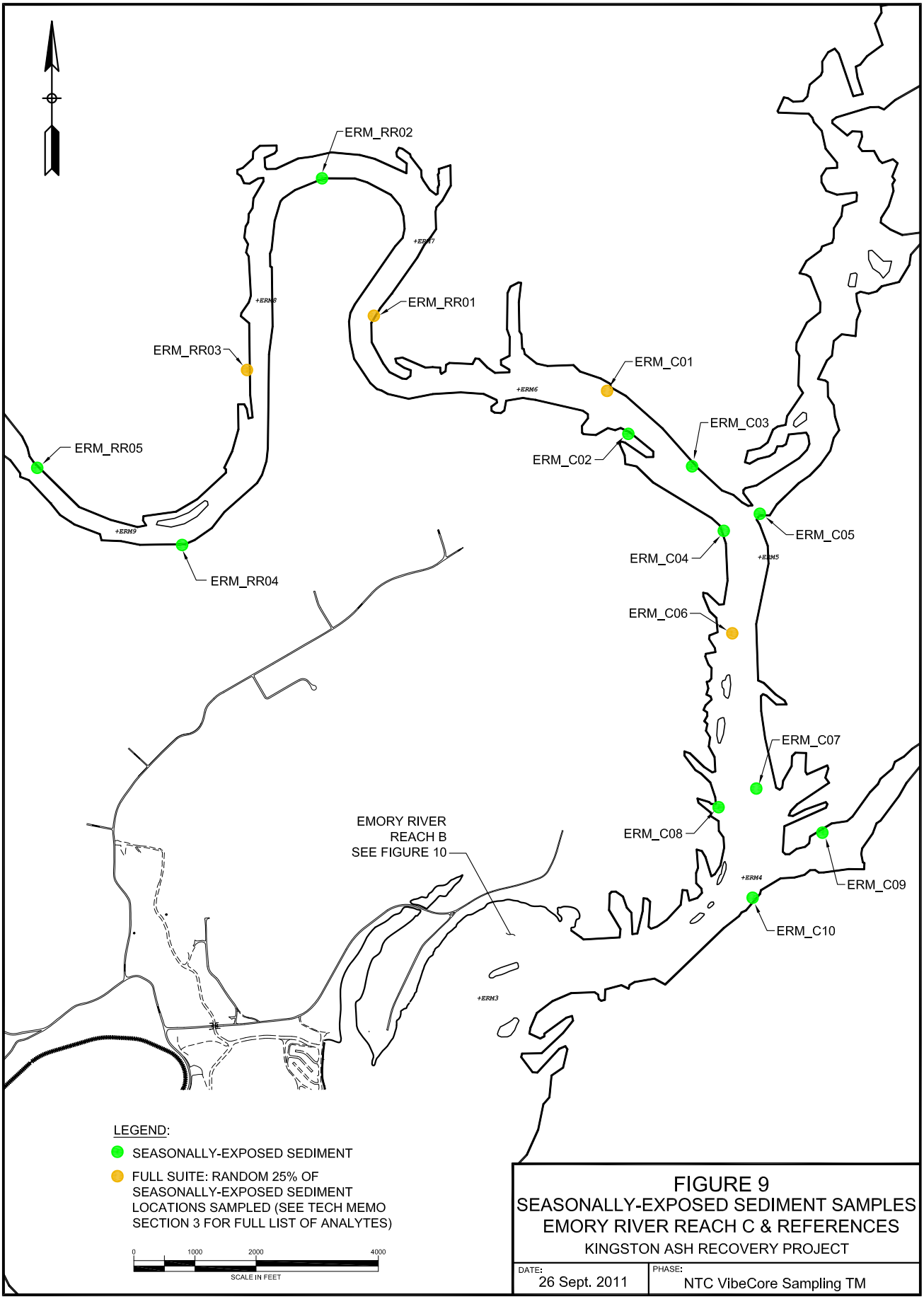


FIGURE 9
SEASONALLY-EXPOSED SEDIMENT SAMPLES
EMORY RIVER REACH C & REFERENCES
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 09 Seasonally Exposed-Emory C.dwg Sep 29,2011 -operatro

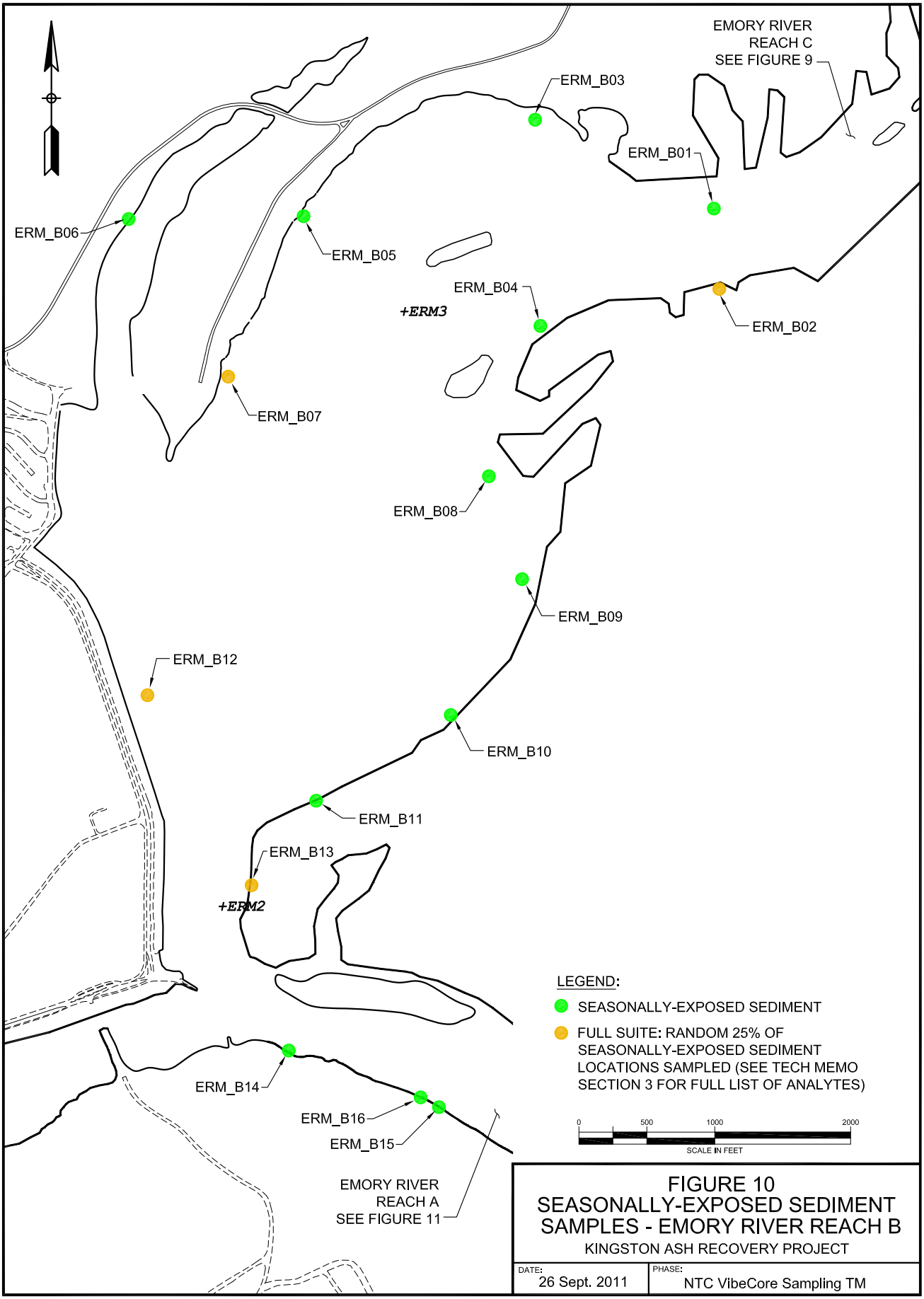


FIGURE 10
SEASONALLY-EXPOSED SEDIMENT SAMPLES - EMORY RIVER REACH B
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 10 Seasonally Exposed-Emory B.dwg Sep 29,2011 -bperatro

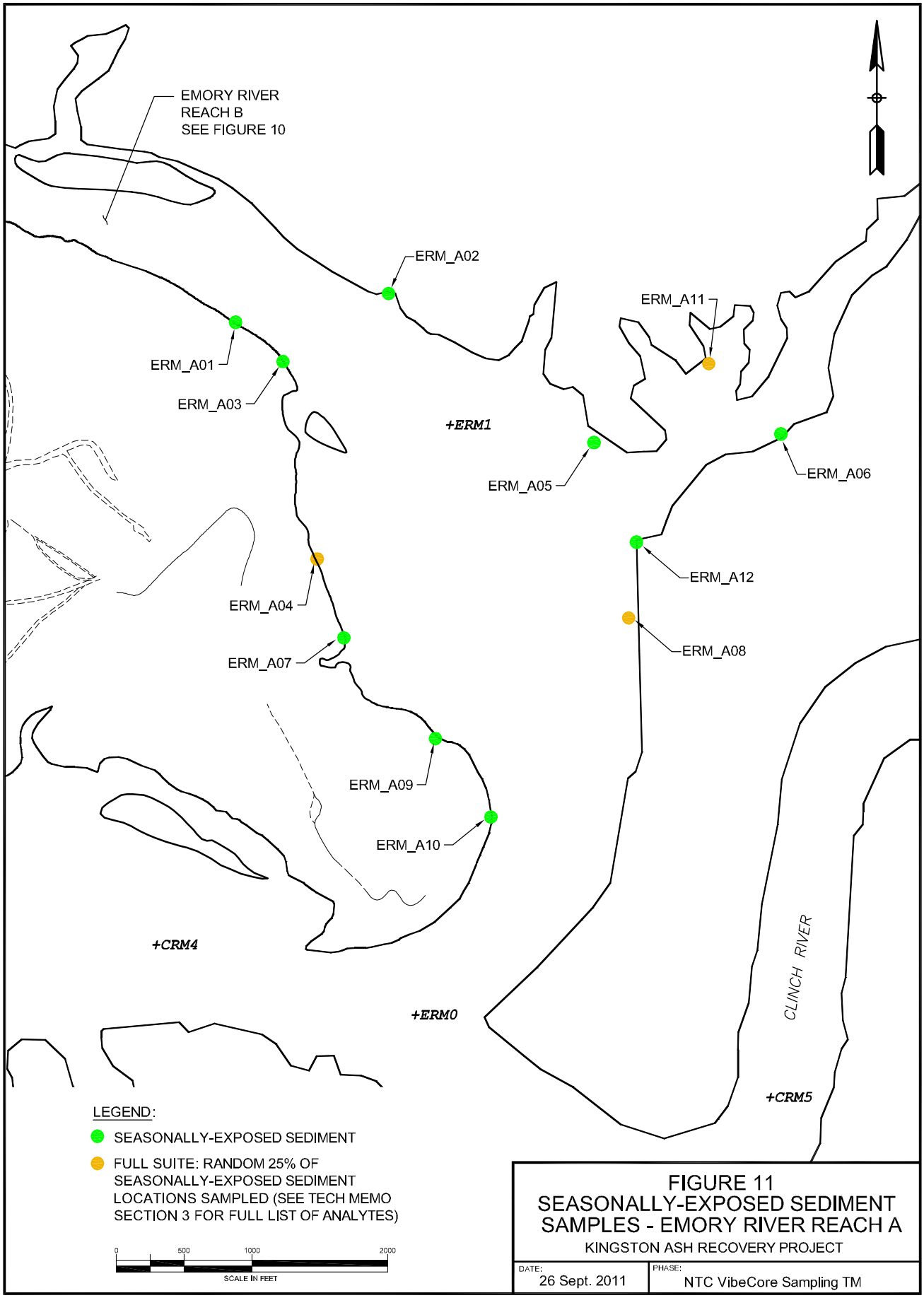
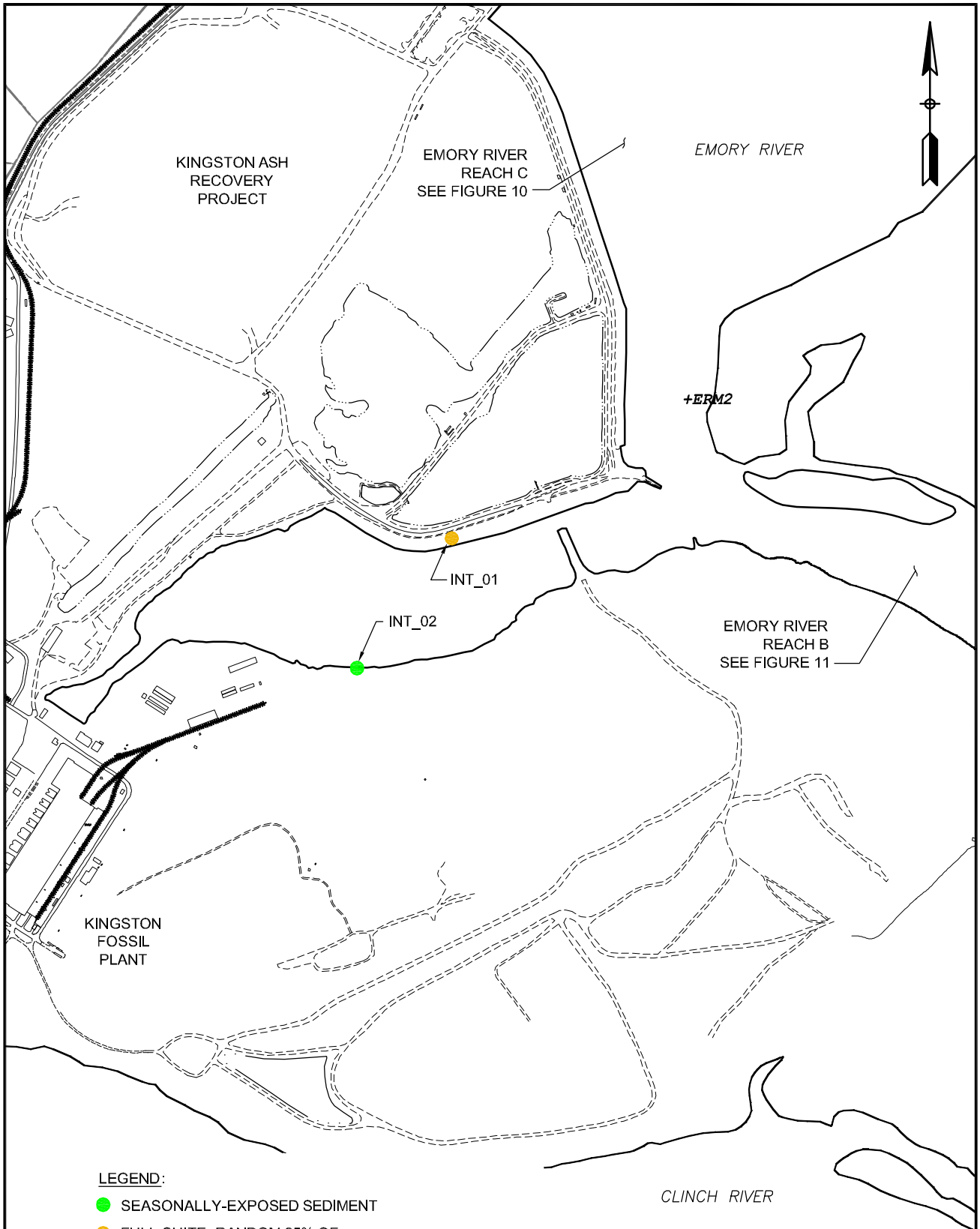


FIGURE 11
SEASONALLY-EXPOSED SEDIMENT SAMPLES - EMORY RIVER REACH A
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 11 Seasonally Exposed-Emory A.dwg Sep 26,2011 jbperaro



LEGEND:

- SEASONALLY-EXPOSED SEDIMENT
- FULL SUITE: RANDOM 25% OF SEASONALLY-EXPOSED SEDIMENT LOCATIONS SAMPLED (SEE TECH MEMO SECTION 3 FOR FULL LIST OF ANALYTES)

0 500 1000 2000
SCALE IN FEET

FIGURE 12
SEASONALLY-EXPOSED SEDIMENT SAMPLES - PLANT INTAKE CHANNEL

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 12 Seasonally Exposed-Plant Intake.dwg Sep 26,2011 -bperairo

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 13 Seasonally Exposed-Clinch.dwg Sep 26,2011 -bperatro

