N60478.AR.001280
NWS EARLE
5090.3a

FINAL SURVEY AND DATA REPORT SEDIMENT TESTING AND ANALYSIS FOR UPLAND DISPOSAL OF NON-HARS SUITABLE MATERIAL FROM PIER COMPLEX REPLACEMENT PROJECT NWS EARLE NJ

2/1/2005

BATTELLE

FINAL
SURVEY AND DATA REPORT

SEDIMENT TESTING AND ANALYSIS FOR UPLAND DISPOSAL OF NON-HARS SUITABLE MATERIAL FROM THE PIER COMPLEX REPLACEMENT PROJECT

Prepared for:

WEEKS MARINE, INC.

901 Beach Street
Camden, NJ 08102

Prepared by

BATTELLE
397 Washington Street
Duxbury, MA 02332

February 2005

WEEKS MARINE, INC.

FINAL SURVEY AND DATA REPORT
SEDIMENT TESTING AND ANALYSIS FOR UPLAND DISPOSAL OF NON-HARS SUITABLE MATERIAL FROM THE PIER COMPLEX REPLACEMENT PROJECT

February 2005

FINAL
SURVEY AND DATA REPORT

SEDIMENT TESTING AND ANALYSIS FOR UPLAND DISPOSAL OF NON-HARS SUITABLE MATERIAL FROM THE PIER COMPLEX REPLACEMENT PROJECT

Prepared for:

WEEKS MARINE, INC.

901 Beach Street
Camden, NJ 08102

Prepared by

BATTELLE
397 Washington Street
Duxbury, MA 02332

February 2005

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 METHODS 1
- 2.1 Offshore (Berthing Area) Sediment Core Collection 5
- 2.2 Pier 3 Sediment Core Collection 5
- 2.3 Sample Handling and Custody 7
  - 2.3.1 Sediment Core Processing 7
  - 2.3.2 Chain-of-Custody Documentation and Shipping 7
- 2.4 Analytical Methods 9
- 2.5 Deviations and Problems Experienced 12
  - 2.5.1 Station Coordinates 12
  - 2.5.2 Equipment Blanks 12
  - 2.5.3 Sediment Core Collection 12

3.0 RESULTS 13
- 3.1 Equipment Blank 13
- 3.2 Grain Size and Total Organic Carbon Individual Cores 13
- 3.3 Physical and Chemical Results from Bulk Sediment Composites (Navy List) 14
  - 3.3.1 Grain Size and TOC 14
  - 3.3.2 Organics 14
  - 3.3.3 Metals and CN 16
- 3.4 Results for Additional Parameters (Weeks Marine List) 17
  - 3.4.1 Bulk Sediment 17
  - 3.4.2 ASTM Leachates 18
  - 3.4.3 TCLP Parameters 18

4.0 COMPARISON OF SEDIMENT AND LEACHATE DATA TO RELEVENT GUIDELINES AND CRITERIA 20

5.0 REFERENCES 22

LIST OF TABLES

Table 1. Summary of Sediment Composites 8
Table 2. Field Collected Sediment Aliquots. 9
Table 3. Methods for Laboratory Analysis. 10
Table 4. Summary of Additional Analytical Parameters. 11
Table 5. Summary of Equipment Blanks Collected 12
Table 6. Selected Virginia Water Quality Standard Quantitation Limits. 21

LIST OF FIGURES

Figure 1. Study Area. 3
Figure 2. Sampling Locations. 4

APPENDICES

Appendix A Sample Collection Information and Survey Chronology
Appendix B dGPS Daily Log Forms
Appendix C Field Log Forms
Appendix D Sample Custody Forms
Appendix E Grain Size and TOC Results (Individual Cores and Composites)
Appendix F Summary Tables of Bulk Sediment Chemistry Result
Appendix G Summary Tables of Additional Parameters (Weeks Marine List)
Appendix H Equipment Blank
Appendix I Sediment and Leaching Data Screening Summary Tables
Appendix J Laboratory Data Reports (CD only)

1.0 INTRODUCTION

Naval Weapons Station Earle (NWS Earle) is located in Sandy Hook Bay, Middletown Township, Monmouth County, New Jersey and is an ordnance storage and handling facility of the United States Atlantic Fleet (Figure 1). The Navy is in the process of replacing Pier 3 which includes the demolition of the existing pier structure and deepening of the adjacent berthing areas to a required depth of 45 feet. Data characterizing sediment contamination are needed to quantify contaminant concentrations underneath Pier 3 and within the berthing area adjacent to Pier 3 in support of evaluating sediment disposal options associated with the planned dredging project. Based on previous sediment sampling it was determined that some material is not suitable for offshore disposal at the HARS. Current testing is being performed to determine suitability of material dredged from the site during pier replacement for upland disposal options.

Sediment Testing and Analysis for Upland Disposal of Non-Historical Area Remediation Site (HARS) Suitable Material from the Pier Complex Replacement Project at Naval Weapons Station Earle (NWS Earle) is being conducted for the Navy's Engineering Field Activity Northeast (EFANE) under Contract N62472-00-D-1300. Additional testing was performed under contract to Weeks Marine, Inc. to evaluate an alternative upland placement option. This report summarizes the results of the field activities and analytical testing conducted in support of this project and any deviations from the Quality Assurance Project Plan (QAPP) (Battelle 2004). Results from analytical testing requested by the Navy as well as additional tests in support of the Weeks Marine disposal alternative evaluation are presented.

Field activities consisted of collection of 39 subsurface sediment cores (Figure 2); fifteen of these samples were taken through Pier 3 at NWS Earle, utilizing manhole access points and twenty-four samples were collected adjacent to Pier 3, within the pier's berthing area. Physical and chemical analyses were performed for a suite of compounds required by the State of New Jersey as well as by the Virginia DEQ and described in the QAPP.

