Broad Creek Federal Navigation Channel Sediment and Effluent Water Investigation

Middlesex County, Virginia October 2007



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1. **Project Description**

1.1 Description

The River and Harbor Act of 2 March 1945 authorized the Broad Creek Federal Navigation Project. Broad Creek is located in Middlesex County, Virginia and provides a channel approximately 4,100 feet long, 7 feet deep, and 100 feet wide from deep water in the Rappahannock River to Broad Creek. Broad Creek requires maintenance dredging approximately once every ten years resulting in approximately 50,000 cubic yards of predominately sandy dredged material removed from the channel and placed in existing eight acre upland confined disposal facility located at an area south of Route 33.



1.2 Background

The Corps of Engineers – Norfolk District is conducting this sediment and elutriate investigation at the request of the VA DEQ as part of the Virginia Water Protection Permit Program (VWPP). The VWPP includes the required 401-water quality certification required under the Clean Water Act (CWA). The sediment and elutriate investigation will evaluate the effluent pathway to determine if dredged material placement operations in the upland confined disposal facility (CDF) will act as a pathway for the migration of contaminants. The bulk sediment testing will be evaluated for the presence or absence of contaminants of concern (COC). The sediment data will be evaluated using conservative

screening protocols to determine the potential for impacts to the water column during dredged material placement operations. The elutriate data will be directly compared to numeric water quality criteria with consideration of initial dilution in an appropriate mixing zone to predict compliance with state standards.

The Broad Creek sediment and elutriate investigation has followed the framework established in the joint EPA and USACE manual "Evaluation of Dredged Material For Discharge in Waters of the U.S. – Testing Manual" (EPA, 1998) and the USACE manual "Evaluation of Dredged Material Proposed for Disposal at Island, Nearshore, or Upland Confined Disposal Facilities – Testing Manual" (USACE, 2003). The "Inland Testing Manual" (ITM), as it is commonly referred to, implements a tiered level approach for evaluating dredged material for disposal. Dredged material from the project shoals will be placed in existing CDFs. The tiered approach outlined in the ITM and UTM has been used to determine the suitability of dredged material for placement in the existing CDF and to ensure the appropriate process is followed under the Federal guidelines for evaluation of dredged material discharges.

The tiered (tiers I – IV) approach to testing is designed to aid in generating appropriate information (i.e. physical, chemical, toxicity, and bioaccumulation data) sufficient to make factual determinations, but not more information than is necessary. Generally, as testing progresses through the tiers the level of intensity and costs increase for the investigation. Tier I evaluations utilize readily available, existing information for making factual determinations about the need for contaminant evaluations, testing exclusions, identifying contaminants of concern in dredged material, and to aid in the over-all decision-making process. The EPA and USACE recommends tier I reevaluations every three years for navigation projects that require annual or episodic dredging (EPA, 1998). The tier I reevaluation should reassess any new and previously evaluated data, changes in sediment composition, advances in analytical methods, and any regulatory changes to determine if further investigation under tier II is warranted.

Tier II evaluations are concerned with sediment and water chemistry. The data generated in tier II allows for an evaluation of State water quality standard compliance. The tier II level evaluation for this project investigated the effluent water as a contaminant pathway which required the analysis of bulk sediment chemistry, site water, and elutriates for the specific COC. Analytical results from the modified elutriate analyses were utilized to evaluate effluent water quality against applicable water quality standards and state permit limits.

The list of target analytes required by the VDEQ for Broad Creek includes the following: copper, zinc, and PCBs. The USACE will also include total organic carbon (TOC), particle-size, water content, specific gravity, and total suspended solids (elutriate only) for analysis to provide site specific data for further predictive modeling and screening evaluations if warranted. The specific target analytes can be found in Table 3.

1.3 **Project Scope and Objectives**

This sediment investigation was conducted within the Broad Creek Federal Navigation Channel in Middlesex County, Virginia. The dredged materials analyzed were maintenance sediments that had shoaled within the channel. Bulk sediment analysis did not include new-work material. This investigation was conducted to analyze the potential for a contaminant migration pathway from dredged material discharges from the associated confined disposal facility (CDF). Specifically, the investigation utilized predictive modeling to evaluate water column effects from effluent discharge to surface waters from dredged material placement operations from the CDF.

The work performed during this investigation involved the collection of sediment samples and site water. Additionally, the investigation involved the analysis of site water, bulk sediment chemistry for specific contaminants of concern (COC), preparation of elutriate samples, and analysis of effluent elutriate contaminant concentrations in the elutriate unfiltered sample (totals) and the elutriate filtered sample (dissolved fraction). Elutriate results were compared to applicable water quality standards. The stated objectives of the investigation were to:

- Collect sediments in the area to be dredged.
- Collect samples representative of the bulk material to be dredged.
- Test bulk sediments and site water in accordance with the USEPA/USACE, "Inland Testing Manual".
- Prepare and test effluent elutriate in accordance with the "Upland Testing Manual" (USACE, 2003).
- Test bulk sediments, site water, and effluent elutriate for the copper, zinc, PCB, and physical characteristics of the sediment from the Broad Creek channel (refer to Table 2).
- Compare analytical results of the effluent elutriate against applicable water quality standards with consideration of dilution in a mixing zone if needed.

1.4 **Project Organization and Responsibilities**

Project Manager: The Project Manager for this investigation is Mr. Doug Stamper, P.E. of the Operations Branch of the Technical Services Division of the USACE – Norfolk District.

Project Engineer: The Project Engineer for this investigation is Mr. Robert Pruhs, E.I.T. of the Operations Branch of the Technical Services Division of the USACE – Norfolk District. The Project Engineer is responsible for developing the Sampling and Analysis Plan (SAP) and data evaluation. **Quality Assurance Officer:** The Quality Assurance Officer (QAO) for this investigation is Mr. Chris Turner of the Operations Branch of the Technical Services Division of the USACE – Norfolk District. The Quality Assurance Officer is responsible for implementing the SAP.

Sampling Personnel: Norfolk District personnel from the GeoEnvironmental Section and Technical Support Section performed sampling. The Norfolk District Corps provided the equipment and materials necessary for all sample collection and processing.

Primary Contract Laboratory: The contract laboratory for this investigation was Accutest Laboratories. Accutest Laboratories is a certified contractor to the U.S. Army Corps of Engineers, Norfolk District and is National Environmental Laboratory Accreditation Program (NELAP) accredited, equipped, and capable of performing the proposed analytical work while meeting data quality objectives.

2. Field Methodology

2.1 General Sampling Protocol

Sediment and site water samples were collected at the Broad Creek Federal Navigation Channel located in the Rappahannock River on October 3, 2007. A total of five (5) discrete locations were sampled. Sampling locations were located on shoaled areas previously identified by bathymetric survey within the Federal navigation channel. Sampling locations were selected to be representative of the project dredged material. The sampling methodologies utilized were consistent with EPA and USACE guidance for evaluating dredged materials under Section 404 of the CWA.

2.1.1 Water Sampling

Water samples were collected from a single station located within the project channel. Water was collected from approximately one meter above the channel bottom utilizing a submersible Grundfos pump utilizing 1/8" polyethylene tubing. Approximately 30 gallons of site water was collected for both chemical analysis and elutriate preparation.

2.1.2 Sediment Sampling

2.1.2.1 Sampling Equipment

Sediment sampling was performed from a 17-foot Jones Brothers skiff owned and operated by the U.S. Army Corps of Engineers. Sediment samples were collected using a stainless steel tube auger. Sediment collected from each discrete location was placed in its own dedicated polyethylene-lined 5-gallon bucket.

2.1.2.2 Sample Locations

The predetermined sample locations were located by surveyors from the Norfolk District's Navigation & Survey Section. Sample locations were located and buoys were placed to mark sample locations. The sample location was verified by Norfolk District surveyors and water depths were verified to ensure the presence of shoaled material prior to sample collection (Refer to Figure 1 for sample locations).

2.1.2.3 Sample Collection and Processing

Cores were advanced manually by turning the tee-handle of the tube auger. Multiple cores were pulled at each sample location to provide adequate sample volume for sediment and elutriate analysis. All sediment samples were collected as discrete samples for each proposed sample location. Collected sediment was placed in individual five gallon buckets and homogenized and then transferred to the appropriate labeled sample containers, individually wrapped in bubble wrap, taped, and then placed on ice in coolers and stored at a maximum temperature of 4 degrees Celsius. Sediments samples were processed and packaged for chemical, geotechnical, and elutriate analyses. Chain-of-custody forms were completed and sealed in the coolers prior to transport. Samples were transported overnight by Federal Express to Accutest Laboratory, in Dayton, New Jersey. All chain-of-custody protocols were followed and samples arrived at the laboratory in tact and at proper storage temperature.

2.1.3 Sample Identification Protocol

All samples collected during the field investigation were identified and labeled with a site-specific sample identification code. The site-specific sample code was based on the following system:

Sample ID: 07-XX-YY-#

2007- Fiscal Year

- XX- BC Project Designation, where BC = Broad Creek
- YY- Sample Type: Two letter code, where SS = Sediment Sample, SW
 = Site Water, EL = Elutriate Sample, FD = Field Duplicate, EB =
 Equipment Blank, and TB = Trip Blank.
- # Sample Number: Sample number will be designated 1, 2, and 3 for each sediment sample and elutriate sample location from each discrete site.

Example sample ID for discrete sediment sample collected at location 1 at the Broad Creek project, 07-BC- SS-1. Example sample ID for site water sample collected from Broad Creek project, 07-BC -SW-1. Example sample ID for

discrete elutriate sample collected at location 1 at the Broad Creek project, 07-BC- EL-1.

3 Laboratory Results

3.1 General Description

The following sections provide both descriptive summaries and laboratory result summaries of the chemical and geotechnical analyses of sediment and elutriate testing from the Broad Creek Federal Navigation Project.

3.2 Laboratory Results

The following summaries of laboratory results provide a description of the contaminant concentrations in the sediment and elutriate samples and the general distribution of the contaminants throughout the Broad Creek Federal Navigation Project.

3.2.1 Sediment Results

3.2.1.1 Metals

The metals copper and zinc were detected throughout the project sediments at low concentrations generally well below published sediment screening guidelines. The concentration range for detected metals in the sediment samples were as follows:

- Copper was detected at all of the five sample locations. Concentrations ranged from 1.9 mg/kg to 14.2 mg/kg. The average of the concentrations was 7.0 mg/kg.
- Zinc was detected at all five sample locations. The concentrations ranged from 4.5 mg/kg to 27.3 mg/kg. The average of the concentrations was 13.3 mg/kg.

The laboratory affixed a qualifier to several of the metals results indicating that these analytes were detected above the method detection limit but below the reporting limit (refer to Table 3 for summary of sediment results).

3.2.1.2 Total PCBs

Total PCBs were determined by the summation of congeners following Federal guidance in the EPA/USACE "Inland Testing Manual" referencing the NOAA, 1989, Status and Trends. PCB congeners were not detected at any sediment sampling locations.

3.2.1.3 General Chemistry

Total organic carbon (TOC) concentrations were determined at each sample location. The TOC concentrations ranged from 1,470 mg/kg (0.15%) to 5,830 mg/kg (0.58%). The average of the concentrations was 2,694 mg/kg (0.27%). The percentage of solids in the samples ranged from 26.2% to 36.1%.

3.2.1.4 Geotechnical

Standard sieve and hydrometer analyses were performed to determine grain size distribution at each sample location at Broad Creek. The grain size analyses indicate that the sediments are predominately sand with four of the five sample locations containing at least 90% sand and gravel and one of the five sample locations containing at least 58% sand and gravel. Sample location SS-5 exhibited the highest percentage of fine grained sediments containing 58% sand and 42% silt and clays.

3.2.2 Elutriate Results

3.2.2.1 Metals

Analyses for the metals copper and zinc were performed in both unfiltered (total concentration) and filtered (dissolved concentration) elutriate samples. Zinc was detected in the unfiltered elutriate samples. The concentration range for zinc in the unfiltered elutriate samples were as follows:

- Copper was not detected in the five unfiltered elutriate samples.
- Zinc was detected in three of the five unfiltered elutriate samples. The concentrations ranged from 4.1 ug/l to 14.6 ug/l. The average of the concentrations was 7.6 ug/l.

The laboratory affixed a qualifier to each zinc result indicating that this analyte was positively detected above the method detection limit but was below the reporting limit (refer to Table 5 for the summary of unfiltered elutriate results).

Copper was detected in a filtered elutriate sample (Refer to Table 5 for the summary of the filtered elutriate results). The results of the filtered elutriate samples were as follows:

- Copper was detected in one of the five filtered elutriate samples. The concentration was 24.5 ug/l.
- Zinc was not detected in the filtered elutriate samples.

3.2.2.2 Total PCBs

Total PCB was determined by the summation of congeners following Federal guidance in the EPA/USACE "Inland Testing Manual" referencing NOAA, 1998, Status and Trends.

• PCB Congeners were not detected in any unfiltered or filtered elutriate samples at Broad Creek project site.

One copper filtered elutriate result was reported above reporting limit while copper in the unfiltered elutriate was not detected. This may be caused by unfiltered and filtered elutriate being generated from a separate volume of elutriate sample therefore the results reflect some variability within the homogenized sample. Additionally, the results may reflect an artifact from the filtration process as a result of suspended solid in the elutriate supernatant.

3.2.3 Site Water Results

Laboratory results suggest that there are no detectable levels of PCB congeners or the metals copper and zinc in the surface water at the Broad Creek project site. General chemistry results for total organic carbon were 3.5 mg/l and total suspended solids was 3.5 mg/l.

4 Discussion

4.1 Overview - Screening Assessments Under Section 404

The USACE conducts Civil Works dredging and dredged material discharge activities in accordance with Section 404 of the Clean Water Act (CWA). Section 404 further requires that discharge sites be specified through the application of the Section 404(b)(1) Guidelines developed by EPA in conjunction with the USACE. Section 404 requires that the guidelines be based upon criteria comparable to the criteria applicable to the territorial seas, contiguous zone, and the ocean". Additionally, Section 401 of the CWA requires that discharges of dredged material into waters of the United States be certified as complying with applicable State water quality standards. The joint EPA and USACE ITM and UTM testing manuals provide procedures applicable to determining the potential for contaminant-related environmental impacts associated with the discharge of dredged material. The ITM and UTM testing procedures are intended to provide sufficient data to make factual determinations under Section 404 of the CWA.

4.2 Tiered Assessment (Testing)

A tiered approach to testing (I-IV) is used by the EPA and USACE to evaluate the suitability of dredged material for various placement options. The following is a brief description of the tiers in the ITM:

- a. The initial tier (Tier I) uses readily available, existing information (including all previous testing).
- b. Tier II is concerned solely with sediment and water chemistry.
- c. Tier III is concerned with well defined nationally accepted toxicity and bioaccumulation testing procedures.
- d. Tier IV allows for case-specific laboratory and field-testing, and is intended for use in unusual circumstances.

Because the procedures in the ITM and UTM are arranged in a series of tiers, or levels of intensity (and cost) of investigation, the tiered testing results in environmental protection in the context of more efficient completion of necessary evaluations and reduced costs, especially to low-risk operations. It is necessary to proceed through the tiers only until information sufficient to make factual determinations has been obtained.

4.3 Tier I – Project Assessment

The first step in the evaluation process is the determination of the need for contaminant evaluations based on the "reason to believe" contaminants of concern (COC) may be present in the dredged material. The decision not to test is based on available information that provides a reasonable assurance that the proposed discharge of dredged material is not a carrier of contaminants. The reason to believe no testing is required is based on the type of dredged material and its potential to be contaminated. No further evaluation is needed if any one of the following criteria is met:

- a. The dredged material is excavated from a site far removed from existing and historical sources of contaminants, so as to provide a reasonable assurance that the dredged material does not contain them.
- b. The dredged material is composed predominantly of sand, gravel, and/or rock.
- c. The dredged material is composed of previously undisturbed geological materials that have not been exposed to modern sources of pollution.

Tier I evaluations utilize readily available, existing information for making factual determinations about testing exclusions, identifying contaminants of concern in dredged material, and to aid in the over-all decision making process.

In the Tier I decision sequence; the first possibility is that more information is required to make a factual determination.

4.3.1 Contaminants of Concern (COC)

The COC for this sampling event were provided by the VDEQ. A sediment sampling point in the upstream reaches of Broad Creek indicated the presence of copper and zinc at or above the Effects Range – Median (ER-M) screening guideline published as part of the National Sediment Quality Survey. Additionally, VDEQ has found accumulation of PCB's in fish tissues in the Rappahannock River system for which a source has not been identified.

4.3.2 Pathways of Concern

The effluent pathway will be the focus of this investigation to determine if it will meet requirements for Section 401 State Water Quality Certification and to ensure compliance with Section 404 requirements. The effluent pathway involves movement of large masses of water for hydraulically filled sites. Thus, the effluent pathway has the potential to act as a pathway for the migration of contaminants, if present, as a result of dredged material placement operations.

4.3.3 Tier I Decisions

The rationale for decision-making presented in the ITM for the Tier I evaluation will be either:

- a. Existing information does not provide a sufficient basis for making factual determinations. In this case, further evaluation in higher tiers is appropriate.
- b. Existing information provides a sufficient basis for making factual determinations. In this case, one of the following decisions is reached:
 - a. The material meets the exclusion criteria.
 - b. The material does not meet exclusion criteria but information concerning the potential impact of the material is sufficient to make factual determinations.

4.3.4 Tier I Conclusions for Broad Creek Federal Navigation Project

Historically, the Broad Creek channel sediments has been comprised of predominantly >90% sands. Additionally, the project location is far removed from industrial sources of anthropogenic contamination. Generally, the project conditions would meet exclusion criteria. However, the VDEQ required testing of the project sediments to demonstrate compliance with State requirements when dredged. Therefore, the Tier I decision was by-passed and the investigation moved directly to Tier II evaluations.

4.4 Tier II – Sediment and Water Chemistry

Tier II utilizes sediment and water chemistry as well as conservative screening evaluations and elutriate testing procedures to evaluate the potential for a water column impact and compliance with 40 CFR Section 230.10(b)(1).

4.4.1 Screen Relative to Water Quality Standard (WQS)

This conservative screen is based on the assumption that all of the contaminants in the dredged material are completely released to the water column during the discharge operation. This screen is conservative because, in virtually all cases, most of the contaminants remain within the dredged material. If the screen predicts that all concentrations of all the COC after consideration of mixing are less than the applicable WQS then the dredged material complies with WQS. If the screen predicts that the WQS will be exceeded, the elutriate analysis should be utilized.

Application of the conservative screen relative to WQS at Broad Creek indicates the assumption that a complete release of all COC to the water column would result in WQS being exceeded after consideration of mixing. Therefore the elutriate analysis approach should be employed to make a factual determination of compliance with WQS.

4.4.2 Elutriate Analysis Relative to WQS

The modified elutriate test conservatively predicts effluent water quality based on laboratory elutriate simulation of the dredged material discharge. The results reflect the predicted concentrations of COC in the effluent discharge from the CDF (i.e. over the weir structure). The appropriate unfiltered or filtered MET results should be compared directly to available numeric water quality standards considering dilution in a mixing zone in the immediate vicinity of the CDF discharge. Water quality standards must be met at the boundary of a state approved mixing zone. Comparisons of predicted concentrations from MET results to water quality standards should consider background concentrations in the receiving water. If the background concentrations exceed the standards then the dredged material discharge will not comply with water quality standards regardless of dilution in a mixing zone.

The MET results indicate that the proposed dredged material discharge at Broad Creek will comply with applicable WQS for the COC analyzed. One copper filtered elutriate result (07-BC-EL-2(F), 24.5 ug/l) exceeded the "Aquatic Life, Saltwater Chronic" criteria (6.0 ug/l) at the end-of-pipe. The filtered copper elutriate result would comply with the numeric standard with a 3:1 dilution in a mixing zone. Copper was not detected in the remaining filtered elutriate samples and comply with WQS at the end of pipe. The filtered elutriate was evaluated against WQS for metals since it represents the dissolved fraction of the contaminant. The dissolved fraction is fraction of the contaminant that is considered bio-available to aquatic life and exposure to concentrations above the WQS may result in acute impacts.

4.4.3 Tier II Decisions

One of two possible conclusions can be reached regarding the potential water column impact of the proposed dredged material discharge:

- a. The available WQS requirements are met.
- b. Concentrations of one or more of the dissolved COC, after allowance for mixing, exceed available WQS beyond the boundaries of the mixing zone. In this case, the proposed discharge of dredged material does not comply with WQS.

4.4.4 Tier II Conclusions for Broad Creek Channel

Based on the evaluation of elutriate analysis relative to WQS; all available WQS requirements will be met for the proposed Broad Creek Federal Navigation Channel dredged material discharge. Based on the evaluation of dredged material testing results the Broad Creek Channel project dredged material discharge will comply with 404(b)(1) requirements and meets requirements for state Section 401 certification.