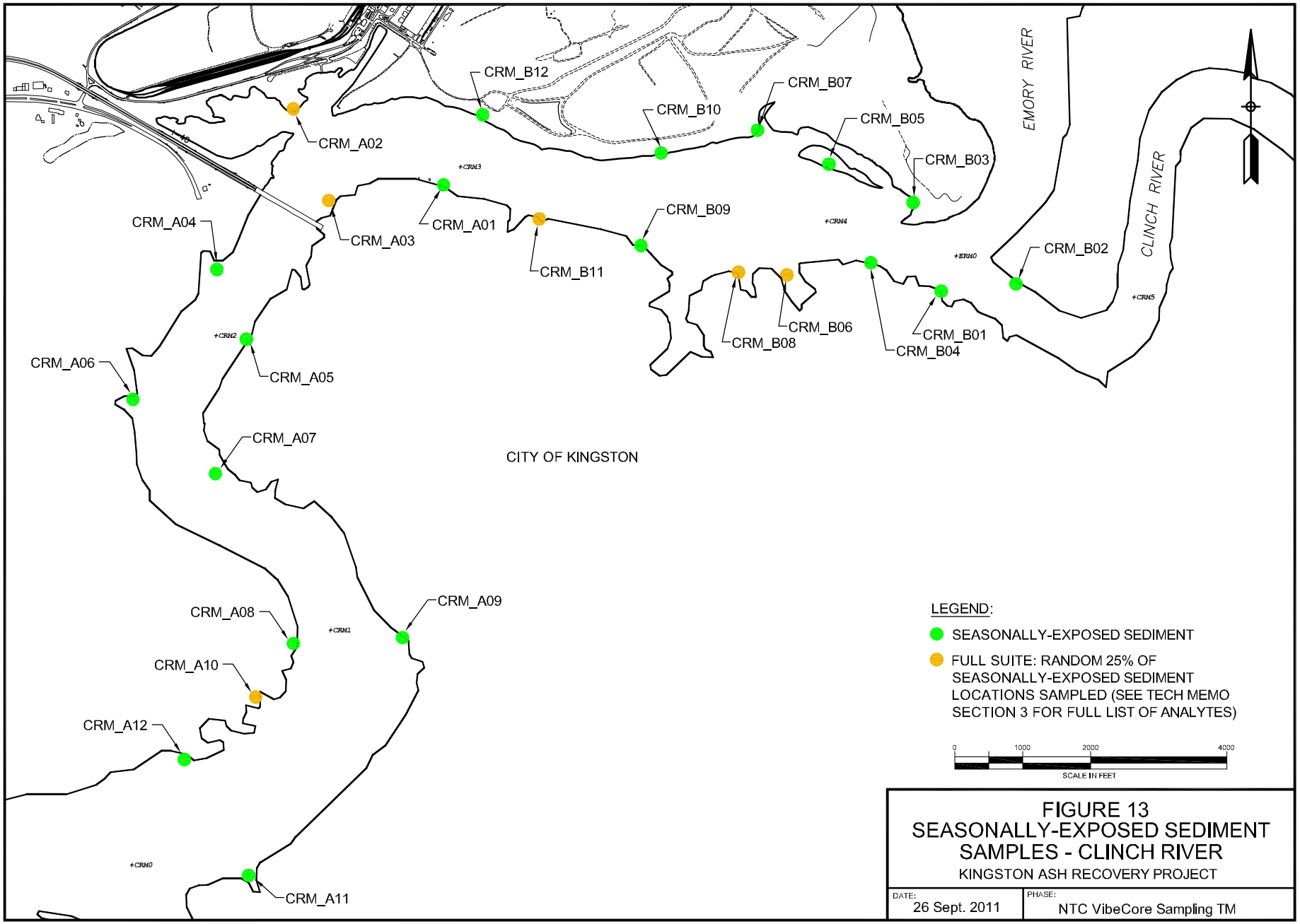


FIGURE 13
SEASONALLY-EXPOSED SEDIMENT SAMPLES - CLINCH RIVER

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

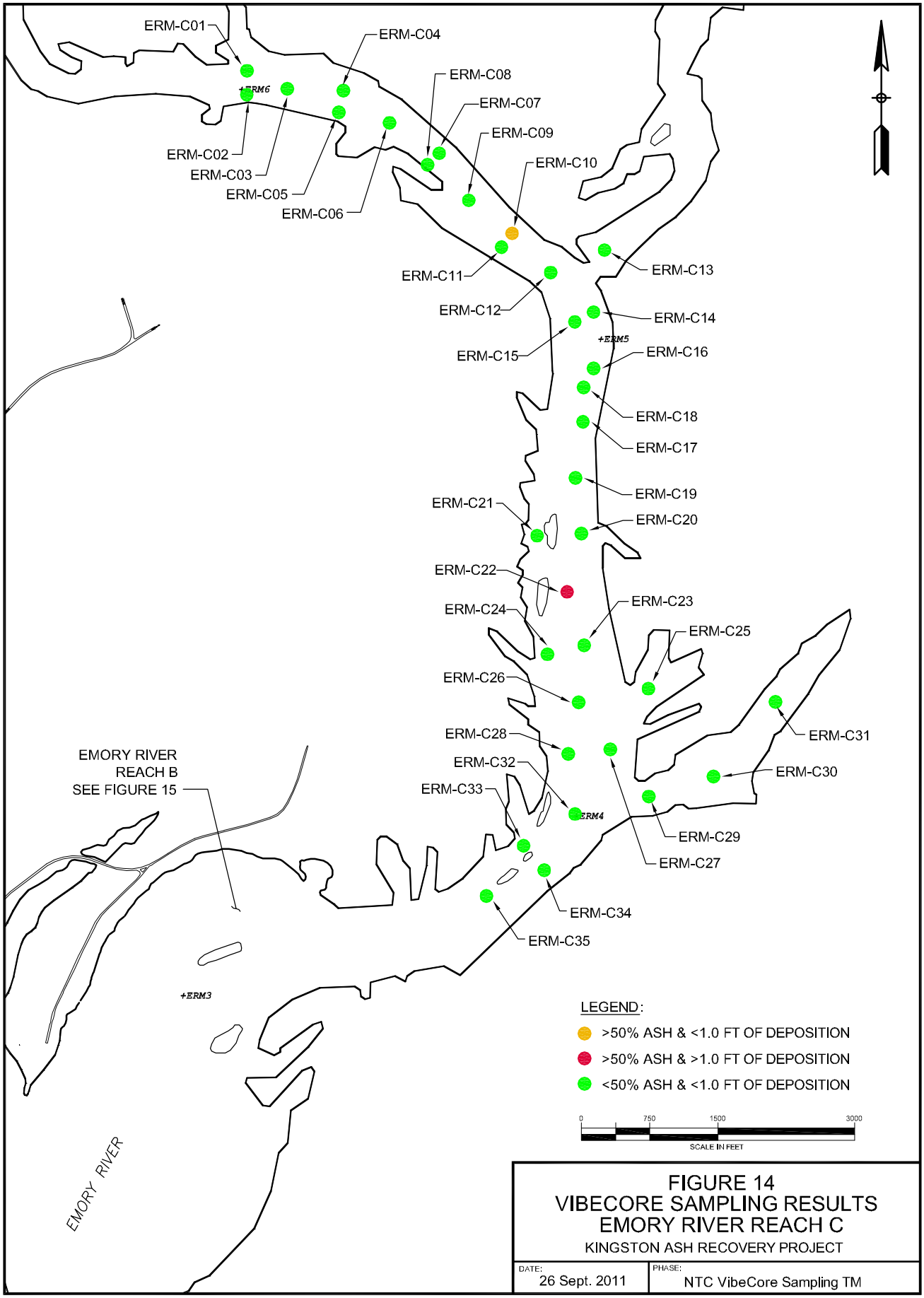


FIGURE 14
VIBECORE SAMPLING RESULTS
EMORY RIVER REACH C
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 14 Sample Results-Emory C.dwg Sep 26,2011 -bperaro

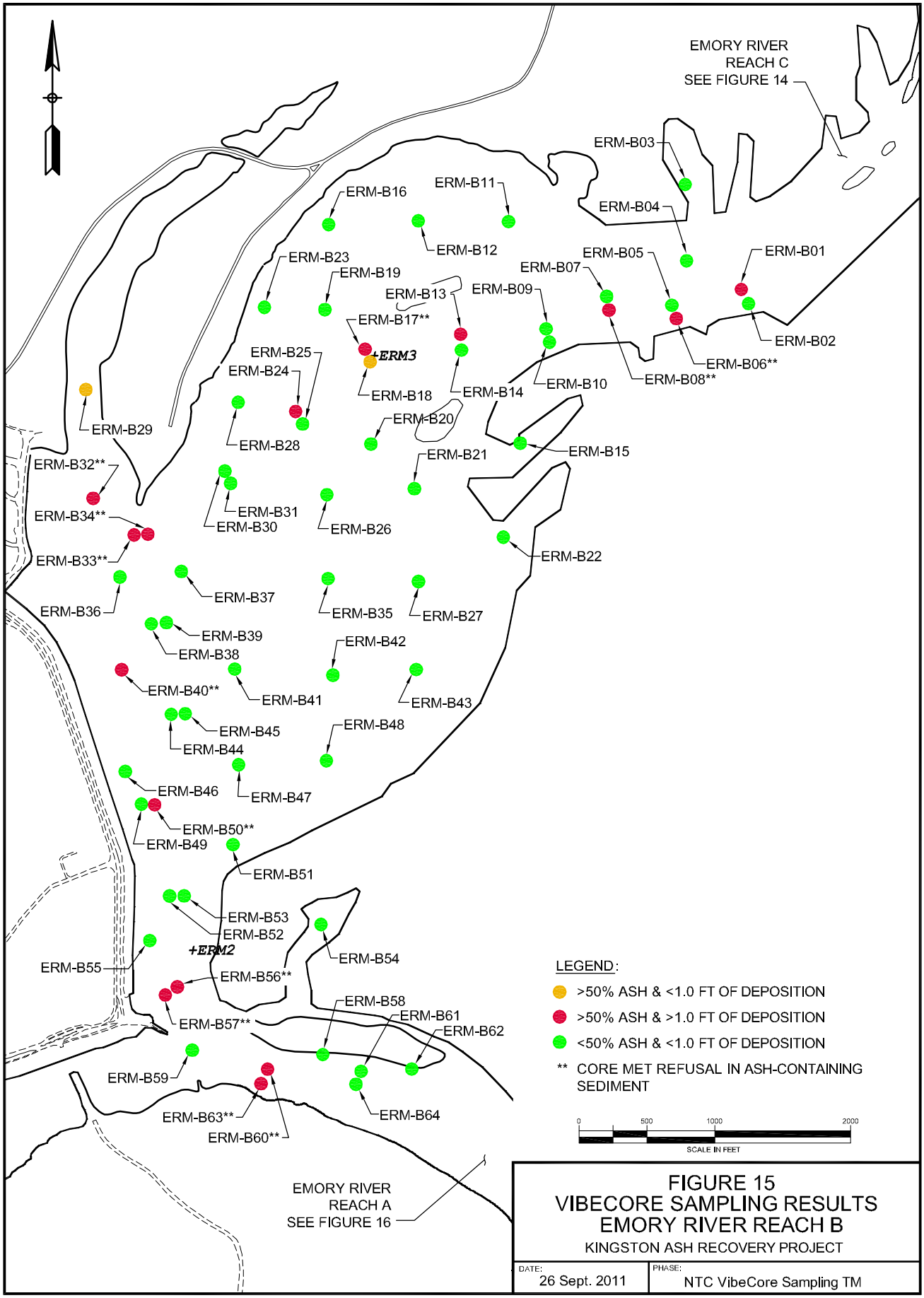


FIGURE 15
VIBECORE SAMPLING RESULTS
EMORY RIVER REACH B
KINGSTON ASH RECOVERY PROJECT

DATE: 26 Sept. 2011

PHASE: NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 15 Sample Results-Emory B.dwg Sep 26,2011 -bperaro

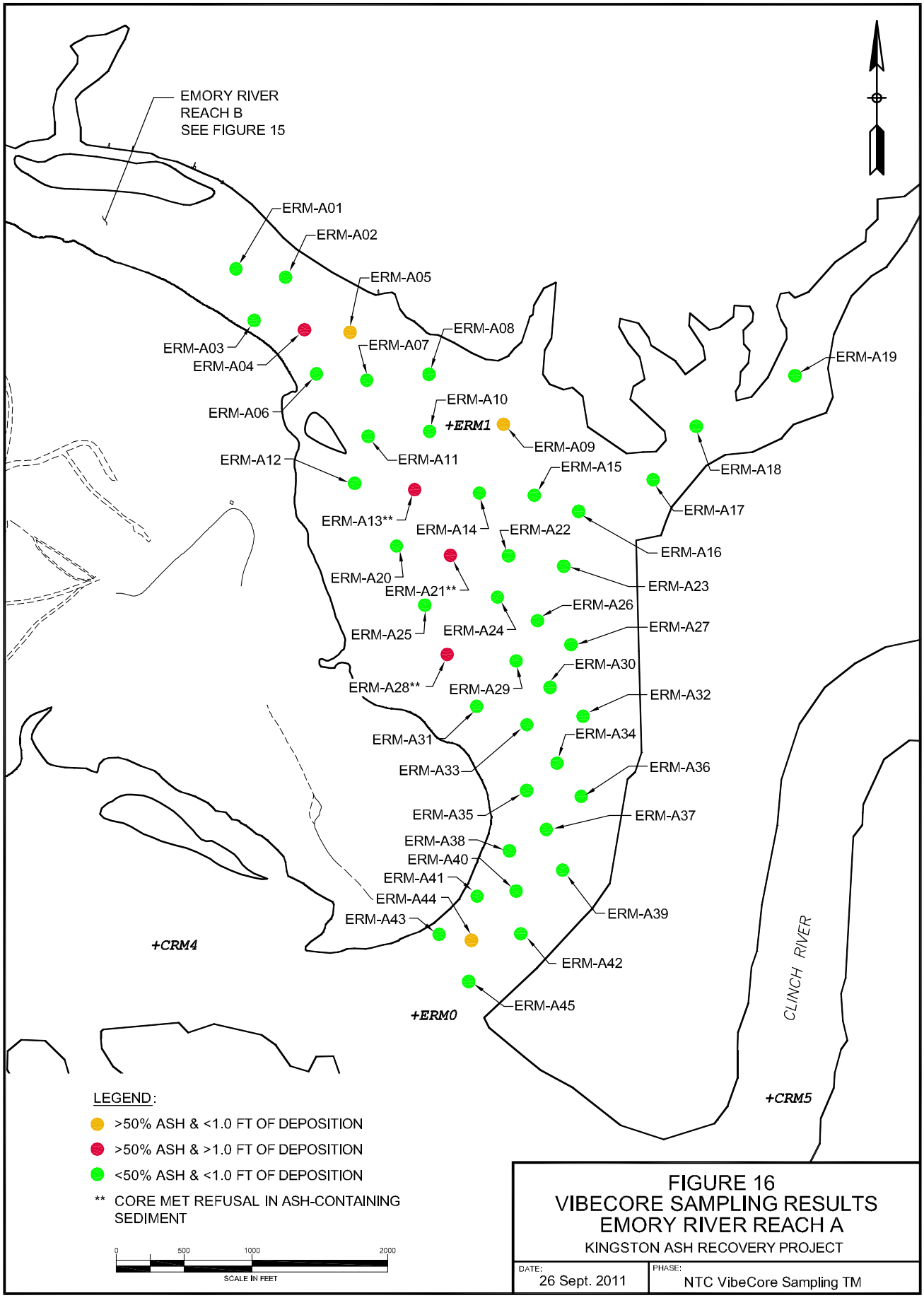


FIGURE 16
VIBECORE SAMPLING RESULTS
EMORY RIVER REACH A
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 16 Sample Results-Emory A.dwg Sep 26,2011 -bperaro

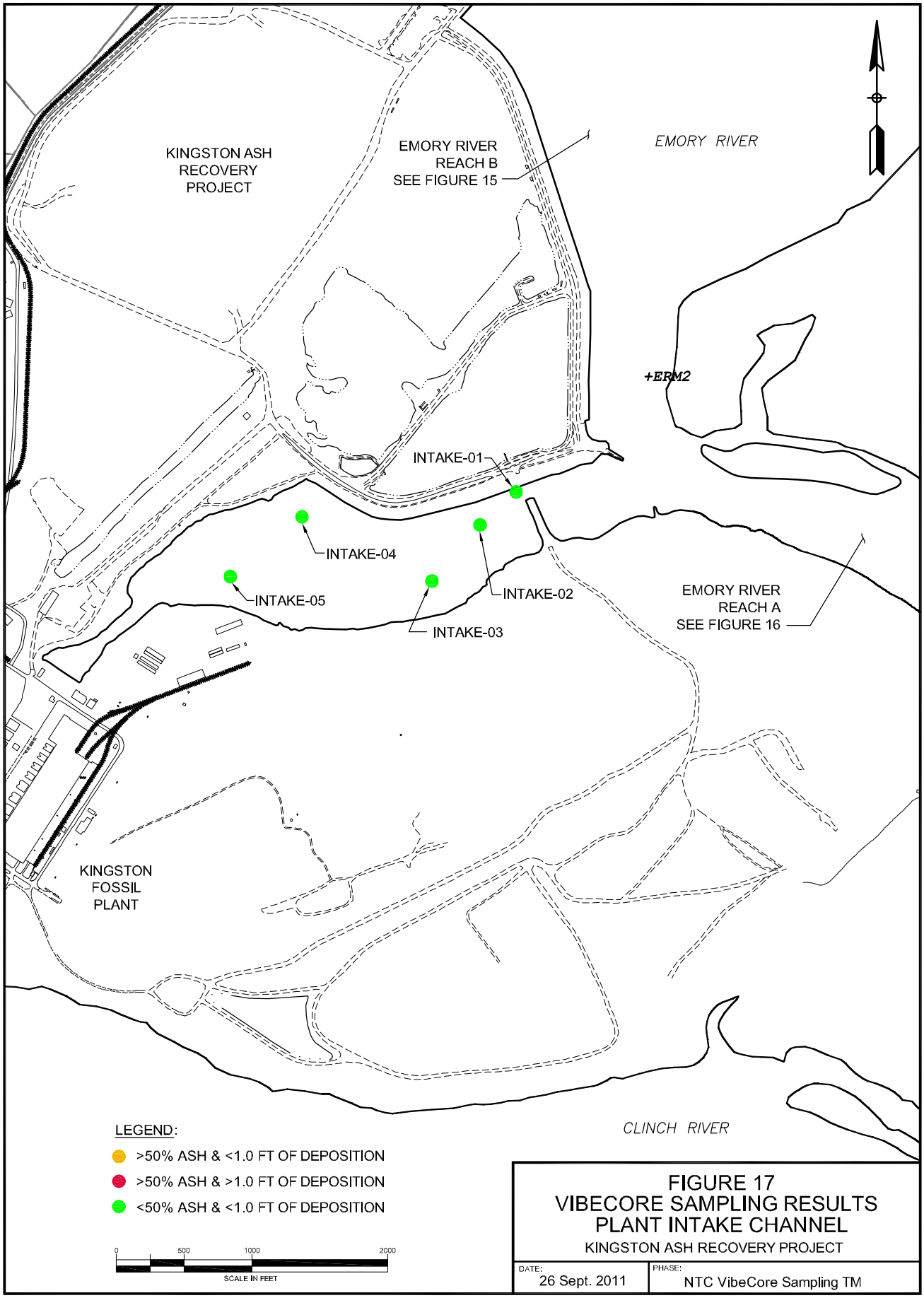


FIGURE 17
VIBECORE SAMPLING RESULTS
PLANT INTAKE CHANNEL
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 17 Sample Results-Plant Intake.dwg Sep 26,2011 -bperatro

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 18 Sample Results-Clinch B.dwg Sep 26,2011 -bperatro