Specific goals for the NWS Earle Pier Complex Replacement project supported by data included in this report include the following:

- Characterize approximately 312,000 cubic yards of non-HARS suitable material by analyzing bulk sediment samples for a suite of physical and chemical parameters, including parameters requested specifically by the State of Virginia Department of Environmental Quality (DEQ);
- Determine concentrations of semivolatile organics, metals, and pesticides likely to leach from the bulk sediment in an upland disposal scenario using both Toxicity Characteristic Leaching Procedure (TCLP) and deionized water (DI) water leaching procedures.

2.0 METHODS

Details of the sampling design, data quality objectives, and technical approach for sampling at the NWS-Earle can be found in the *Sediment Testing and Analysis For Upland Disposal of Non-Hars Suitable Material From the Pier Complex Replacement Project* QAPP (Battelle, 2004). Subsurface sediment cores were collected both offshore (berthing area) as well as under Pier 3 from November 12th through November 18th, 2004. In all, 39 individual stations were sampled (24 in the berthing area and 15 under the pier) as shown in Figure 2. Table A-1 in Appendix A lists the stations, coordinates, depth sampled and recovery of these cores. Thirty nine (39) individual sediment core composites were analyzed for TOC and Grain Size parameters. Subsequent compositing of specified cores (three cores per composite) resulted in 13 composite samples that were analyzed for a suite of physical and chemical parameters

(Section 2.4; Table 3). Details of each sampling operation as well as the analytical testing program are described below. Additional information related to the project is provided in the following appendices:

- Appendix A Sample Collection Information and Survey Chronology
- Appendix B dGPS Daily Log Forms
- Appendix C Field Log Forms
- Appendix D Sample Custody Forms
- Appendix E Grain Size and TOC Results
- Appendix F Summary Tables of Bulk Sediment Chemistry Results
- Appendix G Summary Tables of Additional Parameters (Weeks Marine report only)
- Appendix H Equipment Blank
- Appendix I Sediment and Leaching Data Screening Summary Tables
- Appendix J Laboratory Data Packages (CD only)

Positioning: Stations were located using a differential global positioning system (dGPS). The dGPS unit used for the sediment core sampling on the pier was a Trimble GeoExplorer XT series using Wide Area Augmentation System (WAAS) corrections. The unit used on board the R/V Robert E. Hayes was a Trimble NT300D using USCG Differential Corrections. The dGPS units are factory-calibrated and have a design positional accuracy of less than 1 meter but may vary by ±3 meters based on the positioning of satellites and atmospheric conditions. Navigation systems were calibrated daily and the completed dGPS calibration forms are provided in Appendix B.

Field Records: A field log (including core description) was completed at each station to record the start and stop time of each stations sampling event (Appendix C). All field-sampling activities and measurements were recorded in a bound survey logbook and are provided as appendices to this report.

Sample IDs: Sample containers were labeled with adhesive-back labels and reinforced with clear packing tape. To provide a unique sample identity (ID), sample identification numbers used the following format:

DAJ-001

where, D is the year (2004)
AJ is the survey ID
001 is a unique, sequential number

All sample IDs and related information are presented in tables in Appendix A.

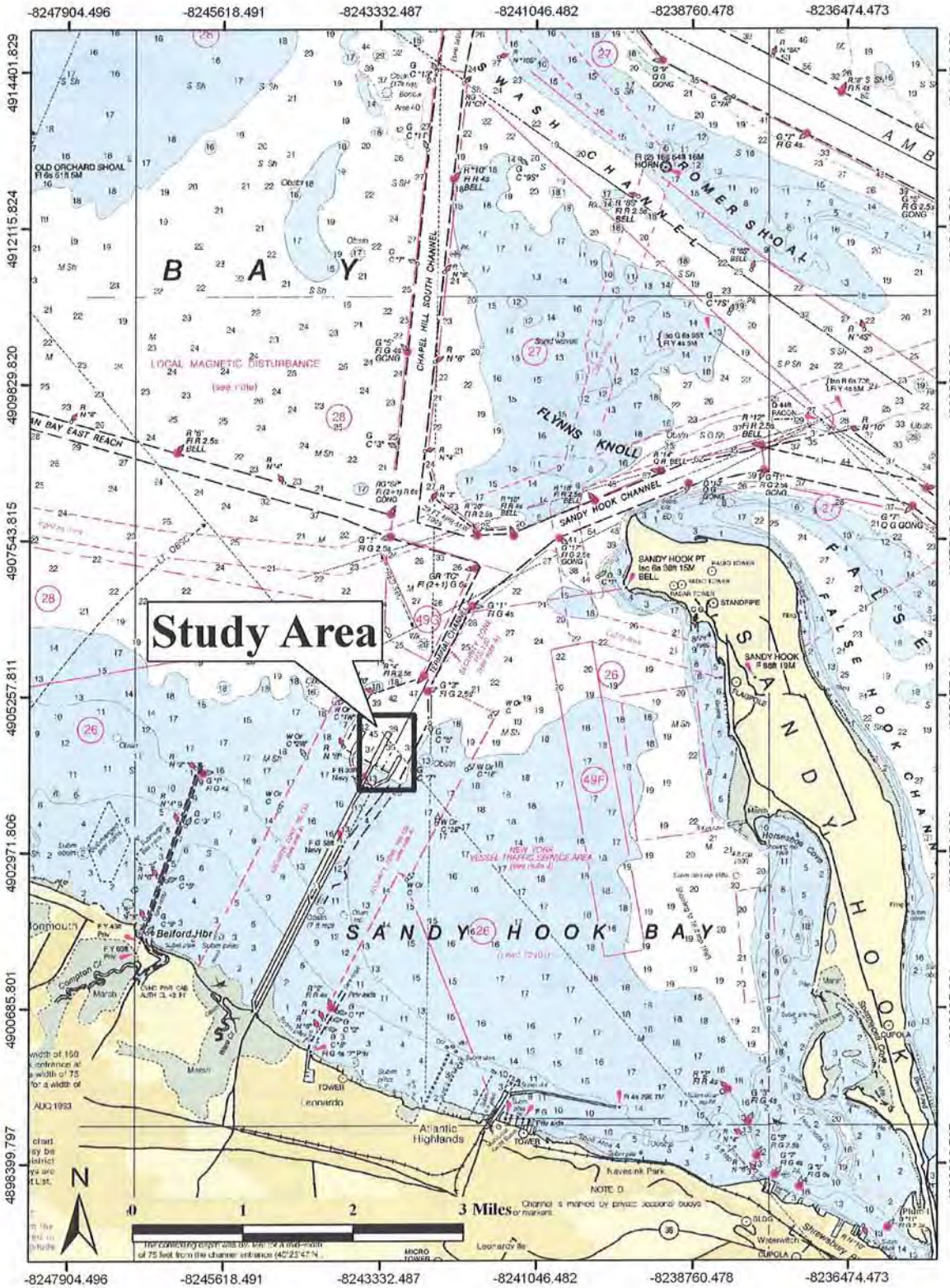


Figure 1. NWS Earle Study Area.