5 References

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TABLE 1. SEDIMENT RESULTS

				1						
Target Compound		Unite	МП	RI	07-BC-SS-1	07-BC-SS-FD	07-BC-SS-2	07-BC-SS-3	07-BC-SS-4	07-BC-SS-5
	OAO Mulliber	onita			01-00-00-1	07-00-00-10	07-00-2	07-00-00-0	07-00-4	07-00-00-0
Metals (SW-846 Method: 6010B)										
Copper	7440-50-8	mg/kg	0.3600	3.8	1.9 B	2.0 B	2.6 E	6.7	9.7	14.2
Zinc	7440-66-6	mg/kg	0.6000	3.0	4.5	4.8	6.8	11.4	16.5	27.3
Polychlorinated Biphenyls (SW-846 Metho	d: 8082)									
2,4'-Dichlorobiphenyl-BZ8	34883-43-7	ug/kg	1.0500	2.2	ND	ND	ND	ND	ND	ND
2,2',5-Trichlorobiphenyl-BZ18	37680-65-2	ug/kg	0.9630	2.4	ND	ND	ND	ND	ND	ND
2,4,4'-Trichlorobiphenyl-BZ28	7012-37-5	ug/kg	0.7030	1.8	ND	ND	ND	ND	ND	ND
2,2',3,5'-Tetrachlorobiphenyl-BZ44	41464-39-5	ug/kg	0.7150	2.7	ND	ND	ND	ND	ND	ND
2,2',5,5'-Tetrachlorobiphenyl-BZ52	35693-99-3	ug/kg	0.7750	1.6	ND	ND	ND	ND	ND	ND
2,3'4,4'-Tetrachlorobiphenyl-BZ66	32598-10-0	ug/kg	0.7110	1.6	ND	ND	ND	ND	ND	ND
3,3',4,4'-Tetrachlorobiphenyl-BZ77	32598-13-3	ug/kg	1.9000	1.6	ND	ND	ND	ND	ND	ND
2,2',4,5,5'-Pentachlorobiphenyl-BZ101	37680-73-2	ug/kg	0.8610	1.6	ND	ND	ND	ND	ND	ND
2,3,3',4,4'-Pentachlorobiphenyl-BZ105	32598-14-4	ug/kg	1.0100	1.6	ND	ND	ND	ND	ND	ND
2,3',4,4',5-Pentachlorobiphenyl-BZ118	31508-00-6	ug/kg	0.4950	1.6	ND	ND	ND	ND	ND	ND
3,3',4,4',5-Pentachlorobiphenyl-BZ126	57465-28-8	ug/kg	1.0100	2.4	ND	ND	ND	ND	ND	ND
2',3,3',4,4'-Hexachlorobiphenyl-BZ128	38380-07-3	ug/kg	0.4950	1.6	ND	ND	ND	ND	ND	ND
2,2',3,4,4',5'-Hexachlorobiphenyl-BZ138	35065-28-2	ug/kg	0.6020	1.6	ND	ND	ND	ND	ND	ND
2,2',4,4',5,5'-Hexachlorobiphenyl-BZ153	35065-27-1	ug/kg	0.5940	1.6	ND	ND	ND	ND	ND	ND
3,3',4,4',5,5'-Hexachlorobiphenyl-BZ169	32774-16-6	ug/kg	0.6620	1.6	ND	ND	ND	ND	ND	ND
2,2',3,3',4,4',5-Heptachlorobiphenyl-BZ170	35065-30-6	ug/kg	0.5790	3.2	ND	ND	ND	ND	ND	ND
2,2',3,4,4',5,5'-Heptachlorobiphenyl-BZ180	35065-29-3	ug/kg	0.5910	2.3	ND	ND	ND	ND	ND	ND
2,2',3,4',5,5',6-Heptachlorobiphenyl-BZ187	52663-68-0	ug/kg	0.4370	1.6	ND	ND	ND	ND	ND	ND
Total PCBs	1336-36-3	ug/kg								
Total Organic Carbon (Method: Lloyd Khar	n)	mg/kg		140	1760	1730	1470	2180	2230	5830
Water Content (ASTM D2216)			1		28.8	27.3	26.3	26.2	29.7	36.1
Water Content (ACTIN D2210)					20.0	21.5	20.0	20.2	23.1	30.1
Particle Size (ASTM D422)										
%Gravel					0	0	0	0	0	0
%Sand					95.7	78	93.8	92.6	90.6	58.1
%Silt, Clay, Colloids	1			4.3	22	6.2	7.4	9.4	41.9	
RL - Reporting Limit				1	Data Qualifier	· · ·		•	•	· ·

MDL - Method Detection Limit

U = Indicates a result < MDL

Note: Total PCBs to be determined by summation of the listed congeners following the approach in the ITM, (EPA, 1998).

B + Indicates a result >= MDL but < RL

TABLE 2. SITE WATER AND ELUTRIATE RESULTS

			VA WA	TER QUALTIY STA	NDARDS									
					All Other			,						
Target Compound	CAS Number	Units	VA Aquatic Life Saltwater Acute	VA Aquatic Life Saltwater Chronic	Surface Waters	MDL	RL	07-BC-SW	07-BC-EL-1	07-BC-EL-1(F)	07-BC-EL-FD	07-BC-EL-FD(F)	07-BC-EL-2	07-BC-EL-2(F)
Metals (SW-846 Method: 6010B)					_				+ +	+				
Copper	7440-50-8	ug/l	9.3	6		2.70	5.0	2.7 0	U 2.7	U 2.7	ป 2.7 เ	J 2.7	U 2.7 L	24.5 ل
Zinc	7440-66-6	ug/l	90	81	69,000	3.40	20.0	3.4	U 3.4	U 3.4	U 3.4 l	J 3.4	U 4.1 E	3.4 U
Polychlorinated Binhenyls - Congeners (S)	W-846 Method: 80	182)												
2.4'-Dichlorobiphenvl-BZ8	34883-43-7	ua/l				0.0042	1.00	ND	ND	ND	ND	ND	ND	ND
2.2'.5-Trichlorobiphenvl-BZ18	37680-65-2	ug/l				0.0061	1.00	ND	ND	ND	ND	ND	ND	ND
2.4.4'-Trichlorobiphenyl-BZ28	7012-37-5	ua/l				0.0076	1.00	ND	ND	ND	ND	ND	ND	ND
2,2',3,5'-Tetrachlorobiphenyl-BZ44	41464-39-5	ug/l				0.0060	1.00	ND	ND	ND	ND	ND	ND	ND
2,2',5,5'-Tetrachlorobiphenyl-BZ52	35693-99-3	ug/l				0.0082	1.00	ND	ND	ND	ND	ND	ND	ND
2,3'4,4'-Tetrachlorobiphenyl-BZ66	32598-10-0	ug/l				0.0073	1.00	ND	ND	ND	ND	ND	ND	ND
3,3',4,4'-Tetrachlorobiphenyl-BZ77	32598-13-3	ug/l				0.0052	1.00	ND	ND	ND	ND	ND	ND	ND
2,2',4,5,5'-Pentachlorobiphenyl-BZ101	37680-73-2	ug/l				0.0041	1.00	ND	ND	ND	ND	ND	ND	ND
2,3,3',4,4'-Pentachlorobiphenyl-BZ105	32598-14-4	ug/l				0.0206	1.00	ND	ND	ND	ND	ND	ND	ND
2,3',4,4',5-Pentachlorobiphenyl-BZ118	31508-00-6	ug/l				0.0031	1.00	ND	ND	ND	ND	ND	ND	ND
3,3',4,4',5-Pentachlorobiphenyl-BZ126	57465-28-8	ug/l				0.0055	1.00	ND	ND	ND	ND	ND	ND	ND
2',3,3',4,4'-Hexachlorobiphenyl-BZ128	38380-07-3	ug/l				0.0096	1.00	ND	ND	ND	ND	ND	ND	ND
2,2',3,4,4',5'-Hexachlorobiphenyl-BZ138	35065-28-2	ug/l				0.0046	1.00	ND	ND	ND	ND	ND	ND	ND
2,2',4,4',5,5'-Hexachlorobiphenyl-BZ153	35065-27-1	ug/l				0.0077	1.00	ND	ND	ND	ND	ND	ND	ND
3,3',4,4',5,5'-Hexachlorobiphenyl-BZ169	32774-16-6	ug/l				0.0047	1.00	ND	ND	ND	ND	ND	ND	ND
2,2',3,3',4,4',5-Heptachlorobiphenyl-BZ170	35065-30-6	ug/l				0.0046	1.00	ND	ND	ND	ND	ND	ND	ND
2,2',3,4,4',5,5'-Heptachlorobiphenyl-BZ180	35065-29-3	ug/l				0.0066	1.00	ND	ND	ND	ND	ND	ND	ND
2,2',3,4',5,5',6-Heptachlorobiphenyl-BZ187	52663-68-0	ug/l				0.0075	1.00	ND	ND	ND	ND	ND	ND	ND
Total PCBs	1336-36-3	ug/l			0.0017									
Organic Carbon (SW-846 9060)														
Total Organic Carbon		mg/l						3.5	4.0		3.7		3.4	<u> </u>
Total Suspended Solids (EPA 160.2)	Τ	mg/l	Τ	Γ			1	4.0	10.0		8.0		10.0	

 Data Qualifier

 RL - Reporting Limit
 U = Indicates a result < MDL</td>

 MDL - Method Detection Limit
 B + Indicates a result >= MDL but < RL</td>

 Note: Total PCBs to be determined by summation of the listed congeners per EPA guidance (EPA, 1998).

TABLE 2. SITE WATER AND ELUTRIATE

VA WATER QUALTIY STANDARDS													
Target Compound	CAS Number	Units	VA Aquatic Life Saltwater Acute	VA Aquatic Life Saltwater Chronic	All Other Surface Waters	MDL	RL	07-BC-EL-3	07-BC-EL-3(F)	07-BC-EL-4	07-BC-EL-4(F)	07-BC-EL-5	07-BC-EL-5(F)
Metals (SW-846 Method: 6010B)									+ +		+ +		+
Copper	7440-50-8	ug/l	9.3	6		2.70	5.0	2.7 l	J 2.7	J 2.7 L	2.7 L	J 2.7 L	J 2.7 U
Zinc	7440-66-6	ug/l	90	81	69,000	3.40	20.0) 3.4 l	J 3.4	J 14.6 E	3.4 L	J 4.2 E	3.4 U
Polychlorinated Biphenyls - Congeners (S	W-846 Method: 80	82)											
2,4'-Dichlorobiphenyl-BZ8	34883-43-7	, ug/l				0.0042	1.00) ND	ND	ND	ND	ND	ND
2,2',5-Trichlorobiphenyl-BZ18	37680-65-2	ug/l				0.0061	1.00) ND	ND	ND	ND	ND	ND
2,4,4'-Trichlorobiphenyl-BZ28	7012-37-5	ug/l				0.0076	1.00) ND	ND	ND	ND	ND	ND
2,2',3,5'-Tetrachlorobiphenyl-BZ44	41464-39-5	ug/l				0.0060	1.00) ND	ND	ND	ND	ND	ND
2,2',5,5'-Tetrachlorobiphenyl-BZ52	35693-99-3	ug/l				0.0082	1.00) ND	ND	ND	ND	ND	ND
2,3'4,4'-Tetrachlorobiphenyl-BZ66	32598-10-0	ug/l				0.0073	1.00) ND	ND	ND	ND	ND	ND
3,3',4,4'-Tetrachlorobiphenyl-BZ77	32598-13-3	ug/l				0.0052	1.00) ND	ND	ND	ND	ND	ND
2,2',4,5,5'-Pentachlorobiphenyl-BZ101	37680-73-2	ug/l				0.0041	1.00) ND	ND	ND	ND	ND	ND
2,3,3',4,4'-Pentachlorobiphenyl-BZ105	32598-14-4	ug/l				0.0206	1.00) ND	ND	ND	ND	ND	ND
2,3',4,4',5-Pentachlorobiphenyl-BZ118	31508-00-6	ug/l				0.0031	1.00) ND	ND	ND	ND	ND	ND
3,3',4,4',5-Pentachlorobiphenyl-BZ126	57465-28-8	ug/l				0.0055	1.00) ND	ND	ND	ND	ND	ND
2',3,3',4,4'-Hexachlorobiphenyl-BZ128	38380-07-3	ug/l				0.0096	1.00) ND	ND	ND	ND	ND	ND
2,2',3,4,4',5'-Hexachlorobiphenyl-BZ138	35065-28-2	ug/l				0.0046	1.00) ND	ND	ND	ND	ND	ND
2,2',4,4',5,5'-Hexachlorobiphenyl-BZ153	35065-27-1	ug/l				0.0077	1.00) ND	ND	ND	ND	ND	ND
3,3',4,4',5,5'-Hexachlorobiphenyl-BZ169	32774-16-6	ug/l				0.0047	1.00) ND	ND	ND	ND	ND	ND
2,2',3,3',4,4',5-Heptachlorobiphenyl-BZ170	35065-30-6	ug/l				0.0046	1.00) ND	ND	ND	ND	ND	ND
2,2',3,4,4',5,5'-Heptachlorobiphenyl-BZ180	35065-29-3	ug/l				0.0066	1.00) ND	ND	ND	ND	ND	ND
2,2',3,4',5,5',6-Heptachlorobiphenyl-BZ187	52663-68-0	ug/l				0.0075	1.00) ND	ND	ND	ND	ND	ND
Total PCBs	1336-36-3	ug/l			0.0017								
Organic Carbon (SW-846 9060)													
Total Organic Carbon		mg/l						4.0		3.7		4.7	
Total Suspended Solids (EPA 160.2)		mg/l						11.0		10.0		6.0	

 Data Qualifier

 RL - Reporting Limit
 U = Indicates a result < MDL</td>

 MDL - Method Detection Limit
 B + Indicates a result >= MDL but < RL</td>

 Note: Total PCBs to be determined by summation of the listed congeners per EPA guidance (EPA, 1998).

Appendix A





01/02/08

Technical Report for

USACE-Norfolk District

Broad Creek, VA

Accutest Job Number: J73350

Sampling Date: 10/03/07

Report to:

USACE-Norfolk District

ATTN: Robert Pruhs

Total number of pages in report: 79



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Vincent J. Pugliese President



Client Service contact: Marty Vitanza 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, PA, RI, SC, TN, VA, WV

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Sample Summary

USACE-Norfolk District

Broad Creek, VA

Sample Number	Collected Date	Time By	Received	Matri Code	ix Type	Client Sample ID
J73350-1	10/03/07	09:35 MDG	10/05/07	SO	Soil	07-BC-SS-01
J73350-2	10/03/07	09:35 MDG	10/05/07	SO	Soil	07-BC-SS-DUP
J73350-3	10/03/07	10:30 MDG	10/05/07	SO	Soil	07-BC-SS-02
J73350-3D	10/03/07	10:30 MDG	10/05/07	SO	Soil Dup/MSD	07-BC-SS-MSD
J73350-3S	10/03/07	10:30 MDG	10/05/07	SO	Soil Matrix Spike	07-BC-SS-MS
J73350-4	10/03/07	11:20 MDG	10/05/07	SO	Soil	07-BC-SS-03
J73350-5	10/03/07	11:45 MDG	10/05/07	SO	Soil	07-BC-SS-04
J73350-6	10/03/07	12:15 MDG	10/05/07	SO	Soil	07-BC-SS-05
J73350-7	10/03/07	12:50 MDG	10/05/07	AQ	Water	07-BC-SW-01
J73350-8	10/03/07	12:50 MDG	10/05/07	AQ	Equipment Blank	07-BC-EB
J73350-9	10/03/07	09:35 MDG	10/05/07	SO	Soil	07-BC-EL-01
J73350-9A	10/03/07	09:35 MDG	10/05/07	AQ	Surface Water	07-BC-EL-01
J73350-9AF	10/03/07	09:35 MDG	10/05/07	AQ	Surface H2O Filtered	07-BC-EL-01

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Job No: J73350

Sample Summary (continued)

USACE-Norfolk District

Broad Creek, VA

Sample Number	Collected Date	Time By	Received	Matri Code	ix Type	Client Sample ID
J73350-10	10/03/07	09:35 MDG	10/05/07	SO	Soil	07-BC-EL-DUP
J73350-10A	10/03/07	09:35 MDG	10/05/07	AQ	Surface Water	07-BC-EL-DUP
J73350-10AF	10/03/07	09:35 MDG	10/05/07	AQ	Surface H2O Filtered	07-BC-EL-DUP
J73350-11	10/03/07	10:30 MDG	10/05/07	SO	Soil	07-BC-EL-02
J73350-11A	10/03/07	10:30 MDG	10/05/07	AQ	Surface Water	07-BC-EL-02
J73350-11AF	10/03/07	10:30 MDG	10/05/07	AQ	Surface H2O Filtered	07-BC-EL-02
J73350-12	10/03/07	11:20 MDG	10/05/07	SO	Soil	07-BC-EL-03
J73350-12A	10/03/07	11:20 MDG	10/05/07	AQ	Surface Water	07-BC-EL-03
J73350-12AF	10/03/07	11:20 MDG	10/05/07	AQ	Surface H2O Filtered	07-BC-EL-03
J73350-13	10/03/07	11:45 MDG	10/05/07	SO	Soil	07-BC-EL-04
J73350-13A	10/03/07	11:45 MDG	10/05/07	AQ	Surface Water	07-BC-EL-04
J73350-13AF	10/03/07	11:45 MDG	10/05/07	AQ	Surface H2O Filtered	07-BC-EL-04
J73350-14	10/03/07	12:15 MDG	10/05/07	SO	Soil	07-BC-EL-05

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Job No: J73350

Sample Summary (continued)

USACE-Norfolk District

Job No:

J73350

Broad Creek, VA

Sample Number	Collected Date	Time By	Received	Matr Code	ix Type	Client Sample ID
J73350-14A	10/03/07	12:15 MDG	10/05/07	AQ	Surface Water	07-BC-EL-05
J73350-14AF	10/03/07	12:15 MDG	10/05/07	AQ	Surface H2O Filtered	07-BC-EL-05
J73350-15	10/03/07	12:50 MDG	10/05/07	AQ	Water	07-BC-FL/SW-01
J73350-16	10/03/07	00:00 MDG	10/05/07	SO	Soil	07-BC-SS-01
J73350-17	10/03/07	00:00 MDG	10/05/07	SO	Soil	07-BC-SS-DUP
J73350-18	10/03/07	00:00 MDG	10/05/07	SO	Soil	07-BC-SS-02
J73350-19	10/03/07	00:00 MDG	10/05/07	SO	Soil	07-BC-SS-03
J73350-20	10/03/07	00:00 MDG	10/05/07	SO	Soil	07-BC-SS-04
173350-21	10/03/07	00:00 MDG	10/05/07	SO	Soil	07-BC-SS-05

Soil samples reported on a dry weight basis unless otherwise indicated on result page.





Sample Results

Report of Analysis



Client Sample Lab Sample II Matrix:	ID: 07-BC D: J7335 SO - S	07-BC-SS-01 Date Sampled: 10/03/07 J73350-1 Date Received: 10/05/07 SO - Soil Date Received: 10/05/07 Percent Solids: 71.2										
Project: Broad Creek, VA												
Metals Analys	sis											
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed B	By Method	Prep Method			
Copper Zinc	1.9 B 4.5	3.5 2.8	0.34 0.56	mg/kg mg/kg	1 1	10/23/07 10/23/07	10/24/07 v 10/24/07 v	VP SW846 6010B VP SW846 6010B	1 SW846 3050B ² 1 SW846 3050B ²			

(1) Instrument QC Batch: MA19993

(2) Prep QC Batch: MP41256

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2.1

N



Client Sample ID:07-BC-SS-01Lab Sample ID:J73350-1Matrix:SO - SoilProject:Broad Creek, VA					Date S Date F Percer	Sampled: 10/03/0 Received: 10/05/0 tt Solids: 71.2	17 17		
General Chemistry									
Analyte	Re	esult	RL	Units	DF	Analyzed	By	Method	
Moisture, Percent ^a Total Organic Carbo	28 on 17	5.8 60	140	% mg/kg	1 1	10/18/07 10/15/07 09:23	JA SJG	ASTM 2216 LLOYD KAHN 1988	

Report of Analysis

(a) Results shown reported as a percentage of total (as received) weight. 40.5% moisture if reported as a percentage of the dry sample weight.

Page 1 of 1

2.1

N



Client Sample Lab Sample I Matrix:	e ID: 07-BC D: J7335 SO - \$	C-SS-DU 0-2 Soil	Р		Date Sampled: 10/03/07 Date Received: 10/05/07 Percent Solids: 72.7					
Project:	Broad	Creek,	VA							
Metals Analys	sis									
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed B	y Method	Prep Method	
Copper Zinc	2.0 B 4.8	3.3 2.7	0.32 0.53	mg/kg mg/kg	1 1	10/23/07 10/23/07	10/24/07 w 10/24/07 w	P SW846 6010B ¹ P SW846 6010B ¹	SW846 3050B ² SW846 3050B ²	

Report of Analysis

(1) Instrument QC Batch: MA19993

(2) Prep QC Batch: MP41256

J73350



Page 1 of 1

Client Sample ID: Lab Sample ID: Matrix: Project:	07-BC-SS-DUP J73350-2 SO - Soil Broad Creek, VA			Date Sampled: 10/03/07 Date Received: 10/05/07 Percent Solids: 72.7				
General Chemistry	,							
Analyte	Result	RL	Units	DF	Analyzed	By	Method	
Moisture, Percent ^a Total Organic Carbo	27.3 on 1730	140	% mg/kg	1 1	10/18/07 10/15/07 09:38	JA SJG	ASTM 2216 LLOYD KAHN 1988	

Report of Analysis

(a) Results shown reported as a percentage of total (as received) weight. 37.5% moisture if reported as a percentage of the dry sample weight.