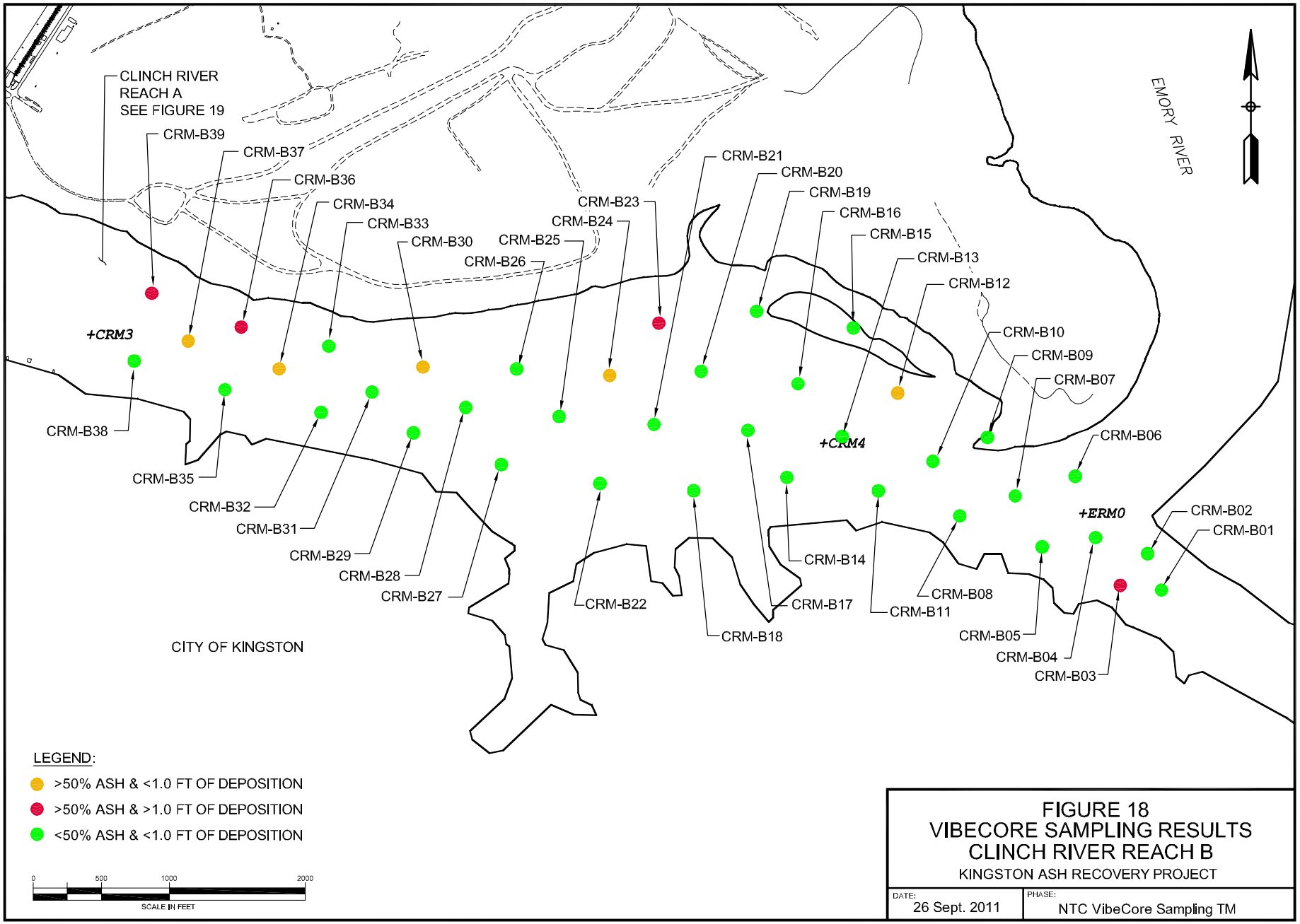


FIGURE 18
VIBECORE SAMPLING RESULTS
CLINCH RIVER REACH B

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

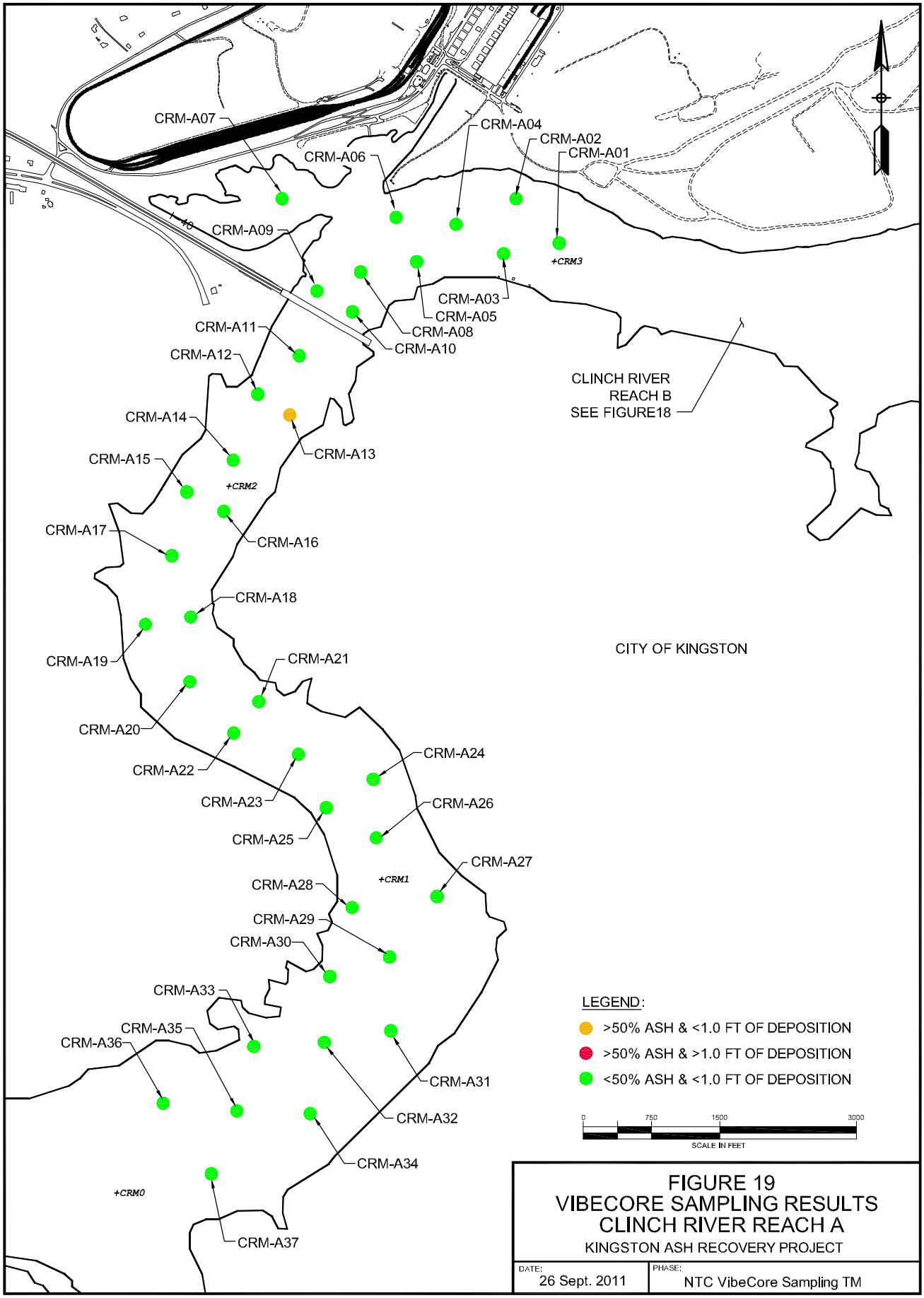


FIGURE 19
VIBECORE SAMPLING RESULTS
CLINCH RIVER REACH A
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
26 Sept. 2011	NTC VibeCore Sampling TM

I:\0002 ENGINEERING\Civil\Report Graphics\NTC VibeCore Sampling TM\Fig 19 Sample Results-Clinch A.dwg Sep 26,2011 -bperaro

Appendix A
NTC Seasonally-Exposed Sediment Sampling Summaries

Table A-1
NTC Seasonally-Exposed Sediment Sampling Summary
Reference Reach Upstream of ERM 6.0

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_RR05	N:	567603.13	E:	2437523.31	01/25/11	Light brown/orange medium grained sand, few organics	0.0-2.0	X		X	
Field PLM Results: (ND ash) Brown sandy mud with lots of detritus and some water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.						Brown and orange medium grained sand with organics (~50%)	2.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_RR04	N:	566341.93	E:	2439893.23	01/25/11	Brown medium grained sand	0.0-1.0	X		X	
Field PLM Results: (ND ash) Light brown clay with no water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.						Orange sandy clay loam	1.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_RR03	N:	569204.07	E:	2440955.16	01/25/11	Dark brown loam with lots of organics, some pocket of sand	0.0-4.0	X		X	X
Field PLM Results: (ND ash) Dark gray mud with lots of detritus but no water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.						Light brown and orange sand with some fines	4.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_RR02	N:	572339.33	E:	2442182.78	01/25/11	Light brown sand with organics	0.0-1.0	X		X	
Field PLM Results: (<50% ash) Dirty brown sand with no water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Dark brown sand with lots of organics, few fines	1.0-5.0				
						Brownish/grey sand with some organics, few fines	5.0-6.0				
						Total Depth	7.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_RR01	N:	570090.76	E:	2443030.13	01/25/11	Orange sand with some clay	0.0-1.0	X	X	X	X
Field PLM Results: (<50% ash) Light brown sandy clay with no water on top. There are lots of crystalline materials and some of them are optically active. There is no ash. **PLM Confirmation Results:** (ND)						Reddish/orange sand with clay	1.0-6.0				
						Total Depth	6.0"				

Note: For definitions, see the Acronyms section of the Technical Memorandum.

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-2
NTC Seasonally-Exposed Sediment Sampling Summary
ERM 0.0 Upstream to ERM 6.0 (Reaches A, B, and C)

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A12	N:	551194.31	E:	2448381.51	01/14/11	Cobbly, red sandy clay loam	0.0-0.5	X		X	
Field PLM Results: (<50% ash) Light brown sandy mud with no water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Red clay loam with small gravels, red mottling	0.5-4.5				
						Total Depth	4.5"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_A11	N:	552508.93	E:	2448914.30	01/18/11	Mixed sand and fines	0.0-2.0	X	X	X	X
Field PLM Results: (ND ash) Tan soft clay without water on top. There are lots of crystalline materials and some of them are optically active. There is no ash. **PLM Confirmation Results:** (ND ash)						Orange clay and sand	2.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_A10	N:	549169.31	E:	2447309.82	01/14/11	Red sandy clay loam with organics	0.0-0.5	X		X	
Field PLM Results: (<50% ash) Light brown sandy mud with some water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Grey sandy loam	0.5-3.0				
						Red sandy loam	3.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_A09	N:	549746.45	E:	2446900.78	01/18/11	Ash	0.0-1.5	X		X	
Field PLM Results: (<50% ash) Grayish tan mud with some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Orange fines and sand	1.5-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_A08	N:	550635.69	E:	2448324.39	01/18/11	Brown sand, fines, and ash	0.0-2.0	X		X	
Field PLM Results: (<50% ash) Yellow clay with rocks but no water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Orange clay	2.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_A07	N:	550489.13	E:	2446226.84	01/14/11	Red clay with mottling, few gravels	0.0-5.5	X		X	
Field PLM Results: (<50% ash) Light brown clay with no water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Total Depth	5.5"				

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-2
NTC Seasonally-Exposed Sediment Sampling Summary
ERM 0.0 Upstream to ERM 6.0 (Reaches A, B, and C)
(continued)

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A06	N:	551990.64	E:	2449445.44	01/14/11	Brown loam with gravels and organics	0.0-1.0	X		X	
Field PLM Results: (<50% ash) Red clay with no water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Red clay	1.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_A05	**N:**	**551927.93**	**E:**	**2448068.63**	**01/14/11**	**Brown fines mixed with shale channers**	**0.0-1.0**	X		X	
Field PLM Results: (<50% ash) Dirty brown sandy mud with no water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Brown/Reddish gravelly clay loam	1.0-4.0				
						Total Depth	4.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_A04	N:	551069.60	E:	2446028.88	01/19/2011	Brown native fines with mostly organics, coarse sand and gravels	0.0-6.0	X		X	X
Field PLM Results: (<50% ash) Dark gray sandy with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_A03	N:	552524.81	E:	2445777.58	01/19/2011	Light brown fine and medium grained sand mixed with ash	0.0-1.0	X		X	
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.						Ash mixed with native fines	1.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_A02	N:	553025.78	E:	2446554.74	01/19/2011	Reddish brown medium sands with native fines, little ash	0.0-0.5	X		X	
Field PLM Results: (<50% ash) Gray soft mud with some of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Brown coarse sands, mixed with fines and some ash	0.5-2.5				
						Light brown silt loam with ribbons of ash	2.5-4.5				
						Brown coarse sands and brown native fines	4.5-5.5				
						Total Depth	5.5"				

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-2
NTC Seasonally-Exposed Sediment Sampling Summary
ERM 0.0 Upstream to ERM 6.0 (Reaches A, B, and C)
(continued)

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A01	N:	552813.92	E:	2445428.01	01/19/2011	Brown native fines with some ash and organics	0.0-4.0	X		X	
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.						Ash mixed with brown native fines and organics	4.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B16	N:	553143.16	E:	2444872.94	01/19/11	Ash with brown native fines and fine sands, some red sands on top	0.0-4.0	X		X	
Field PLM Results: (<50% ash) Brown sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Red sandy clay with streaks of ash	4.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B15	N:	553071.23	E:	2445007.75	01/19/11	Ash with medium grayish sand	0.0-4.0	X		X	
Field PLM Results: (>50% ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.						Brownish red medium grained sand topped by thin layer of red sands, some native fines	4.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B14	N:	553488.07	E:	2443902.42	01/19/11	Red and brown native fines with coarse sand and gravels	0.0-2.0	X		X	
Field PLM Results: (<50% ash) Red sandy mud with no water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Red sandy clay with gravel	2.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B13	N:	554704.81	E:	2443628.72	01/19/11	Shale fragments, some brown fines. Lower depth solid shale	0.0-6.0	X		X	X
Field PLM Results: (<50% ash) Dirty brown sandy mud with no water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B12	N:	556103.52	E:	2442861.96	01/19/11	Ash with few ribbons of brown fines, bottom depth of ash not encountered	0.0-6.0	X		X	X
Field PLM Results: (>50% ash) Dark gray ash with lots water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.						Total Depth	6.0"				

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-2
NTC Seasonally-Exposed Sediment Sampling Summary
ERM 0.0 Upstream to ERM 6.0 (Reaches A, B, and C)
(continued)

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B11	N:	555326.96	E:	2444103.51	01/20/11	Shale fragments mixed with sandy clay	0.0-0.5	X		X	
Field PLM Results: (<50% ash) Dirty brown clay without water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Soft rock, shale material with pockets of clay	0.5-4.5				
						Total Depth	4.5"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B10	N:	555957.55	E:	2445094.29	01/20/11	Very gravelly dark brown sandy clay loam	0.0-1.25	X		X	
Field PLM Results: (<50% ash) Reddish brown sandy mud without water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Red clay loam, few gravels, some coarse sands	1.25-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B09	N:	556957.75	E:	2445619.96	01/20/11	Gravelly, brown sandy loam	0.0-0.5	X		X	
Field PLM Results: (<50% ash) Brown sandy soil with some water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Brown clay loam, few gravels	0.5-2.0				
						Residuum soft rock, shale with pockets of clay, reddish brown	2.0-5.5				
						Total Depth	5.5"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B08	N:	557714.95	E:	2445375.31	01/20/11	Red sandy loam	0.0-3.0	X		X	
Field PLM Results: (<50% ash) Brown sandy mud with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Brownish red sandy loam with oxidation channels	3.0-4.0				
						Grey sandy clay loam with concretions	4.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B07	N:	558448.49	E:	2443457.10	01/24/11	Light brown medium grained sand, few fines and organics	0.0-2.0	X		X	X
Field PLM Results: (<50% ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.						Brown medium grained sand, few fines and organics	2.0-6.0				
						Total Depth	6.0"				

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-2
NTC Seasonally-Exposed Sediment Sampling Summary
ERM 0.0 Upstream to ERM 6.0 (Reaches A, B, and C)
(continued)

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B06	N:	559608.15	E:	2442723.17	01/25/11	Red loam with small gravels and coarse sand	0.0-3.0	X		X	
Field PLM Results: (<50% ash) Brown mud with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Brown loam with coarse sand and pockets of ash	3.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B05	N:	559629.30	E:	2444010.85	01/20/11	Red brown silt loam	0.0-0.5	X		X	
Field PLM Results: (<50% ash) Dark gray sandy with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Brownish grey medium to coarse sands	0.5-5.5				
						Total Depth	5.5"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B04	N:	558821.50	E:	2445754.63	01/20/11	Grey sandy loam	0.0-2.0	X		X	
Field PLM Results: (ND ash) Reddish brown sandy mud without water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.						Red sandy clay loam	2.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B03	N:	560339.19	E:	2445715.51	01/20/11	Brown Silt Loam	0.0-1.0	X		X	
Field PLM Results: (<50% ash) Dark gray sandy with detritus and some water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Grey medium grained sand	1.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B02	N:	559093.73	E:	2447071.60	01/24/11	Red and brown medium grained sands, some fines and few organics	0.0-1.0	X	X	X	X
Field PLM Results: (<50% ash) Dark gray sandy with some water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (7% ash)						Brown fines with some organics and fine sands	1.0-3.5				
						Organic layer with brown fines	3.5-4.0				
						Total Depth	4.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_B01	N:	559685.45	E:	2447031.57	01/20/11	Brown silty fines	0.0-0.25	X		X	
Field PLM Results: (<50% ash) Brown sand with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Light brown medium to coarse sand, few organics	0.25-6.0				
						Total Depth	6.0"				

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-2
NTC Seasonally-Exposed Sediment Sampling Summary
ERM 0.0 Upstream to ERM 6.0 (Reaches A, B, and C)
(continued)

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_C10	N:	560572.33	E:	2449226.16	01/20/11	Dark brown, clay loam with shale rock fragments	0.0-2.5	X		X	
Field PLM Results: (<50% ash) Tan mud with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Reddish brown clay loam with shale rock fragments	2.5-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_C09	N:	561635.82	E:	2450368.10	01/20/11	Red sandy loam	0.0-0.5	X		X	
Field PLM Results: (<50% ash) Brown sandy mud with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Reddish brown sandy clay loam	0.5-5.5				
						Total Depth	5.5"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_C08	N:	562052.08	E:	2448669.89	01/20/11	Reddish brown sandy loam	0.0-0.5	X		X	
Field PLM Results: (<50% ash) Gray sand with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Brown medium and coarse sands	0.5-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_C07	N:	562357.59	E:	2449286.73	01/24/11	Brown medium grained sand with some organics	0.0-2.0	X		X	
Field PLM Results: (<50% ash) Brown sand with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Light brown medium grained sands	2.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_C06	N:	564896.89	E:	2448893.74	01/24/11	Brown silt loam mixed with sand and organics	0.0-1.5	X		X	X
Field PLM Results: (<50% ash) Dark gray with detritus but no water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Medium grained brownish grey sand with fines and few organics	1.5-4.0				
						Medium grained grey sand with few fines	4.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_C05	N:	566852.33	E:	2449344.19	01/24/11	Native fines mixed with medium grained sand and organics, brown	0.0-2.0	X		X	
Field PLM Results: (ND ash) Yellow sandy mud with some water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.						Red sandy clay	2.0-6.0				
						Total Depth	6.0"				

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-2
NTC Seasonally-Exposed Sediment Sampling Summary
ERM 0.0 Upstream to ERM 6.0 (Reaches A, B, and C)
(continued)

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_C04	N:	566573.42	E:	2448754.58	01/24/11	Brown medium grained sand with some fines and ribbons of red sand	0.0-2.0	X		X	
Field PLM Results: (<50% ash) Light brown sandy mud wi\th lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Red medium grained sand with some clay	2.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_C03	N:	567628.37	E:	2448235.92	01/24/11	Light brown sand with few organics	0.0-0.5	X		X	
Field PLM Results: (<50% ash) Brown smelly sand with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Brown sand with some brown fines	0.5-4.5				
						Total Depth	4.5"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_C02	N:	568159.69	E:	2447193.69	01/24/11	Light reddish brown sand	0.0-1.0	X		X	
Field PLM Results: (<50% ash) Black sandy mud with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There is little ash.						Fines mixed with medium grained sand, some organics	1.0-5.0				
						Total Depth	5.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_C01	N:	568862.27	E:	2446845.79	01/24/11	Brown silt loam with medium grained sand	0.0-3.0	X	X	X	X
Field PLM Results: (<50% ash) Brown mud with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash. **PLM Confirmation Results:** (ND ash)						Brown sandy clay loam	3.0-5.0				
						Red clay loam	5.0-6.0				
						Total Depth	6.0"				

Note: For definitions, see the Acronyms section of the Technical Memorandum.

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-3
NTC Seasonally-Exposed Sediment Sampling Summary
Kingston Fossil Plant Intake Channel

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	Samples Collected: PLM Confirmation	Samples Collected: Metals	Samples Collected: Full Suite [1]
ERM_INT02	N:	552681.21	E:	2441116.67	01/25/11	Gravels, mussells and few fines	0.0-1.0	X		X	
Field PLM Results: Brown rocky clay with no water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Red and light brown patches of clay loam with small gravels and chert	1.0-3.0				
						Red clay with coarse sand, small gravels, and chert	3.0-6.0				
						Total Depth	7.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
ERM_INT01	N:	552681.21	E:	2441116.67	01/25/11	Red and brown medium grained sand with some fines and pockets of ash	0.0-2.0	X	X	X	X
Field PLM Results: Dark gray sandy mud with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash. **PLM Confirmation Results:** (11%)						Dark brown medium and coarse sand with some fines, pockets of ash	2.0-3.0				
						Red coarse and medium sands with some pebbles and few fines	3.0-6.0				
						Total Depth	6.0"				

Note: For definitions, see the Acronyms section of the Technical Memorandum.