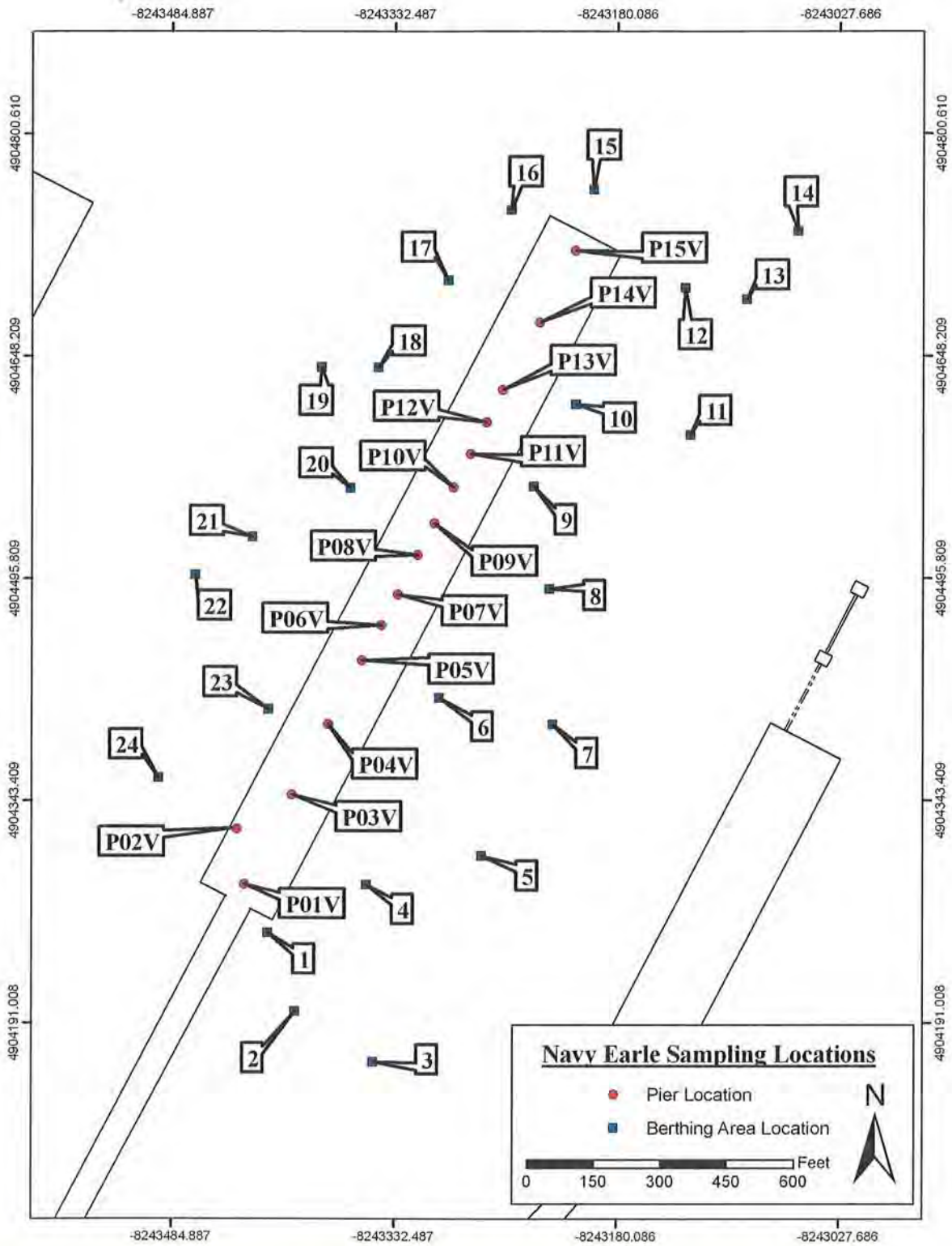


Figure 2. Sediment Sampling Locations.

2.1 Offshore (Berthing Area) Sediment Core Collection

A vibracore was used to collect sediment in the berthing area to a penetration depth of up to twenty-three feet (ft) or until bedrock or unconsolidated, stiff, and dry sandy material of Holocene origin was encountered. A 75' spud barge, the *R/V Robert E. Hayes,* owned and operated by Aqua Surveys, Inc. (ASI) served as the sampling platform for the offshore vibracore operations. The coring system (Rossfelder P3) consisted of a three hp electric motor coupled to a steel tube lined with high density polyethylene (HDPE) material. The core tube was capped with a stainless steel cutter/catcher system attached with four steel rivets. The coring procedure was as follows:

- The core system was deployed from a crane on the barge until contact with the bottom sediments.
- The core vibration motor was activated, and the core deployed until it reached refusal (native bedrock or unconsolidated material).
- The unit was turned off, and the core system recovered to the barge.
- After securing on the barge, the core catcher/cutter was removed, the core liner sealed, and the core removed from the steel tubing.
- The core was placed in polyvinyl chloride (PVC) trays on the deck and inspected for penetration, recovery, and to confirm that the Holocene layer was obtained.
- The HDPE liner was cut longitudinally with a knife and the core was described and characterized on the field form using ASTM methods (See Appendix E for Field Log Forms).
- Following photo documentation and characterization, the cores were transferred to polyethylene drum liners and cable tied shut until they could be homogenized.