2.2

N



Client Sample Lab Sample II Matrix:	ID: 07-BC D: J7335 SO - S	C-SS-02 60-3 Soil				Da Da Pei	te Sampled: te Received: rcent Solids:	10/03/07 10/05/07 73.7	
Project:	Broad	l Creek,	VA						
Metals Analysi	s								
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed B	y Method	Prep Method
Copper Zinc	2.6 B 6.8	3.4 2.7	0.33 0.55	mg/kg mg/kg	1 1	10/23/07 10/23/07	10/24/07 w 10/24/07 w	/P SW846 6010B ¹ /P SW846 6010B ¹	SW846 3050B ² SW846 3050B ²

Report of Analysis

(1) Instrument QC Batch: MA19993

(2) Prep QC Batch: MP41256

Page 1 of 1

Client Sample ID: Lab Sample ID: Matrix:	07-BC-SS-02 J73350-3 SO - Soil				Date Sampled: 10/03/07 Date Received: 10/05/07 Percent Solids: 73.7					
Project:	Broad Creek,	VA								
General Chemistry	,									
Analyte	Res	ult	RL	Units	DF	Analyzed	By	Method		
Moisture, Percent ^a Total Organic Carb	26. on 147	3 0	140	% mg/kg	1 1	10/18/07 10/15/07 09:10	JA SJG	ASTM 2216 LLOYD KAHN 1988		

Report of Analysis

(a) Results shown reported as a percentage of total (as received) weight. 35.7% moisture if reported as a

percentage of the dry sample weight.

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2.3

N



Client Samr	nle ID• 07-B	C-88-03									
Lab Sample	e ID: J733	50-4				Date Sampled: 10/03/07					
Matrix:	SO -	Soil				Da	te Received	: 1	0/05/07		
	_					Per	rcent Solids	: 7	3.8		
Project:	Broa	d Creek,	VA								
Metals Anal	lysis										
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method	
Copper	6.7	3.3	0.32	mg/kg	1	10/23/07	10/24/07	WP	SW846 6010B ¹	SW846 3050B ²	
Zinc	11.4	2.7	0.53	mg/kg	1	10/23/07	10/24/07	WP	SW846 6010B ¹	SW846 3050B ²	

mg/kg 1

Report of Analysis

(1) Instrument QC Batch: MA19993

(2) Prep QC Batch: MP41256

Page 1 of 1



Client Sample ID: Lab Sample ID: Matrix: Project:	07-BC-SS-03 J73350-4 SO - Soil Broad Creek	3 ., VA			Date Sampled: 10/03/07 Date Received: 10/05/07 Percent Solids: 73.8				
General Chemistry	,								
Analyte	R	esult	RL	Units	DF	Analyzed	By	Method	
Moisture, Percent ^a Total Organic Carbo	26 21	5.2 180	140	% mg/kg	1 1	10/18/07 10/15/07 09:50	JA SJG	ASTM 2216 LLOYD KAHN 1988	

Report of Analysis

(a) Results shown reported as a percentage of total (as received) weight. 35.5% moisture if reported as a percentage of the dry sample weight.

2.4

N


Client Sample Lab Sample I Matrix:	e ID: 07-BC D: J7335 SO - 5	C-SS-04 0-5 Soil				Da Da Pei	te Sampled: te Received: rcent Solids:	10/03/07 10/05/07 70.3	
Project:	Broad	l Creek,	VA						
Metals Analys	sis								
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed B	By Method	Prep Method
Copper Zinc	9.7 16.5	3.6 2.8	0.34 0.57	mg/kg mg/kg	1 1	10/23/07 10/23/07	10/24/07 w 10/24/07 w	VP SW846 6010B ¹ VP SW846 6010B ¹	SW846 3050B ² SW846 3050B ²

Report of Analysis

(1) Instrument QC Batch: MA19993

(2) Prep QC Batch: MP41256

Page 1 of 1

Client Sample ID: Lab Sample ID: Matrix: Project:	07-BC-SS J73350-5 SO - Soil Broad Cr	S-04 eek, VA			Date S Date I Percer	Sampled: 10/03/0 Received: 10/05/0 nt Solids: 70.3	17 17	
General Chemistry	,							
Analyte		Result	RL	Units	DF	Analyzed	By	Method
Moisture, Percent ^a Total Organic Carb	on	29.7 2230	140	% mg/kg	1 1	10/18/07 10/15/07 10:04	JA SJG	ASTM 2216 LLOYD KAHN 1988

(a) Results shown reported as a percentage of total (as received) weight. 42.2% moisture if reported as a percentage of the dry sample weight.

Report of Analysis

Page 1 of 1

2.5



Client Sample Lab Sample II Matrix:	ID: 07-BC D: J7335 SO - 1	C-SS-05 0-6 Soil				Da Da Pei	te Sampled: te Received: rcent Solids:	10/03/07 10/05/07 63.9	
Project:	Broad	l Creek,	VA						
Metals Analys	is								
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed B	By Method	Prep Method
Copper Zinc	14.2 27.3	3.8 3.0	0.36 0.60	mg/kg mg/kg	1 1	10/23/07 10/23/07	10/24/07 v 10/24/07 v	VP SW846 6010B ¹ VP SW846 6010B ¹	SW846 3050B ² SW846 3050B ²

Report of Analysis

(1) Instrument QC Batch: MA19993

(2) Prep QC Batch: MP41256

Page 1 of 1

Client Sample ID: Lab Sample ID: Matrix: Project:	07-BC-SS J73350-6 SO - Soil Broad Cre	-05 eek, VA			Date S Date I Percer	Sampled: 10/03/0 Received: 10/05/0 nt Solids: 63.9	17 17	
General Chemistry	,							
Analyte		Result	RL	Units	DF	Analyzed	By	Method
Moisture, Percent ^a Total Organic Carb	on	36.1 5830	160	% mg/kg	1 1	10/18/07 10/15/07 10:16	JA SJG	ASTM 2216 LLOYD KAHN 1988

Report of Analysis

(a) Results shown reported as a percentage of total (as received) weight. 56.4% moisture if reported as a percentage of the dry sample weight.

2.6



Report of Analysis	Report	of Analysis	
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Client Sa Lab Samj Matrix: Method: Project:	mple ID: 07-BC-5 ple ID: J73350- AQ - W SW846 Broad C	SW-01 7 ater 8082 S creek, V	W846 3510C A		Date Sample Date Receive Percent Solie	ed: 10/03/07 ed: 10/05/07 ds: n/a	
Run #1 Run #2	File ID OA40819.D	DF 1	Analyzed 10/12/07	By TDR	Prep Date 10/08/07	Prep Batch OP29552	Analytical Batch GOA1461
Run #1	Initial Volume 1000 ml	Final V 10.0 m	V olume 1				

Run #2

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.50	0.094	ug/l	
11104-28-2	Aroclor 1221	ND	0.50	0.47	ug/l	
11141-16-5	Aroclor 1232	ND	0.50	0.39	ug/l	
53469-21-9	Aroclor 1242	ND	0.50	0.16	ug/l	
12672-29-6	Aroclor 1248	ND	0.50	0.15	ug/l	
11097-69-1	Aroclor 1254	ND	0.50	0.11	ug/l	
11096-82-5	Aroclor 1260	ND	0.50	0.12	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limit	S	
877-09-8	Tetrachloro-m-xylene	89%		38-13	3%	
877-09-8	Tetrachloro-m-xylene	90%		38-13	3%	
2051-24-3	Decachlorobiphenyl	92%		18-15	6%	
2051-24-3	Decachlorobiphenyl	88%		18-15	6%	

- J = Indicates an estimated value
- B = Indicates analyte found in associated method blank
- N = Indicates presumptive evidence of a compound



Page 1 of 1



Client Sample Lab Sample I Matrix:	e ID: 07-B0 ID: J7335 AQ -	C-SW-01 0-7 Water				Da Da Per	te Sampled: te Received: rcent Solids:	10/ : 10/ : n/a	/03/07 /05/07 1	
Project:	Broad	l Creek,	VA							
Metals Analy	vsis									
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed l	By	Method	Prep Method
Copper	2.7 U	5.0	2.7	ug/l	1	10/24/07	10/26/07	ND	SW846 6010B ²	SW846 3010A ³

10/24/07 10/25/07 ND

Report of Analysis

(1) Instrument QC Batch: MA19998

3.4 U

20

3.4

ug/l

1

(2) Instrument QC Batch: MA20006

(3) Prep QC Batch: MP41274

Zinc

MDL = Method Detection Limit



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SW846 3010A ³

SW846 6010B 1

Total Organic Carbon

3.5

Client Sample ID: Lab Sample ID: Matrix:	07-BC-SV J73350-7 AQ - Wat	W-01 ter			Date S Date I Perce	Sampled: 10/0. Received: 10/0. nt Solids: n/a	3/07 5/07		
Project:	Broad Cr	eek, VA							
General Chemistry	7								
Analyte		Result	RL	Units	DF	Analyzed	By	Method	
Solids, Total Suspen	nded	4.0	4.0	mg/l	1	10/08/07	JA	SM20 2540D	

mg/l

1

1.0

Report of Analysis

Page 1 of 1

10/19/07 21:02 SJG SM20 5310B, 9060 M

2.7



include of Analysis	Report	of	Analysis
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Client Sample Lab Sample I Matrix:	e ID: 07-BC D: J7335 AQ -	C-EB 0-8 Equipme	ent Blank			Da Da Pei	te Sampled: te Received: rcent Solids:	10/03/07 10/05/07 n/a	
Project:	Broad	l Creek,	VA						
Metals Analys	sis								
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Copper Zinc	2.7 U 3.4 U	5.0 20	2.7 3.4	ug/l ug/l	1 1	10/24/07 10/24/07	10/25/07 ND 10/25/07 ND	SW846 6010B ¹ SW846 6010B ¹	SW846 3010A ² SW846 3010A ²

(1) Instrument QC Batch: MA19998

(2) Prep QC Batch: MP41274



Page 1 of 1

Client Sample ID: Lab Sample ID: Matrix: Project:	07-BC-EL-01 J73350-9 SO - Soil			Date S Date J Perce	Sampled: 10/0 Received: 10/0 nt Solids: 78.7	03/07 05/07 7	
General Chemistry	,						
Analyte	Result	RL	Units	DF	Analyzed	By	Method
Moisture, Percent ^a Specific Gravity	21.3 1.9		%	1 1	10/09/07 10/16/07	LE LMM	ASTM 2216 ASTM 1429

(a) Results shown reported as a percentage of total (as received) weight. 27% moisture if reported as a percentage of the dry sample weight.

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2.9



		1	v	
Client Sample ID:	07-BC-EL-01			
Lab Sample ID:	J73350-9A		Date Sampled:	10/03/07
Matrix:	AQ - Surface Water		Date Received:	10/05/07
	-		Percent Solids:	n/a

Report of Analysis

Metals Analysis

Project:

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Copper	2.7 U	5.0	2.7	ug/l	1	10/24/07	10/26/07 ND	SW846 6010B ²	SW846 3010A ³
Zinc	3.4 U	20	3.4	ug/l	1	10/24/07	10/25/07 ND	SW846 6010B ¹	SW846 3010A ³

(1) Instrument QC Batch: MA19998

Broad Creek, VA

(2) Instrument QC Batch: MA20006

(3) Prep QC Batch: MP41274



Total Organic Carbon

Client Sample ID: Lab Sample ID: Matrix:	07-BC-EL-01 J73350-9A Date Sampled: 10/03/07 JQ - Surface Water Date Received: 10/05/07 Percent Solids: n/a									
Project:	Broad Cr	road Creek, VA								
General Chemistry	General Chemistry									
Analyte		Result	RL	Units	DF	Analyzed	By	Method		
Solids, Total Suspen	nded ^a	10.0	4.0	mg/l	1	10/12/07	JA	SM20 2540D		

mg/l

1

10/20/07 03:53 SJG

1.0

Report of Analysis

(a) Analysis done out of holding time.

4.0

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SM20 5310B, 9060 M

2.10



	Report	of	Anal	ysis
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Client Samp Lab Sample Matrix:	ple ID: 0 e ID: J' A	7-BC-EL-01 73350-9AF Q - Surface	te Sampled: 1 te Received: 1 cent Solids: r	0/03/07 0/05/07 1/a					
Project:	В	road Creek,	VA						
Metals Anal	lysis								
Analyte	Resul	t RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Copper Zinc	2.7 U 3.4 U	5.0 20	2.7 3.4	ug/l ug/l	1 1	10/24/07 10/24/07	10/26/07 ND 10/25/07 ND	SW846 6010B ² SW846 6010B ¹	SW846 3010A ³ SW846 3010A ³

(1) Instrument QC Batch: MA19998

(2) Instrument QC Batch: MA20006

(3) Prep QC Batch: MP41274

SW846 3010A ³

2.11



Client Sample ID: Lab Sample ID: Matrix: Project:	07-BC-EL-DUP J73350-10 SO - Soil Broad Creek, VA			Date S Date I Percei	te Sampled: 10/03/07 te Received: 10/05/07 rcent Solids: 79.4			
General Chemistry	,							
Analyte	Result	RL	Units	DF	Analyzed	By	Method	
Moisture, Percent ^a Specific Gravity	20.6 1.9		%	1 1	10/09/07 10/16/07	LE LMM	ASTM 2216 ASTM 1429	

(a) Results shown reported as a percentage of total (as received) weight. 26% moisture if reported as a percentage of the dry sample weight.

2.12



Client Sample ID:07-BC-EL-DUPLab Sample ID:J73350-10AMatrix:AQ - Surface WaterDate Received:10/03/07Percent Solids:n/a										
Project:	Broad	l Creek,	VA							
Metals Anal	ysis									
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method	
Copper Zinc	2.7 U 3.4 U	5.0 20	2.7 3.4	ug/l ug/l	1 1	10/24/07 10/24/07	10/26/07 ND 10/25/07 ND	SW846 6010B ² SW846 6010B ¹	SW846 3010A ³ SW846 3010A ³	

Report of Analysis

(1) Instrument QC Batch: MA19998

(2) Instrument QC Batch: MA20006

(3) Prep QC Batch: MP41274

Page 1 of 1

Client Sample ID: Lab Sample ID: Matrix:	07-BC-EI J73350-10 AQ - Sur	L-DUP 0A face Water			Date S Date I Percer	Sampled: 10/03/0 Received: 10/05/0 nt Solids: n/a	07 07			
riojeci.	Broau Cr	eek, VA								
General Chemistry	General Chemistry									
Analyte		Result	RL	Units	DF	Analyzed	By	Method		
Solids, Total Susper Total Organic Carbo	nded ^a on	8.0 3.7	$\begin{array}{c} 4.0 \\ 1.0 \end{array}$	mg/l mg/l	1 1	10/12/07 10/20/07 04:07	JA SJG	SM20 2540D SM20 5310B, 9060 M		

Report of Analysis

(a) Analysis done out of holding time.

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2.13



Client Sampl Lab Sample I Matrix:	e ID: 07-B0 ID: J7335 AQ -	C-EL-DU 0-10AF Surface 1	IP H2O Filter	ed	Date Sampled:10/03/07Date Received:10/05/07Percent Solids:n/a						
Project:	Broad	Creek,	VA								
Metals Analy	vsis										
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed B	sy Method	d Prep Method		
Copper	2.7 U	5.0	2.7	ug/l	1	10/24/07	10/26/07 N	D SW846 6	5010B ² SW846 3010A ³		

10/24/07 10/25/07 ND

SW846 6010B 1

SW846 3010A ³

(1) Instrument QC Batch: MA19998

3.4 U

20

3.4

ug/l

1

(2) Instrument QC Batch: MA20006

(3) Prep QC Batch: MP41274

Zinc



Client Sample ID: Lab Sample ID: Matrix:	07-BC-EL-02 J73350-11 SO - Soil	A		Date S Date I Percer	Sampled: 10/ Received: 10/ nt Solids: 81.	03/07 05/07 8		
rroject:	DI Jau Creek, V	1						
General Chemistry	,							
Analyte	Resul	t RL	Units	DF	Analyzed	By	Method	
Moisture, Percent ^a Specific Gravity	18.2 2.0		%	1 1	10/09/07 10/16/07	LE LMM	ASTM 2216 ASTM 1429	

(a) Results shown reported as a percentage of total (as received) weight. 22.3% moisture if reported as a percentage of the dry sample weight.

2.15



Client Samp Lab Sample Matrix:	le ID: 07-B0 ID: J7335 AQ -	C-EL-02 60-11A Surface	Water			Da Da Pei	te Sampled: 1 te Received: 1 rcent Solids: r	.0/03/07 .0/05/07 n/a	
Project:	Broad	l Creek,	VA						
Metals Anal	ysis								
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Copper Zinc	2.7 U 4.1 B	5.0 20	2.7 3.4	ug/l ug/l	1 1	10/24/07 10/24/07	10/25/07 ND 10/25/07 ND	SW846 6010B ¹ SW846 6010B ¹	SW846 3010A ² SW846 3010A ²

Report of Analysis

(1) Instrument QC Batch: MA19998

(2) Prep QC Batch: MP41274

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Total Organic Carbon

Client Sample ID: Lab Sample ID: Matrix:	07-BC-EL-02 J73350-11A Date Sampled: 10/03/07 AQ - Surface Water Date Received: 10/05/07 Percent Solids: n/a									
Project:	Broad Cr	eek, VA								
General Chemistry	General Chemistry									
Analyte		Result	RL	Units	DF	Analyzed	By	Method		
Solids, Total Suspen	nded ^a	10.0	4.0	mg/l	1	10/12/07	JA	SM20 2540D		

mg/l

1

1.0

Report of Analysis

(a) Analysis done out of holding time.

3.4



10/20/07 04:22 SJG SM20 5310B, 9060 M

2.16



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Report of Analysis

Client Sampl Lab Sample Matrix:	le ID: 07-B0 ID: J7335 AQ -	C-EL-02 0-11AF Surface	H2O Filte	red	Da Da Pei	te Sampled: 1 te Received: 1 rcent Solids: 1	.0/03/07 .0/05/07 n/a		
Project:	Broad	l Creek,	VA			10		l u	
Metals Analysis									
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Copper Zinc	24.5 3.4 U	5.0 20	2.7 3.4	ug/l ug/l	1 1	10/24/07 10/24/07	10/25/07 ND 10/25/07 ND	SW846 6010B ¹ SW846 6010B ¹	SW846 3010A ² SW846 3010A ²

(1) Instrument QC Batch: MA19998

(2) Prep QC Batch: MP41274



Client Sample ID: Lab Sample ID: Matrix:	07-BC-EL-03 J73350-12 SO - Soil			Date Sampled: 10/03/07 Date Received: 10/05/07 Percent Solids: 78.8					
General Chemistry									
Analyte	Result	RL	Units	DF	Analyzed	By	Method		
Moisture, Percent ^a Specific Gravity	21.2 1.9		%	1 1	10/09/07 10/16/07	LE LMM	ASTM 2216 ASTM 1429		

(a) Results shown reported as a percentage of total (as received) weight. 27% moisture if reported as a percentage of the dry sample weight.

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2.18



Client Samj Lab Sample Matrix:	ple ID: e ID:	07-B0 J7335 AQ -	C-EL-03 0-12A Surface	Water			Da Da Pei	te Sampled te Received rcent Solids	: 1 : 1 : n	10/03/07 10/05/07 n/a			
Project:		Broad	l Creek,	VA									
Metals Ana	lysis												
Analyte	Re	sult	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method		
Copper	2.7	U	5.0	2.7	ug/l	1	10/24/07	10/26/07	ND	SW846 6010B ²	SW846 3010A ³		

10/24/07 10/25/07 ND

Report of Analysis

(1) Instrument QC Batch: MA19998

3.4 U

20

3.4

ug/l

1

(2) Instrument QC Batch: MA20006

(3) Prep QC Batch: MP41274

Zinc

SW846 3010A ³

SW846 6010B 1



Client Sample ID: Lab Sample ID: Matrix: Project:	07-BC-El J73350-1 AQ - Sur Broad Cr	L-03 2A face Water			Date Sampled:10/03/07Date Received:10/05/07Percent Solids:n/a				
General Chemistry									
Analyte		Result	RL	Units	DF	Analyzed	By	Method	
Solids, Total Susper Total Organic Carbo	nded ^a on	11.0 4.0	$\begin{array}{c} 4.0 \\ 1.0 \end{array}$	mg/l mg/l	1 1	10/12/07 10/20/07 04:36	JA SJG	SM20 2540D SM20 5310B, 9060 M	

Report of Analysis

(a) Analysis done out of holding time.