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-4
NTC Seasonally-Exposed Sediment Sampling Summary
CRM 0.0 Upstream to CRM 4.5 (Reaches A and B)

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_A12	N:	540293.13	E:	2435385.29	12/14/10	Gravel, shells, and fines	0.0-3.0	X		X	
Field PLM Results: (<50% ash) Light brown sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are very few ash particles.						Brown orange fines	3.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_A11	N:	538584.31	E:	2436330.80	12/14/10	Coarse sand and shells with small gravel	0.0-6.0	X		X	
Field PLM Results: (<50% ash) Mixed light brown and brown sand with gravels and with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_A10	N:	541213.55	E:	2436434.21	12/15/10	Mixed shale, shells, and fines	0.0-3.0				
Field PLM Results: (<50% ash) Brown sandy clay with some water on top. There are lots of crystalline materials and some of them are optically active. There are very few ash particles. **PLM Confirmation Results:** (ND ash)						Brown fines	3.0-6.0	X	X	X	X
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_A09	N:	542088.54	E:	2438595.72	12/15/10	Mixed sand, shells, fines, and gravel	0.0-2.0				
Field PLM Results: (<50% ash) Brown sandy clay with lots of gravels and some water on top. There are lots of crystalline materials and some of them are optically active. There are very few ash particles.						Brown fines	2.0-6.0	X		X	
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_A08	N:	542002.15	E:	2436989.51	12/15/10	Mixed gravel, sand, and shells	0.0-2.0				
Field PLM Results: (<50% ash) Red sandy clay with some gravels and no water on top. There are lots of crystalline materials and some of them are optically active. There are very few ash particles.						Orange fines (silty clay loam)	2.0-6.0	X		X	
						Total Depth	6.0"				

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-4
NTC Seasonally-Exposed Sediment Sampling Summary
CRM 0.0 Upstream to CRM 4.5 (Reaches A and B)
(continued)

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_A07	N:	544504.43	E:	2435841.76	12/15/10	Ash with some fines	0.0-2.0	X		X	
Field PLM Results: (<50% ash) Dark gray with some detritus and some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Fine sand with some ash	2.0-3.0				
						Fine sand and fines	3.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_A06	N:	545600.34	E:	2434628.01	12/15/10	Brown fines with sand	0.0-1.0	X		X	
Field PLM Results: (<50% ash) Red clay without water on top. There are lots of crystalline materials and some of them are optically active. There are very few ash particles.						Orange fines	1.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_A05	N:	546487.21	E:	2436298.12	12/20/10	Mixed sand and ash (<50% of horizon)	0.0-2.0	X		X	
Field PLM Results: (<50% ash) Red clay without water on top. There are lots of crystalline materials and some of them are optically active. There are very few ash particles.						Orange brown clay loam	2.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_A04	N:	547513.05	E:	2435863.47	12/20/10	Mixed ash, shells, and fines	0.0-0.5	X		X	
Field PLM Results: (<50% ash) Red clay without water on top. There are lots of crystalline materials and some of them are optically active. There are a few ash particles.						Orange red clay	0.5-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_A03	N:	548529.13	E:	2437509.29	12/20/10	Coarse brown sand with fines	0.0-3.0	X		X	X
Field PLM Results: (<50% ash) Dark gray sandy with some detritus and some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Medium brown sand	3.0-6.0				
						Total Depth	6.0"				

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-4
NTC Seasonally-Exposed Sediment Sampling Summary
CRM 0.0 Upstream to CRM 4.5 (Reaches A and B)
(continued)

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_A02	N:	549879.85	E:	2436988.35	12/20/10	Mixed fines reddish brown (trace ash)	0.0-1.0	X		X	X
Field PLM Results: (<50% ash) Red clay without water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Bright red clay loam	1.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_A01	N:	548761.67	E:	2439200.02	12/20/10	Mixed fine sand and fines	0.0-1.5	X		X	
Field PLM Results: (<50% ash) Red clay without water on top. There are lots of crystalline materials and some of them are optically active. There are very few ash particles.						Orange clay with chert rock	1.5-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_B12	N:	549792.63	E:	2439775.7	01/13/11	Orange sand and fines	0.0-2.0	X		X	
Field PLM Results: (<50% ash) Light brown clay with no water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Orange silt loam soil	2.0-5.5				
						Total Depth	5.5"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_B11	N:	548258.21	E:	2440608.63	01/17/11	Mixed sand, fines, shells, and ash	0.0-1.0	X		X	X
Field PLM Results: (<50% ash) Gray sandy mud with some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Brown and orange fines	1.0-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_B10	N:	549230.06	E:	2442403.96	01/13/11	Fines (orange) with chert	0.0-6.0	X		X	
Field PLM Results: (ND ash) Reddish sandy clay with no water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.						Total Depth	6.0"				

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-4
NTC Seasonally-Exposed Sediment Sampling Summary
CRM 0.0 Upstream to CRM 4.5 (Reaches A and B)
(continued)

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_B09	N:	547866.76	E:	2442107.19	01/13/11	Mixed sand, shells, and gravel	0.0-2.0	X		X	
Field PLM Results: (<50% ash) Brown sandy mud with no water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Orange clay loam	2.0-5.0				
						Total Depth	5.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_B08	N:	547472.06	E:	2443541.76	01/17/11	Mixed fines and sand with trace ash	0.0-2.0	X		X	X
Field PLM Results: (<50% ash) Dirty brown clay with no water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Mixed fines	2.0-7.0				
						Total Depth	7.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_B07	N:	549564.22	E:	2443824.48	01/13/11	Mixed sand and fines	0.0-3.0	X		X	
Field PLM Results: (ND ash) Brown soft mud with no water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.						Mixed brown fines	3.0-9.5				
						Total Depth	9.5"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_B06	N:	547432.05	E:	2444255.24	01/18/11	Mixture of rock, fines and trace ash	0.0-7.0	X	X	X	X
Field PLM Results: (<50% ash) Dark brown silt with lots of gravels/rocks and lots of water on top. There are lots of crystalline materials. **PLM Confirmation Results:** (1% ash)						Total Depth	7.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_B05	N:	549064.24	E:	2444876.04	01/14/11	Mixed orange and brown fines	0.0-8.0	X		X	
Field PLM Results: (<50% ash) Light brown clay without water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Total Depth	8.0"				

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Table A-4
NTC Seasonally-Exposed Sediment Sampling Summary
CRM 0.0 Upstream to CRM 4.5 (Reaches A and B)
(continued)

Core #	Core Coordinates				Sample Date	Core Description	Interval (in)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_B04	N:	547613.97	E:	2445491.28	01/14/11	Mixed fines and fine sand	0.0-2.0	X		X	
Field PLM Results: (<50% ash) Yellowish clay without water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Orange silty clay loam	2.0-7.0				
						Total Depth	7.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_B03	N:	548498.53	E:	2446115.65	01/19/11	Brown medium grained sand, few fines	0.0-1.0	X		X	
Field PLM Results: (<50% ash) Black humus materials with lots of detritus and lots water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.						Organic layer, >95% organics	1.0-5.5				
						Total Depth	5.5"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_B02	N:	547301.72	E:	2447627.68	01/14/11	Mixed brown fines and fine sand	0.0-1.5	X		X	
Field PLM Results: (<50% ash) Light reddish brown soft clay with little water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.						Orange fines and fine sand	1.5-6.0				
						Total Depth	6.0"				
Core #	**Core Coordinates**				**Sample Date**	**Core Description**	**Interval (in)**				
CRM_B01	N:	547194.06	E:	2446528.3	01/14/11	Mixed brown fines and sand	0.0-3.0	X		X	
Field PLM Results: (<50% ash) Gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.						Mixed brown fines	3.0-6.0				
						Total Depth	6.0"				

Note: For definitions, see the Acronyms section of the Technical Memorandum.