Two cores were collected from Stations 5 and 6 to acquire adequate volume for laboratory testing. To provide additional sample volume for quality control analyses, an additional core was collected at stations 19, 20, and 21. After compositing single cores for stations 19, 20 and 21, it was determined that three cores provided adequate volume for duplicate lab testing, and the duplicate cores were not utilized Core processing is further described in Section 2.3. The 24 berthing area cores identified in the QAPP were successfully collected with no corrective actions from the berthing area. Holocene material was encountered at depths ranging from -28.9 to -31.9 ft Mean Low Low Water (MLLW) in the three cores on the east side of the southern end of the pier (cores 01, 02, and 03). In the other 21 cores located within the Berthing Area, the depth of the Holocene material ranged from -45.5 to -52.9 ft MLLW. From the 24 cores collected, Holocene material was definitively reached in 20 cores. The remaining four cores (locations 4, 9, 10, and 16) were not notably shorter in length. They may have been refused by the holocene material, but not penetrated far enough to retain a plug as evidence. Overall recovery rate (retrieval/penetration) was 71.2% for the Berthing Area cores.

2.2 Pier 3 Sediment Core Collection

To characterize sediment quality beneath Pier 3, samples were collected through accessible manholes on the pier. Initially sampling was designed to occur through 24" manholes located along the edges of the pier and through 36" manholes running down the centerline of the pier. However, upon inspection, only one peripheral manhole was accessible. A loading ramp running along the edges of the pier constructed after the initial pier was built (and not on the pier drawings) blocked access for the majority of manholes. Two 24" manholes are open at the start of the pier, however the one on the east side of the pier is blocked under the pier with water pipes for firefighting. Two 24" manholes at the middle of the pier are open, but they are also blocked by piping systems. The two 24" manholes at the end of the pier have been paved over. Thus, only one of the 24" manholes was sampled at the beginning of the pier on the west side (P02v). The remaining 14 samples were collected through the 36" manholes along the center of the pier.

Initially, under pier sampling was conducted using a Hammer/Gravity Core system deployed from a truck operated by Warren George. The core system consisted of 4" steel and stainless steel tubing, with cellulose acetate butyrate (CAB) liners. The coring process proceeded as follows:

- The core tubing was cleaned with Alconox™ and rinsed with tap water and site water.
- Twenty feet of core tube was lowered through the manhole.
- Steel drive rods were attached in five-10 foot sections and gravity used to penetrate the sediment.
- When refusal was encountered, the hammer weight (150 lbs or 300 lbs) was dropped on the core tube system to continue the coring process.
- After driving 2-5 feet into native material, the core was recovered with the truck mounted winch.
- The core liner was removed from the tubing, capped and transported to the processing area.
- The CAB liner was cut longitudinally with electric shears and described on the field form using ASTM methods.
- After description, the sample was transferred into a 30 gallon polyethylene bag for homogenization (described in Section 2.3).

The material at the site consists of very fine high water content silts and clays with shell and gravel material for the first 5-10 feet. This material is difficult to sample with a high recovery percentage. Without the aid of a vibrating core tube, the fine material with shells and gravel tends to plug the tubing and sediment is pushed away from the tip of the core tube causing low recovery rates (38.6%) as was evident in the first six locations. In addition, multiple attempts were required to retrieve sufficient amounts of material for analysis. Initially, there was no core catcher in the cutting head. The core sample was held in the core tube by driving the core into native material and plugging the tip. After limited success without a catcher, a standard hammer core catcher was added. The standard hammer core catchers are constructed from stiff steel for hard substrate, and pushed the soft material away from the tubing, decreasing recovery. Several modified catchers were manufactured by Warren George, but were not successful in improving recovery. To improve recovery rates, a vibracore system was tested and proved to be superior in both recovery and efficiency. The vibracore system was employed and the six locations previously sampled with the hammer core were re-sampled and the subsequent recovery rate was 52.9% (compared to 38.6% with the gravity/hammer core) and no repeat attempts were required at those locations. The system was operated by ASI and was identical to the one used on the barge in the berthing area (described in Section 2.1).

The vibracore sampling process at the pier proceeded as follows:

- The vibracore was lowered until it reached the sediment water interface.
- The core vibration system was turned on, and the core was deployed to a depth of 23' or until refusal or stiff native material was encountered.
- The unit was turned off, and the core system recovered to the pier.
- After securing the system on the pier, the core catcher/cutter was removed, the core liner sealed, and the core removed from the steel tubing.
- The liner and core were placed on wooden trays and inspected for penetration, recovery, and to confirm that the Holocene layer was obtained.
- The HDPE liner was cut longitudinally with a knife and the core was described and characterized on the field form using ASTM methods (See Appendix E for Field Log Forms).
- Following characterization, the cores were transferred to polyethylene drum liners and cable tied shut until homogenization.

Sample processing is further described in Section 2.3. The 15 berthing area cores identified in the QAPP were successfully collected with the vibracore system. Samples collected with the gravity/hammer core

system were archived. Recovery rates and efficiency were improved with the vibracore system. The overall recovery for the fifteen pier cores was 47.6%. Although recovery was increased, the vibracore system liquefies sediments, and lowers the apparent recovery. Samples with high water content were held vertically on the pier and the sediments were allowed to settle out from the liquefied top layers to mitigate the effect of liquefaction.

Holocene material or refusal was encountered at depths ranging from -22.3 to -40.1 ft MLLW. Fifteen cores were collected and Holocene material was confirmed in four of the cores. The remaining cores were refused by rocks, concrete debris, or unconfirmed native bedrock/holocene sediment. The area was dredged to a depth greater than construction design (Personal communication 17 November 2004, (Nancy Kuntzleman (NAVFAC EFANE) observed within bottom sections of the core samples, the fill material included sand, gravel, and concrete debris. Cores from stations P06 and P07 contained layers of concrete up to six feet thick. Within the upper sections of the pier cores, gravel, metal, and plastic debris were observed. These materials were likely deposited through the manholes.