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2.19



Client Samp Lab Sample Matrix:	ple ID: 07-B0 ID: J7335 AQ -	C-EL-03 60-12AF Surface	H2O Filter	red		Da Da Pei	te Sampled: 1 te Received: 1 ccent Solids: n	0/03/07 0/05/07 //a	
Project:	Broad	l Creek,	VA						
Metals Anal	lysis								
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Copper Zinc	2.7 U 3.4 U	5.0 20	2.7 3.4	ug/l ug/l	1 1	10/24/07 10/24/07	10/25/07 ND 10/25/07 ND	SW846 6010B ¹ SW846 6010B ¹	SW846 3010A ² SW846 3010A ²

(1) Instrument QC Batch: MA19998

(2) Prep QC Batch: MP41274

39 of 79 ACCUTEST. J73350



07-BC-EL-04 J73350-13 SO - Soil	Date Sampled: 10/03/07 Date Received: 10/05/07 Percent Solids: 74.1					
bloau Cleek, VA						
Result	RL	Units	DF	Analyzed	By	Method
25.9		%	1	10/09/07	LE LMM	ASTM 2216
	07-BC-EL-04 J73350-13 SO - Soil Broad Creek, VA Result 25.9 1.8	07-BC-EL-04 J73350-13 SO - Soil Broad Creek, VA Result 25.9 1.8	07-BC-EL-04 J73350-13 SO - Soil Broad Creek, VA Result RL Units 25.9 % 1.8	07-BC-EL-04 J73350-13 Date S SO - Soil Date I Percer Broad Creek, VA Result RL Units DF 25.9 % 1 1.8 1	07-BC-EL-04 J73350-13 Date Sampled: 10/02 SO - Soil Date Received: 10/02 Percent Solids: 74.1 Broad Creek, VA Result RL Units DF Analyzed 25.9 % 1 10/09/07 1.8 10/02	07-BC-EL-04 J73350-13 SO - Soil Date Sampled: 10/03/07 Date Received: 10/05/07 Percent Solids: 74.1 Broad Creek, VA Result RL Units DF Analyzed By 25.9 % 1 10/09/07 LE 1 10/16/07 LMM

(a) Results shown reported as a percentage of total (as received) weight. 34.9% moisture if reported as a percentage of the dry sample weight.

2.21

Client Samp Lab Sample Matrix:	ple ID: e ID:	07-BC J7335 AQ -	C-EL-04 0-13A Surface	Water			Da Da Pei	te Sampled: te Received: rcent Solids:	10 10	10/03/07 10/05/07 p/a		
Project:		Broad	Creek,	VA								
Metals Anal	lysis											
Analyte	Re	sult	RL	MDL	Units	DF	Prep	Analyzed 1	By	Method	Prep Method	
Copper	2.7	U	5.0	2.7	ug/l	1	10/24/07	10/26/07	ND	SW846 6010B ²	SW846 3010A ³	

10/24/07 10/25/07 ND

Report of Analysis

(1) Instrument QC Batch: MA19998

14.6 B

20

3.4

ug/l

1

(2) Instrument QC Batch: MA20006

(3) Prep QC Batch: MP41274

Zinc



Page 1 of 1

SW846 3010A ³

SW846 6010B 1

Client Sample ID: Lab Sample ID: Matrix: Project:	07-BC-EI J73350-12 AQ - Sur Broad Cr	L-04 3A face Water			Date Sampled:10/03/07Date Received:10/05/07Percent Solids:n/a				
General Chemistry									
Analyte		Result	RL	Units	DF	Analyzed	By	Method	
Solids, Total Susper Total Organic Carbo	nded ^a on	10.0 3.7	4.0 1.0	mg/l mg/l	1 1	10/12/07 10/20/07 04:51	JA SJG	SM20 2540D SM20 5310B, 9060 M	

Report of Analysis

(a) Analysis done out of holding time.

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2.22



Report	of	Anal	ysis
1			•

Client Samp Lab Sample Matrix:	ole ID: (e ID:)	07-BC- J73350 AQ - S	EL-04 -13AF urface]	H2O Filter	ed		Da Da Per	te Sampled: te Received: rcent Solids:	10/03/07 10/05/07 n/a		
Project:]	Broad (Creek,	VA				00110 20110250			
Metals Anal	lysis										
Analyte	Resu	ılt	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method	
Copper Zinc	2.7 U 3.4 U	U U	5.0 20	2.7 3.4	ug/l ug/l	1 1	10/24/07 10/24/07	10/26/07 ND 10/25/07 ND	SW846 6010B ² SW846 6010B ¹	SW846 3010A ³ SW846 3010A ³	

(1) Instrument QC Batch: MA19998

(2) Instrument QC Batch: MA20006

(3) Prep QC Batch: MP41274

2.23 N

Page 1 of 1

Client Sample ID: Lab Sample ID: Matrix: Project:	07-BC-EL-05 J73350-14 SO - Soil Broad Creek, V	A		Date S Date I Percei	Sampled: 10/ Received: 10/ nt Solids: 63.	03/07 05/07 6		
General Chemistry	,							
Analyte	Resu	lt RL	Units	DF	Analyzed	By	Method	
Moisture, Percent ^a Specific Gravity	36.4 1.6		%	1 1	10/09/07 10/16/07	LE LMM	ASTM 2216 ASTM 1429	

(a) Results shown reported as a percentage of total (as received) weight. 57.3% moisture if reported as a percentage of the dry sample weight.

Page 1 of 1



Client Samp Lab Sample Matrix:	ble ID: 07-B0 ID: J7335 AQ -	07-BC-EL-05 J73350-14A AQ - Surface Water					Date Sampled: 10/03/07 Date Received: 10/05/07 Percent Solids: p/a						
Project:	Broad	Broad Creek, VA											
Metals Anal	lysis												
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method				
Copper Zinc	2.7 U 4.2 B	5.0 20	2.7 3.4	ug/l ug/l	1 1	10/24/07 10/24/07	10/26/07 ND 10/25/07 ND	SW846 6010B ² SW846 6010B ¹	SW846 3010A ³ SW846 3010A ³				

Report of Analysis

(1) Instrument QC Batch: MA19998

(2) Instrument QC Batch: MA20006

(3) Prep QC Batch: MP41274

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2.25



Client Sample ID:	07-BC-EI	7-BC-EL-05				Date Sampled:10/03/07Date Received:10/05/07Percent Solids:n/a				
Lab Sample ID:	J73350-14	73350-14A								
Matrix:	AQ - Sur	AQ - Surface Water								
Project:	Broad Cr	Broad Creek, VA								
General Chemistry										
Analyte		Result	RL	Units	DF	Analyzed	By	Method		
Solids, Total Susper	nded ^a	6.0	$\begin{array}{c} 4.0 \\ 1.0 \end{array}$	mg/l	1	10/12/07	JA	SM20 2540D		
Total Organic Carbo	on	4.7		mg/l	1	10/20/07 05:36	SJG	SM20 5310B, 9060 M		

Report of Analysis

(a) Analysis done out of holding time.

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2.25



Client Sample ID:07-BC-EL-05Lab Sample ID:J73350-14AFMatrix:AQ - Surface H2O Filtered						Date Sampled: 10/03/07 Date Received: 10/05/07 Percent Solids: n/a						
Project: Broad Creek, VA												
Metals Analysis												
Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method			
Copper Zinc	2.7 U 3.4 U	5.0 20	2.7 3.4	ug/l ug/l	1 1	10/24/07 10/24/07	10/25/07 ND 10/25/07 ND	SW846 6010B ¹ SW846 6010B ¹	SW846 3010A ² SW846 3010A ²			

(1) Instrument QC Batch: MA19998

(2) Prep QC Batch: MP41274



Page 1 of 1

Client Sample ID:0Lab Sample ID:J'Matrix:S	7-BC-SS-01 73350-16 O - Soil			Date Sampled:10/03/07Date Received:10/05/07Percent Solids:n/a						
Project: B	broad Creek, VA									
General Chemistry										
Analyte	Result	RL	Units	DF	Analyzed	By	Method			
Particle Size Analysis	(Sieve and Hydron	neter Testi	ng)							
3 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63			
1.5 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63			
0.75 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63			
0.375 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63			
No.4 Sieve (4.75 mm)	100		%	1	10/22/07	ML	ASTM D422-63			
No.8 Sieve (2.36 mm)	100		%	1	10/22/07	ML	ASTM D422-63			
No.10 Sieve (2.00 mm	n) 100		%	1	10/22/07	ML	ASTM D422-63			
No.16 Sieve (1.18 mm	n) 99.4		%	1	10/22/07	ML	ASTM D422-63			
No.30 Sieve (0.60 mm	n) 98.3		%	1	10/22/07	ML	ASTM D422-63			
No.50 Sieve (0.30 mm	n) 95.2		%	1	10/22/07	ML	ASTM D422-63			
No.100 Sieve (0.15 m	m) 24.9		%	1	10/22/07	ML	ASTM D422-63			
No.200 Sieve (0.075 n	nm) 4.3		%	1	10/22/07	ML	ASTM D422-63			
0.030 mm (Hydromete	er) ^a 4.2		%	1	10/22/07	ML	ASTM D422-63			
0.005 mm (Hydrometer	er) 4.1		%	1	10/22/07	ML	ASTM D422-63			
0.0015 mm (Hydrome	ter) 4.1		%	1	10/22/07	ML	ASTM D422-63			
% Gravel	0.0		%	1	10/22/07	ML	ASTM D422-63			
% Sand	95.7		%	1	10/22/07	ML	ASTM D422-63			
% Silt, Clay, Colloids	4.3		%	1	10/22/07	ML	ASTM D422-63			

(a) Data extrapolated from higher and lower data points due to possible analytical problem with hydrometer analysis at short analysis times.

Page 1 of 1

2.27

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J73350

Client Sample ID: (Lab Sample ID:) Matrix: S	07-BC-SS-DUP J73350-17 SO - Soil			Date Sampled: 10/03/07 Date Received: 10/05/07 Porcent Solids: n/a				
Project:	Broad Creek, VA			Terce	nt Sonus. m/a			
General Chemistry								
Analyte	Result	RL	Units	DF	Analyzed	By	Method	
Particle Size Analysi	s (Sieve and Hydron	neter Testi	ng)					
3 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63	
1.5 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63	
0.75 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63	
0.375 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63	
No.4 Sieve (4.75 mm) 100		%	1	10/22/07	ML	ASTM D422-63	
No.8 Sieve (2.36 mm	100		%	1	10/22/07	ML	ASTM D422-63	
No.10 Sieve (2.00 mm	m) 100		%	1	10/22/07	ML	ASTM D422-63	
No.16 Sieve (1.18 m	m) 99.8		%	1	10/22/07	ML	ASTM D422-63	
No.30 Sieve (0.60 m	m) 99.1		%	1	10/22/07	ML	ASTM D422-63	
No.50 Sieve (0.30 m	m) 96.9		%	1	10/22/07	ML	ASTM D422-63	
No.100 Sieve (0.15 n	nm) 45.7		%	1	10/22/07	ML	ASTM D422-63	
No.200 Sieve (0.075	mm) 22.0		%	1	10/22/07	ML	ASTM D422-63	
0.030 mm (Hydromet	ter) 6.2		%	1	10/22/07	ML	ASTM D422-63	
0.005 mm (Hydromet	ter) 4.1		%	1	10/22/07	ML	ASTM D422-63	
0.0015 mm (Hydrome	eter) 4.1		%	1	10/22/07	ML	ASTM D422-63	
% Gravel	0.0		%	1	10/22/07	ML	ASTM D422-63	
% Sand	78.0		%	1	10/22/07	ML	ASTM D422-63	
% Silt, Clay, Colloids	s 22.0		%	1	10/22/07	ML	ASTM D422-63	



2.28



Client Sample ID: Lab Sample ID: Matrix: Project:	07-BC-SS-02 J73350-18 SO - Soil Broad Creek, VA			Date Sampled:10/03/07Date Received:10/05/07Percent Solids:n/a					
General Chemistry									
Analyte	Result	RL	Units	DF	Analyzed	By	Method		
Particle Size Analys	sis (Sieve and Hydror	neter Testi	ng)						
3 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63		
1.5 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63		
0.75 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63		
0.375 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63		
No.4 Sieve (4.75 m	n) 100		%	1	10/22/07	ML	ASTM D422-63		
No.8 Sieve (2.36 m	n) 100		%	1	10/22/07	ML	ASTM D422-63		
No.10 Sieve (2.00 n	nm) 100		%	1	10/22/07	ML	ASTM D422-63		
No.16 Sieve (1.18 n	nm) 99.3		%	1	10/22/07	ML	ASTM D422-63		
No.30 Sieve (0.60 n	nm) 97.5		%	1	10/22/07	ML	ASTM D422-63		
No.50 Sieve (0.30 n	nm) 87.6		%	1	10/22/07	ML	ASTM D422-63		
No.100 Sieve (0.15	mm) 32.9		%	1	10/22/07	ML	ASTM D422-63		
No.200 Sieve (0.075	5 mm) 6.2		%	1	10/22/07	ML	ASTM D422-63		
0.030 mm (Hydrome	eter) 5.5		%	1	10/22/07	ML	ASTM D422-63		
0.005 mm (Hydrome	eter) 4.0		%	1	10/22/07	ML	ASTM D422-63		
0.0015 mm (Hydron	neter) 4.0		%	1	10/22/07	ML	ASTM D422-63		

%

%

%

0.0

93.8

6.2

1

1

1

10/22/07

10/22/07

10/22/07

ML ASTM D422-63

ASTM D422-63

ASTM D422-63

ML

ML

Report of Analysis



2.29

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Page 1 of 1

% Gravel

% Silt, Clay, Colloids

% Sand

Client Sample ID: Lab Sample ID: Matrix: Project:	07-BC-SS-03 173350-19 SO - Soil Broad Creek, VA			Date Sampled:10/03/07Date Received:10/05/07Percent Solids:n/a						
General Chemistry										
Analyte	Result	RL	Units	DF	Analyzed	By	Method			
Particle Size Analysis (Sieve and Hydrometer Testing)										
3 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63			
1.5 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63			
0.75 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63			
0.375 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63			
No.4 Sieve (4.75 mm) 100		%	1	10/22/07	ML	ASTM D422-63			
No.8 Sieve (2.36 mm) 100		%	1	10/22/07	ML	ASTM D422-63			
No.10 Sieve (2.00 m	m) 100		%	1	10/22/07	ML	ASTM D422-63			
No.16 Sieve (1.18 m	m) 99.7		%	1	10/22/07	ML	ASTM D422-63			
No.30 Sieve (0.60 m	m) 98.2		%	1	10/22/07	ML	ASTM D422-63			
No.50 Sieve (0.30 m	m) 88.1		%	1	10/22/07	ML	ASTM D422-63			
No.100 Sieve (0.15 n	nm) 17.3		%	1	10/22/07	ML	ASTM D422-63			
No.200 Sieve (0.075	mm) 7.4		%	1	10/22/07	ML	ASTM D422-63			
0.030 mm (Hydromet	ter) ^a 7.0		%	1	10/22/07	ML	ASTM D422-63			
0.005 mm (Hydromet	ter) 4.0		%	1	10/22/07	ML	ASTM D422-63			
0.0015 mm (Hydrom	eter) 4.0		%	1	10/22/07	ML	ASTM D422-63			
% Gravel	0.0		%	1	10/22/07	ML	ASTM D422-63			
% Sand	92.6		%	1	10/22/07	ML	ASTM D422-63			
% Silt, Clay, Colloid	s 7.4		%	1	10/22/07	ML	ASTM D422-63			

(a) Data extrapolated from higher and lower data points due to possible analytical problem with hydrometer analysis at short analysis times.




No.200 Sieve (0.075 mm)

0.030 mm (Hydrometer)

0.005 mm (Hydrometer)

0.0015 mm (Hydrometer)

% Silt, Clay, Colloids

% Gravel

% Sand

9.4

7.9

6.0

6.0

0.0

90.6

9.4

Client Sample ID: Lab Sample ID: Matrix:	07-BC-SS-04 J73350-20 SO - Soil			Date S Date J Perce	Sampled: 10/0 Received: 10/0 nt Solids: n/a	3/07 5/07	
Project:	Broad Creek, VA						
General Chemistry	,						
Analyte	Result	RL	Units	DF	Analyzed	By	Method
Particle Size Analy	sis (Sieve and Hydroi	neter Testi	ng)				
3 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63
1.5 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63
0.75 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63
0.375 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63
No.4 Sieve (4.75 m	m) 100		%	1	10/22/07	ML	ASTM D422-63
No.8 Sieve (2.36 m	m) 100		%	1	10/22/07	ML	ASTM D422-63
No.10 Sieve (2.00 r	nm) 100		%	1	10/22/07	ML	ASTM D422-63
No.16 Sieve (1.18 r	nm) 99.5		%	1	10/22/07	ML	ASTM D422-63
No.30 Sieve (0.60 r	nm) 97.9		%	1	10/22/07	ML	ASTM D422-63
No.50 Sieve (0.30 r	nm) 91.9		%	1	10/22/07	ML	ASTM D422-63
No.100 Sieve (0.15	mm) 26.8		%	1	10/22/07	ML	ASTM D422-63

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ML

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ML

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ML

ASTM D422-63

2.31

N



Client Sample ID:07Lab Sample ID:J7Matrix:SC	-BC-SS-05 3350-21) - Soil			Date S Date S Perce	Sampled: 10/0. Received: 10/0. nt Solids: n/a	3/07 5/07								
Project: Br	oad Creek, VA													
General Chemistry	General Chemistry													
Analyte	Result	RL	Units	DF	Analyzed	By	Method							
Particle Size Analysis	(Sieve and Hydron	neter Testi	ng)											
3 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63							
1.5 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63							
0.75 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63							
0.375 Inch Sieve	100		%	1	10/22/07	ML	ASTM D422-63							
No.4 Sieve (4.75 mm)	100		%	1	10/22/07	ML	ASTM D422-63							
No.8 Sieve (2.36 mm)	100		%	1	10/22/07	ML	ASTM D422-63							
No.10 Sieve (2.00 mm)	100		%	1	10/22/07	ML	ASTM D422-63							
No.16 Sieve (1.18 mm)	99.4		%	1	10/22/07	ML	ASTM D422-63							
No.30 Sieve (0.60 mm)	97.7		%	1	10/22/07	ML	ASTM D422-63							
No.50 Sieve (0.30 mm)	92.3		%	1	10/22/07	ML	ASTM D422-63							
No.100 Sieve (0.15 mm	n) 53.2		%	1	10/22/07	ML	ASTM D422-63							
No.200 Sieve (0.075 m	m) 41.9		%	1	10/22/07	ML	ASTM D422-63							
0.030 mm (Hydrometer	^a 34.0		%	1	10/22/07	ML	ASTM D422-63							
0.005 mm (Hydrometer) 22.0		%	1	10/22/07	ML	ASTM D422-63							
0.0015 mm (Hydrometer	er) 15.5		%	1	10/22/07	ML	ASTM D422-63							
% Gravel	0.0		%	1	10/22/07	ML	ASTM D422-63							
% Sand	58.1		%	1	10/22/07	ML	ASTM D422-63							
% Silt, Clay, Colloids	41.9		%	1	10/22/07	ML	ASTM D422-63							

Report of Analysis

(a) Data extrapolated from higher and lower data points due to possible analytical problem with hydrometer analysis at short analysis times.