[1] Full Suite: PEST, PCB, RAD, CR6, TOC, ASSPEC, SESPEC, Hg

Appendix B
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summaries

Table B-1
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A45	N:	547961.65'	E:	2447148.03'	01/13/11	30.6'	Native brown fines mixed with medium grained sand	0-0.9	X		X	
Field PLM Results: (<50% Ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Native brown fines mixed with fine grained sand	0.9-2.9				
							Total Depth	2.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A44	N:	548265.11'	E:	2447168.08'	01/13/11	10.0'	Brown native fines mixed with medium grained sand and ash	0-0.6	X			
Field PLM Results: (>50% ash) Dark gray with some water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (59% ash)							Native brown fines with fine sand. Increase in organics at 2.3'	0.6-2.6				
							Total Depth	2.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A43	N:	548309.53'	E:	2446930.39'	01/13/11	4.0'	Brown native fines mixed with fine sands and ash	0-0.7	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (36% ash)							Total Depth	0.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A42	N:	548314.11'	E:	2447532.25'	01/13/11	25.6'	Reddish brown native fines	0-0.2	X			
Field PLM Results: (<50% ash) Dark gray with detritus and with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Brown native fines mixed with fine sands and ash	0.2-0.6				
							Brown native fines mixed with pockets of ash. Some organics	0.6-1.2				
							Brown native fines mixed with fine sand and organics	1.2-1.8				
							Total Depth	1.8'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A41	N:	548590.57'	E:	2447210.42'	01/13/11	3.2'	Native brown fines. Some ash. Mixed with >50% organics.	0-0.5	X			
Field PLM Results: (>50% ash) Dark gray with some water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (43% ash)							Native brown fines with some pockets of ash. Little organics.	0.5-1.8				
							Organic layer with some native brown fines	1.8-2.2				
							Total Depth	2.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A40	N:	548627.83'	E:	2447497.64'	01/17/11	12.1'	Brown native fines with OM	0-0.1	X		X	X
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Ash mixed with few brown fines and organics	0.1-0.5				
							Brown silty fines mixed with some ash and few organics	0.5-1.2				
							Pale gray silt loam	1.2-1.7				
							Red clay with mottles	1.7-1.9				
							Total Depth	1.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A39	N:	548782.48'	E:	2447840.26'	01/17/11	20.7'	Ash mixed with fines. Grayish brown	0-0.7	X		X	
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Brown silty fines ,mixed with ash and organics	0.7-2.0				
							Silty fines, few streaks of ash. High OM and decaying material	2.0-2.7				
							Total Depth	2.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A38	N:	548924.45'	E:	2447448.76'	01/17/11	8.1'	Ash with few native fines, dark gray/brown. Bulky organics at the surface	0-0.9	X			
Field PLM Results: (<50% ash) Dark gray with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Ash with native fines. About 60% organics. Less ash than surface.	0.9-1.8				
							Brown silt loam. About 35% organics	1.8-2.7				
							Total Depth	2.7'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A37	N:	549081.97'	E:	2447720.3'	01/17/11	8.4'	Native brown fines mixed with ash and few organics	0-0.7	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Light brown coarse grained sand mixed with few fines	0.7-1.6				
							Red clay loam	1.6-1.9				
							Total Depth	1.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A36	N:	549326.08'	E:	2447977.37'	01/17/11	18.8'	Fines mixed with some ash. Little organics	0-0.7	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Total Depth	0.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A35	N:	549368.13'	E:	2447575.03'	01/17/11	4.1'	Ash mixed with brown fines and organics	0-0.6	X		X	
Field PLM Results: (<50% ash) Dark gray with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Ash with some fines and organics	0.6-1.9				
							Brown silt loam. About 50% organics. Some ash present.	1.9-2.5				
							Total Depth	2.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A34	N:	549569.56'	E:	2447799.29'	01/18/11	7.1'	Ash with medium grained sand and silt. Grayish brown.	0-0.5	X			
Field PLM Results: (<50% Ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Brown silt loam with dense ash pockets and organics	0.5-1.3				
							Brown loamy material with few organics	1.3-1.9				
							Total Depth	1.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A33	N:	549853.47'	E:	2447577.29'	01/18/11	3.9'	Brown fines with ash and organics <15%	0-0.4	X			
Field PLM Results: (<50% Ash) Dark gray with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Grayish brown organics mixed with ash and fines	0.4-1.6				
							Ash with brown fines	1.6-2.0				
							Total Depth	2.0'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A32	N:	549915.72'	E:	2447990.32'	01/18/11	18.'	Ash mixed with native fines, gray	0-0.4	X		X	
Field PLM Results: (<50% ash) Dark gray with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Brown silt loam with few pockets of ash	0.4-1.2				
							Ash with medium grained sand, lots of organics	1.2-1.8				
							Brown clay loam, streaks of decaying organics	1.8-2.2				
							Total Depth	2.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A31	N:	549989.32'	E:	2447206.45'	01/18/11	2.3'	Brown silt loam with ash. 10% organics	0-1.0	X	X		
Field PLM Results: (<50% ash) Dark gray with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (49% ash)							Red sandy clay loam. Medium to coarse grains	1.0-1.6				
							Total Depth	1.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A30	N:	550128.34'	E:	2447748.01'	01/18/11	5.2'	Brown silty fines with ash	0-1.3	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (32% ash)							Brown silt loam with organics	1.3-1.8				
							Total Depth	1.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A29	N:	550323.76'	E:	2447497.9'	01/18/11	3.3'	Ash with medium grained sand, few fines, grayish brown	0-1.3	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Light brown coarse grained sand	1.3-1.7				
							Total Depth	1.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A28	N:	550370.74'	E:	2446989.92'	01/31/11	1.3'	Ash mixed with few fines	0-0.2	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (54% ash)							Organic materials mixed with ashy fines	0.2-0.5				
							Native gray fines with some ash	0.5-1.0				
							Total Depth	1.0'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A27	N:	550443.13'	E:	2447902.34'	01/18/11	15.9'	Gray ash mixed with medium grained sands and fines	0-0.5	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Grayish brown loamy fines mixed with ash	0.5-1.5				
							Total Depth	1.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A26	N:	550619.83'	E:	2447655.22'	01/18/11	6.1'	Brown loamy sand mixed with ash	0-0.8	X		X	
Field PLM Results: (>50% ash) Dark gray with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (46% ash)							Brown silty clay loam with 35% organics	0.8-1.5				
							Total Depth	1.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A25	N:	550734.41'	E:	2446824.33'	01/31/11	1.2'	Gray fines and ash mixed	0-0.4	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (48% ash)							Brown sands with no visible ash	0.4-0.9				
							Gray fines and ash mixed	0.9-1.6				
							Lost during recovery	1.6-2.0				
							Total Depth	2.0'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A24	N:	550793.68'	E:	2447360.57'	01/18/11	3.9'	Ash mixed with medium grained sand, grayish brown	0-1.0	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (46% ash)							Brown silty clay with organics	1.0-1.8				
							Total Depth	1.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A23	N:	551020.83'	E:	2447848.65'	01/24/11	20.4'	Gray colored fines mixed in ash with few pieces of OMs	0-1.0	X		X	X
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (56% ash)							Approximately 80% OMs mixed with ash and other fines	1.0-1.3				
							Total Depth	1.3'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A22	N:	551097.44'	E:	2447441.78'	01/18/11	7.6'	Ash with medium grained sand, gray	0-0.6	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (45% ash)							Sandy silt loam, gray, pockets/streaks of ash	0.6-1.6				
							Total Depth	1.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A21	N:	551100.49'	E:	2447013.37'	01/24/11	3.9'	Coarse ash mixed with brown fines	0-0.2	X		X	X
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (57% ash)							Ash	0.2-1.3				
							Gray medium grain sand with some ash mixed	1.3-2.8				
							Brownish gray silty fines with pockets of fine grained sands	2.8-3.6				
							Total Depth	3.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A20	N:	551169.44'	E:	2446616.93'	01/18/11	2.2'	Sandy fines, brown, some ash	0-0.6	X	X		
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (36% ash)							Brown silt loam, some fines, some organics	0.6-1.7				
							Total Depth	1.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A19	N:	552423.77'	E:	2449551.67'	01/24/11	7.1'	Brown silt loam textured fines with small pockets of ash	0-1.0	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Gray clay loam textured fines with dark streaks of decaying OM-no visible ash	1.0-1.8				
							Total Depth	1.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A18	N:	552052.59'	E:	2448825.48'	01/24/11	10.3'	Gray silty fines and fine sands of soupy consistency very little to no visible ash	0-0.4	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (18% ash)							Red residuum clay from shale with oxidized channels	0.4-0.7				
							Total Depth	0.7'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A17	N:	551658.2'	E:	2448506.83'	01/24/11	14.1'	Gray fines mixed with ash of soupy consistency	0-0.6	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (43% ash)							Gray silty clay loam	0.6-1.1				
							Brownish gray clay loam with dark streaks of decaying OM	1.1-2.4				
							Total Depth	2.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A16	N:	551424.65'	E:	2447957.95'	01/24/11	12.3'	Brown fines and sands mixed with ash	0-0.5	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (63% ash)							Ash mixed with some gray fines	0.5-1.2				
							Grayish brown silty clay	1.2-1.8				
							Total Depth	1.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A15	N:	551542.69'	E:	2447631.94'	01/25/11	3.2'	Gray sandy fines and ash mixed	0-0.6	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (52% ash)							Ash with some gray sandy fines	0.6-1.7				
							Light brown loamy sands	1.7-3.2				
							Total Depth	3.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A14	N:	551559.89'	E:	2447226.83'	01/25/11	11.6'	Reddish brown coarse sands with organic fragments	0-0.3	X			
Field PLM Results: (<50% ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Dark brown silt loam with coarse sand. Small streak of ash at contact zone	0.3-1.2				
							Total Depth	1.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A13	N:	551585.62'	E:	2446750.01'	01/25/11	5.6'	Brown sandy fines with small streak of ash	0-0.3	X			
Field PLM Results: (>50% ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (51% ash)							Horizontally layered ash and medium grained brown sands	0.3-0.7				
							Brown silt loam mixed with some ash	0.7-1.3				
							Total Depth	1.3'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A12	N:	551632.36'	E:	2446308.67'	01/31/11	3.4'	Grayish brown fines and ash mixed	0-0.7	X			
Field PLM Results: (<50% ash) Dark gray with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Medium grained sands - brownish gray	0.7-1.6				
							OMs mixed with gray sandy fines	1.6-2.0				
							Total Depth	2.0'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A11	N:	551977.81'	E:	2446407.82'	01/25/11	5.3'	Brown sand mixed with ash	0-0.3	X			
Field PLM Results: (>50% ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (34% ash)							Gray coarse sand mixed with ash	0.3-0.7				
							Dark brownish gray sandy loam	0.7-1.6				
							Total Depth	1.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A10	N:	552014.15'	E:	2446860.26'	01/25/11	16.'	Gray fines mixed with some ash	0-1.3	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (6% ash)							Gray fines with black streaks of decaying OM	1.3-2.0				
							Total Depth	2.0'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A09	N:	552066.49'	E:	2447404.72'	01/25/11	7.4'	Brown loose fines, fine sands, and ash	0-0.3	X		X	
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (51% ash)							Ash mixed with few fines	0.3-0.8				
							Brownish gray coarse sandy clay loam	0.8-1.5				
							Total Depth	1.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A08	N:	552434.85'	E:	2446856.32'	01/25/11	17.7'	Dark Brown loose fines with sands	0-0.2	X	X		
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (44% ash)							Ash mixed with fines - dominant gray color	0.2-2.3				
							Gray silty clay	2.3-2.7				
							Total Depth	2.7'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A07	N:	552390.63'	E:	2446397.13'	01/25/11	22.3'	Brown coarse sand with some ash	0-0.2	X		X	
Field PLM Results: (>50% ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (49% ash)							Ash with sand and other fines - gray color	0.2-1.0				
							Brown sandy clay loam	1.0-1.6				
							Total Depth	1.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A06	N:	552437.57'	E:	2446026.74'	01/25/11	7.2'	Ash with gray native fines	0-0.6	X			
Field PLM Results: (>50% ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (17% ash)							Light brown fine sands with few other fines and weathered sandstone fragments	0.6-2.0				
							Total Depth	2.0'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A05	N:	552743.76'	E:	2446274.44'	01/25/11	14.'	Brown loose fines with streaks of ash	0-0.2	X		X	
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (57% ash)							Gray ash with few sands	0.2-0.7				
							Dark brown coarse sands	0.7-1.3				
							Total Depth	1.3'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A04	N:	552762.77'	E:	2445938.4'	01/27/11	26.1'	Brown loamy sand (medium grained)	0-0.1	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (64% ash)							Ash with few fines	0.1-1.4				
							Brown coarse sandy loam with ash mixing in upper part	1.4-2.9				
							Total Depth	2.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A03	N:	552832.19'	E:	2445567.72'	01/26/11	27.1'	Ash mixed with native fines	0-0.3	X		X	
Field PLM Results: (>50% ash) Dark gray with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (44% ash)							Ash mixed with native fines, pockets of red/brown sand and organics	0.3-0.7				
							Total Depth	0.7'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_A02	N:	553150.'	E:	2445799.7'	01/26/11	9.1'	Brown coarse loamy sand with very little visible ash	0-0.7	X			
Field PLM Results: (>50% ash) Dark gray sandy with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (36% ash)							Ash with few fines	0.7-2.4				
							Brown coarse sands	2.4-3.6				
							Total Depth	3.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_A01	N:	553211.02'	E:	2445433.39'	01/26/11	18.2'	Ash with pockets of brown medium to coarse grained sands	0-2.0	X	X		
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (36% ash)							Total Depth	2.0'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B64	N:	553560.66'	E:	2444618.04'	01/26/11	25.3'	Very coarse sand and gravel with few coal fragments	0-0.4	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Total Depth	0.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B63	N:	553565.99'	E:	2443918.56'	01/26/11	38.8'	Very hard Ash	0-1.3	X			
Field PLM Results: (>50% ash) Dark gray stiff ash with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (92% ash)							Total Depth	1.3'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B62	N:	553673.26'	E:	2445029.42'	01/31/11	1.'	Brown coarse to medium grained sands with few pieces of OM - very little ash	0-0.9	X		X	
Field PLM Results: (>50% ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (30% ash)							Gray sandy loam with some ash	0.9-1.5				
							Total Depth	1.5'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B61	N:	553656.65'	E:	2444656.35'	01/27/11	10.3'	Brown medium to coarse sands	0-0.6	X			
Field PLM Results: (<50% ash) Brown sand with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Heavy mat of OM mixed with some ash and coarse sands	0.6-0.9				
							Light brown loamy coarse sand - few pockets of ash in upper part	0.9-1.8				
							Total Depth	1.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B60	N:	553672.4'	E:	2443966.39'	01/26/11	30.'	Ash with small gravels	0-0.1	X		X	
Field PLM Results: (>50% ash) Dark gray stiff ash with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (89% ash)							Compacted ash	0.1-2.7				
							Total Depth	2.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B59	N:	553812.32'	E:	2443412.02'	01/26/11	32.'	Ash mixed with coarse sand and coal slag (gray)	0-0.6	X			
Field PLM Results: (>50% ash) Dark gray rocky with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (44% ash)							Total Depth	0.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B58	N:	553780.14'	E:	2444373.41'	01/31/11	1.6'	Sandy dark brown fines with some ash	0-0.8	X	X		
Field PLM Results: (<50% ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. **PLM Confirmation Results:** (37% ash)							Brown coarse to medium grained sands with no visible ash	0.8-1.9				
							Total Depth	1.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B57	N:	554219.28'	E:	2443213.4'	01/26/11	6.6'	Ash, gray	0-0.8	X			
Field PLM Results: (>50% ash) Dark gray stiff ash with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (67% ash)							Total Depth	0.8'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B56	N:	554278.72'	E:	2443301.7'	01/26/11	21.7'	Ash with coal slag near the surface	0-1.7	X			
Field PLM Results: (>50%) Dark gray stiff ash with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (82% ash)							Total Depth	1.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B55	N:	554619.81'	E:	2443099.57'	01/26/11	5.2'	Orange sand, medium to coarse grained. Small pebbles	0-0.2	X	X	X	
Field PLM Results: (<50% ash) Brown sandy soil with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash. **PLM Confirmation Results:** (<1% ash)							Orange/brown medium grained sand. Few small pockets of ash	0.2-1.1				
							Total Depth	1.1'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B54	N:	554737.58'	E:	2444360.49'	03/03/11	5.3'	Grayish brown silty fines with decaying OM. One small pocket of ash	0-0.3	X			
Field PLM Results: (<50% ash) Dark gray without water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.							Brown clay loam textured fines, no visible ash	0.3-2.0				
							Red fat clay with mottling	2.0-3.7				
							Total Depth	3.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B53	N:	554948.81'	E:	2443352.68'	01/27/11	37.2'	Brown medium grained sands	0-0.3	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (26% ash)							Gray well sorted medium to coarse grained sands	0.3-1.0				
							Total Depth	1.0'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B52	N:	554947.93'	E:	2443245.24'	01/27/11	16.7'	Red sandy clay loam with no visible ash	0-1.2	X			
Field PLM Results: (ND ash) Brown mud with some water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Red clay loam with light brown mottles	1.2-1.7				
							Total Depth	1.7'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B51	N:	555326.67'	E:	2443711.83'	01/26/11	8.1'	Brown fines with some ash	0-0.3	X		X	
Field PLM Results: (>50% ash) Grayish brown mud with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (12% ash)							Hard gray coarse layer - looks like ash mixed with gray sands	0.3-0.7				
							Silty gray fines mixed with ash	0.7-1.0				
							Total Depth	1.0'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B50	N:	555619.64'	E:	2443134.71'	01/27/11	29.'	Brown sands mixed with some ash	0-0.15	X	X		
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (71% ash)							Mostly OM mixed with some ash and sands	0.15-0.9				
							Nearly 100% Ash	0.9-1.9				
							Total Depth	1.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B49	N:	555624.72'	E:	2443036.56'	01/31/11	18.9'	Red medium to coarse grained sands with small pocket of ash in upper part	0-2.0	X			
Field PLM Results: (<50% ash) Brown sandy mud with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Coarse red sand	2.0-2.5				
							Total Depth	2.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B48	N:	555944.07'	E:	2444400.08'	02/01/11	5.5'	Brown loose fines with fine sands	0-0.4	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Gray silty clay with few sands	0.4-0.9				
							Pale gray clay with few shale channers	0.9-1.5				
							Total Depth	1.5'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B47	N:	555914.78'	E:	2443753.33'	02/01/11	2.9'	Brown fines with fine sands and a small amount of ash (<20% ash)	0-0.4	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Gray silty fines mixed with a very small amount of ash and approximately 60% OMs	0.4-0.7				
							Light brown medium grained sands with small layers/bands of gray coarse sand	0.7-1.5				
							Total Depth	1.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B46	N:	555865.33'	E:	2442918.88'	02/01/11	17.'	Mostly ash with very few other fines	0-0.4	X			
Field PLM Results: (<50% ash) Brown sandy mud with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Red sandy clay loam with few yellow mottles	0.4- 1.1				
							Red sandy clay loam with bands of ash throughout. Ash approximately 15% by volume. Bands are pure with little or no mixing	1.1-2.2				
							Total Depth	2.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B45	N:	556289.83'	E:	2443359.96'	02/01/11	4.1'	Ash mixed with some sands	0-0.2	X			
Field PLM Results: (<50% ash) Dark gray with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							80-90% OMs with few pockets of sand and ash	0.2-0.7				
							Coarse grained brown sand with approximately 10% OMs and few flecks of ash	0.7-2.2				
							Total Depth	2.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B44	N:	556286.03'	E:	2443257.05'	02/01/11	9.9'	Ash mixed with other brown fines	0-0.15	X			
Field PLM Results: (<50% ash) Brown mud without water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.							Red sandy clay loam (fine sands)	0.15-0.8				
							Red clay with few sands	0.8-1.6				
							Total Depth	1.6'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B43	N:	556616.02'	E:	2445062.3'	02/01/11	2.5'	Ash mixed with few fines	0-0.4	X			
Field PLM Results: (<50% ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Gray medium grained sands mixed with approximately 10% OMs	0.4-1.5				
							Reddish brown coarse and medium grained sands	1.5-2.4				
							Dark brown silty clay loam	2.4-3.1				
							Total Depth	3.1'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B42	N:	556574.17'	E:	2444447.78'	03/03/11	5.4'	Red medium grained sands with some brown fines on top, a very slight amount of ash	0-0.3	X	X	X	
Field PLM Results: (<50% ash) Dark brown sandy with some black detritus and lots of water on top. There are some crystalline materials and some of them are optically active. There are some ash. **PLM Confirmation Results:** (9% ash)							Gray coarse grained sands mixed with ~ 20% OMs	0.3-1.2				
							Gray silt loam fines mixed with OMs, no visible ash	1.2-3.7				
							Brownish gray silty clay	3.7-4.2				
							Total Depth	4.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B41	N:	556619.14'	E:	2443724.52'	03/03/11	2.7'	Brown medium grained sands mixed with ~ 30% OMs	0-0.5	X			
Field PLM Results: (<50% ash) Dark brown with lots of black detritus and lots of water on top. There are some crystalline materials and some of them are optically active. There are some ash.							Gray coarse grained sands mixed with ~ 40% OMs	0.5-1.2				
							Total Depth	1.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B40	N:	556614.5'	E:	2442891.81'	02/22/11	17.3'	Nearly 100% ash	0-0.6	X			
Field PLM Results: (>50% ash) Dark gray ash-like with lots of water on top. There are some crystalline materials but the majority of them are ash. **PLM Confirmation Results:** (83% ash)							Total Depth	0.6'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B39	N:	556961.46'	E:	2443221.21'	02/22/11	6.3'	Brown sandy fines mixed with approximately 75% OMs	0-0.9	X			
Field PLM Results: (<50% ash) Black sandy with lots of detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Total Depth	0.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B38	N:	556952.52'	E:	2443110.08'	02/22/11	20.6'	Brown medium grained sands with few fines and flecks of ash	0-0.4	X			
Field PLM Results: (<50% ash) Black with brown sandy and some detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Ash - soupy in consistency	0.4-0.9				
							Ash mixed with medium to coarse grained sands	0.9-1.8				
							Gray sand mixed with some pockets/belts of ash	1.8-2.4				
							Total Depth	2.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B37	N:	557337.87'	E:	2443331.25'	03/03/11	8.7'	Brown sandy fines with sandstone rocks and some OM	0-0.3	X		X	
Field PLM Results: (>50% ash) Dark gray sandy with lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (10% ash)							Gray ash and sandy loam mixed	0.3-1.3				
							Gray loamy sand with medium grained sands. No cohesiveness	1.3-2.9				
							Red sand loam	2.9-3.6				
							Total Depth	3.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B36	N:	557297.49'	E:	2442879.53'	02/22/11	6.2'	Red fat clay mixed with >50% ash	0-0.4	X		X	
Field PLM Results: (<50% ash) Gray sandy mud with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (27% ash)							Red fat clay with structure	0.4-0.7				
							Total Depth	0.7'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B35	N:	557285.15'	E:	2444412.66'	03/03/11	4.6'	Brown medium grained sands with few fines and no visible ash	0-0.5	X			
Field PLM Results: (<50% ash) Dark brown with lots of black detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Gray medium to coarse grained sands mixed with some OM	0.5-1.8				
							Dark gray sandy clay loam with OMs	1.8-3.0				
							Total Depth	3.0'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B34	N:	557612.57'	E:	2443084.71'	02/23/11	32.8'	Loose brown fines and sands	0-0.1	X			
Field PLM Results: (>50% ash) Dark gray ash-like with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (81% ash)							Nearly 100% ash becoming dry and hard with depth	0.1-3.4				
							Total Depth	3.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B33	N:	557607.49'	E:	2442983.37'	02/23/11	12.4'	Ash with some mixing in parts	0-4.2	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (53% ash)							Total Depth	4.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B32	N:	557876.14'	E:	2442682.38'	02/23/11	1.9'	Red clay and fines	0-0.1	X		X	X
Field PLM Results: (>50% ash) Dark gray ash-like with lots of water on top. There are some crystalline materials but the majority of them are ash. **PLM Confirmation Results:** (63% ash)							Nearly 100% hard dry ash	0.1-0.8				
							Total Depth	0.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B31	N:	557987.55'	E:	2443694.27'	02/23/11	15.5'	Brownish gray ashy fines mixed with approximateley 40% OM	0-0.8	X			
Field PLM Results: (<50% ash) Black sandy with lots of detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Red loamy sand with few pockets of fat clay and streaks of ash. Very coarse sands	0.8-3.7				
							Total Depth	3.7'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B30	N:	558076.85'	E:	2443653.01'	02/23/11	21.8'	Nearly 100% hard ash	0-0.6	X			
Field PLM Results: (<50% ash) Dark gray ash-like with lots of water on top. There are some crystalline materials but the majority of them are ash. **PLM Confirmation Results:** (69% ash)							Total Depth	0.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B29	N:	558677.92'	E:	2442627.59'	02/23/11	9.2'	Mostly ash with few fines	0-0.4	X			
Field PLM Results: (>50% ash) Dark gray ash-like with lots of water on top. There are some crystalline materials but the majority of them are ash. **PLM Confirmation Results:** (54% ash)							Ash mixed with light brown fines and fine sands	0.4-0.9				
							Sandy clay loam fill with sandstone cobbles and channers	0.9-1.5				
							Total Depth	1.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B28	N:	558584.34'	E:	2443749.91'	03/14/11	11.2'	Dark brown fines with signs of decaying OMs. Slight amount of visible ash.	0-0.4	X	X	X	X
Field PLM Results: (<50% ash) Dark gray sandy sediment with lots of water on top. There are some crystalline materials and some of them are optically active. There are some ash. **PLM Confirmation Results:** (19% ash)							Gray sandy loam (fine grained) mixed with <50% ash	0.4-0.9				
							Pale yellow channery sandy fines	0.9-1.6				
							Red clay loam	1.6-2.6				
							Total Depth	2.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B27	N:	557264.09'	E:	2445078.28'	02/22/11	1.8'	Brown fine sands with other fines	0-0.5	X		X	
Field PLM Results: (<50% ash) Dark brown sandy silt with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Gray silty fines mixed with OMs	0.5-1.1				
							Gray silty fines	1.1-1.5				
							Total Depth	1.5'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B26	N:	557903.12'	E:	2444403.69'	03/14/11	5.1'	Dark Brown sandy fines with OMs	0-0.2	X		X	
Field PLM Results: (ND ash) Yellow mud with lots of water on top. There are some crystalline materials and some of them are optically active. There is no ash.							Red fat clay with fine sands	0.2-1.5				
							Total Depth	1.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B25	N:	558424.49'	E:	2444224.56'	02/24/11	9.2'	Brownish gray medium grained sands and few small pebbles with a slight amount of ash	0-0.3	X			
Field PLM Results: (>50% ash) Dark gray sandy with lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (27% ash)							Dark brown loamy sand with a high percentage of OM	0.3-0.8				
							Light brown sandy loam dominantly medium and fine grained sands	0.8-2.4				
							Total Depth	2.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B24	N:	558515.91'	E:	2444173.59'	02/24/11	21.3'	Nearly 100% ash with some sand	0-3.8	X			
Field PLM Results: (>50% ash) Very stiff dark gray with lots of water on top. It's almost pure ash. **PLM Confirmation Results:** (74% ash)							Brown medium to coarse grained sands mixed with small fragment of coal	3.8-5.1				
							Total Depth	5.1'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B23	N:	559283.47'	E:	2443943.37'	03/09/11	29.9'	Brown silty fines	0-0.3	X			
Field PLM Results: (<50% ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Pale red fat clay	0.3-1.0				
							Total Depth	1.0'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B22	N:	557590.45'	E:	2445704.04'	03/03/11	3.1'	Red clay with small gravels and fine sands	0-0.4	X			
Field PLM Results: (<50% ash) Dark brown sand with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Red fat clay and fine sands with mottling and no structure	0.4-1.8				
							Gray fat clay	1.8-2.4				
							Total Depth	2.4'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B21	N:	557948.03'	E:	2445048.49'	03/03/11	4.1'	Red medium and coarse grained sands with pocket of gray fines	0-0.9	X			
Field PLM Results: (<50% ash) Dark brown sand with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Gray coarse grained sands	0.9-2.0				
							Gray medium to fine sands mixed with ~ 15% OMs	2.0-4.3				
							Gray silt loam with OM	4.3-5.0				
							Total Depth	5.0'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B20	N:	558276.16'	E:	2444727.53'	02/24/11	2.7'	A very thin layer of dark brown mixed fines over red fat clay with fine sands. Red and gray mottling in lower part.	0-0.8	X			
Field PLM Results: (ND ash) Tan clay without water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Total Depth	0.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B19	N:	559265.65'	E:	2444389.7'	03/09/11	3.7'	Dark brown silty sands with black pockets of decaying OM	0-0.9	X			
Field PLM Results: (<50% ash) Dark brown sandy with some black detritus and lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash.							Gray silt	0.9-1.8				
							Light gray silt loam with a high fraction of fine sands	1.8-2.2				
							Red clay with mottles	2.2-3.1				
							Total Depth	3.1'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B18	N:	558881.39'	E:	2444722.91'	02/24/11	29.9'	Brown sand with approximately 50% OMs	0-0.1	X			
Field PLM Results: (>50% ash) Dark gray sandy with detritus and lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (51% ash)							Gray sandy fines with a slight amount of ash	0.1-0.5				
							Brown coarse sands	0.5-1.0				
							Total Depth	1.0'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B17	N:	558975.17'	E:	2444685.4'	03/09/11	38.2'	Few sands and small gravels, brown in color	0-0.1	X			
Field PLM Results: (>50% ash) Stiff dark gray with some water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (83% ash)							>50% Ash	0.1-3.7				
							Total Depth	3.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B16	N:	559892.25'	E:	2444416.8'	03/14/11	7.4'	Dark brown silty fines with streaks of ash (<50%), decaying OM present	0-0.6	X		X	X
Field PLM Results: (<50% ash) Dark gray sandy sediment with lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash.							Gray silty fines with no visible ash	0.6-1.6				
							Gray silty clay	1.6-2.7				
							Total Depth	2.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B15	N:	558282.62'	E:	2445827.61'	03/03/11	3.3'	Brown clay loam with fine sands	0-0.4	X			
Field PLM Results: (<50% ash) Dark gray without water on top. There lots of some crystalline materials and some of them are optically active. There are some ash.							Gray clay with fine sands and streaks of decaying OMs	0.4-1.2				
							Gleyed fat clay - very sticky	1.2-2.7				
							Total Depth	2.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B14	N:	558968.58'	E:	2445394.75'	03/22/11	10.8'	Red sandy loam with some coarse sands	0-0.8	X			
Field PLM Results: (ND ash) Light gray sandy with lots of water on top. There are some crystalline materials and some of them are optically active. There is no ash.							Brown sandy loam (medium to fine grained)	0.8-2.8				
							Red sandy clay loam with grey mottling	2.8-3.1				
							Total Depth	3.1'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B13	N:	559061.57'	E:	2445359.'	03/15/11	25.7'	Coarse grey sand and ash mixed with gravel and coal fragments	0-0.3	X		X	
Field PLM Results: (>50% ash) Dark gray sand with lots of gravels and water on top. There are some crystalline materials and some of them are optically active. There are lots of ash.							Ash mixed with some sand	0.3-0.7				
							Ash	0.7-1.6				
							Brown coarse sand with shale fragments	1.6-1.9				
							Total Depth	1.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B12	N:	559920.76'	E:	2445077.43'	03/09/11	4.5'	Brown silty fines with OMs	0-0.9	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Light brown silty clay	0.9-1.8				
							Gray fat clay	1.8-2.4				
							Total Depth	2.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B11	N:	559914.33'	E:	2445741.95'	03/15/11	4.1'	Brown silty fines with few pieces of OM	0-0.8	X		X	X
Field PLM Results: (<50% ash) Dark gray sandy sediment with some water on top. There are some crystalline materials and some of them are optically active. There are some ash.							Pale brown silty clay loam	0.8-1.2				
							Red fat clay	1.2-1.7				
							Total Depth	1.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B10	N:	559026.73'	E:	2446044.12'	03/22/11	8.'	Brown sandy clay loam	0-0.4	X			
Field PLM Results: (ND ash) Tan sandy mud with some water on top. There are some crystalline materials and some of them are optically active. There is no ash.							Red sandy clay with gray mottles	0.4-0.8				
							Total Depth	0.8'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B09	N:	559124.81'	E:	2446018.77'	03/22/11	23.4'	Red loamy sand (coarse grained)	0-0.5	X			
Field PLM Results: (<50% ash) Light brown sand with lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash.							Red loamy sand mixed with a small amount of ash and decaying OM	0.5-0.9				
							Red sandy clay loam with small sandstone rocks	0.9-3.3				
							Red fat clay	3.3-3.8				
							Total Depth	3.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B08	N:	559262.44'	E:	2446482.28'	03/15/11	36.1'	Brown coarse sands and gravels mixed with fragments of coal	0-0.2	X		X	
Field PLM Results: (>50% ash) Dark gray sandy sediment with lots of gravels and water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results**: (70% ash)							>50% Ash mixed with some sands	0.2-2.1				
							Ash mixed with sandstone and shale rocks	2.1-2.3				
							Total Depth	2.3'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B07	N:	559363.37'	E:	2446464.71'	03/22/11	27.2'	Approximately 90% OMs mixed with light brown sand.	0-0.8	X			
Field PLM Results: (<50% ash) Dark gray sand with lots of detritus and water on top. There are some crystalline materials and some of them are optically active. There are some ash.							Total Depth	0.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B06	N:	559200.63'	E:	2446977.62'	03/22/11	31.7'	Coarse slag mixed with some sands	0-2.8	X			
Field PLM Results: (>50% ash) Dark gray stiff material with lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results**: (93% ash)							Total Depth	2.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B05	N:	559298.85'	E:	2446945.7'	03/22/11	37.1'	Gravels with some sand and ash	0-0.6	X			
Field PLM Results: (>50% ash) Dark gray sand with lots of gravels and water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (34% ash)							Ash	0.6-4.7				
							Brown medium and coarse grained sands	4.7-5.2				
							Total Depth	5.2'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_B04	N:	559625.97'	E:	2447053.54'	03/15/11	3.8'	Red medium to coarse grained sands	0-1.0	X		X	
Field PLM Results: (<50% ash) Brown sand with lots of water on top. There are some crystalline materials and some of them are optically active. There is very little ash.							Brownish Gray medium grained sands mixed with organic fragments and silts	1.0-2.0				
							Gray sands mixed with a large amount of small coal fragments	2.0-2.8				
							Grayish brown silty sand	2.8-3.2				
							Pale/light brown sand loam	3.2-5.0				
							Total Depth	5.0'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B03	N:	560188.26'	E:	2447043.06'	03/22/11	10.7'	Silty fines with strong odor of decaying OM (adjacent to cattle farm)	0-1.1	X			
Field PLM Results: (<50% ash) Light brown sand with lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash.							Total Depth	1.1'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B02	N:	559311.08'	E:	2447510.17'	03/22/11	41.8'	Approximately 80% ash	0-1.3	X			
Field PLM Results: (>50% ash) Dark gray stiff material with some water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results**: (7% ash)							Chert and sandstone rocks mixed with red fat clay	1.3-1.5				
							Total Depth	1.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_B01	N:	559415.25'	E:	2447456.69'	03/22/11	30.5'	Brown sand mixed with OM	0-0.2	X	X		
Field PLM Results: (>50% ash) Dark gray stiff material with lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (74% ash)							Ash	0.2-2.3				
							Brown medium and coarse grained sands mixed with a few layers of OM	2.3-3.3				
							Total Depth	3.3'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_C35	N:	560021.03'	E:	2448087.48'	03/14/11	3.6'	Orange medium sand	0.0-1.0	X			
Field PLM Results: (<50% ash) Brown sand with lots of water on top. There are some crystalline materials and some of them are optically active. There is very little ash.							Brown orange coarse sand	1.0-3.6				
							Total Depth	3.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C34	N:	560304.95'	E:	2448721.54'	03/14/11	41.7'			X			
Notes: Hard refusal encountered. Location void of sediment.							Total Depth					
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C33	N:	560572.47'	E:	2448495.75'	03/14/11	5.1'	Orange medium sand	0.0-0.6	X		X	
Field PLM Results: (<50% ash) Brown sand with lots of water on top. There are some crystalline materials and some of them are optically active. There is very little ash.							Brown coarse sand	0.6-1.1				
							Brown/orange sand and silt	1.1-1.9				
							Total Depth	1.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C32	N:	560923.23'	E:	2449062.32'	03/14/11	34.5'	Mixed fines, ash and OM	0.0-0.6	X	X		X
Field PLM Results: (>50% ash) Dark gray with lots of detritus and lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (16% ash)							Total Depth	0.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C31	N:	562154.57'	E:	2451265.17'	03/14/11	5.9'	Brown mixed fines and OM	0.0-1.0	X			
Field PLM Results: (<50% ash) Dark gray soft sediment with lots of water on top. There are some crystalline materials and some of them are optically active. There is very little ash.							Brown mixed fines	1.0-3.7				
							Total Depth	3.7'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_C30	N:	561334.24'	E:	2450583.37'	03/24/11	11.3'	Gray silty fines with few clumps of red clay	0-0.5	X			
Field PLM Results: (<50% ash) Dark gray soft mud with lots of water on top. There are some crystalline materials and some of them are optically active. There is very little ash.							Dark gray silt loam with dark streaks of decaying OM	0.5-1.4				
							Pale gray silty clay	1.4-2.1				
							Total Depth	2.1'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C29	N:	561114.03'	E:	2449871.93'	03/24/11	15.8'	Dark brown silty fines	0-0.4	X		X	X
Field PLM Results: (<50% ash) Dark gray soft mud with lots of water on top. There are some crystalline materials and some of them are optically active. There are some ash.							Gray silty fines with a few pieces of OM	0.4-3.5				
							Total Depth	3.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C28	N:	561583.43'	E:	2448986.58'	03/28/11	24.4'	Brown coarse sands with coal fragments	0-0.3	X			
Field PLM Results: (<50% ash) Dark gray sand with lots of gravels and water on top. There are some crystalline materials and some of them are optically active. There are some ash.							Gray silty fines mixed with sands - small streak of ash	0.3-0.7				
							Brown coarse sand with small fragments of coal	0.7-2.5				
							Gray sandy loam with silty fines and decaying OM	2.5-3.9				
							Brown medium to coarse grained sands	3.9-4.8				
							Total Depth	4.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C27	N:	561633.11'	E:	2449449.37'	03/28/11	4.1'	Dark brown silty fines mixed with a few pieces of OM	0-0.7	X			
Field PLM Results: (<50% ash) Dark gray soft mud with lots of water on top. There are some crystalline materials and some of them are optically active. There are some ash.							Grayish brown silt loam textured fines mixed with layers of OM	0.7-3.7				
							Brown silt loam textured fines with pockets of medium grained sands	3.7-5.2				
							Total Depth	5.2'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_C26	N:	562149.76'	E:	2449100.57'	03/24/11	5.4'	Orange/red sandy clay loam	0-1.4	X		X	
Field PLM Results: (ND ash) Brown mud without water on top. There are some crystalline materials and some of them are optically active. There is no ash.												
							Total Depth	1.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C25	N:	562300.81'	E:	2449868.47'	03/28/11	5.6'	Brown mixed fines	0-0.1	X			
Field PLM Results: (ND ash) Light brown mud without water on top. There are some crystalline materials and some of them are optically active. There is no ash.							Light brown sandy clay with mottles (red and gray)	0.1-0.7				
							Total Depth	0.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C24	N:	562678.91'	E:	2448756.77'	03/28/11	12.'	Brown sandy loam	0-1.9	X			
Field PLM Results: (ND ash) Dark gray sandy mud with lots of water on top. There are some crystalline materials and some of them are optically active. There is no ash.												
							Total Depth	1.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C23	N:	562777.75'	E:	2449161.85'	03/28/11	1.5'	Red sandy clay loam	0-1.3	X	X		
Field PLM Results: (ND ash) Reddish brown mud with little water on top. There are some crystalline materials and some of them are optically active. There is no ash. **PLM Confirmation Results:** (ND ash)							Red sandy clay	1.3-4.3				
							Red fat clay	4.3-5.6				
							Total Depth	5.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C22	N:	563365.09'	E:	2448973.58'	03/29/11	32.9'	Gray sand mixed with ash	0.1-0.3	X	X		
Field PLM Results: (>50% ash) Dark gray with some detritus and lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results**: (73% ash)							Dominantly ash mixed with few silty fines	0.3-1.3				
							Grayish brown medium and coarse sands	1.3-1.7				
							Light brown medium and coarse sands	1.7-2.3				
							Total Depth	2.3'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_C21	N:	563982.26'	E:	2448644.53'	03/29/11	1.'	Brown coarse grained sands mixed with OMs	0-0.6	X		X	X
Field PLM Results: (<50% ash) Dark brown with some detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Gray coarse sands mixed with OMs	0.6-1.3				
							Brown silty fines with fine sands	1.3-2.1				
							Red sand loam with soft sandstone rocks mixed	2.1-4.2				
							Total Depth	4.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C20	N:	564004.75'	E:	2449130.37'	03/29/11	33.4'	Reddish brown coarse sand with few coal fragments	0-0.5	X			
Field PLM Results: (<50% ash) Brown sand with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Ash mixed with few fines	0.5-1.2				
							Gray coarse sand mixed with some ash and coal fragments	1.2-1.6				
							Refusal in brown sand with coal fragments	1.6-1.9				
							Total Depth	1.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C19	N:	564616.92'	E:	2449066.66'	03/29/11	33.4'	Brown coarse sand with few coal and shale fragments in lower part	0-0.7	X			
Field PLM Results: (<50% ash) Brown sand with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.							Total Depth	0.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C18	N:	565612.16'	E:	2449155.14'	03/31/11	29.5'	Brown medium to coarse grained sand mixed with few pieces of coal and OMs	0-0.4	X		X	
Field PLM Results: (<50% ash) Brown sand with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.							Total Depth	0.4'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_C17	N:	565233.88'	E:	2449148.16'	03/31/11	27.1'	Brown medium grained sands	0-0.4	X			
Field PLM Results: (<50% ash) Brown sand with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.							Gray sandy fines with approx. 80% OMs	0.4-0.5				
							Total Depth	0.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C16	N:	565819.69'	E:	2449265.55'	03/31/11	38.1'			X			
Notes: Hard refusal encountered - No sediment material.							Total Depth					
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C15	N:	566331.54'	E:	2449058.96'	04/12/11	24.8'	Brown medium and fine grained sands with few pieces of OMs	0-0.2				
Field PLM Results: (ND ash) Brown sand with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Grey medium grained sands with some fines and a high amount of decaying OM	0.2-0.5	X		X	
							Brown medium grained sands	0.5-1.1				
							Red medium to coarse grained sands with more moisture in lower part	1.1-2.1				
							Total Depth	2.1'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C14	N:	566439.63'	E:	2449263.55'	03/31/11	35.8'			X			
Notes: Hard refusal encountered. Location void of sediment.							Total Depth					
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C13	N:	567121.43'	E:	2449386.07'	04/12/11	10.4'	Mixture of gray silt and fine to medium grained sands with OMs - fine fraction increases with depths	0-0.5	X			
Field PLM Results: (<50% ash) Dark gray sandy without water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.							Total Depth	0.5'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_C12	N:	566873.62'	E:	2448794.19'	04/14/11	34.7'	Brown medium and fine grained sands with few small pieces of OMs and one pocket of ash in lower part	0-0.9	X			
Field PLM Results: (<50% ash) Brown sand with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							>50% Ash	0.9-1.5				
							Medium grained sand loam with a high fraction of OM and a slight amount of ash	1.5-1.8				
							Total Depth	1.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C11	N:	567152.74'	E:	2448252.88'	04/14/11	30.9'	Brown medium grained sands	0-0.6	X			
Field PLM Results: (<50% ash) Dark gray sand without water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Light brown medium to coarse grained sand with pockets of decaying OM and small grains of unburned coal	0.6-1.7				
							Reddish brown medium and fine grained sands mixed with approximately 30% OMs and some small pieces of unburned coal	1.7-2.6				
							Total Depth	2.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C10	N:	567304.89'	E:	2448368.29'	04/14/11	38.3'	>50% Ash	0-0.5	X		X	X
Field PLM Results: (>50% ash) Dark gray without water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results**: (64% ash)							Gray clay loam mixed with some ash	0.5-0.9				
							Brown medium grained sands	0.9-1.5				
							Reddish brown medium grained sands mixed with >30% OMs	1.5-2.4				
							Total Depth	2.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C09	N:	567668.8'	E:	2447893.7'	04/14/11	34.8'	Light Brown sand with approximately 50% OMs	0-0.3	X			
Field PLM Results: (<50% ash) Brown sand with some detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash							Dark Brown sand with approximately 50% OMs	0.3-0.6				
							Approximately 80% OMs	0.6-1.2				
							Total Depth	1.2'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_C08	N:	567668.8'	E:	2447893.7'	04/14/11	13.3'	Brown medium grained sands with some OMs	0-0.4	X		X	
Field PLM Results: (<50% ash) Brown sandy soil with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.							Red sandy clay loam	0.4-1.3				
							Total Depth	1.3'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C07	N:	568185.15'	E:	2447567.33'	04/18/11	44.9'	Brown coarse and medium grained sands mixed with coal fragments	0-0.4	X			
Field PLM Results: (>50% ash) Dark gray sandy with some black gravels and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (10% ash)							Coarse sands/gravels mixed with some ash (<50%) and silts	0.4-0.8				
							Total Depth	0.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C06	N:	568519.38'	E:	2447021.2'	04/18/11	31.7'	Organic materials with very little sand	0-0.05	X		X	
Field PLM Results: (<50% ash) Brown sand with some detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.							Brown medium grained sands	0.05-0.5				
							Total Depth	0.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C05	N:	568635.24'	E:	2446464.53'	04/18/11	25.4'	Light brown medium grained sands	0-0.2	X			
Field PLM Results: (<50% ash) Dark gray silt with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Dark brown silt loam with pockets of OM	0.2-0.6				
							Dark brown silt loam with pockets of OM and coarse sands	0.6-2.4				
							Medium to coarse brown sands with belts of OM	2.4-3.2				
							Total Depth	3.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C04	N:	568873.51'	E:	2446513.03'	04/18/11	37.3'	Brownish gray silt loam with fine sands increasing with depth	0-0.9	X			
Field PLM Results: (<50% ash) Dark gray sandy with some water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.							Total Depth	0.9'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_C03	N:	568895.43'	E:	2445896.'	04/18/11	35.1'	Brown medium grained sand	0-0.4	X		X	
Field PLM Results: (<50% ash) Dark gray sandy silt with some water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash.							Grayish dark brown silt loam	0.4-1.2				
							Brown medium to coarse sands	1.2-2.9				
							Coarse sands with OMs	2.9-3.5				
							Total Depth	3.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C02	N:	568827.97'	E:	2445451.87'	04/18/11	40.4'	Gray silt loam with fine sands	0-0.9	X			
Field PLM Results: (<50% ash) Dark gray sandy silt with some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Brown medium to coarse sands	0.7-1.2				
							Gray silt loam - very little sand	1.2-1.8				
							Total Depth	1.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_C01	N:	569092.09'	E:	2445453.91'	04/18/11	13.8'	Dark brown fine sands	0-0.4	X	X		
Field PLM Results: (<50% ash) Dark gray sand with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is very little ash. **PLM Confirmation Results:** (ND ash)							Brown medium grained sands	0.4-2.1				
							Brown medium and fine grained sands	2.1-3.1				
							Total Depth	3.1'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_RR10	N:	568975.46'	E:	2444330.01'	04/18/11	47.1'	Brown medium grained sands mixed with coal fragments	0-0.2	X			
Field PLM Results: (ND ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Dark brownish grey silt loam mixed with few small gravels and coal fragments and some OMs (approx. 20%)	0.2-0.7				
							Total Depth	0.7'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_RR09	N:	569460.25'	E:	2442840.1'	04/18/11	29.5'	Brown medium grained sands with OMs and coal fragments	0-0.4	X		X	
Field PLM Results: (ND ash) Brown sand with lots of detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Brown sandy clay loam	0.4-1				
							Red sandy clay loam	1-1.4				
							Total Depth	1.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_RR08	N:	570857.41'	E:	2443285.25'	04/18/11	31.6'	Brown medium and coarse grained sands with pockets of coal and OMs	0-0.7	X			
Field PLM Results: (ND ash) Brown sand with some detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Total Depth	0.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_RR07	N:	572437.82'	E:	2443042.39'	04/18/11	33.9'			X			
Notes: Hard refusal encountered. Location void of sediment.							Total Depth					
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_RR06	N:	572235.1'	E:	2441413.35'	04/18/11	41.9'			X			
Notes: Hard refusal encountered. Location void of sediment.							Total Depth					
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_RR05	N:	570584.24'	E:	2441125.69'	04/18/11	24.2'	Brown medium and fine grained sands with some OMs	0-0.9	X			
Field PLM Results: (ND ash) Brown sand with some detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Total Depth	0.9'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-1