2.3 Sample Handling and Custody

2.3.1 Sediment Core Processing

Following the methods described in the QAPP, a total of 39 sediment cores were collected (24 from the berthing area and 15 from under Pier 3). Details of core collections from each station are provided in Appendix A (Table A-1).

Immediately after collection, the cores were slit open and characterized using ASTM methods. Cores were characterized according to color, sediment type, grain-size, odor, structure, consistency, and cementation (see Appendix C). Following characterization, the cores were transferred to polyethylene drum liners and cable tied shut until they could be homogenized. Cores collected in the berthing area were processed to this point on the barge. Cores collected from under the Pier were processed on the pier. Individual cores were homogenized in 30 gal HDPE lined drums using a Collomix® electric hand held mixer driving a stainless steel impeller. After each individual core was homogenized, two aliquots were collected, one for TOC and one for grain size. Following the QAPP, the cores from consecutive stations were placed in one 30 gal HDPE liner and homogenized using the same stainless steel mixing apparatus. Table 1 provides a summary of the composites created from the individual cores. The homogenized composites were then split into the specified containers as listed below in Table 2, and stored on ice or in the refrigerated box truck until shipment to the appropriate laboratory.

2.3.2 Chain-of-Custody Documentation and Shipping

Sample custody forms were created and maintained for all field collected samples. Samples remained in the custody of the Field personnel until they were relinquished to the appropriate sample custodian either in person or by overnight shipment. Copies of sample custody forms are provided in Appendix D.

During field sampling, samples were kept in a refrigerated box truck. Samples sent from the field to Severn Trent Laboratory (STL) Pittsburg PA were packaged with wet ice and shipped via FedEx for overnight delivery. All other samples were transported from NWS-EARLE to Battelle Duxbury MA in a refrigerated box truck on November 18-19, 2004. Upon arrival at Battelle, all samples were transferred to a cold room that is maintained at 4°C and monitored daily. Samples remained in the cold room until they were removed for shipping or processing. Samples shipped from Battelle to the analytical laboratories were packaged with wet ice during transportation to the various locations. A separate aliquot was sent to Virginia Tech per the request from Weeks Marine. Results for analyses performed by Virginia Tech are not included in this report.

Table 1. Summary of Sediment Composites.

Area	Composite Sample ID	Composite Site ID	Composite Date	Station ID	Core Sample ID
Pier	DAJ-080 DAJ-080DUP	PC-1	11/18/2004	P01V	DAJ-060
				P02V	DAJ-061
				P03V	DAJ-062
	DAJ-081	PC-2	11/18/2004	P04V	DAJ-063
				P05V	DAJ-064
				P06V	DAJ-065
	DAJ-082	PC-3	11/18/2004	P07V	DAJ-066
				P08V	DAJ-067
				P09V	DAJ-068
	DAJ-083	PC-4	11/18/2004	P10V	DAJ-069
				P11V	DAJ-070
				P12V	DAJ-071
	DAJ-084	PC-5	11/18/2004	P13V	DAJ-072
				P14V	DAJ-073
				P15V	DAJ-074
Berthing Area	DAJ-050	BA-C-1	11/15/2004	1	DAJ-026
				2	DAJ-027
				3	DAJ-028
	DAJ-051	BA-C-2	11/15/2004	4	DAJ-029
				5	DAJ-030
				6	DAJ-031
	DAJ-052	BA-C-3	11/16/2004	7	DAJ-032
				8	DAJ-033
				9	DAJ-034
	DAJ-053	BA-C-4	11/16/2004	10	DAJ-035
				11	DAJ-036
				12	DAJ-037
	DAJ-054	BA-C-5	11/16/2004	13	DAJ-038
				14	DAJ-039
				15	DAJ-040
	DAJ-055	BA-C-6	11/16/2004	16	DAJ-041
				17	DAJ-042
				18	DAJ-043
	DAJ-056	BA-C-7	11/17/2004	19	DAJ-044
				20	DAJ-045
				21	DAJ-046
	DAJ-057 DAJ-057DUP	BA-C-8	11/17/2004	22	DAJ-047
				23	DAJ-048
				24	DAJ-049

Table 2. Field Collected Sediment Aliquots.

Field Splits					
Sample Types	**Destination**	**Container**	**Volume** (mL)	**Volume** (gal)	**Preservation**
Individual Cores					
Grain Size	STL-Burlington	16oz glass jar	500	NA	4°C ± 2°C
TOC	STL-Burlington	4oz glass jar	125	NA	4°C ± 2°C
Composites					
Bulk Sediment Chemistry	STL-Pittsburgh	3.5 gallon bucket	5125	1.4	4°C ± 2°C
Sediment for Amending*	Battelle Duxbury	3.5 gallon bucket	2125	0.6	4°C ± 2°C
WEEKS Marine Split	Virginia Tech	2 gallon bucket	1000	0.3	4°C ± 2°C

* results not discussed in this report.

2.4 Analytical Methods

Sediment was analyzed for a suite of physical and chemical parameters as described in the QAPP. Individual sediment cores were analyzed for grain size and TOC. Sediment composites were analyzed for a wider range of parameters including which included bulk sediment and leachate analyses. Bulk sediment was analyzed for the parameters detailed in Table 3, as well as an extended list of parameters required by the State of Virginia Department of Environmental Quality (DEQ) as detailed in the Virginia Pollution Abatement Permit Application Form C (Table 4). The majority of physical and chemical analyses were performed at STL in either Burlington, VT., Pittsburgh, PA., or Knoxville, KY. A subset of analyses were performed at different laboratories as noted in Table 4. While the toxicity characteristic leachate procedure (TCLP) was the method required by the VA DEQ, the acidic nature of the leaching fluid used by this method precluded the analysis of a number of parameters. Instead, an ASTM Leaching procedure, which uses deionized water instead of an acidified liquid, was proposed to obtain leaching data for these parameters. This method was approved by Weeks and was used to analyze a subset of parameters as indicated in Table 4.