2.32





Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

• Chain of Custody



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City	State		Zip	City				Sta	te						99	E ME	۳.	と	2						SW - Surface Water	
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Phone #	7/2 0		<u></u>	Fax #												€÷	id d	2 C	3		ĺ				IO - 10	
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	MARC D G	TUTTERM	+Tri	Client F	urchase Or	der#								_	₽₩										AIR - Air	
Accutest	Field ID / Point of	Collection	SUMMA#		Collection		T -	T		Numbe	er of nre	serve	d Rottle		N 62	624 NAP	625 BN 1	୍ୟ	ส						SOL - Other Solid	
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J73350: Chain of Custody Page 1 of 5



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CHAIN OF CUSTODY

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J73350: Chain of Custody Page 3 of 5



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J73350: Chain of Custody Page 4 of 5



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CHAIN OF CUSTODY

2235 Route 130, Dayton NJ 08810 TEL. 732-329-0200 FAX: 732-329-3499/3480 www.accutest.com

Laboratories	,	ww.accutest.com	Accutest Quote #	Accutest Job # ~ 7 7 7 CC
Client / Reporting Information 8	2.1.1			<u> </u>
Company Name	Project In Project In	ormation	Requ	ested Analysis Matrix Codes
US ARMY CORPSOF ENGES NORFO	Broad (r			DW - Drinking Water
Address 803 EPONT CH	Street			GW - Ground Water
				WW - Water
NOR-FOLIE ICD DIE Zip	City Sta			SW - Surface Water
Project Contact				SO - Soil
MARCD GUTTERMA	Project #			SL - Sludge
Phone #	Fax #			OF-OF
<u></u>				LIQ - Other Liquid
Sampler's Name	Client Purchase Order #			alR, air
Accurated States			NTBE	SOL Other Selle
Sample # SUMMA #	Collection	Number of preserved Bottles		
MEOH Vial #	Date Time Sampled Matrix # of By Matrix bottles	480H 480H 480H 480H	ABN 10 AB	wr- wipe
-16 07-86-65-01	0/3/03 N/A		┝╾╪╌┽╌┼╤┼╌┼╌┥	LAB USE ONLY
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5 Day PURH	Commercial "B"	NYASP Category A	ONE	(1) COULER
3 Day FMERGENCY	NJ Reduced	NYASP Category B		· · · · · · · · · · · · · · · · · · ·
		State Forms		
1 Day EMERGENCY		LI EDD Format		
□ Other	Communication			
mergency & RushT/A data available VIA Labl ink	Commercial "A" = Results Only			
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J73350: Chain of Custody Page 5 of 5



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GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries



Method Blank Summary

Job Number:	J73350
Account:	USACEVAN USACE-Norfolk District
Project:	Broad Creek, VA

Sample OP29552-MB1	File ID OA40824.D	DF 1	Analyzed 10/13/07	By TDR	Prep Date 10/08/07	Prep Batch OP29552	Analytical Batch GOA1461

The QC reported here applies to the following samples:

Method: SW846 8082

J73350-7

CAS No.	Compound	Result	RL	MDL	Units Q
12674-11-2	Aroclor 1016	ND	0.50	0.094	ug/l
11104-28-2	Aroclor 1221	ND	0.50	0.47	ug/l
11141-16-5	Aroclor 1232	ND	0.50	0.39	ug/l
53469-21-9	Aroclor 1242	ND	0.50	0.16	ug/l
12672-29-6	Aroclor 1248	ND	0.50	0.15	ug/l
11097-69-1	Aroclor 1254	ND	0.50	0.11	ug/l
11096-82-5	Aroclor 1260	ND	0.50	0.12	ug/l

CAS No.	Surrogate Recoveries		Limits	
877-09-8 877-09-8 2051-24-3 2051-24-3	Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl Decachlorobiphenyl	88% 88% 101% 103%	38-133% 38-133% 18-156% 18-156%	



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Blank Spike Summary

Job Number:	J73350
Account:	USACEVAN USACE-Norfolk District
Project:	Broad Creek, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29552-BS1	OA40825.D	1	10/13/07	TDR	10/08/07	OP29552	GOA1461

The QC reported here applies to the following samples:

Method: SW846 8082

J73350-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	2	2.4	120	71-131
11104-28-2	Aroclor 1221		ND		70-130
11141-16-5	Aroclor 1232		ND		70-130
53469-21-9	Aroclor 1242		ND		70-130
12672-29-6	Aroclor 1248		ND		70-130
11097-69-1	Aroclor 1254		ND		70-130
11096-82-5	Aroclor 1260	2	2.2	110 a	72-134

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	85%	38-133%
877-09-8	Tetrachloro-m-xylene	89%	38-133%
2051-24-3	Decachlorobiphenyl	87%	18-156%
2051-24-3	Decachlorobiphenyl	91%	18-156%

(a) Reported from 2nd signal. %D of check calibration on 1st signal exceed method criteria (15%) so using for confirmation only.

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Page 1 of 1



Matrix Spike/Matrix Spike Duplicate Summary

Job Number:	J73350
Account:	USACEVAN USACE-Norfolk District
Project:	Broad Creek, VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29552-MS	OA40826.D	1	10/13/07	TDR	10/08/07	OP29552	GOA1461
OP29552-MSD	OA40839.D	1	10/15/07	TDR	10/08/07	OP29552	GOA1463
J73350-7	OA40819.D	1	10/12/07	TDR	10/08/07	OP29552	GOA1461

The QC reported here applies to the following samples:

Method: SW846 8082

J73350-7

2051-24-3 Decachlorobiphenyl

CAS No.	Compound	J73350-7 ug/l Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
12674-11-2 11104-28-2 11141-16-5 53469-21-9 12672-29-6 11097-69-1 11096-82-5	Aroclor 1016 Aroclor 1221 Aroclor 1232 Aroclor 1242 Aroclor 1248 Aroclor 1254 Aroclor 1260	ND ND ND ND ND ND ND	4	4.6 ND ND ND ND 3.8	11595	4.6 ND ND ND ND 4.0	115	0 nc nc nc nc 5	58-140/14 70-130/10 70-130/10 70-130/10 70-130/10 70-130/10 58-140/14
CAS No.	Surrogate Recoveries	MS	MSD	J73	350-7	Limits			
877-09-8 877-09-8 2051-24-3	Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl	86% 91% 98%	90% 88% 98%	89% 90% 92%))	38-133% 38-133% 18-156%			

93%

88%

18-156%

102%



4.3 4

Semivolatile Surrogate Recovery Summary

Job Number:	J73350
Account:	USACEVAN USACE-Norfolk District
Project:	Broad Creek, VA

Method: SW846 8082 Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 a	S1 ^b	S2 ^a	S2 ^b
J73350-7	OA40819.D	89.0	90.0	92.0	88.0
OP29552-BS1	OA40825.D	85.0	89.0	87.0	91.0
OP29552-MB1	OA40824.D	88.0	88.0	101.0	103.0
OP29552-MS	OA40826.D	86.0	91.0	98.0	102.0
OP29552-MSD	OA40839.D	90.0	88.0	98.0	93.0

Surrogate	Recovery
Compounds	Limits
S1 = Tetrachloro-m-xylene	38-133%
S2 = Decachlorobiphenyl	18-156%

(a) Recovery from GC signal #1(b) Recovery from GC signal #2

4.4 **4**





Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

S



Login Number: J73350 Account: USACEVAN - USACE-Norfolk District Project: Broad Creek, VA

QC Batch ID: MP41256 Matrix Type: SOLID Methods: SW846 6010B Units: mg/kg

Prep Date:				10/23/07
Metal	RL	IDL	MB raw	final
Aluminum	20	1.9	anr	
Antimony	2.0	.51	anr	
Arsenic	2.0	.31	anr	
Barium	20	.04	anr	
Beryllium	0.50	.01	anr	
Cadmium	0.50	.08	anr	
Calcium	500	2.2	anr	
Chromium	1.0	.11	anr	
Cobalt	5.0	.11	anr	
Copper	2.5	.34	0.12	<2.5
Iron	10	5.5	anr	
Lead	2.0	.35	anr	
Magnesium	500	.76	anr	
Manganese	1.5	.06	anr	
Nickel	4.0	.23	anr	
Potassium	1000	6.1	anr	
Selenium	2.0	.35	anr	
Silver	1.0	.23	anr	
Sodium	1000	45	anr	
Thallium	1.0	.77	anr	
Vanadium	5.0	.27	anr	
Zinc	2.0	.14	0.098	<2.0

Associated samples MP41256: J73350-1, J73350-2, J73350-3, J73350-4, J73350-5, J73350-6

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (anr) Analyte not requested



5.1.1

G

Login Number: J73350 Account: USACEVAN - USACE-Norfolk District Project: Broad Creek, VA

QC Batch ID: MP41256 Matrix Type: SOLID Methods: SW846 6010B Units: mg/kg

Prep Date:				10/23/07	
Metal	J73350-3 Original	MS	Spikelot MPIRS1	% Rec	QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Cadmium	anr				
Calcium	anr				
Chromium	anr				
Cobalt	anr				
Copper	2.6	69.2	69.1	96.4	75-125
Iron	anr				
Lead	anr				
Magnesium	anr				
Manganese	anr				
Nickel	anr				
Potassium	anr				
Selenium	anr				
Silver	anr				
Sodium	anr				
Thallium	anr				
Vanadium	anr				
Zinc	6.8	136	138	93.5	75-125
Associated sam	ples MP41	256: J733	50-1, J73	350-2, J7	3350-3, J73350-4, J73350-5, J73350-6

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested



5.1.2

G

Login Number: J73350 Account: USACE-Norfolk District Project: Broad Creek, VA

QC Batch ID: MP41256 Matrix Type: SOLID

Methods: SW846 6010B Units: mg/kg

Prep Date:					10/23/07	
Metal	J73350- Origina	-3 al MSD	Spikelot MPIRS1	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Cadmium	anr					
Calcium	anr					
Chromium	anr					
Cobalt	anr					
Copper	2.6	66.7	66.4	96.6	3.7	20
Iron	anr					
Lead	anr					
Magnesium	anr					
Manganese	anr					
Nickel	anr					
Potassium	anr					
Selenium	anr					
Silver	anr					
Sodium	anr					
Thallium	anr					
Vanadium	anr					
Zinc	6.8	130	133	92.8	4.5	20
Associated sa	amples MP4	41256: J7	3350-1, J73	350-2,	J73350-3, J	73350-4, J73350-5, J73350-6

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested



Login Number: J73350 Account: USACEVAN - USACE-Norfolk District Project: Broad Creek, VA

QC Batch ID: MP41256 Matrix Type: SOLID Methods: SW846 6010B Units: mg/kg

Prep Date:			10/23/07	
Metal	BSP Result	Spikelot MPIRS1	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Cadmium	anr			
Calcium	anr			
Chromium	anr			
Cobalt	anr			
Copper	50.5	50	101.0	80-120
Iron	anr			
Lead	anr			
Magnesium	anr			
Manganese	anr			
Nickel	anr			
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium	anr			
Thallium	anr			
Vanadium	anr			
Zinc	97.4	100	97.4	80-120
Associated sam	ples MP41	256: J733	50-1, J73	350-2, J73350-3, J73350-4, J73350-5, J73350-6

Sociated Samples MP41230. 01330 1, 01330 2, 01330 3, 01330 4, 01330 3, 013

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (anr) Analyte not requested



SERIAL DILUTION RESULTS SUMMARY

Login Number: J73350 Account: USACEVAN - USACE-Norfolk District Project: Broad Creek, VA

QC Batch ID: MP41256 Matrix Type: SOLID

Methods: SW846 6010B Units: ug/l

Prep Date:			10/23/07	
Metal	J73350-3 Original	SDL 1:5	RPD	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Cadmium	anr			
Calcium	anr			
Chromium	anr			
Cobalt	anr			
Copper	19.0	28.4	49.5 (a)	0-10
Iron	anr			
Lead	anr			
Magnesium	anr			
Manganese	anr			
Nickel	anr			
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium	anr			
Thallium	anr			
Vanadium	anr			
Zinc	49.2	75.6	53.7 (a)	0-10
Associated sam	ples MP41:	256: J733	50-1, J73	350-2, J73350-3, J73350-4, J73350-5, J73350-6

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits $\hfill \hfill$

(anr) Analyte not requested (a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).



5.1.4

S

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: J73350 Account: USACEVAN - USACE-Norfolk District Project: Broad Creek, VA

QC Batch ID: MP41274 Matrix Type: AQUEOUS Methods: SW846 6010B Units: ug/l

Prep Date:				10/24/07
Metal	RL	IDL	MB raw	final
Aluminum	200	14		
Antimony	6.0	4.7	anr	
Arsenic	8.0	3.6	anr	
Barium	200	1.1	anr	
Beryllium	1.0	.07	anr	
Boron	100	4.2		
Cadmium	4.0	.4	anr	
Calcium	5000	73		
Chromium	10	1	anr	
Cobalt	50	.7	anr	
Copper	25	1.1	1.1	<25
Iron	100	14	anr	
Lead	3.0	2	anr	
Magnesium	5000	4.4		
Manganese	15	.2		
Molybdenum	20	.9	anr	
Nickel	40	1.5	anr	
Palladium	50	5.9		
Potassium	10000	64		
Selenium	10	4.4	anr	
Silicon	200	12		
Silver	10	2.4	anr	
Sodium	10000	280		
Strontium	10	.1		
Thallium	10	3.3	anr	
Tin	10	1.9		
Titanium	10	.6		
Vanadium	50	.8	anr	
Zinc	20	.4	0.88	<20

Associated samples MP41274: J73350-7, J73350-8, J73350-9A, J73350-10A, J73350-11A, J73350-12A, J73350-13A, J73350-14A, J73350-9AF, J73350-10AF, J73350-11AF, J73350-12AF, J73350-13AF, J73350-14AF

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (anr) Analyte not requested



5.2.1 5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: J73350 Account: USACEVAN - USACE-Norfolk District Project: Broad Creek, VA

QC Batch ID: MP41274 Matrix Type: AQUEOUS Methods: SW846 6010B Units: ug/l

Prep Date:				10/24/07	
Metal	J74035-1 Original	MS	Spikelot MPIOW4	% Rec	QC Limits
Aluminum					
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Boron					
Cadmium	anr				
Calcium					
Chromium	anr				
Cobalt	anr				
Copper	1.4	250	250	99.4	75-125
Iron	anr				
Lead	anr				
Magnesium					
Manganese					
Molybdenum	anr				
Nickel	anr				
Palladium					
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium					
Strontium					
Thallium	anr				
Tin					
Titanium					
Vanadium	anr				
Zinc	106	600	500	98.8	75-125
Associated sam 13A, J73350-14	ples MP41: A, J73350	274: J733 -9AF, J73	50-7, J73 350-10AF,	350-8, J73 J73350-13	3350-9A, J73350-10A, J73350-11A, J73350-12A, J73350- 1AF, J73350-12AF, J73350-13AF, J73350-14AF

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested



Login Number: J73350 Account: USACEVAN - USACE-Norfolk District Project: Broad Creek, VA

QC Batch ID: MP41274 Matrix Type: AQUEOUS Methods: SW846 6010B Units: ug/l

Prep Date:					10/24/07	
Metal	J74035-1 Original	MSD	Spikelot MPIOW4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt	anr					
Copper	1.4	252	250	100.2	0.8	20
Iron	anr					
Lead	anr					
Magnesium						
Manganese						
Molybdenum	anr					
Nickel	anr					
Palladium						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium	anr					
Zinc	106	602	500	99.2	0.3	20

Associated samples MP41274: J73350-7, J73350-8, J73350-9A, J73350-10A, J73350-11A, J73350-12A, J73350-13A, J73350-14A, J73350-9AF, J73350-10AF, J73350-11AF, J73350-12AF, J73350-13AF, J73350-14AF

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (N) Matrix Spike Rec. outside of QC limits (anr) Analyte not requested



J73350

5.2.2

G

Login Number: J73350 Account: USACEVAN - USACE-Norfolk District Project: Broad Creek, VA

QC Batch ID: MP41274 Matrix Type: AQUEOUS Methods: SW846 6010B Units: ug/l

Prep Date:			10/24/07				10/24/07	
Metal	BSP Result	Spikelot MPIOW4	% Rec	QC Limits	LCS Result	Spikelot MPLCW2	% Rec	QC Limits
Aluminum								
Antimony	anr							
Arsenic	anr							
Barium	anr							
Beryllium	anr							
Boron								
Cadmium	anr							
Calcium								
Chromium	anr							
Cobalt	anr							
Copper	248	250	99.2	80-120	501	500	100.2	80-120
Iron	anr							
Lead	anr							
Magnesium								
Manganese								
Molybdenum	anr							
Nickel	anr							
Palladium								
Potassium								
Selenium	anr							
Silicon								
Silver	anr							
Sodium								
Strontium								
Thallium	anr							
Tin								
Titanium								
Vanadium	anr							
Zinc	499	500	99.8	80-120	511	500	102.2	80-120

Associated samples MP41274: J73350-7, J73350-8, J73350-9A, J73350-10A, J73350-11A, J73350-12A, J73350-13A, J73350-14A, J73350-10AF, J73350-10AF, J73350-14AF

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (anr) Analyte not requested



5.2.3 **5**

SERIAL DILUTION RESULTS SUMMARY

Login Number: J73350 Account: USACEVAN - USACE-Norfolk District Project: Broad Creek, VA

QC Batch ID: MP41274 Matrix Type: AQUEOUS Methods: SW846 6010B Units: ug/l

Prep Date:			10/24/07	
Metal	J74035-1 Original	SDL 1:5	RPD	QC Limits
Aluminum				
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt	anr			
Copper	1.42	0.00	100.0(a)	0-10
Iron	anr			
Lead	anr			
Magnesium				
Manganese				
Molybdenum	anr			
Nickel	anr			
Palladium				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium	anr			
Zinc	106	232	119.8*(b	0-10
Associated sam 13A, J73350-14	ples MP41: A, J73350	274: J733 -9AF, J73	50-7, J73 350-10AF,	350-8, J73350-9A, J73350-10A, J73350-11A, J73350-12A, J73350- J73350-11AF, J73350-12AF, J73350-13AF, J73350-14AF

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).(b) Serial dilution indicates possible matrix interference.





6

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries



METHOD BLANK AND SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: J73350 Account: USACEVAN - USACE-Norfolk District Project: Broad Creek, VA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Suspended Solids, Total Suspended Total Organic Carbon Total Organic Carbon Total Organic Carbon	GN8270 GN8434 GP41352/GN8491 GP41425/GN8674 GP41426/GN8674	4.0 4.0 100 1.0 1.0	<4.0 <4.0 <100 <1.0 <1.0	mg/l mg/l mg/kg mg/l mg/l	2000 10 10	2030 9.75 9.86	101.5 97.5 98.6	80-120% 90-110% 90-110%
Associated Samples:								

Associated Samples. Batch GN8270: J73350-7 Batch GN8434: J73350-10A, J73350-11A, J73350-12A, J73350-13A, J73350-14A, J73350-9A Batch GP41352: J73350-1, J73350-2, J73350-3, J73350-4, J73350-5, J73350-6 Batch GP41425: J73350-7 Batch GP41426: J73350-10A, J73350-11A, J73350-12A, J73350-13A, J73350-14A, J73350-9A (*) Outside of QC limits



6.1



DUPLICATE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: J73350 Account: USACEVAN - USACE-Norfolk District Project: Broad Creek, VA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
% Gravel	GP41454/GN8731	J72626-6	olo	11.9	22.5	61.9	0-77%
% Sand	GP41454/GN8731	J72626-6	\$	56.9	48.9	15.1	0-31%
% Silt, Clay, Colloids	GP41454/GN8731	J72626-6	\$	31.3	28.6	8.8	0-36%
0.0015 mm (Hydrometer)	GP41454/GN8731	J72626-6	\$	11.0	10.0	9.5	0-61%
0.005 mm (Hydrometer)	GP41454/GN8731	J72626-6	\$	15.5	13.5	13.8	0-87%
0.030 mm (Hydrometer)	GP41454/GN8731	J72626-6	8	24.5	22.5	8.5	0-50%
0.375 Inch Sieve	GP41454/GN8731	J72626-6	8	94.0	86.5	8.3	0-27%
0.75 Inch Sieve	GP41454/GN8731	J72626-6	\$	100	100	0.0	0-21%
1.5 Inch Sieve	GP41454/GN8731	J72626-6	\$	100	100	0.0	0-20%
3 Inch Sieve	GP41454/GN8731	J72626-6	8	100	100	0.0	0-20%
No.10 Sieve (2.00 mm)	GP41454/GN8731	J72626-6	8	72.5	66.9	7.9	0-18%
No.100 Sieve (0.15 mm)	GP41454/GN8731	J72626-6	\$	35.8	33.2	7.6	0-32%
No.16 Sieve (1.18 mm)	GP41454/GN8731	J72626-6	8	67.9	63.3	7.0	0-21%
No.200 Sieve (0.075 mm)	GP41454/GN8731	J72626-6	8	31.3	28.6	8.8	0-27%
No.30 Sieve (0.60 mm)	GP41454/GN8731	J72626-6	\$	58.5	53.4	9.1	0-27%
No.4 Sieve (4.75 mm)	GP41454/GN8731	J72626-6	\$	88.1	77.5	12.8	0-17%
No.50 Sieve (0.30 mm)	GP41454/GN8731	J72626-6	8	45.5	41.3	9.6	0-25%
No.8 Sieve (2.36 mm)	GP41454/GN8731	J72626-6	8	76.2	69.1	9.8	0-18%
Solids, Total Suspended	GN8270	J73088-4	mg/l	22.0	20.0	9.5	0-12%
Solids, Total Suspended	GN8434	J73350-9A	mg/l	10.0	10.0	0.0	0-12%
Specific Gravity	GN8538	J73350-9		1.9	1.9	0.0	0-10%
Total Organic Carbon	GP41352/GN8491	J73350-3	mg/kg	1470	1460	0.7	0-27%
Total Organic Carbon	GP41425/GN8674	J74234-3	mg/l	11.5	11.6	0.9	0-34%
Total Organic Carbon	GP41426/GN8674	J74271-1	mg/l	2.0	1.9	5.1	0-34%
Associated Samples:							

Associated Samples. Batch GN8270: J73350-7 Batch GN8434: J73350-10A, J73350-11A, J73350-12A, J73350-13A, J73350-14A, J73350-9A Batch GN8538: J73350-10, J73350-11, J73350-12, J73350-13, J73350-14, J73350-9 Batch GP41352: J73350-1, J73350-2, J73350-3, J73350-4, J73350-5, J73350-6 Batch GP41425: J73350-7 Batch GP41426: J73350-10A, J73350-11A, J73350-12A, J73350-13A, J73350-14A, J73350-9A Batch GP41454: J73350-16, J73350-17, J73350-18, J73350-19, J73350-20, J73350-21 (*) Outside of QC limits



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ACCUTEST.