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
ERM 10.5 Downstream to ERM 0.0 (Reaches A, B, and C) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
ERM_RR04	N:	567630.75'	E:	2440974.97'	04/20/11	20.4'	Grayish brown loamy sand with small pieces of OM	0-0.3	X		X	
Field PLM Results: (ND ash) Yellow sandy mud with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Red sandy loam	0.3-3.3				
							Red sandy clay loam to loam	3.3-4.1				
							Total Depth	4.1'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_RR03	N:	566542.55'	E:	2438814.41'	04/20/11	35.9'			X			
Notes: Hard refusal encountered. Location void of sediment.							Total Depth					
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_RR02	N:	568493.93'	E:	2436768.37'	04/20/11	36.8'			X			
Notes: Hard refusal encountered. Location void of sediment.							Total Depth					
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_RR01	N:	568434.99'	E:	2433728.1'	04/20/11	10.8'	Grey silty sandy loam with some OMs	0-1.4	X	X	X	
Field PLM Results: (ND ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Red sandy clay loam	1.4-4.2				
							Total Depth	4.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
ERM_RR11	N:	569436.56'	E:	2434563.04'	04/19/11	6.9'	Brownish grey medium and fine grained sands mixed with few fines and approximately 20% OMs (small fragments)	0-1.0	X	X	X	X
Field PLM Results: (ND ash) Dark gray sandy with some detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Brownish grey medium and fine grained sands with pockets of silt and OMs	1.0-3.9				
							Brown silt loam with some OM	3.9-4.0				
							Total Depth	4.'				