Table 3. Methods for Laboratory Analysis.

Parameter	Base Method	Laboratory	Laboratory SOP	Description
Sediment Composites				
SVOC	SW846 8271C	STL-Pittsburgh	C-MS-0001	DCM Extraction GC/MS
Metals Hg	6010B/7470A	STL-Pittsburgh	C-MT-0001 C-MT-0007 (Hg)	Acid digestion ICP CVAA
PCB Aroclors	SW846 8082	STL-Pittsburgh	C-GC-0001	GC/ECD
Chlorinated Pesticides	SW846 8081A	STL-Pittsburgh	C-GC-0001	GC/ECD
Polychlorinated Dioxin/Furan	U.S. EPA Method 1613B	STL-Knoxville	KNOX-ID-0004	HRGC/HRMS
Cyanide	SW846 9012A	STL-Pittsburgh	PITT-WC-0018	Automated Colorimetry
Grain size (%) (Bulk Sediment Only)	ASTM D-422	STL-Burlington	LM-SL-D422	Sieve Hydrometer
TOC (mg/g) (Bulk Sediment Only)	Kahn (1988)	STL-Burlington	LM-WC-TOC Lloyd	AD TOC Analyzer
% Moisture (Bulk Sediment Only)	SW846	STL-Pittsburgh	PITT-IP-0014	Drying Oven
Modified Multiple Extraction Procedure (MEP)	SW846 1320 Modified	STL-Pittsburgh	SW846 1320 Modified	Leaching Procedure
Water: Equipment Blank				
SVOC	SW 846 8270C	STL-Pittsburgh	C-MS-0001	DCM extraction LVI-GC/MS
Metals Hg	U.S. EPA Methods 6010B/7471A	STL-Pittsburgh	C-MT-0001 C-MT-0007 (Hg)	ICP CVAAS
PCB Aroclors	SW846 8082	STL-Pittsburgh	C-GC-0001	GC/ECD
Chlorinated Pesticides	SW846 8081A	STL-Pittsburgh	C-GC-0001	GC/ECD
Dioxin/Furan	U.S. EPA Method 1613B	STL-Knoxville	KNOX-ID-0004	HRGC/HRMS
Cyanide (Equipment Blank Only)	SW846 9012A	STL-Pittsburgh	PITT-WC-0018	Automated Colorimetry

Table 4. Summary of Additional Analytical Parameters.

Sample Type	Parameter	Method	Lab
Solid	Ammonia, Nitrogen	EPA 350.1	STL-Pittsburgh
Solid	ASTM Leachate	with DI water	STL-Pittsburgh
Solid	Nitrate	EPA 353.2	STL-Pittsburgh
Solid	Nitrite	EPA 353.2	STL-Pittsburgh
Solid	pH - NonAqueous	SW846 9045C	STL-Pittsburgh
Solid	Phosphorus, Total	EPA 365.2	STL-Pittsburgh
Solid	Solids - %	EPA 160.3MO	STL-Pittsburgh
Solid	Solids - Total Volatile	EPA 160.4	STL-Pittsburgh
Solid	Total Kjeldahl Nitrogen, TKN	EPA 351.3	STL-Pittsburgh
Solid	Alkalinity –Total	EPA 310.1 DI H2O leach	STL-Pittsburgh
Solid	Forms of Sulfur		Geochemical Testing-GCT
Solid	Neut. Potent. as Calcium Carbonate		Geochemical Testing-GCT
ASTM leach	Chloride	EPA 325.2	STL-Pittsburgh
ASTM leach	Chromium - Hexavalent	SW846 7196A	STL-Pittsburgh
ASTM leach	Cyanide - Total	SW846 9012A	STL-Pittsburgh
ASTM leach	Hardness - Total	EPA 130.2	STL-Pittsburgh
ASTM leach	Phenolics	SW846 9066	STL-Pittsburgh
ASTM leach	Sulfate	EPA 375.4	STL-Pittsburgh
ASTM Leach	TOC	EPA 415.1	STL-Pittsburgh
ASTM leach	Tritium	EPA 906.0 mod	STL St. Louis
ASTM leach	Bromide and Fluoride-IC	EPA 300.0A	STL-Pittsburgh
ASTM leach	Sodium ICP	SW846 6010B	STL-Pittsburgh
ASTM leach	Sulfide	EPA 376.1	STL-Pittsburgh
ASTM leach	Sulfite	Microseeps	STL-Pittsburgh
ASTM leach	Surfactants	Microseeps	STL-Pittsburgh
TCLP	2,3,7,8 TCDD	EPA 1613	STL Sacramento
TCLP	Butyl Tins	STL SOP	STL Burlington
TCLP	Gross Alpha/Beta	SW846 9310	STL St. Louis
TCLP	Herbicides- TCLP	SW846 1311/8151A	STL-Pittsburgh
TCLP	Metals - TCLP	1311/6010B/7470A expanded list	STL-Pittsburgh
TCLP	PCB Aroclors	SW846 8082	STL-Pittsburgh
TCLP	Pesticides- Organophosphate	SW 846 8141A	STL-Pittsburgh
TCLP	Pesticides- TCLP	(SW 846 1311/8081A) expanded list	STL-Pittsburgh
TCLP	Semivolatiles-TCLP	(SW846 1311/8270C) expanded list	STL-Pittsburgh
TCLP	Strontium 90	EPA 905.0 mod	STL St. Louis
TCLP	TCLP Extraction	SW846 1311	STL-Pittsburgh
TCLP	Total Radium	SW846 9315/9320	STL St. Louis
TCLP	Total Radium 226	SW846 9315	STL St. Louis
TCLP	TPH - Hexane Extractable Material	EPA 1664	STL-Pittsburgh
TCLP	Volatiles – TCLP	SW846 1311/8260B) expanded list	STL-Pittsburgh
TCLP	ZHE Extraction	(SW846 1311)	STL-Pittsburgh

2.5 Deviations and Problems Experienced

This section describes deviations to the QAPP that occurred during the field survey.