Labo

J73350

MATRIX SPIKE RESULTS SUMMARY GENERAL CHEMISTRY

Login Number: J73350 Account: USACEVAN - USACE-Norfolk District Project: Broad Creek, VA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Total Organic Carbon	GP41352/GN8491	J73350-3	mg/kg	1470	2700	3780	85.7	55-133%
Total Organic Carbon	GP41425/GN8674	J74234-3	mg/l	11.5	10	21.6	101.0	70-130%
Total Organic Carbon	GP41426/GN8674	J74271-1	mg/l	2.0	10	11.6	96.0	70-130%

Associated Samples:

Batch GP41352: J73350-1, J73350-2, J73350-3, J73350-4, J73350-5, J73350-6

Batch GP41425: J73350-7

Batch GP41426: J73350-10A, J73350-11A, J73350-12A, J73350-13A, J73350-14A, J73350-9A

(*) Outside of QC limits(N) Matrix Spike Rec. outside of QC limits

6.3 6





Technical Report for

USACE-Norfolk District

Broad Creek, VA

Accutest Job Number: J73350X

Sampling Date: 10/03/07

Report to:

USACE-Norfolk District 803 Front Street Norfolk, VA 23510

ATTN: Marc Gutterman

Total number of pages in report:



Vincent J. Pugliese President

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Client Service contact: Marty Vitanza 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, PA, RI, SC, TN, VA, WV

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Sample Summary

USACE-Norfolk District

Broad Creek, VA

Sample Collected Matrix Client **Received Code Type** Sample ID Number Time By Date 07-BC-SS-01 J73350-1X 10/03/07 09:35 MDG 10/05/07 SO Soil 07-BC-SS-DUP J73350-2X 10/03/07 09:35 MDG 10/05/07 SO Soil 07-BC-SS-02 J73350-3X 10/03/07 10:30 MDG 10/05/07 SO Soil 07-BC-SS-02 Soil Dup/MSD J73350-3XD 10/03/07 10:30 MDG 10/05/07 SO J73350-3XS 10/03/07 10:30 MDG 10/05/07 SO Soil Matrix Spike 07-BC-SS-02 07-BC-SS-03 J73350-4X 10/03/07 11:20 MDG 10/05/07 SO Soil 07-BC-SS-04 J73350-5X 10/03/07 11:45 MDG 10/05/07 SO Soil J73350-6X 10/03/07 12:15 MDG 10/05/07 SO Soil 07-BC-SS-05 07-BC-SW-01 J73350-7X 10/03/07 12:50 MDG 10/05/07 AQ Water 07-BC-EB J73350-8X 10/03/07 12:50 MDG 10/05/07 AQ Equipment Blank 07-BC-FL-01 J73350-9XA 10/03/07 09:35 MDG 10/05/07 AQ Surface Water J73350-9XF 10/03/07 09:35 MDG 10/05/07 AQ Surface H2O Filtered 07-BC-EL-01 07-BC-EL-DUP J73350-10XA 10/03/07 09:35 MDG 10/05/07 AQ Surface Water

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

J73350X

Job No:

Sample Summary (continued)

USACE-Norfolk District

Broad Creek, VA

Sample Number	Collected Date	Time By	Received	Matri Code	іх Туре	Client Sample ID
J73350-10XF	10/03/07	09:35 MDG	10/05/07	AQ	Surface H2O Filtered	07-BC-EL-DUP
J73350-11XA	10/03/07	10:30 MDG	10/05/07	AQ	Surface Water	07-BC-EL-02
J73350-11XF	10/03/07	10:30 MDG	10/05/07	AQ	Surface H2O Filtered	07-BC-EL-02
J73350-12XA	10/03/07	11:20 MDG	10/05/07	AQ	Surface Water	07-BC-EL-03
J73350-12XF	10/03/07	11:20 MDG	10/05/07	AQ	Surface H2O Filtered	07-BC-EL-03
J73350-13XA	10/03/07	11:45 MDG	10/05/07	AQ	Surface Water	07-BC-EL-04
J73350-13XF	10/03/07	11:45 MDG	10/05/07	AQ	Surface H2O Filtered	07-BC-EL-04
J73350-14XA	10/03/07	12:15 MDG	10/05/07	AQ	Surface Water	07-BC-EL-05
J73350-14XF	10/03/07	12:15 MDG	10/05/07	AQ	Surface H2O Filtered	07-BC-EL-05

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Job No: J

J73350X

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ACCUTES	Lê			TEI	2235 Re	ute 130, -0200 E	Dayton] 4X: 732-	VJ 08810 329-3495)/3480	000 000 000	Cacking.	280	276	Botte O	rder Control	*	1 40	
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Project Contact	E-mail	Project	**									· • • • •	z (ני 80 דיייי	- Soil Sludge
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Phone # 757 - 201 - 21	(1 4	Fax#					- Sludge 11 - Oil
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MARC D GUTER	F-mail	Projec	<u>*</u>							C) 44N		32			,		SC - Soil SL - Sludge
Phone # 753-201 - 7661		Fax#			~		.			D 1508		is					01 - Oit 10 - Other Limite
Samplers Name	~~~/2	Client	^p urchase Orc	er#	5					LBE 0		4					AIR - Air
Accutest Field ID / Point of Collection Sample #	SUMMA		Collection	Π	-		umber of p	eserved Bo	ottles	LW [] 29 []	576 529	43					SOL - Other Solid
10 30 JB-EV 7/-	MEOH VIAL		Time	Sampled	latrix bottle	HOPN HCH c5	HSSCH EONH	POSHIPN SINON	3HOONE HOBIN	0928 X318 X318	1 A8T 0758	کل		بة. 		<u> </u>	AB USE ONLY
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CHAIN OF CUSTODY Fresh Ponds Corporate Village, Building B

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Client Information			Facility	Inform	ation					Analytical Inforn	nation		
Accutest													
Name 2235 Route 130		Project Name	Broad Cree	×									
Address		Location											
Dayton NJ	08810							5 					
City State	Zip	Project No.						808					
Marty Vitanza			J/3350X					3 s.					
Send Report to: Phone #: (732) 329-0200 X-2 ⁻	16	FAX #:	(732) 32	9-3499				giner					
		Collection				Pres	ervati						
Field ID / Point of Collection	Date	Time	Sampled Bv	Matrix	# of bottles	л≊ОН ⊦CГ	H2So4	PCB (0				
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Relinquished by Sampler: 3	Date Time:		Reteived By: 3				8 4	inquished By		Date Time:	Received By:		
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CHAIN OF CUSTODY Fresh Ponds Corporate Village, Building B

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Acculesi														
Name 2235 Route 130		Project Name	Broad Cree	¥										
Address	3	Location												
Dayton NJ	08810					ĺ								
City State .	Zip	Project No.						280						
Marty Vitanza			J73350X					8 s						
Send Report to:	ú							Jən						
Phone #: (/32) 329-0200 X-21	Q	FAX #:	(132) 326	9-3499				ijbu						-
		Collection				Preser	vation	100						
Field ID / Point of Collection	Date	Time	Sampled By	Matrix	# of ottles	HNO3 NgOH	None H2So4	PCB	0					
J73350Y -9XA & 9XF	10/11/07	9:35	MDG	AQ	+			×						
-10XA & 10XF	10/11/07	9:35	MDG	AQ	1			×						
-11XA & 11XF	10/11/01	10:30	MDG	AQ	1			×						
-12XA & 12XF	10/11/07	11:20	MDG	AQ	1			×						
-13XA & 13XF	10/11/07	11:45	MDG	AQ	1			×						
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14 Day			X NJ Full		Ш		mercial	"B"		-11 = 07-BC	:-EL-02, -	12 = 07-BC	EL-03	
T Days EMERGENCY				۵.] State	Forms			-13 = 07-B(C-EL-04,	-14= 07-BC-	EL-05	
X Other 21 (Days)			Disk Deliv	verable										
21 Day Turnaround Hardcopy, Emergen	ncy or RUSH i	is FAX	Other (Sp	oecify)	I									
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Relinquished by Sampler:	Date Time:		Received By:				- Relinqu	uished By:		Date Time:		Received By:		
3 Relinq bish ed by Sampler:	Date Time:		3 Received By:				4 Seal #		Pres	erved where ap	olicable	4 On Ice		
5			5								-			

Accutest Subcontractor Order

Date/Time:	10/12/07 11:28 AM	Sub Lab:	Universal Labs	
Accutest Job No.	J73350X	Address:	20 Research Drive	
Client Project:	Broad Creek		Hampton VA	23666
CSR:	MV	Contact:	Sample Management	
		Phone:	800-695-2162	

Sample #:	Analyses
350X - 9XA & 9XF	PCB Conginers 8082
10XA & 10XF	PCB Conginers 8082
11XA & 11XF	PCB Conginers 8082
12XA & 12XF	PCB Conginers 8082
13XA & 13XF	PCB Conginers 8082
14XA & 14XF	PCB Conginers 8082
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Sample Managment receipt:	// Date: $///////$

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Sample Managment receipt: (Print form and sign/date. Submit this form to Login Dept. with the SUB COC.)

e/sop_new/subform

Accutest Subcontractor Order

Date/Time:	10/12/07 11:48 AM	Sub Lab:	Universal Labs	
Accutest Job No.	J73350X	Address:	20 Research Drive	
Client Project:	Broad Creek		Hampton VA	23666
CSR:	MV	Contact:	Sample Management	
		Phone:	800-695-2162	

Sample #: /	Analyses
J73350X - 1X	PCB Conginers 8082
2X	PCB Conginers 8082
3X	PCB Conginers 8082
3XD	PCB Conginers 8082
3XS	PCB Conginers 8082
4X	PCB Conginers 8082
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Date: $\frac{1^{n}}{1^{n}}$ Sample Managment receipt: (Print form and sign/date. Submit this form to Login Dept. with the SUB COC.)

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CHAIN OF CUSTODY Fresh Ponds Corporate Village, Building B

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Accutest Subcontractor Order

Date/Time:	10/9/07 3:52 PM	Sub Lab:	Unioversal Labs	
Accutest Job No.	J73350X	Address:	20 Research Drive	
Client Project:	Broad Creek		Hampton VA	23666
CSR:	DJM	Contact:	Sample Management	
		Phone:	800-695-2162	

Sample #:	Analyses	
J73350X - 7X		PCB Conginers 8082
8X		PCB Conginers 8082
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	Turn Around	21
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Date: ______

Sample Managment receipt:

(Print form and sign/date. Submit this form to Login Dept. with the SUB COC.)

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CHAIN OF CUSTODY Fresh Ponds Corporate Village, Building B

Accutest Job #:	Accutest Quote #:	Analytical Information			 					0									· · · · · · · · · · · · · · · · · · ·	Comments / Remarks Comments						lelivery.	Date Time: Received By:	Date Time: Received By:	Preserved where applicable On Ice
Village, Building B n, NJ 08810	908-329-3499/3480					2808	e sue	anipr	eservation 0	PCB None HNO3	×	X	X	×		×	×	×			Commercial "A"	Commercial "B"	State Forms			i possesion, including courier d	Relinquished By: 2	Relinquished By:	Seal #
Fresh Ponds Corporate 2235 Route 130, Dayto	908-329-0200 FAX:	Facility Information		ad Crook		250V	Vaca	732) 329-3499		aled By Matrix bottles H	1 1 Soil 1	1 1 Soil 1	1DG Soil 1	1DG Soil 1	1DG Soil 1	1DG Soil 1	ADG Soil 1	ADG Soil 1		Data Deliverable Information	NJ Reduced			Disk Deliverable	Other (Specify)	v each time samples change	ived By:	ived By:	ived By:
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		Client	Accutest	Name 2235 Route 130	Address Dayton	City Marty Vitanza	Send Report to:	Phone #: (732) 32		Field ID / Point of	J73350X-1X	-2X	-3X	-3XD	-3XS	-4X	-5X	X9-		Turnarou	21 Day Standard	14 Day	7 Days EMERGEN	X Other 21	21 Day Turnaround Ha	Data utiless previously	Relinquished by Sampler	Relinquished by Sampler 3	Relinduished by Sampler 5



CHAIN OF CUSTODY Fresh Ponds Corporate Village, Building B

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/11/07	12:15	MDG	AQ	1			×						
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		X NJ Full			Comme	rcial "B"			-11 = 07-B(C-EL-02, -	-12 = 07-BC	EL-03	
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Accutest **Subcontractor Order**

Date/Time:	10/12/07 3:11 PM	Sub Lab:	Universal Labs	
Accutest Job No.	J73350X	Address:	20 Research Drive	
Client Project:	Broad Creek		Hampton VA 2366	66
CSR:	MV	Contact:	Sample Management	
		Phone:	800-695-2162	

Sample #:	Analyses
J73350X - 1X	PCB Conginers 8082
2X	PCB Conginers 8082
3X	PCB Conginers 8082
3XD	PCB Conginers 8082
3XS	PCB Conginers 8082
4X	PCB Conginers 8082
5X	PCB Conginers 8082
6X	PCB Conginers 8082
0	
0	
	Turn Around 21
Sample Managment receipt:	Date: 10/12/07

Sample Managment receipt:

(Print form and sign/date. Submit this form to Login Dept. with the SUB COC.)

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Accutest Subcontractor Order

Date/Time:	10/12/07 3:11 PM	Sub Lab:	Universal Labs	
Accutest Job No.	J73350X	Address:	20 Research Drive	
Client Project:	Broad Creek		Hampton VA	23666
CSR:	MV	Contact:	Sample Management	
		Phone:	800-695-2162	

Sample #:	Analyses	
350X - 9XA & 9XF		PCB Conginers 8082
10XA & 10XF		PCB Conginers 8082
11XA & 11XF		PCB Conginers 8082
12XA & 12XF		PCB Conginers 8082
13XA & 13XF		PCB Conginers 8082
14XA & 14XF		PCB Conginers 8082
0		
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	Turn Around	21

Date: 1°/12/07 Sample Managment receipt: (Print form and sign/date. Submit this form to Login Dept. with the SUB COC.)

e/sop_new/subform

SUBCONTRACT DATA

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20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810 ATTN: Marty Vitanza

Project ID: Broad Creek J73350X Project # N/A Site: J73350X Matrix: Surface Water

Comments for Order:

(REPORT DATE) 11-Oct-07

UL Sample Number:	0710136-00	1
Sample ID:	J73350-7X	
Grab Date/Time:	10/3/2007	12:50
Composite Start:	N/A	
Composite Stop:	N/A	
Collected By:	CLIENT	

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
2,2',5-Trichlorobiphenyl (BZ#18	8 SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
2,4,4'-Trichlorobiphenyl (BZ#28	8 SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
2,2',3,5'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
2,2',5,5'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
2,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
3,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
3,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VM
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/11/2007 01:57:00	VМ

Page 2 of 5

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

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Comments for Sample ID 0710136-001

ug/L	1	10/11/2007 01:57:00	VM
ug/L	1	10/11/2007 01:57:00	VM

Respectfully Submitted,

Page 3 of 5

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

Order ID: 0710136

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810 ATTN: Marty Vitanza

Project ID:Broad Creek J73350XProject #N/ASite:J73350XMatrix:Surface Water

Comments for Order:

ALYSIS –

(REPORT DATE) 11-Oct-07

UL Sample Number:	0710136-00	2
Sample ID:	J73350-8X	
Grab Date/Time:	10/3/2007	12:30
Composite Start:	N/A	
Composite Stop:	N/A	
Collected By:	CLIENT	

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	. <	ug/L	· 1	10/11/2007 08:05:00	VM
2,2',5-Trichlorobiphenyl (BZ#18	3 SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
2,4,4'-Trichlorobiphenyl (BZ#28	3 SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
2,2',3,5'-Tetrachlorobiphenyl (E	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
2,2',5,5'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
2,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
3,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
3,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/11/2007 08:05:00	VM

Page 4 of 5

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543 <

Comments for Sample ID 0710136-002

ug/L	1	10/11/2007 08:05:00	VM
ug/L	1	10/11/2007 08:05:00	VM

Respectfully Submitted,

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

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	5 5	3	Relinquisher by Sampler:	Relinquished by Samo	Data unless previously approved.	21 Day Turnaround Hardcopy, Emerger	X Other 21 (Days)	L JAYS EINERGENCY			21 Dav Standard	Turnaround Information					-02	84	J73350) -7X	Field ID / Point of Collection	-	none #: (/32) 329-0200 X-21	end Report to:	Marty Vitanza	ity State	Dayton NJ		ame 2235 Route 120	Accutest	Client Information		ACCUTE		
	Date ime:		Date Time:	Date Vime:		ICV OF RUSH is				Approved	A						70/3/07		10/3/07	Date		0			Zip	08810								
	(1:Po (1700	be document		SFAX	•			Ву:	,						12:30	12.00	19.50	Time	Collection	FAX #:			Project No	Location		Project Name						
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			×	time sample	pecity)		iverable	5		Iced		verable Inform	-				AQ 2	AQ 2		Matrix bottle	_	9-3499					ek			/ Informatio	1 0020-625	Route 130 ₁	h Ponds Com	AIN (
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20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

Order ID: 0710195

(REPORT DATE)

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories 2235 Route 130 Dayton NJ 08810

ATTN: Marty Vitanza

Project ID:Broad Creek J73350XProject #N/ASite:J73350X-1X 07-BC-SS-01Matrix:SoilComments for Order:

22-Oct-07
UL Sample Number: 0710195-001
Sample ID: J73350X-1X 07-BC-SS-01

Sample ID: J73350X-1X 07-BC-SS Grab Date/Time: 10/3/2007 09:35 Composite Start: N/A Composite Stop: N/A Collected By: CLIENT

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/Kg	2.2	10/17/2007 14:53:00	TS
2,2',5-Trichlorobiphenyl (BZ#1	8 SW-846 8082	<	ug/Kg	2.4	10/17/2007 14:53:00	TS
2,4,4'-Trichlorobiphenyl (BZ#2	8 SW-846 8082	<	ug/Kg	1.8	10/17/2007 14:53:00	TS
2,2',3,5'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/Kg	2.7	10/17/2007 14:53:00	TS
2,2',5,5'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/Kg	1.6	10/17/2007 14:53:00	TS
2,3',4,4'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/Kg	1.6	10/17/2007 14:53:00	TS
3,3',4,4'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/Kg	1.6	10/17/2007 14:53:00	TS
2,2',4,5,5'-Pentachlorobipheny	! SW-846 8082	<	ug/Kg	1.6	10/17/2007 14:53:00	TS
2,3,3',4,4'-Pentachlorobipheny	I SW-846 8082	<	ug/Kg	1.6	10/17/2007 14:53:00	TS
2,3',4,4',5-Pentachlorobipheny	I SW-846 8082	<	ug/Kg	1.6	10/17/2007 14:53:00	TS
3,3',4,4',5-Pentachlorobipheny	I SW-846 8082	<	ug/Kg	2.4	10/17/2007 14:53:00	TS
2,2',3,3',4,4'-Hexachlorobipher	sW-846 8082	<	ug/Kg	1.6	10/17/2007 14:53:00	TS
2,2',3,4,4',5'-Hexachlorobipher	sW-846 8082	<	ug/Kg	1.6	10/17/2007 14:53:00	TS
2,2',4,4',5,5'-Hexachlorobipher	sW-846 8082	<	ug/Kg	1.6	10/17/2007 14:53:00	TS
3,3',4,4',5,5'-Hexachlorobipher	sW-846 8082	<	ug/Kg	1.6	10/17/2007 14:53:00	TS
2,2',3,3',4,4',5-Heptachlorobiph	n SW-846 8082	<	· ug/Kg	3.2	10/17/2007 14:53:00	TS
2,2',3,4,4',5,5'-Heptachlorobiph	ו SW-846 8082	<	ug/Kg	2.3	10/17/2007 14:53:00	TS
2,2',3,4',5,5',6-Heptachlorobiph	n SW-846 8082	<	ug/Kg	1.6	10/17/2007 14:53:00	TS

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Respectfully Submitted,

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North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

Order ID: 0710195

(REPORT DATE) 22-Oct-07

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810

ATTN: Marty Vitanza

Project ID:Broad Creek J73350XProject #N/ASite:J73350X-2X 07-BC-SS-DUPMatrix:Soil

Comments for Order:

UL Sample Number:0710195-002Sample ID:J73350X-2X 07-BC-SS-DUPGrab Date/Time:10/3/2007 09:35Composite Start:N/AComposite Stop:N/ACollected By:CLIENT