Note: For definitions, see the Acronyms section of the Technical Memorandum.

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-2
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
Kingston Fossil Plant Intake Channel

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
INTAKE_05	N:	553074.74'	E:	2440333.49'	03/15/11	17.7'	Fines with ash	0.0-0.3	x			
Field PLM Results: (>50% ash) Dark gray sandy sediment with some water on top. There are some crystalline materials and some of them are optically active. There are lots of ash.							Ash with few fines	0.3-0.9				
							Brown fines	0.9-1.3				
							Light brown fines	1.3-2.6				
							Total Depth	2.6'				
INTAKE_04	N:	553514.61'	E:	2440861.44'	03/15/11	8.2'	Brown fines and sands with little ash	0.0-0.6	x		X	
Field PLM Results: (<50% ash) Dark gray sandy sediment with some water on top. There are some crystalline materials and some of them are optically active. There are lots of ash.							Brown fines and sands	0.6-1.1				
							Total Depth	1.1'				
INTAKE_03	N:	553040.72'	E:	2441818.34'	03/15/11	13.4'	Mixed brown fines and ash	0.0-1.4	x	X	X	X
Field PLM Results: (>50% ash) Dark gray sandy sediment with some water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (48% ash)							Brown Fines	1.4-2.5				
							Total Depth	2.5'				
INTAKE_02	N:	553455.34'	E:	2442172.27'	03/15/11	12.9'	Brown fines	0.0-0.2	x			
Field PLM Results: (>50% ash) Dark gray sandy sediment with some water on top. There are some crystalline materials and some of them are optically active. There are lots of ash.							Ash with fines	0.2-0.5				
							Fines with Ash	0.5-0.9				
							Brown fines	0.9-2.9				
							Light brown fines	2.9-4.3				
							Total Depth	4.3'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-2
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
Kingston Fossil Plant Intake Channel
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
INTAKE_01	N:	553697.93'	E:	2442438.33'	03/15/11	13.2'	Sand (light brown)	0.0-0.2	X			
Field PLM Results: (ND ash) Dark gray sandy sediment with some water on top. There are some crystalline materials and some of them are optically active. There is no ash.							Brown fines with little ash	0.2-1.1				
							Brown fines with little ash	1.1-2.5				
							Total Depth	2.5'				

Note: For definitions, see the Acronyms section of the Technical Memorandum.

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_A37	N:	538950.14'	E:	2435658.76'	11/18/10	32.3'	Brown mixed fines with ash	0.0-0.4	X		X	
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Brown mixed fines with prevalent ash (>50%)	0.4-1.4				
							Brown mixed fines	1.4-2.7				
							Total Depth	2.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A36	N:	539726.98'	E:	2435125.78'	11/17/10	7.9'	Sandy silt with some ash (strong gray color)	0-0.3	X			
Field PLM Results: (<50% ash) Dark gray with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Grayish brown silty fines 20% OM	0.3-1.5				
							Total Depth	1.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A35	N:	539643.13'	E:	2435939.3'	11/17/10	7.1'	Grayish brown silty fines mixed with ash	0-0.8	X			
Field PLM Results: (<50% ash) Dark gray with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (22% Ash)							Grayish brown silty clay mixed with some ash	0.8-1.5				
							Total Depth	1.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A34	N:	539613.07'	E:	2436750.58'	11/17/10	35.6'	Silt mixed with ash	0-0.3	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Silty loam mixed with ash and some OM	0.3-1.5				
							Silty clay with OM layering	1.5-2.3				
							Total Depth	2.3'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A33	N:	540355.33'	E:	2436127.55'	11/17/10	7.5'	Brown clayey sand with OM (no visible ash)	0-0.1	X	X	X	
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (42% Ash)							Grayish brown silt loam with some visible ash in pockets	0.1-1.3				
							Brown clay loam - no visible ash (layers of OM deposition)	1.5-2.3				
							Total Depth	2.3'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_A32	N:	540401.51'	E:	2436908.27'	11/17/10	9.6'	Brown fines with OM	0-0.1	X			
Field PLM Results: (<50% ash) Dark gray with some water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Grayish brown silty mixed with some ash and leaf fragments	0.1-0.9				
							Silty clay loam with few fingers of ash in upper part	0.9-1.4				
							Brown silty clay	1.4-2.9				
							Total Depth	2.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A31	N:	540527.91'	E:	2437641.'	11/18/10	39.1'	Brown mixed fines with trace ash	0.0-0.7	X		X	
Field PLM Results: (<50% ash) Dark gray with brown silt and some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash. **Negative Confirmation:** (<50% ash) Dark gray with brown silt but no water on top. There are lots of crystalline materials and some of them are optically active. There is little ash.							Brown mixed fines	0.7-3.2				
							Total Depth	3.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A30	N:	541128.49'	E:	2436968.16'	11/18/10	7.6'	Mixed ash, fines and OM (>50% ash)	0.0-0.2	X			
Field PLM Results: (<50% ash) Dark gray with some water on top and detritus. There are lots of sandy materials and lots of crystalline materials with some optically active. There are some ash.							Brown mixed fines with some ash	0.2-1.1				
							Mixed brown fines	1.1-3.0				
							Total Depth	3.'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A29	N:	541344.57'	E:	2437629.08'	11/18/10	35.1'	Mixed orange brown fines with trace ash	0.0-0.5	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Brown mixed fines with trace ash	0.5-1.4				
							Brown fines	1.4-3.4				
							Total Depth	3.4'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_A28	N:	541890.68'	E:	2437213.77'	11/18/10	11.7'	Orange and brown clay, few ash particles in upper 0.1'	0.0-0.5	X		X	
Field PLM Results: (<50% ash) Dark gray with no water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Total Depth	.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A27	N:	542012.79'	E:	2438153.1'	11/22/10	13.6'	Mixed fines and ash (<50%)	0.0-0.7	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Brown mixed fines	0.7-2.9				
							Total Depth	2.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A26	N:	542659.78'	E:	2437479.88'	11/22/10	34.5'	Mixed fines and ash (~50%)	0.0-0.7	X			
Field PLM Results: (<50% Ash) Dark gray with brown silt and some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Brown mixed fines	0.7-4.3				
							Total Depth	4.3'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A25	N:	542992.35'	E:	2436928.86'	11/22/10	7.6'	Brown mixed fines with trace ash in upper 1.0' (<50%)	0.0-3.6	X			
Field PLM Results: (<50% Ash) Dark gray with brown silt and some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash. **Negative Confirmation:** (<50% Ash) Dark gray with brown silt but no water on top. There are lots of crystalline materials and some of them are optically active. There is little ash.							Total Depth	3.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A24	N:	543305.57'	E:	2437447.51'	11/29/10	2.5'	Silty fines with less than 15% sands, pocket of ash	0-0.5	X	X	X	
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (43% Ash)							Dark brown silt loam with ~20% OM	0.5-1.1				
							Grayish brown colored silty clay	1.1-1.5				
							Total Depth	1.5'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_A23	N:	543583.14'	E:	2436619.99'	11/22/10	33.7'	Mixed brown fines with OM and ash (<50%)	0.0-0.5	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Mixed brown fines	0.5-1.7				
							Total Depth	1.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A22	N:	543817.05'	E:	2435905.5'	12/15/10	38.'	Silty fines mixed with streaks of ash, strong decomposition odor	0-0.6	X		X	X
Field PLM Results: (<50% ash) Light gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Dark gray silt loam with few coarse fragments, some ash visible	0.6-1.0				
							Total Depth	1.'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A21	N:	544164.59'	E:	2436181.78'	11/22/10	1.3'	Mixed brown fines with OM and ash (<50%)	0.0-0.7	X			
Field PLM Results: (<50% ash) Dark gray with some water on top and lots of detritus. There are lots of crystalline materials and some of them are optically active. There are some ash.							Mixed brown fines	0.7-3.7				
							Total Depth	3.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A20	N:	544384.95'	E:	2435419.59'	11/23/10	36.9'			X			
Notes: Core attempted multiple times. Location is hard bedrock. No sediment deposition.												
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A19	N:	545019.6'	E:	2434930.74'	11/23/10	10.6'	Mixed fines and ash (>50%)	0.0-1.0	X	X		
Field PLM Results: (<50% ash) Dark gray with some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash. **PLM Confirmation Results:** (26% Ash)							Total Depth	1.'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_A18	N:	545099.49'	E:	2435429.47'	12/15/10	40.1'	Dark brown fines mixed with streaks of decaying OM	0-0.3	X		X	X
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash. **PLM Confirmation Results:** (29% Ash)							Grayish brown silty fines mixed with pockets of ash	0.3-1.3				
							Mostly large grain sands mixed with few fines - no visible ash	1.3-2.0				
							Total Depth	2.'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A17	N:	545776.67'	E:	2435221.65'	11/23/10	27.'	Mixed brown fines with ash (~50%)	0.0-0.7	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Mixed brown fines	0.7-2.3				
							Total Depth	2.3'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A16	N:	546265.74'	E:	2435795.56'	11/23/10	35.6'	Mixed ash and fines (>50% ash)	0.0-0.8	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Mixed brown fines	0.8-2.7				
							Total Depth	2.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A15	N:	546480.57'	E:	2435386.82'	11/29/10	8.6'	Heavy brown clay with some coarse material at surface - no visible ash	0.0-0.5	X		X	
Field PLM Results: (<50% ash) Dark gray mud. There are lots of crystalline materials and some of them are optically active. There is little ash.							Total Depth	.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A14	N:	546832.37'	E:	2435899.34'	11/23/10	38.3'			X			
Notes: Core deployed multiple times. Core location is on hard, scoured bedrock.												

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_A13	N:	547331.19'	E:	2436524.6'	12/15/10	8.8'	Brown fines mixed with ash	0-0.5	X		X	X
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Silty clay with strong gray color, clay very heavy and platy	0.5-0.7				
							Total Depth	.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A12	N:	547560.13'	E:	2436171.14'	11/29/10	38.2'			X			
Notes: Coring attempts failed due to rocky river bottom.												
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A11	N:	547985.66'	E:	2436630.11'	11/29/10	33.2'	Light brown to red fines - no visible ash	0-0.2	X	X		
Field PLM Results: (<50% ash) Dark gray with brown silt and some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash. **PLM Confirmation Results:** (25% ash)							Brownish gray silt loam with 5-10% OM	0.2-1.1				
							Strong gray color silt loam with few pockets of ash	1.1-1.6				
							Dark brown silty clay with decaying OM	1.6-2.2				
							Total Depth	2.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A10	N:	548469.33'	E:	2437219.12'	11/29/10	10.4'	Brownish gray silty fines mixed with fine sands and ash	0-0.3	X			
Field PLM Results: (<50% ash) Dark gray with some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash. **PLM Confirmation Results:** (1% ash)							Strong brown silty clay with few layers of OM at bottom	0.3-0.6				
							Total Depth	.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A09	N:	548700.16	E:	2436824.59'	11/29/10	N/A			X			
Notes: Coring attempts failed due to rocky river bottom.												

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_A08	N:	548909.65'	E:	2437308.67'	11/29/10	30.7'	Grayish brown silt loam with pockets of ash	0-1.7	X		X	
Field PLM Results: (<50% ash) Dark gray with brown silt and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Coarse brown sand	1.7-2.5				
							Total Depth	2.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A07	N:	549718.99'	E:	2436440.85'	12/07/10	14.3'	Brown fines mixed with ash	0-0.4	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Dark brown silty fines mixed with some ash	0.4-2.1				
							Strong dark brown silty clay with black streaks of decaying OM	2.1-3.0				
							Total Depth	3.'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A06	N:	549513.5'	E:	2437700.71'	12/07/10	39.5'			X			
Notes: Coring attempts failed due to rocky river bottom.												
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A05	N:	549023.59'	E:	2437928.3'	12/07/10	10.7'	Ash mixed with coarse sands and fines - dominate gray color	0-0.6	X		X	
Field PLM Results: (ND) Dark gray mud without water on top. There are lots of sand and crystalline materials and some of them are optically active. There is no ash.												
							Total Depth	.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A04	N:	549436.87'	E:	2438362.'	12/07/10	38.7'	Mixture of silt and medium to fine sands - ash easily visible	0-1.4	X			
							Total Depth	2.'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_A03	N:	549112.48'	E:	2438886.16'	12/07/10	27.6'	Brown fines mixed with gray ash	0-0.8	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and some water on top. There are lots of crystalline materials and some of them are optically active. There is very few ash. **PLM Confirmation Results:** (13% ash)							Silt loam with some ash - overall dark grayish brown	0.8-1.7				
							Silt loam with clay increase: brown color with some pockets of ash and dark streaks of decaying OM	1.7-2.3				
							Total Depth	2.3'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A02	N:	549721.16'	E:	2439024.52'	12/08/10	8.9'	Silty sand mixed with ash - gray color	0-0.4	X		X	
Field PLM Results: (<50% ash) Dark gray with some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Medium grain sandy loam with some ash	0.4-1.0				
							Silty clay with fine sands - strong brown color	1.0-1.4				
							Total Depth	1.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_A01	N:	549230.21'	E:	2439503.23'	12/08/10	33.5'	Brown fines mixed with some ash	0-0.9	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash and some of them are quite big. **PLM Confirmation Results:** (48% ash)							Silty fines (gray) with small streaks of ash and fine sands	0.9-2.3				
							Silty clay strong brown color	2.3-2.7				
							Total Depth	2.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B39	N:	549332.07'	E:	2439897.41'	12/08/10	30.8'	Grayish brown fines with pockets of ash	0-1.0	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash and some of them are quite big. **PLM Confirmation Results:** (59% ash)							Brown fines mixed with ash	1.0-1.6				
							Brown silty clay with dark streaks of decaying OM	1.6-1.8				
							Total Depth	1.8'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_B38	N:	548832.88'	E:	2439769.08'	12/20/10	16.7'	Gray colored ash and silty fines	0-0.4	X		X	X
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Gray silt loam with pockets of ash and few fine sands	0.4-1.6				
							Strong brown clay loam with pockets of medium grain sands	1.6-2.3				
							Total Depth	2.3'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B37	N:	548979.99'	E:	2440165.67'	12/08/10	35.7'	Ash with few native fines - gray color	0-0.2	X			
Field PLM Results: (>50% ash) Dark gray with some water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash and some of them are quite big. **PLM Confirmation Results:** (57% ash)							Native fines mixed with ash - grayish brown color	0.2-0.7				
							Brown native fines (loamy) mixed with thin layer of OM	0.7-1.7				
							Brownish gray clay loam textured - no visible ash	1.7-2.5				
							Total Depth	2.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B36	N:	549082.87'	E:	2440556.37'	12/09/10	32.5'	Native fines with ash	0-0.6	X		X	
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Silt loam fines mixed with ash (near 50%) strong gray color	0.6-2.6				
							Silty clay mixed with OM - dark brown	2.6-3.8				
							Total Depth	3.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B35	N:	548621.89'	E:	2440436.29'	12/09/10	10.9'	Strong brown color - heavy clay with few rock fragments	0-0.4	X			
Field PLM Results: (<50% ash) Gray and muddy without water on top. There are lots of crystalline materials and some of them are optically active. There is very few ash. **PLM Confirmation Results:** (1% ash)							Total Depth	.4'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_B34	N:	548775.71'	E:	2440835.4'	12/09/10	34.6'	Dark brown fines mixed with ash	0-0.3	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (54% ash)							Brown fines with clay pickup	0.3-0.9				
							Brown fines with clay pickup	0.9-1.5				
							Total Depth	1.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B33	N:	548942.69'	E:	2441200.79'	12/09/10	35.'	Fines mixed with >50% ash	0-0.3	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (1% ash)							Fines mixed with fine sands - light brown color	0.3-1.4				
							Total Depth	1.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B32	N:	548454.85'	E:	2441143.64'	12/09/10	10.1'	Heavy clay mixed with fine sands - dark grayish brown color	0-0.3	X	X	X	
Field PLM Results: (<50% ash) Gray and muddy without water on top. There are lots of crystalline materials and some of them are optically active. There is very few ash. **PLM Confirmation Results:** (1% Ash)							Total Depth	.3'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B31	N:	548604.72'	E:	2441519.03'	12/09/10	23.9'	Brown native fines	0-0.2	X			
Field PLM Results: (<50% ash) Dark gray with some water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Native fines mixed with ash	0.2-0.8				
							Light brown native fines mixed with fine sands	0.8-2.4				
							Light brown medium grain sand mixed with fines	2.4-2.8				
							Total Depth	2.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B30	N:	548789.25'	E:	2441894.19'	12/14/10	31.5'	>50% ash with fines with grayish brown color	0-0.5	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (55% ash)							Brown native fines with some OM and fine sands	0.5-1.3				
							Medium grain brown sands mixed with few OM	1.3-1.8				
							Total Depth	1.8'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_B29	N:	548304.13'	E:	2441824.16'	12/14/10	14.3'	Brown native fines	0-0.5	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Brown native fines mixed with ash	0.5-1.4				
							Brown native fines with increasing clay - sticky consistency	1.4-2.9				
							Total Depth	2.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B28	N:	548491.08'	E:	2442208.6'	12/14/40	5.6'	Medium grain brown sands mixed with few fines	0-0.4	X		X	
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash. **PLM Confirmation Results:** (14% ash)							Dark brown with clay loam texture	0.4-0.8				
							Total Depth	.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B27	N:	548069.75'	E:	2442471.47'	12/14/10	8.7'	Brown native fines and fine sands	0-0.7	X		X	
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Light brown native fines with less sand	0.7-1.1				
							Total Depth	1.1'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B26	N:	548774.48'	E:	2442583.35'	12/20/10	32.2'	Gray ash mixed with few fines	0-0.6	X	X	X	
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (40% Ash)							Gray ash mixed with less fines than above layer	0.6-2.1				
							Dominantly OM with few fines (sticks & leaves)	2.1-2.5				
							Total Depth	2.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B25	N:	548424.71'	E:	2442895.92'	12/21/10	2.9'	Reddish brown medium grain sands with few mussel shells	0-0.2	X			
Field PLM Results: (<50% ash) Dark gray with some gravels and detritus and with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are a few ash particles.							Light brown with gray mottles - sandy clay mixed with OM	0.2-0.7				
							Total Depth	.7'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_B24	N:	548726.29'	E:	2443268.42'	12/21/10	33.2'	Gray even mix of ash and fines	0-0.8	X			
Field PLM Results: (>50% ash) Dark gray with brown silt and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (52% ash)							Brown silt loam with approximately 15% OM	0.8-1.5				
							Grayish brown silty clay with few medium grain sands and OM	1.5-3.2				
							Total Depth	3.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B23	N:	549112.1'	E:	2443630.74'	12/21/10	7.6'	Brown fines mixed with ash	0-1.1	X			
Field PLM Results: (>50%) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Brown silty fines mixed with a high percentage of OM	1.1-1.6				
							Total Depth	1.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B22	N:	547931.53'	E:	2443197.08'	12/21/10	6.5'	Brown silty sand (medium to coarse grain)	0-1.1	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Brown silty clay	1.1-1.7				
							Total Depth	1.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B21	N:	548365.96'	E:	2443594.76'	12/21/10	16.2'	Coarse grain sands and ash mixed with few fines - gray	0-0.9	X			
Field PLM Results: (<50% ash) Dark gray sandy with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are a few ash particles.							Brown silty sand	0.9-1.3				
							Brown sandy clay loam	1.3-2.4				
							Total Depth	2.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B20	N:	548756.66'	E:	2443941.85'	12/21/10	30.9'	Gray fines and ash with ~ 30% OM	0-0.3	X	X		
Field PLM Results: (<50% ash) Dark gray with very little of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash. **PLM Confirmation Results:** (8% Ash)							Brown silt loam with streaks of ash	0.3-1.4				
							Brown silt loam with ~ 15% OM	1.4-1.9				
							Total Depth	1.9'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_B19	N:	549199.3'	E:	2444349.76'	12/28/10	1.9'	Brownish gray fines with few medium sands and OM	0-0.15	X			
Field PLM Results: (<50% ash) Tan clay with gray materials and no water on top. There are lots of crystalline materials and some of them are optically active. There are a few ash particles. **PLM Confirmation Results:** (1% ash)							Red clay with structure and mottles (dark red & gray)	0.15-0.5				
							Total Depth	.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B18	N:	547878.12'	E:	2443887.18'	12/28/10	5.3'	Red fines loose in nature	0-0.1	X	X		
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are a few ash particles. **PLM Confirmation Results:** (1% Ash)							Sand loam gray in color, coarse grain sands and some ash	0.1-0.5				
							Gray sandy clay loam - no visible ash	0.5-0.9				
							Total Depth	.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B17	N:	548322.18'	E:	2444286.23'	12/27/10	25.5'	Gray fines mixed with ash and ~ 10% OM	0-1.9	X		X	
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Gray silt loam mixed with ~ 10% OM - no visible ash	1.9-2.6				
							Total Depth	2.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B16	N:	548665.7'	E:	2444654.52'	12/27/10	8.9'	Grayish brown native fines mixed with ash and OM	0-0.7	X			
Field PLM Results: (<50% ash) Dark gray with some water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (17% ash)							Grayish brown silty fines mixed with OM and some ash	0.7-1.1				
							Total Depth	1.1'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B15	N:	549076.5'	E:	2445063.18'	01/05/11	2.8'	Brown medium grain sands with OM	0-0.6	X		X	
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (21% ash)							Dark brown clay loam	0.6-1.3				
							Dark brown clay	0.6-2.1				
							Total Depth	2.1'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_B14	N:	547975.62'	E:	2444571.93'	12/27/10	12.6'	Dark gray fines mixed with ash - very few pieces of OM	0-0.8	X			
Field PLM Results: (ND) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Total Depth	.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B13	N:	548276.97'	E:	2444979.84'	12/28/10	29.6'	Gray ash with ribbons of red fines	0-0.2	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Gray silt loam with pockets of fine sands and ash	0.2-1.3				
							Gray silt loam texture fines with ~ 35% OM	1.3-2.0				
							Total Depth	2.'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B12	N:	548596.91'	E:	2445388.25'	12/28/10	1.2'	Brown fines and sands mixed with OM	0-0.4	X		X	
Field PLM Results: (>50% ash) Dark gray with detritus and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (53% ash)							Few fines and sands with ~ 80-90% OM	0.4-1.2				
							Light brown sand loam with ~ 30-40% OM	1.2-1.6				
							Total Depth	1.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B11	N:	547876.65'	E:	2445246.84'	12/28/10	31.4'	Brown loose fines with fine sands and small gravels and shell fragments	0-0.2	X			
Field PLM Results: (<50% ash) Light gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash. **PLM Confirmation Results:** (8% ash)							Grayish brown fines with fine sands and very little visible ash	0.2-0.9				
							Brown silt loam with OM - no visible ash	0.9-1.9				
							Brown loam texture with pockets of medium grain sands	1.9-2.5				
							Total Depth	2.5'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_B10	N:	548093.44'	E:	2445647.31'	12/28/10	31.2'	Ash mixed with brown fines	0-0.5	X			
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (39% ash)							Brown fines - loamy texture with pockets of OM and ash	0.5-1.7				
							Well sorted silt - brown in color	1.7-2.3				
							Total Depth	2.3'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B09	N:	548269.66'	E:	2446049.'	01/13/11	.8'	Brown native fines with little ash and >90% organics	0-0.2	X			
Field PLM Results: (>50% ash) Dark gray sandy with detritus and with lots of water on top. There are some crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (40% ash)							Brown native fines with <80% organic	0.2-0.8				
							Organic layer mixed with some native brown fines.	0.8-1.2				
							Total Depth	1.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B08	N:	547692.56'	E:	2445845.11'	01/04/11	35.'	Brown silty clay with black streaks of OM	0-0.4	X		X	X
Field PLM Results: (<50% ash) Dark brown with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Gray silty fines mixed with ash	0.4-2.2				
							Total Depth	2.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B07	N:	547839.31'	E:	2446253.54'	01/06/11	36.2'	Red and brown native fines mixed with ash	0-0.2	X			
Field PLM Results: (<50% ash) Dark brown with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Red and brown native fines mixed with ash and fine sand and some organics	0.2-0.6				
							Total Depth	.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B06	N:	547984.08'	E:	2446695.72'	01/04/11	12.4'	Brown fines medium grain sands mixed with ash and approximately 20% OM	0-0.8	X		X	X
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (37% ash)							Total Depth	.8'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_B05	N:	547464.36'	E:	2446452.38'	01/06/11	34.1'	Red and brown native fines with some medium sands	0-1.0	X			
Field PLM Results: (<50% ash) Dark brown with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Total Depth	1.'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B04	N:	547531.98'	E:	2446845.18'	01/06/11	39.4'	Brown and red fines mixed with dark brown medium sands and organics	0-0.6	X			
Field PLM Results: (<50% ash) Dark brown with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Light brown native fines	0.6-1.0				
							Total Depth	1.'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B03	N:	547179.48'	E:	2447027.58'	01/05/11	42.7'	Light Brown native fines with small pockets of ash	0-1.8	X		X	
Field PLM Results: (>50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Gray fines mixed with coarse sands and small gravels - no visible ash	1.8-2.3				
							Total Depth	2.3'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B02	N:	547413.85'	E:	2447227.97'	01/06/11	19.9'	Reddish brown native fines	0.0-0.2	X			
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Dark brown and gray fines and fine sand mixed with ash	0.2-0.7				
							Total Depth	.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_B01	N:	547145.41'	E:	2447330.16'	01/06/11	40.3'	Light brown fines mixed with ash	0-0.1	X			
Field PLM Results: (>50% ash) Dark brown with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash. **PLM Confirmation Results:** (36% ash)							Brown fines and fine sand mixed with ash	0.1-0.5				
							Total Depth	.5'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-3
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
CRM 4.5 Downstream to CRM 0.0 (Reaches A and B) & Reference Flow (Reach"RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
CRM_RR3	N:	549206.39'	E:	2452082.17'	12/29/10	28.4'	Brown medium grain sands with fines	0-0.1	X		X	
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are a few ash particles.							Dominantly medium to coarse grain sands mixed with approximately 20% OM	0.8-1.5				
							Total Depth	1.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_RR2	N:	548554.45'	E:	2454201.07'	01/05/11	26.'	Brown fine sands mixed with approximately 20% OM	0-0.6	X	X	X	X
Field PLM Results: (<50% ash) Dark brown with detritus and with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are very few ash. **PLM Confirmation Results:** (ND)							Gray coarse sands mixed with approximately 30% OM and a few small pebbles	0.6-1.4				
							Total Depth	1.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
CRM_RR1	N:	554038.32'	E:	2456677.9'	12/29/10	24.2'	Dark brown fines with mixed coal fragments and OM	0-0.4	X		X	
Field PLM Results: (<50% ash) Dark gray with lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Light brown silty fines of mucky consistency	0.4-1.3				
							Total Depth	1.3'				