2.5.1 Station Coordinates

Navigation checks were not performed on a daily basis while on the barge. The quality of dGPS signals varies over time due to satellite position changes altering the power of the geometric solution of position and atmospheric changes. The barge dGPS system operated with acceptable internal estimates of position error during navigation. This deviation is not considered to have affected the quality of the sample collections.

2.5.2 Equipment Blanks

As described in the QAPP, equipment (water) blanks were to be collected in each Study Area from the vibracore sampling equipment. These blanks represent the effectiveness of the decontamination procedures for the grab sampler and equipment used for homogenization in the field. Table 1 summarizes the equipment blank samples collected. The organic chemical splits (PCB/Pest/Semivoa/dioxin) for the equipment blanks were not taken in the field but were generated offsite using a vibracore liner and one of the cutter heads used in the field. While this doesn't represent the true field conditions for the organics blank, it does represent the liners used and a cutter head after the decontamination procedure; and because the same equipment was used both offshore and on the pier, the one set of organic analyses should be representative of both sampling events.

Table 5. Summary of Equipment Blanks Collected.

Area	Analysis	Battelle Sample ID	Collection Date
Berthing Area	Metals	DAJ-095	11/17/2004
	TPH	DAJ-096	
Pier 3	Metals	DAJ-098	
	TPH	DAJ-099	
Both	Organic Chemicals	DAJ-100	11/18/2004
		DAJ-101	
		DAJ-102	
		DAJ-103	
		DAJ-104	
		DAJ-105	

2.5.3 Sediment Core Collection

Due to poor recovery resulting from the sediment type, sampling conditions and sampling equipment, a vibracore was used instead of a push/hammer to collect cores under the pier. Once the field team started using the vibracore, core recovery and efficiency increased. A detailed description of the issues are provided in Section 2.3.

3.0 RESULTS

Summary tables of results for the equipment blanks, bulk sediment cores and composites analyzed for the standard list of parameters as required by the Navy (Table 3) and the additional parameters requested by the State of Virginia Department of Environmental Protection (Table 4) are provided in Appendices E through H.

A summary of the analytical results and any data quality issues is provided below. Full laboratory data packages which include the results for all quality control analyses are provided on CD (Appendix J).

3.1 Equipment Blank

As described in Section 2.5.2, two separate equipment blanks were analyzed for inorganic parameters, however, only one equipment blank, representing the vibracore system, was analyzed for organic parameters. The only compounds detected in any of the equipment blanks were metals and one furan compound as described below.

A number of metals were detected in the equipment blank associated with the offshore berthing area field collections, however, concentrations were generally 3 to 5 times below the Reporting Limit (RL) with the exception of iron (Fe), sodium (Na) and Zinc (Zn). The elevated levels of in the berthing area eequipment blank are most likely a result of contact with site seawater and are unlikely to affect the quality of the sediment analyses, as these samples are themselves marine sediments and are expected to exhibit elevated levels of metals/minerals associated with marine conditions.

A number of dioxin and furan compounds were detected in the method blank associated with the analyses of the equipment blank sample. 1,2,3,4,6,7,8-HpCDD, OCDD, 2,3,4,7,8-PeCDF, 2,3,4,6,7,8-HxCDF, 1,2,3,4,6,7,8-HpCDF, and OCDF were all detected in the method blank at a concentration greater than the method detection limit, but less than the reporting limit in the analytical procedural blank. The results for the procedural blank were qualified with a "J". Only OCDF was detected in the field blank sample and, this concentration was less than the reporting limit. This result was qualified with a "B".

3.2 Grain Size and Total Organic Carbon Individual Cores

Individual sediment core composites from both the berthing area and from under the pier were analyzed for grain size and total organic carbon (TOC). TOC and grain size results, including grain size curves are provided in Appendix E.

TOC was measured using the Loyd Kahn method where all samples are analyzed in triplicate. The results reported are the average of those measurements. Accuracy and precision were measured through matrix spikes, laboratory control samples and duplicate analyses. Matrix spike and laboratory control recoveries were within the laboratory control limits. Relative percent differences between replicate analyses were also within control limits. The method blanks were generally free from contamination however, one method blank did contain TOC levels just above the established reporting limit of 500 ppm. However, sample results were significantly higher than the amount found in the blank and therefore should have no impact on the quality of the data.

Precision in the grain size analysis was measured by duplicate analyses. Relative percent differences between replicates were within laboratory control limits.

3.3 Physical and Chemical Results from Bulk Sediment Composites (Navy List)

Overall, the results of the quality control samples associated with these analyses were within the laboratory control limits. The following is a brief summary of any quality assurance/quality control (QA/QC) deviations and a description of impacts to data quality, if any.

3.3.1 Grain Size and TOC

TOC was measured using the Loyd Kahn method where all samples are analyzed in triplicate. The results reported are the average of those measurements. Accuracy and precision were measured through matrix spikes, laboratory control samples and duplicate analyses. Matrix spike and laboratory control recoveries were within the laboratory control limits. Relative percent differences between replicate analyses were also within control limits. The method blanks were free from contamination. Two samples, DAJ-050 BA-C-1(1,2,3) and DAJ-051 BA-C-2(4,5,6) were analyzed for TOC on November 30th, 15 days from the date of collection of at least one core that made up each composite. The holding time for analysis of TOC, based on USEPA and USACE guidance is 14 days from time of collection. Samples were stored cold (4 deg C) from time of collection and while the analysis was one day outside of holding time, it is unlikely that this exceedence will have any impact on the quality of the data for these samples..

Precision in the grain size analysis was measured by duplicate analyses. Relative percent difference between replicates was within laboratory control limits.