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/Kg	2.2	10/17/2007 15:33:00	TS
2,2',5-Trichlorobiphenyl (BZ#18	8 SW-846 8082	<	ug/Kg	2.4	10/17/2007 15:33:00	TS
2,4,4'-Trichlorobiphenyl (BZ#28	8 SW-846 8082	<	ug/Kg	1.8	10/17/2007 15:33:00	TS
2,2',3,5'-Tetrachlorobipheny! (B	SW-846 8082	<	ug/Kg	2.7	10/17/2007 15:33:00	TS
2,2',5,5'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/Kg	1.6	10/17/2007 15:33:00	TS
2,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/Kg	1.6	10/17/2007 15:33:00	TS
3,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/Kg	1.6	10/17/2007 15:33:00	TS
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	1.6	10/17/2007 15:33:00	TS
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	1.6	10/17/2007 15:33:00	TS
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	1.6	10/17/2007 15:33:00	TS
3,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	< ·	ug/Kg	2.4	10/17/2007 15:33:00	TS
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 15:33:00	TS
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 15:33:00	TS
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 15:33:00	TS
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 15:33:00	TS
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	<	ug/Kg	3.2	10/17/2007 15:33:00	TS
2,2',3,4,4',5,5'-Heptachlorobiph	SW-846 8082	<	ug/Kg	2.3	10/17/2007 15:33:00	TS
2,2',3,4',5,5',6-Heptachlorobiph	SW-846 8082	<	ug/Kg	1.6	10/17/2007 15:33:00	TS

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North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Respectfully Submitted,

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North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 NJ 08810 Dayton ATTN: Marty Vitanza

Project ID: Broad Creek J73350X Project # N/A Site: J73350X-3X 07-BC-SS-02 Matrix: Soil Comments for Order:

UL Sample Number: 0710195-003 Sample ID: J73350X-3X 07-BC-SS-02 Grab Date/Time: 10/3/2007 10:30 Composite Start: N/A Composite Stop: N/A Collected By: CLIENT

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #	#8) SW-846 8082	<	ug/Kg	2.2	10/17/2007 17:32:00	TS
2,2',5-Trichlorobiphenyl (B	Z#18 SW-846 8082	<	ug/Kg	2.4	10/17/2007 17:32:00	TS
2,4,4'-Trichlorobiphenyl (B	Z#28 SW-846 8082	<	ug/Kg	1.8	10/17/2007 17:32:00	TS
2,2',3,5'-Tetrachlorobiphen	yl (B SW-846 8082	<	ug/Kg	2.7	10/17/2007 17:32:00	TS
2,2',5,5'-Tetrachlorobiphen	yl (B SW-846 8082	<	ug/Kg	1.6	10/17/2007 17:32:00	TS
2,3',4,4'-Tetrachlorobiphen	yl (B SW-846 8082	<	ug/Kg	1.6	10/17/2007 17:32:00	TS
3,3',4,4'-Tetrachlorobiphen	yl (B SW-846 8082	<	ug/Kg	1.6	10/17/2007 17:32:00	TS
2,2',4,5,5'-Pentachlorobiph	enyl SW-846 8082	<	ug/Kg	1.6	10/17/2007 17:32:00	TS
2,3,3',4,4'-Pentachlorobiph	enyl SW-846 8082	<	ug/Kg	1.6	10/17/2007 17:32:00	TS
2,3',4,4',5-Pentachlorobiph	enyl SW-846 8082	<	ug/Kg	1.6	10/17/2007 17:32:00	TS
3,3',4,4',5-Pentachlorobiph	enyl SW-846 8082	<	ug/Kg	2.4	10/17/2007 17:32:00	TS
2,2',3,3',4,4'-Hexachlorobip	ohen SW-846 8082	<	ug/Kg	1.6	10/17/2007 17:32:00	TS
2,2',3,4,4',5'-Hexachlorobip	bhen SW-846 8082 ³	<	ug/Kg	1.6	10/17/2007 17:32:00	TS
2,2',4,4',5,5'-Hexachlorobip	ohen SW-846 8082	<	ug/Kg	1.6	10/17/2007 17:32:00	TS
3,3',4,4',5,5'-Hexachlorobip	ohen SW-846 8082	<	ug/Kg	1.6	10/17/2007 17:32:00	TS
2,2',3,3',4,4',5-Heptachloro	biph SW-846 8082	<	ug/Kg	3.2	10/17/2007 17:32:00	TS
2,2',3,4,4',5,5'-Heptachloro	biph SW-846 8082	<	ug/Kg	2.3	10/17/2007 17:32:00	TS
2,2',3,4',5,5',6-Heptachloro	biph SW-846 8082	<	ug/Kg	1.6	10/17/2007 17:32:00	TS

Order ID: 0710195

(REPORT DATE) 22-Oct-07

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North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Comments for Sample I 0710195-003

Respectfully Submitted,

Virginia Drinking Water Lab# 00030 VDEQ Lab #000003 North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

Order ID: 0710195

(REPORT DATE) 22-Oct-07

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810

ATTN: Marty Vitanza

Project ID: Broad Creek J73350X Project # N/A Site: J73350X-3XD 07-BC-SS-MSD Matrix: Soil Comments for Order: UL Sample Number: 0710195-004 Sample ID: J73350X-3XD 07-BC-SS-MSD Grab Date/Time: 10/3/2007 10:30 Composite Start: N/A Composite Stop: N/A Collected By: CLIENT

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ	#8) SW-846 8082	<	ug/Kg	2.2	10/17/2007 16:52:00	TS
2,2',5-Trichlorobiphenyl (B	Z#18 SW-846 8082	<	ug/Kg	2.4	10/17/2007 16:52:00	TS
2,4,4'-Trichlorobiphenyl (B	Z#28 SW-846 8082	<	ug/Kg	1.8	10/17/2007 16:52:00	TS
2,2',3,5'-Tetrachlorobipher	nyl (B SW-846 8082	<	ug/Kg	2.7	10/17/2007 16:52:00	TS
2,2',5,5'-Tetrachlorobipher	nyl (B SW-846 8082	<	ug/Kg	1.6	10/17/2007 16:52:00	TS
2,3',4,4'-Tetrachlorobiphen	nyl (B SW-846 8082	<	ug/Kg	1.6	10/17/2007 16:52:00	TS
3,3',4,4'-Tetrachlorobiphen	yl (B SW-846 8082	<	ug/Kg	1.6	10/17/2007 16:52:00	TS
2,2',4,5,5'-Pentachlorobiph	nenyl SW-846 8082	<	ug/Kg	、 1.6	10/17/2007 16:52:00	TS
2,3,3',4,4'-Pentachlorobiph	nenyl SW-846 8082	<	ug/Kg	1.6	10/17/2007 16:52:00	TS
2,3',4,4',5-Pentachlorobiph	nenyl SW-846 8082	<	ug/Kg	1.6	10/17/2007 16:52:00	TS
3,3',4,4',5-Pentachlorobiph	nenyl SW-846 8082	<	ug/Kg	2.4	10/17/2007 16:52:00	TS
2,2',3,3',4,4'-Hexachlorobi	ohen SW-846 8082	<	ug/Kg	1.6	10/17/2007 16:52:00	TS
2,2',3,4,4',5'-Hexachlorobip	ohen SW-846 8082	<	ug/Kg	1.6	[/] 10/17/2007 16:52:00	TS
2,2',4,4',5,5'-Hexachlorobip	ohen SW-846 8082	<	ug/Kg	1.6	10/17/2007 16:52:00	TS
3,3',4,4',5,5'-Hexachlorobip	ohen SW-846 8082	<	ug/Kg	1.6	10/17/2007 16:52:00	TS
2,2',3,3',4,4',5-Heptachloro	biph SW-846 8082	<	ug/Kg	3.2	10/17/2007 16:52:00	TS
2,2',3,4,4',5,5'-Heptachloro	biph SW-846 8082	<	ug/Kg	2.3	10/17/2007 16:52:00	TS
2,2',3,4',5,5',6-Heptachloro	biph SW-846 8082	<	ug/Kg	1.6	10/17/2007 16:52:00	TS

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North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Comments for Sample I 0710195-004

Respectfully Submitted,

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

Order ID: 0710195

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories 2235 Route 130 NJ 08810 Dayton

ATTN: Marty Vitanza

Project ID: Broad Creek J73350X Project # N/A Site: J73350X-3XS 07-BC-SS-MSD Matrix: Soil

Comments for Order:

22-Oct-07 UL Sample Number: 0710195-005 Grab Date/Time:

Composite Start: Composite Stop: Collected By:

Sample ID:

J73350X-3XS 07-BC-SS-MSD 10/3/2007 10:30 N/A N/A CLIENT

(REPORT DATE)

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/Kg	2.2	10/17/2007 18:11:00	TS
2,2',5-Trichlorobiphenyl (BZ#18	8 SW-846 8082	<	ug/Kg	2.4	10/17/2007 18:11:00	TS
2,4,4'-Trichlorobiphenyl (BZ#28	8 SW-846 8082	<	ug/Kg	1.8	10/17/2007 18:11:00	TS
2,2',3,5'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/Kg	2.7	10/17/2007 18:11:00	TS
2,2',5,5'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:11:00	TS
2,3',4,4'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:11:00	TS
3,3',4,4'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:11:00	TS
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:11:00	TS
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:11:00	TS
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:11:00	TS
3,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	2.4	10/17/2007 18:11:00	TS
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:11:00	TS
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:11:00	TS
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:11:00	TS
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:11:00	TS
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	<	ug/Kg	3.2	10/17/2007 18:11:00	TS
2,2',3,4,4',5,5'-Heptachlorobiph	SW-846 8082	<	ug/Kg	2.3	10/17/2007 18:11:00	TS
2,2',3,4',5,5',6-Heptachlorobiph	sW-846 8082	<	ug/Kg	1.6	10/17/2007 18:11:00	TS

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North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Respectfully Submitted,

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810

ATTN: Marty Vitanza

Project ID:Broad Creek J73350XProject #N/ASite:J73350X-4X 07-BC-SS-MSMatrix:Soil

Comments for Order:

UL Sample Number: Sample ID: Grab Date/Time: Composite Start:

Composite Stop:

Collected By:

Order ID: 0710195

(REPORT DATE) 22-Oct-07

ber:	0710195-00	6
	J73350X-4X 0	7-BC-SS-MS
	10/3/2007	11:20
	N/A	
	N/A	
	CLIENT	

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/Kg	2.2	10/17/2007 18:50:00	TS
2,2',5-Trichlorobiphenyl (BZ#1	8 SW-846 8082	<	ug/Kg	2.4	10/17/2007 18:50:00	TS
2,4,4'-Trichlorobiphenyl (BZ#2	8 SW-846 8082	<	ug/Kg	1.8	10/17/2007 18:50:00	TS
2,2',3,5'-Tetrachlorobiphenyl (l	B SW-846 8082	<	ug/Kg	2.7	10/17/2007 18:50:00	TS
2,2',5,5'-Tetrachlorobiphenyl (l	B SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:50:00	TS
2,3',4,4'-Tetrachlorobiphenyl (I	B SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:50:00	TS
3,3',4,4'-Tetrachlorobiphenyl (I	3 SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:50:00	TS
2,2',4,5,5'-Pentachlorobipheny	I SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:50:00	TS
2,3,3',4,4'-Pentachlorobipheny	1 SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:50:00	TS
2,3',4,4',5-Pentachlorobipheny	1 SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:50:00	TS
3,3',4,4',5-Pentachlorobipheny	1 SW-846 8082	<	ug/Kg	2.4	10/17/2007 18:50:00	TS
2,2',3,3',4,4'-Hexachlorobipher	n SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:50:00	TS
2,2',3,4,4',5'-Hexachlorobipher	ו SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:50:00	TS
2,2',4,4',5,5'-Hexachlorobipher	n SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:50:00	TS
3,3',4,4',5,5'-Hexachlorobipher	n SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:50:00	TS
2,2',3,3',4,4',5-Heptachlorobipl	h SW-846 8082	<	ug/Kg	3.2	10/17/2007 18:50:00	TS
2,2',3,4,4',5,5'-Heptachlorobip	h SW-846 8082	<	ug/Kg	2.3	10/17/2007 18:50:00	TS
2,2',3,4',5,5',6-Heptachlorobipl	h SW-846 8082	<	ug/Kg	1.6	10/17/2007 18:50:00	TS

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Comments for Sample I 0710195-006 -No comments

Respectfully Submitted,

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North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810

ATTN: Marty Vitanza

Project ID:Broad Creek J73350XProject #N/ASite:J73350X-5X 07-BC-SS-04Matrix:SoilComments for Order:

REPORT OF ANALYSIS

UL Sample Number: 0710195-007 Sample ID: J73350X-5X 07-BC-SS-04 Grab Date/Time: 10/3/2007 11:45 Composite Start: N/A Composite Stop: N/A Collected By: CLIENT

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/Kg	2.2	10/17/2007 20:09:00	TS
2,2',5-Trichlorobiphenyl (BZ#18	SW-846 8082	<	ug/Kg	2.4	10/17/2007 20:09:00	TS
2,4,4'-Trichlorobiphenyl (BZ#28	SW-846 8082	. <	ug/Kg	1.8	10/17/2007 20:09:00	TS
2,2',3,5'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/Kg	2.7	10/17/2007 20:09:00	TS
2,2',5,5'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:09:00	TS
2,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:09:00	TS
3,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:09:00	TS
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:09:00	TS
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:09:00	TS
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:09:00	TS
3,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	2.4	10/17/2007 20:09:00	TS
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:09:00	TS
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:09:00	TS
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:09:00	TS
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:09:00	TS
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	<	ug/Kg	3.2	10/17/2007 20:09:00	TS
2,2',3,4,4',5,5'-Heptachlorobiph	SW-846 8082	<	ug/Kg	2.3	10/17/2007 20:09:00	TS
2,2',3,4',5,5',6-Heptachlorobiph	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:09:00	TS

Order ID: 0710195

(REPORT DATE) 22-Oct-07

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Virginia Drinking Water Lab# 00030 VDEQ Lab #000003 North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Respectfully Submitted,

Virginia Drinking Water Lab# 00030 VDEQ Lab #000003 North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

Order ID: 0710195

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 NJ 08810 Dayton

ATTN: Marty Vitanza

Project ID: Broad Creek J73350X Project # N/A J73350X-6X 07-BC-SS-05 Site: Matrix: Soil

Comments for Order:

22-Oct-07 UL Sample Number: 0710195-008 Sample ID: J73350X-6X 07-BC-SS-05 Grab Date/Time: 10/3/2007 12:15 Composite Start: N/A Composite Stop: N/A

Collected By:

CLIENT

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/Kg	2.2	10/17/2007 20:49:00	TS
2,2',5-Trichlorobiphenyl (BZ#18	3 SW-846 8082	<	ug/Kg	2.4	10/17/2007 20:49:00	TS
2,4,4'-Trichlorobiphenyl (BZ#28	3 SW-846 8082	<	ug/Kg	1.8	10/17/2007 20:49:00	TS
2,2',3,5'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/Kg	2.7	10/17/2007 20:49:00	TS
2,2',5,5'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:49:00	TS
2,3',4,4'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:49:00	TS
3,3',4,4'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:49:00	TS
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:49:00	TS
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:49:00	TS
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:49:00	TS
3,3',4,4',5-Pentachlorobipheny	SW-846 8082	<	ug/Kg	2.4	10/17/2007 20:49:00	TS
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:49:00	TS
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	< ,	ug/Kg	1.6	10/17/2007 20:49:00	TS
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:49:00	TS
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:49:00	TS
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	<	ug/Kg	3.2	10/17/2007 20:49:00	TS
2,2',3,4,4',5,5'-Heptachlorobiph	SW-846 8082	<	ug/Kg	2.3	10/17/2007 20:49:00	TS
2,2',3,4',5,5',6-Heptachlorobiph	SW-846 8082	<	ug/Kg	1.6	10/17/2007 20:49:00	TS

(REPORT DATE)

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Virginia Drinking Water Lab# 00030 VDEQ Lab #000003

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Comments for Sample I 0710195-008

Respectfully Submitted,

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

Order ID: 0710195

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810 ATTN: Marty Vitanza

Project ID: Broad Creek J73350X Project # N/A J73350X-9XA Site: Matrix: Surface Water

Comments for Order:

(REPORT DATE) 22-Oct-07

UL Sample Number: 0710195-009 Sample ID: J73350X-9XA Grab Date/Time: 10/11/2007 09:35 Composite Start: N/A Composite Stop: N/A CLIENT Collected By:

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #	48) SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,2',5-Trichlorobiphenyl (B2	Z#18 SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,4,4'-Trichlorobiphenyl (B2	Z#28 SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,2',3,5'-Tetrachlorobiphen	yl (B SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,2',5,5'-Tetrachlorobiphen	yl (B SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,3',4,4'-Tetrachlorobiphen	yl (B SW-846 8082	< ,	ug/L	· 1	10/16/2007 19:22:00	VM
3,3',4,4'-Tetrachlorobiphen	yl (B SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,2',4,5,5'-Pentachlorobiph	enyl SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,3,3',4,4'-Pentachlorobiph	enyl SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,3',4,4',5-Pentachlorobiph	enyl SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
3,3',4,4',5-Pentachlorobiphe	enyl SW-846 8082	<	ug/L	· 1	10/16/2007 19:22:00	VM
2,2',3,3',4,4'-Hexachlorobip	hen SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,2',3,4,4',5'-Hexachlorobip	hen SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,2',4,4',5,5'-Hexachlorobip	hen SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
3,3',4,4',5,5'-Hexachlorobip	hen SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,2',3,3',4,4',5-Heptachlorol	biph SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,2',3,4,4',5,5'-Heptachlorol	biph SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM
2,2',3,4',5,5',6-Heptachlorol	biph SW-846 8082	<	ug/L	1	10/16/2007 19:22:00	VM

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Virginia Drinking Water Lab# 00030 VDEQ Lab #000003

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Comments for Sample I 0710195-009

Respectfully Submitted,

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North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

Order ID: 0710195

(REPORT DATE) 22-Oct-07

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810 ATTN: Marty Vitanza

Project ID: Broad Creek J73350X Project # N/A Site: ,J73350X-9XF Matrix: Surface Water Comments for Order: UL Sample Number: 0710195-010 Sample ID: J73350X-9XF Grab Date/Time: 10/11/2007 09:35 Composite Start: N/A Composite Stop: N/A Collected By: CLIENT

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,2',5-Trichlorobiphenyl (BZ#18	3 SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,4,4'-Trichlorobiphenyl (BZ#28	3 SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,2',3,5'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,2',5,5'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
3,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	×	ug/L	1 .	10/16/2007 20:02:00	VM
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,3,3',4,4'-Pentachlorobiphenył	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
3,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,2',3,4,4',5,5'-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	VM
2,2',3,4',5,5',6-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/16/2007 20:02:00	· VM

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Respectfully Submitted,

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543


20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

Order ID: 0710195

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810 ATTN: Marty Vitanza

Project ID:Broad Creek J73350XProject #N/ASite:J73350X-10XAMatrix:Surface Water

Comments for Order:

(REPORT DATE) 22-Oct-07

UL Sample Number:0710195-011Sample ID:J73350X-10XAGrab Date/Time:10/11/2007 09:35Composite Start:N/AComposite Stop:N/ACollected By:CLIENT

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8) SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,2',5-Trichlorobiphenyl (BZ#	#18 SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,4,4'-Trichlorobiphenyl (BZ#	¢28 SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,2',3,5'-Tetrachlorobiphenyl	(B SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,2',5,5'-Tetrachlorobiphenyl	(B SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,3',4,4'-Tetrachlorobiphenyl	(B SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
3,3',4,4'-Tetrachlorobiphenyl	(B SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,2',4,5,5'-Pentachlorobipher	nyl SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,3,3',4,4'-Pentachlorobipher	yl SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,3',4,4',5-Pentachlorobipher	yl SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
3,3',4,4',5-Pentachlorobipher	yl SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,2',3,3',4,4'-Hexachlorobiph	en SW-846 8082	<	. ug/L	1	10/16/2007 20:41:00	VM
2,2',3,4,4',5'-Hexachlorobiph	en SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,2',4,4',5,5'-Hexachlorobiph	en SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
3,3',4,4',5,5'-Hexachlorobiph	en SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,2',3,3',4,4',5-Heptachlorobi	ph SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,2',3,4,4',5,5'-Heptachlorobi	ph SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM
2,2',3,4',5,5',6-Heptachlorobi	ph SW-846 8082	<	ug/L	1	10/16/2007 20:41:00	VM

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North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Respectfully Submitted,

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

REPORT OF ANALYSIS

Order ID: 0710195

(REPORT DATE) 22-Oct-07

TO: AccuTest Laboratories 2235 Route 130 Dayton NJ 08810

ATTN: Marty Vitanza

Project ID: Broad Creek J73350X Project # N/A Site: J73350X-10XF Matrix: Surface Water

Comments for Order:

UL Sample Number: 0710195-012 Sample ID: J73350X-10XF Grab Date/Time: 10/11/2007 09:35 Composite Start: N/A Composite Stop: N/A Collected By: CLIENT