Note: For definitions, see the Acronyms section of the Technical Memorandum.

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-4

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
TRM 668.0 Downstream to 550.0 (Reaches A and B) & Reference Flow (Reach "RR")

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
TRM_A12	N:	507767.24'	E:	2396586.37'	10/20/10	47.6'	Orange fines	0.0-0.1	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and water on top, mixed. Lots of crystalline materials, only few are active, some detritus; no ash.							Brown, mucky fines	0.1-3.7				
							Total Depth	3.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_A11	N:	507650.42'	E:	2395182.39'	10/20/10	30.2'	Brown, mucky fines	0.0-1.9	X			
Field PLM Results: (<50% ash) Dark gray with some brown silt on top, mixed. Lots of crystalline materials, only few are optically active, some detritus; no ash.							Total Depth	1.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_A10	N:	507534.49'	E:	2393579.31'	11/01/10	53.8'	Orange fines	0.0-0.1	X		X	X
Field PLM Results: (<50% ash) Dark gray with brown silt and water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Mixed brown and orange fines	0.1-0.9				
							Mixed brown fines	0.9-2.7				
							Total Depth	2.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_A09	N:	514992.06'	E:	2401381.47'	10/20/10	11.4'	Orange fines with manganese concretions	0.0-0.2	X			
Field PLM Results: (<50% ash) Dark brown sediment with some detritus and lots of standing water, mixed. Lots of crystalline materials, some are optically active, some detritus; no ash.							Brown clay with plant roots	0.2-1.1				
							Light brown clay with plant roots	1.1-1.7				
							Total Depth	1.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_A08	N:	515040.62'	E:	2400375.52'	10/21/10	28.8'	Orange sand with fines and mica	0.0-0.2	X		X	
Field PLM Results: (<50% ash) Dark gray, sandy with some detritus and lots of standing water, mixed. Lots of crystalline materials and lots of large optically active crystalline materials, some detritus; very little ash.							Brown sand with fines and mica	0.2-2.4				
							Medium brown sand with few fines	2.4-3.2				
							Total Depth	3.2'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-4

NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
TRM 668.0 Downstream to 550.0 (Reaches A and B) & Reference Flow (Reach "RR")

(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
TRM_A07	N:	515042.42'	E:	2399857.18'	10/21/10	68.'	Orange fines with brown streaks	0.0-0.8	X			
Field PLM Results: Mica present throughout core. May be trace cenospheres at surface. (<50% ash) Dark gray with brown silt and water on top, mixed. Lots of crystalline materials, only few are optically active, some detritus; very little ash.							Light brown fines	0.8-2.1				
							Total Depth	2.1'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_A06	N:	522768.7'	E:	2412353.66'	10/28/10	32.7'	Brown fines with trace ash at surface	0.0-0.8	X			
Field PLM Results: (<50% ash) Dark gray with brown slit and water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Medium brown fines	0.8-4.2				
							Light brown clay and silt fines	4.2-4.7				
							Total Depth	4.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_A05	N:	522769.4'	E:	2411630.79'	10/28/10	42.7'	Orange fines w/trace ash	0.0-0.3	X	X		
Field PLM Results: (<50% ash) Dark gray with brown slit and water on top. There are lots of crystalline materials and some of them are optically active. There are only a few ash particles. **PLM Confirmation Results:** (2% Ash)							Mixed orange and brown fines	0.3-1.0				
							Brown fines	1.0-2.3				
							Orange clay terrace soil	2.3-2.6				
							Total Depth	2.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_A04	N:	522750.67'	E:	2410946.1'	10/28/10	43.6'	Loose orange fines with trace ash	0.0-0.4	X		X	
Field PLM Results: (<50% ash) Dark gray with brown slit and water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Brown mucky fines w/trace ash at surface	0.4-1.0				
							Brown mixed fines	1.0-4.5				
							Total Depth	4.5'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-4
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
TRM 668.0 Downstream to 550.0 (Reaches A and B) & Reference Flow (Reach "RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
TRM_A03	N:	528495.39'	E:	2427884.63'	10/28/10	17.4'	Brown clay and fine sand	0.0-0.2	X	X		
Field PLM Results: Core met refusal. (<50% ash) Dark gray and muddy without standing water. There are lots of crystalline materials and some of them are optically active. There are only a few ash particles. **PLM Confirmation Results:** (ND ash)							Brown clay	0.2-0.7				
							Total Depth	0.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_A02	N:	528107.44'	E:	2428125.16'	10/28/10	56.5'	Fines, sand and shells (very little ash)	0.0-1.4	X			
Field PLM Results: (<50% ash) Dark gray, very sandy with lots of water and some detritus. There are lots of crystalline materials and some of them are optically active. There are some ash.							Total Depth	1.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_A01	N:	528699.2'	E:	2429109.85'	11/15/10	57.9'	Dark brown fines with streaks of ash	0-0.5	X		X	
Field PLM Results: (<50% Ash) Dark gray with brown silt and some water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Gray fines with very little ash	0.5-1.6				
							Brown silty clay - no visible ash	1.6-3.2				
							Total Depth	3.2'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_B14	N:	533724.99'	E:	2429141.27'	11/02/10	54.2'	Orange brown fines	0.0-0.1	X	X		
Field PLM Results: Ash is from 0.1 to 1.0 feet. (>50% ash in 0.0'-0.5') Dark gray with brown silt and water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash/(NEG Confirmation collected from 1.0'-1.5') Dark gray with brown silt on top without standing water. There are lots of crystalline materials and some of them are optically active. There are a few ash particles. **PLM Confirmation Results:** (33% ash)							Mixed brown fines with ash	0.1-2.7				
							Total Depth	2.7'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-4
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
TRM 668.0 Downstream to 550.0 (Reaches A and B) & Reference Flow (Reach "RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
TRM_B13	N:	534235.48'	E:	2430387.39'	11/02/10	6.8'	Mixed brown fines and fine sand	0.0-0.4	X			
Field PLM Results: (<50% ash) Light brown silt and sandy without standing water. There are lots of crystalline materials and some of them are optically active. There are a few ash particles.							Brown silt loam	0.4-1.1				
							Orange silty clay loam	1.1-1.6				
							Total Depth	1.6				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_B12	N:	534569.22'	E:	2428935.25'	11/02/10	52.1'	Mixed brown fines with ash	0.0-1.3	X		X	
Field PLM Results: Ash mixed (0.0-0.6'). Ash ribbons to ~1.0' (<50% ash) Dark gray with brown silt and water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Light brown fines	1.3-1.9				
							Total Depth	1.9'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_B11	N:	534514.07'	E:	2429522.05'	11/03/10	45.3'	Brown fines with streak of ash	0-0.2	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Medium grain sand mixed with brownish gray fines - strong decomposition odor with no organic materials seen.	0.2-2.7				
							Coarse grain sands - red	2.7-3.7				
							Total Depth	3.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_B10	N:	535764.84'	E:	2429371.47'	11/03/10	63.'	Ash mixed with native fines	0-0.3	X			
Field PLM Results: (<50% ash) Dark gray with little brown silt and water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Dark grayish fines with ~ 15% coarse fragments	0.3-1.6				
							~ 60% coarse fragments mixed with native fines	1.6-2.1				
							Total Depth	2.1'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-4
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
TRM 668.0 Downstream to 550.0 (Reaches A and B) & Reference Flow (Reach "RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
TRM_B09	N:	537280.38'	E:	2430015.04'	11/03/10	45.2'	Reddish brown fines with some ash	0-0.5	X		X	
Field PLM Results: (<50% ash) Dark gray with water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Gray fines mixed with coarse sand	0.5-1.2				
							Lost during recovery	1.2-1.7				
							Total Depth	1.7'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_B08	N:	537573.9'	E:	2429505.84'	11/03/10	49.6'	Brownish grey fines mixed with some ash	0-0.5	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Total Depth	0.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_B07	N:	539576.87'	E:	2432120.91'	11/08/10	30.4'	Brown fines with some ash	0.0-0.9	X		X	X
Field PLM Results: (<50% ash) Dark gray with brown silt and little water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Mixed fines and fine sand	0.9-1.5				
							Total Depth	1.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_B06	N:	538489.13'	E:	2431784.16'	11/03/10	41.6'	Red fines with some ash	0-0.5	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Brown fines mostly silt	0.5-2.5				
							Red fines clay loam texture	2.5-3.6				
							Total Depth	3.6'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_B05	N:	538984.69'	E:	2433193.63'	11/03/10	50.'	Gray fines with few streaks of red fines. Fingering ash veins	0-0.6	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and water on top. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Total Depth	0.6'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-4
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
TRM 668.0 Downstream to 550.0 (Reaches A and B) & Reference Flow (Reach "RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
TRM_B04	N:	539093.34'	E:	2434138.35'	11/03/10	42.2'	Red Fines	0-0.1	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and water on top, sandy with some detritus. There are lots of crystalline materials and some of them are optically active. There are lots of ash.							Gray fines ~ 15% leaf material	0.1-0.7				
							Fines mixed with ~ 20% varying sands and ~ 5 % leaf fragments	0.7-3.4				
							Total Depth	3.4'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_B03	N:	544384.95'	E:	2435419.59'	11/04/10	N/A			X			
Notes: Core attempted multiple times. Location is hard bedrock. No sediment deposition.												
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_B02	N:	538092.94'	E:	2434080.56'	12/08/10	12.5'	Loamy gray fines mixed with some ash	0-0.4	X	X	X	
Field PLM Results: (<50% ash) Dark gray muddy materials without water, sandy with some detritus. There are lots of crystalline materials and some of them are optically active. There are only a few ash particles observed. **PLM Confirmation Results:** (ND ash)							Gray clay loam natives mixed with some ash and small flakes of mica	0.4-0.8				
							Total Depth	0.8'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_B01	N:	537525.75'	E:	2435165.62'	11/15/10	55.1'	Red fines (loose clay)	0-0.4	X			
Field PLM Results: (<50% ash) Dark gray with brown silt and lots of water on top. There are lots of crystalline materials and some of them are optically active. There are some ash.							Silty clay with some ash and coarse fragments	0.4-1.0				
							Total Depth	1.0'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_RR03	N:	528371.15'	E:	2442591.22'	11/17/10	9.7'	Gray silty sand - no visible ash	0-0.3	X		X	X
Field PLM Results: (<50% ash) Tan clay with lots of water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Red sandy clay - no visible ash	0.3-1.0				
							Total Depth	1.0'				

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg

Table B-4
NTC VibeCore Ash Deposition and Submerged Sediment Sampling Summary
TRM 668.0 Downstream to 550.0 (Reaches A and B) & Reference Flow (Reach "RR")
(continued)

Core #	Core Coordinates				Sample Date	River Depth	Core Description	Interval (ft)	Samples Collected: Field Microscopy	PLM Confirmation	Metals	Full Suite [1]
TRM_RR02	N:	526364.31'	E:	2438167.96'	11/15/10	2.6'	Coarse dark brown sand	0-0.1	X		X	
Field PLM Results: (<50% ash) Tan clay like material without water on top. There are lots of crystalline materials and some of them are optically active. There is no ash.							Red heavy clay with some sands	0.1-0.5				
							Total Depth	0.5'				
Core #	**Core Coordinates**				**Sample Date**	**River Depth**	**Core Description**	**Interval (ft)**				
TRM_RR01	N:	531098.06'	E:	2437143.65'	11/15/10	9.7'	Dark Brown silty fines	0-0.3	X	X	X	
Field PLM Results: (<50% ash) Dark gray with brown silt and some water on top. There are lots of crystalline materials and some of them are optically active. There is no ash. **PLM Confirmation Results:** (ND ash)							Gray clay and silt with structure	0.3-1.0				
							Total Depth	1.0'				

Note: For definitions, see the Acronyms section of the Technical Memorandum.

[1] Full Suite: PEST, PCB, RAD, AVS/SEM, CR6, TOC, ASSPEC, SESPEC, Hg