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,2',5-Trichlorobiphenyl (BZ#18	3 SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,4,4'-Trichlorobiphenyl (BZ#28	3 SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,2',3,5'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,2',5,5'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,3',4,4'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
3,3',4,4'-Tetrachlorobiphenyl (E	8 SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
3,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VŃ
3,3',4,4',5,5'-Hexachlorobiphen	ŚW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,2',3,4,4',5,5'-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM
2,2',3,4',5,5',6-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/16/2007 21:20:00	VM

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North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Comments for Sample I 0710195-012

Respectfully Submitted,

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Virginia Drinking Water Lab# 00030 VDEQ Lab #000003

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810 ATTN: Marty Vitanza

Project ID:Broad Creek J73350XProject #N/ASite:J73350X-11XAMatrix:Surface Water

Comments for Order:

REPORT OF ANALYSIS

Order ID: 0710195

(REPORT DATE) 22-Oct-07

UL Sample Number: 0710195-013 Sample ID: J73350X-11XA Grab Date/Time: 10/11/2007 10:30 Composite Start: N/A Composite Stop: N/A Collected By: CLIENT

Parameter	Method	Te: Res	st sult Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,2',5-Trichlorobiphenyl (BZ#18	8 SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,4,4'-Trichlorobiphenyl (BZ#28	3 SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,2',3,5'-Tetrachlorobiphenyl (E	SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,2',5,5'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,3',4,4'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
3,3',4,4'-Tetrachlorobiphenyl (E	3 SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
3,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	. 1	10/16/2007 21:59:00	VM
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,2',3,4,4',5,5'-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/16/2007 21:59:00	VM
2,2',3,4',5,5',6-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/16/2007	VM

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Comments for Sample I 0710195-013

Respectfully Submitted,

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North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810 ATTN: Marty Vitanza

Project ID:Broad Creek J73350XProject #N/ASite:J73350X-11XFMatrix:Surface Water

Comments for Order:

REPORT OF ANALYSIS

Order ID: 0710195

(REPORT DATE) 22-Oct-07

UL Sample Number: 0710195-014 Sample ID: J73350X-11XF Grab Date/Time: 10/11/2007 10:30 Composite Start: N/A Composite Stop: N/A Collected By: CLIENT

Parameter	Method	Test Result	Units	UL Report	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/L ery , due to emulsio	1 ns	10/16/2007 22:38:00	VM
2,2',5-Trichlorobiphenyl (BZ#18	3 SW-846 8082	< low surrogate recover	ug/L ery , due to emulsio	1 ns	10/16/2007 22:38:00	VM
2,4,4'-Trichlorobiphenyl (BZ#28	3 SW-846 8082	< low surrogate recover	ug/L ery , due to emulsio	1 ns	10/16/2007 22:38:00	VM
2,2',3,5'-Tetrachlorobiphenyl (E	3 SW-846 8082	< low surrogate recove	ug/L ery , due to emulsio	ns 1	10/16/2007 22:38:00	VM
2,2',5,5'-Tetrachlorobiphenyl (E	3 SW-846 8082	< low surrogate recove	ug/L ery , due to emulsio	ns 1	10/16/2007 22:38:00	VM
2,3',4,4'-Tetrachlorobiphenyl (E	3 SW-846 8082	< low surrogate recove	ug/L ery , due to emulsio	ns 1	10/16/2007 22:38:00	VM
3,3',4,4'-Tetrachlorobiphenyl (E	3 SW-846 8082	< low surrogate recove	ug/L ery , due to emulsio	ns 1	10/16/2007 22:38:00	VM
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	< low surrogate recover	ug/L ery , due to emulsio	ns 1	10/16/2007 22:38:00	VM
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	< low surrogate recover	ug/L ery , due to emulsio	1 ns	10/16/2007 22:38:00	VM
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L ery , due to emulsio	1 ns	10/16/2007 22:38:00	VM
3,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	< low surrogate recover	ug/L ery , due to emulsio	1 ns	10/16/2007 22:38:00	VM
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/L ery , due to emulsio	1 ns	10/16/2007 22:38:00	VM
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	<	ug/L ery , due to emulsio	1 ns	10/16/2007 22:38:00	VM
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	< low surrogate recove	ug/L ery , due to emulsio	1 ns	10/16/2007 22:38:00	VM
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	< low surrogate recover	ug/L ery , due to emulsio	ns 1	10/16/2007 22:38:00	VM
2,2',3,3',4,4',5-Heptachlorobiph	sW-846 8082	<	ug/L ary , due to emulsio	1 ns	10/16/2007 22:38:00	VM
2,2',3,4,4',5,5'-Heptachlorobiph	SW-846 8082	<	ug/L ery , due to emulsio	ns 1	10/16/2007 22:38:00	VM
2,2',3,4',5,5',6-Heptachlorobiph	SW-846 8082	<	ug/L ery , due to emulsio	ns 1	10/16/2007 22:38:00	VM

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Virginia Drinking Water Lab# 00030 VDEQ Lab #000003 North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Respectfully Submitted,

Virginia Drinking Water Lab# 00030 VDEQ Lab #000003 North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810 ATTN: Marty Vitanza

Project ID: Broad Creek J73350X Project # N/A Site: J73350-12XA Matrix: Surface Water

Comments for Order:

REPORT OF ANALYSIS

Order ID: 0710195

(REPORT DATE) 22-Oct-07

UL Sample Number: 0710195-015 Sample ID: J73350-12XA Grab Date/Time: 10/11/2007 11:20 Composite Start: N/A Composite Stop: N/A Collected By: CLIENT

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,2',5-Trichlorobiphenyl (BZ#18	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,4,4'-Trichlorobiphenyl (BZ#28	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	. VM
2,2',3,5'-Tetrachlorobiphenyl (B	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,2',5,5'-Tetrachlorobiphenyl (B	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
3,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
3,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	< li>low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	< li>low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	<	ug/L rv . due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,2',3,4,4',5,5'-Heptachlorobiph	SW-846 8082	<	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM
2,2',3,4',5,5',6-Heptachlorobiph	SW-846 8082	< low surrogate recove	ug/L ry , due to emulsio	1 ons	10/16/2007 23:57:00	VM

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Virginia Drinking Water Lab# 00030 VDEQ Lab #000003

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Comments for Sample I 0710195-015 <u>No comments</u>

Respectfully Submitted,

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Virginia Drinking Water Lab# 00030 VDEQ Lab #000003

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

Order ID: 0710195

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 NJ Dayton 08810 ATTN: Marty Vitanza

Project ID: Broad Creek J73350X Project # N/A J73350-12XF Site: Matrix: Surface Water

Comments for Order:

UL Sample Number: 0710195-016 Sample ID: J73350-12XF Grab Date/Time: 10/11/2007 11:20 Composite Start: N/A

N/A

CLIENT

Composite Stop:

Collected By:

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
2,2',5-Trichlorobiphenyl (BZ#18	3 SW-846 8082	<	ug/L	1	10/17/2007 00:36:00 、	VM
2,4,4'-Trichlorobiphenyl (BZ#28	3 SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
2,2',3,5'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
2,2',5,5'-Tetrachlorobiphenyl (B	SW-846 8082	. <	ug/L	1	10/17/2007 00:36:00	VM
2,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
3,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
3,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	· VM
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	<	ug/L	. 1	10/17/2007 00:36:00	VM
2,2',3,4,4',5,5'-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM
2,2',3,4',5,5',6-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/17/2007 00:36:00	VM

(REPORT DATE)

22-Oct-07

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North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Respectfully Submitted,

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

REPORT OF ANALYSIS

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: Accu	Гest La	boratori	es
2235	Route 1	30	
Dayto	n	NJ	08810
ATTN: Marty	Vitanza		

Project ID:Broad Creek J73350XProject #N/ASite:J73350-13XAMatrix:Surface Water

Comments for Order:

(REPORT DATE) 22-Oct-07

UL Sample Number: 0710195-017 Sample ID: J73350-13XA Grab Date/Time: 10/11/2007 11:45 Composite Start: N/A Composite Stop: N/A Collected By: CLIENT

Order ID:

0710195

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #	8) SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,2',5-Trichlorobiphenyl (BZ	#18 SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,4,4'-Trichlorobiphenyl (BZ	#28 SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,2',3,5'-Tetrachlorobipheny	rl (B SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,2',5,5'-Tetrachlorobipheny	rl (B SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,3',4,4'-Tetrachlorobipheny	1 (B SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
3,3',4,4'-Tetrachlorobipheny	i (B SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,2',4,5,5'-Pentachlorobiphe	enyl SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,3,3',4,4'-Pentachlorobiphe	nyl SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,3',4,4',5-Pentachlorobiphe	nyl SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
3,3',4,4',5-Pentachlorobiphe	nyl SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,2',3,3',4,4'-Hexachlorobipł	nen SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,2',3,4,4',5'-Hexachlorobiph	nen SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,2',4,4',5,5'-Hexachlorobiph	nen SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
3,3',4,4',5,5'-Hexachlorobiph	nen SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,2',3,3',4,4',5-Heptachlorob	iph SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,2',3,4,4',5,5'-Heptachlorob	iph SW-846 8082	<	ug/L	1	10/17/2007 01:15:00	VM
2,2',3,4',5,5',6-Heptachlorob	iph SW-846 8082	<	ug/L	. 1	10/17/2007 01:15:00	VM

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Virginia Drinking Water Lab# 00030 VDEQ Lab #000003

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Comments for Sample I 0710195-017

Respectfully Submitted,

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

RE	PO	RT	OF	AN	AL	YS	

Order ID: 0710195

> (REPORT DATE) 22-Oct-07

UL Sample Number: 0710195-018 Sample ID: J73350-13XF Grab Date/Time: 10/11/2007 11:45 Composite Start: N/A Composite Stop: N/A Collected By: CLIENT

TO: Acc	uTest Lab	oratori	es
223	5 Route 13	0	
Day	ton	NJ	08810
ATTN: Ma	rty Vitanza		
Project ID	: Broad Cre	ek J73	350X

Project # N/A Site: J73350-13XF Matrix: Surface Water

Comments for Order:

Parameter	Method	Te Re	est sultUnits	UL Repor s Limit	t Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,2',5-Trichlorobiphenyl (BZ#18	3 SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,4,4'-Trichlorobiphenyl (BZ#28	3 SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,2',3,5'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,2',5,5'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
3,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
3,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	<	ug/L	. 1	10/17/2007 02:34:00	VM
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,2',3,4,4',5,5'-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM
2,2',3,4',5,5',6-Heptachlorobiph	SW-846 8082	<	ug/L	1	10/17/2007 02:34:00	VM

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Virginia Drinking Water Lab# 00030 VDEQ Lab #000003

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Respectfully Submitted,

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Virginia Drinking Water Lab# 00030 VDEQ Lab #000003

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543 EPA LAB CODE VA00912 0710195-018

.



20 Research Drive Hampton, Va 23666

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO: AccuTest Laboratories

2235 Route 130 Dayton NJ 08810 ATTN: Marty Vitanza

Project ID:Broad Creek J73350XProject #N/ASite:J73350-14XAMatrix:Surface Water

Comments for Order:

REPORT OF ANALYSIS

Order ID: 0710195

(REPORT DATE) 22-Oct-07

UL Sample Number: 0710195-019 Sample ID: J73350-14XA Grab Date/Time: 10/11/2007 12:15 Composite Start: N/A Composite Stop: N/A Collected By: CLIENT

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ #8)	SW-846 8082	< low surrogate re	ug/L covery , due to emu	1 Isions	10/17/2007 03:13:00	VM
2,2',5-Trichlorobiphenyl (BZ#18	SW-846 8082	< low surrogate re	ug/L covery , due to emu	1 Isions	10/17/2007 03:13:00	VM
2,4,4'-Trichlorobiphenyl (BZ#28	SW-846 8082	< low surrogate re	ug/L covery , due to emu	1 Isions	10/17/2007 03:13:00	VM
2,2',3,5'-Tetrachlorobiphenyl (B	SW-846 8082	< low surrogate re	ug/L covery , due to emu	1 Isions	10/17/2007 03:13:00	VM
2,2',5,5'-Tetrachlorobiphenyl (B	SW-846 8082	< low surrogate re	ug/L covery , due to emu	1 Isions	10/17/2007 03:13:00	VM
2,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	< low surrogate re	ug/L covery , due to emu	lsions	10/17/2007 03:13:00	VM
3,3',4,4'-Tetrachlorobiphenyl (B	SW-846 8082	< low surrogate re	ug/L covery , due to emu	1 Isions	10/17/2007 03:13:00	VM
2,2',4,5,5'-Pentachlorobiphenyl	SW-846 8082	< low surrogate re	ug/L covery , due to emu	1 Isions	10/17/2007 03:13:00	VM
2,3,3',4,4'-Pentachlorobiphenyl	SW-846 8082	< low surrogate ree	ug/L covery , due to emu	1 Isions	10/17/2007 03:13:00	VM
2,3',4,4',5-Pentachlorobiphenyl	SW-846 8082	< low surrogate red	ug/L covery , due to emu	1 Isions	10/17/2007 03:13:00	VM
3,3',4,4',5-Pentachlorobiphenyl	SW-846-8082	<	ug/L coverv . due to emu	1 Isions	10/17/2007 03:13:00	VM
2,2',3,3',4,4'-Hexachlorobiphen	SW-846 8082	<	ug/L covery_due to emu	lsions	10/17/2007 03:13:00	VM
2,2',3,4,4',5'-Hexachlorobiphen	SW-846 8082	<	ug/L coverv . due to emu	1 Isions	10/17/2007 03:13:00	VM
2,2',4,4',5,5'-Hexachlorobiphen	SW-846 8082	<	ug/L coverv , due to emu	1 Isions	10/17/2007 03:13:00	VM
3,3',4,4',5,5'-Hexachlorobiphen	SW-846 8082	< low surrogate red	ug/L coverv . due to emu	1 Isions	10/17/2007 03:13:00	VM
2,2',3,3',4,4',5-Heptachlorobiph	SW-846 8082	< low surrogate red	ug/L coverv , due to emu	1 Isions	10/17/2007 03:13:00	VM
2,2',3,4,4',5,5'-Heptachlorobiph	SW-846 8082	<	ug/L coverv , due to emu	1 Isions	10/17/2007 03:13:00	VM
2,2',3,4',5,5',6-Heptachlorobiph	SW-846 8082	low surrogate red	ug/L covery , due to emu	1 Isions	10/17/2007 03:13:00	VM

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Virginia Drinking Water Lab# 00030 VDEQ Lab #000003

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543

Comments for Sample I 0710195-019

Respectfully Submitted,

Virginia Drinking Water Lab# 00030 VDEQ Lab #000003 North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



20 Research Drive Hampton, Va 23666

TELEPHONE: (757) 865-0880 TOLL-FREE: (800) 695-2162 FAX: (757) 865-8014

TO:	AccuTest Lat	oratori	ies
	2235 Route 13	30	
	Dayton	NJ	08810
ATTN	I: Marty Vitanza		

Project ID: Broad Creek J73350X Project # N/A Site: J73350X-14XF Matrix: Surface Water

Comments for Order:

REPORT OF ANALYSIS

Order ID: 0710195

(REPORT DATE) 22-Oct-07 0740405 000

UL Sample Number:	0710195-020	0
Sample ID:	J73350X-14XF	
Grab Date/Time:	10/11/2007	12:15
Composite Start:	N/A	
Composite Stop:	N/A	
Collected By:	CLIENT	

Parameter	Method	Test Result	Units	UL Report Limit	Analysis Date/Time	Analyst
2,4'-Dichlorobiphenyl (BZ	#8) SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,2',5-Trichlorobipheny! (E	3Z#18 SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,4,4'-Trichlorobipheny! (E	3Z#28 SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,2',3,5'-Tetrachlorobiphe	nyl (B SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,2',5,5'-Tetrachlorobipher	nyl (B SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,3',4,4'-Tetrachlorobipher	nyi (B SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
3,3',4,4'-Tetrachlorobipher	nyl (B SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,2',4,5,5'-Pentachlorobiph	nenyi SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,3,3',4,4'-Pentachlorobiph	nenyl SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,3',4,4',5-Pentachlorobiph	nenyl SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
3,3',4,4',5-Pentachlorobiph	nenyl SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,2',3,3',4,4'-Hexachlorobi	ohen SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,2',3,4,4',5'-Hexachlorobi	ohen SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	ŴМ
2,2',4,4',5,5'-Hexachlorobir	bhen SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
3,3',4,4',5,5'-Hexachlorobir	ohen SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,2',3,3',4,4',5-Heptachloro	biph SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,2',3,4,4',5,5'-Heptachloro	biph SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM
2,2',3,4',5,5',6-Heptachloro	biph SW-846 8082	<	ug/L	1	10/17/2007 03:52:00	VM

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Virginia Drinking Water Lab# 00030 VDEQ Lab #000003

North Carolina Drinking Water Lab # 51706 North Carolina Wastewater/Groundwater Lab # 543



CHAIN OF CUSTODY Fresh Ponds Corporate Village, Building B

Z ACCUTEST		CHAII Fresh Pond 2235 Route 908-329-02	N UH C s Corporate V s 130, Dayton 00 FAX: 90	USTO illage, Build NJ 08810 38-329-3499/	${ m DY}_{ m ngB}$	Accutest	$\frac{1}{2}$		
Client Information		Facility, Jufern				Accutest Q	uote #:		
Accutest			nation			Analyt	ical Information		
vame 2235 Route 130	Project Name Rroc								
Address Dayton NJ 08810	Location	tu creek							
Dity State Zip Marty Vitanza	Project No. J733	50X			2808				
ərnd Keport to: >hone #: (732) 329-0200 X-216	FAX #: (7	32) 329-349			3 erəni		 		
	Collection		Pres	servation	δυος	-			
Field ID / Point of Collection Date	Time	ed Bv Matrix	# of bottles	oue 520¢ NO3	5 80				
J73350X-1X / 07-BC-SS-01 10/3/07	9:35 MI	DG Soil	1	N H					
-ZX / 07-BG-SS-DUP 10/3/07	9:35 MI	DG <mark>Soil</mark>	1		< ×				
-3A / 0/-BC-SS-02 10/3/07	10:30 MI	DG Soil	-		×				
200 / 01-BC-SS-MSD 10/3/07	10:30 MI	DG Soil	1		×				
-3x3 / 07-BC-SS-MS 10/3/07	10:30 MI	DG Soil	+		×		-		
-4X / 07-BC-SS-03 10/3/07	11:20 MI	DG Soil	-		×			-	
-3A / 07-BC-SS-04 10/3/07	11:45 MI	DG Soil	-		×				
-0× 0/-BC-SS-05 10/3/07	12:15 ME	DG Soil	+		×				
Tumaround Information									
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14 Day	² ∠	ן בייוו	3][ommercial "A'					
7 Days EMERGENCY			3][ommercial "B"					
X Other 21 (Days)		sk Deliverable	5]	ate Forms					
21 Day Turnaround Hardcopy, Emergency or RUSH is Data unless previously approved.	s FAX	ther (Specify)			ĺ				
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3 Cate 1110: Relindedished by Sampler: Date Trans.	Receiv 3	ed By:		Relinquish 4	ad By:	Date Time:	2 Received B	<u>y:</u>	
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CHAIN OF CUSTODY

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CHAIN OF CUSTODY Fresh Ponds Corporate Village, Building B	2235 Route 130, Dayton, NJ 08810 908-329-0200 FAX: 908-329-2490/3480	Earlity hermanical and 200-267-2498/2480		ct Name	Droad Creek	1722EDV	#: (732) 329-3499	ection Decomposition	Treservation Co # of 10 3 at 10 Co 2 0 10 20 at 10 Co 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	$35 \qquad \text{MDG} \qquad \textbf{AQ} \qquad 1 \qquad 2 \qquad 7 \qquad 2 \qquad 0 \\ \textbf{Y} \qquad $	35 MDG AQ 1 ×	30 MDG AQ 1 X	:20 MDG AQ 1 X	:45 MDG AQ 1 Y	:15 MDG AG 1 X			Data Deliverable Information	NJ Reduced Commercial "A"	X NJ Full Commercial "B"	FULL CLP State Forms	Disk Deliverable	Other (Specify)	umented below each time samples change possesion including control a	$\alpha \alpha = 1$ $\sum_{n=1}^{\infty} \frac{1}{\sqrt{\lambda}}$	Received By:	Received By: 4 E. M			PU but Juved to 0
		Client Information	Accutest	Vame 2235 Route 130	Address Dayton NJ 08810	Sity State Zip Proje Marty Vitanza	Send Report to: Phone #: (732) 329-0200 X-216 FAX	Col	Field ID / Point of Collection Date 1	J73350X-9XA & 9XF 2 10/11/07 6	2-10XA & 10XF > 10/11/07 6	2 -11XA & 11XF 2 10/11/07 1	212XA & 12XF 2 10/11/07 1	213XA & 13XF 72 10/11/07 1	₩4 -14XA & 14XF 2 10/11/07 1:		T Income of the first second sec		Approved By:			A Durier 21 (Days)	21 Day 1 untraround Hardcopy, Emergency or RUSH is FAX Data unless previously approved.	Relinquished by SamDer.	1 7/2/27 17	Ballmatichand of State Line:	5 10 1 1C 10	04 :01		I = 0. F. Marine