3.3.2 Organics

GC/MS Semivolatiles

Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. Surrogate recoveries were exceeded for samples DAJ-057-BA-C-7(19,20,21) and DAJ-055-BA-C-6(16,17,18). Nitrobenzene-d5 was under-recovered in sample DAJ-057-BA-C-7(19,20,21) at 41%, just under the lower limit of 42%. The data was reported and the exceedence was qualified with an "*". In sample DAJ-055-BA-C-6(16,17,18) three surrogates were under-re-covered. This sample was re-extracted. Results from the second analysis have been reported. Phenol was detected in the method blank associated with this re-extracted sample at a concentration that was greater than the method detection limit but less then the reporting limit. The data was qualified with a "J" in the method blank and because phenol was detected in the re-extracted sample (DAJ-055-BA-C-6(16,17,18)RE), the result was flagged with a "B" , although the amount detected in the sample was over 10 times higher than the amount detected in the method blank. Overall, the quality of the semivolatile results is acceptable.

Pesticides

Due to matrix interference all samples were analyzed at a dilution which resulted in slightly higher reporting limits. Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. In the matrix spike sample, aldrin was over-recovered at 128%, just over the upper limit of 122%. The data was qualified with an "*". Accuracy for this compound has adequately been demonstrated in both the laboratory control sample and matrix spike duplicate data. In addition, aldrin was only detected in two samples and at levels below the reporting limit (RL).

Pesticide detections were confirmed on a second, dissimilar chromatographic column. Only compounds confirmed on the second column are reported, however, when the percent difference between the original and confirmation analysis was greater than 40%, the lower of the two values was reported and the value was flagged with "PG". In these instances, the higher value most likely indicates some sort of coelution

or matrix interference and the lower number more accurately reflects contaminant levels. In addition, the majority of the pesticides detected and flagged as such were found at levels generally less than half the RL. Only two pesticides were detected at levels above the RL; 4,4'DDE and 4,4' DDD were detected at or just above the RL in a number of samples. Detections of these two compounds were quantitatively confirmed with a percent difference of < 40% in all cases. Overall, the quality of the pesticide data is acceptable.

PCBs

Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. All quality control and calibration criteria were met.

Dioxins

Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. Two method blanks were analyzed, one with the initial extraction batch and one with a batch of samples that were re-extracted due to low surrogate recoveries (see below). Nine compounds (1,2,3,7,8,9-HxCDD, 1,2,3,4,6,7,8-HpCDD, OCDD, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDF, 2,3,4,6,7,8-HxCDF, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF, and OCDF) were detected in the method blank associated with the initial extraction batch and one compound (OCDD) was detected in the re-extracted method blank. The data has been qualified with a "J" in the method blank. Any field sample concentrations that were also detected in the associated method blank were qualified with a "B", however, sample concentrations were generally greater than 10 times the amounts found in the associated method blanks and therefore, blank contamination should not affect the quality of the data reported.

The following samples were re-extracted due to low internal standard recoveries DAJ-051-BA-C2(4,5,6), DAJ-053-BA-C-4(10,11,12), DAJ-054-BA-C-5(13,14,15), DAJ-057-BA-C-7(19,20,21), DAJ-080-PC-1(P01V,P02V,P03V), DAJ-081-PC-2(P04V,P05V,P06V), DAJ-0820PC03(P07V,P08V,P09V), DAJ-083-PC-4(P10V,P11V,P12V), and DAJ-084-PC-5(P13V,P14V,P15V). The re-extraction analysis provided similar results. Results from the second analysis will be reported.

The following samples are reported with recovery of the surrogate 13C-2378-TCDF below the lower limit of 22%; DAJ-051-BA-C(4,5,6), DAL-052-BA-C-3(7,8,9), DAJ-053-BA-C-4(10,11,12), DAJ-057-BA-C-7(19,20,21), DAJ-058-BA-C-8(22,23,24), DAJ-081-PC-2(P04V,P05V,P06V), DAJ-082-PC-3(P04V,P08V,P09V), DAJ-083-PC-4(P10V,P11V,P12V), and DAJ-084-PC-5(P13V,P14V,P15V). However, the minimum required signal-to-noise ratio was present for this surrogate and, when properly applied, isotope dilution techniques produce results that are independent of internal standard recovery. The majority of these samples were re-extracted and as noted above, the results were similar to the initial analysis. It appears that matrix interference is responsible for the low recoveries, possibly due to the 2-fold increase in concentration of the extract which was performed to facilitate lower detection limits (to meet NJ DEP regulatory criteria). This increased concentration may have resulted in an increase in the amount of interfering material entering the chromatographic column. No further corrective action was taken.

All positive 2,3,7,8-TCDF results at or above the minimum level were confirmed on a DB-225 analytical column. The results reported for this compound are from the confirmation analysis with the following exceptions: DAJ-050-BA-C-1(1,2,3), DAJ-051-BA-C-2(4,5,6), DAJ-052-BA-C-3(7,8,9), DAJ-055-BA-C-6(16,17,18), DAJ-058-BA-C8(22,23,24), DAJ-08-PC-1(P01V,P02V,P03V), DAJ-081-PC-2(P04V,P05V,P06V), and DAJ-0840PC-5(P13V,P14V,P15V). 2,3,7,8-TCDF concentrations from these samples were reported from the primary column due to an interference on the confirmation column. Because the primary column is not isomer specific for 2,3,7,8-TCDF, these values have been reported

with a "Q" and should be considered the highest amount of 2,3,7,8,-TCDF present. Note that the interference with 2,3,7,8-TCDF on the confirmation column may also be a result of the increased concentration of the final extracts.

Matrix spike recoveries were generally within control limits with the exception of 1,2,3,4,6,7,8-HpCDD, OCDD, and 1,2,3,4,6,7,8-HpCDF which were recovered outside their respective upper laboratory control limits of 162%, 391% and 126%, in the matrix spike. In the matrix spike duplicate sample the percent recovery for OCDD was65%, below the lower limit of 78%. The calculated RPD between the OCDD analyses was in exceedence. However, the RPD between all labeled internal standard compounds between the matrix spike and matrix spike duplicate were all within 25%. It is believed that heterogeneity in the distribution of the analytes in the original sample is the cause for the matrix spike and matrix spike duplicate exceedences. Accuracy for the above mentioned compounds was adequately demonstrated in the laboratory control sample.

Overall, the quality of the dioxin and furan congener data in the bulk sediment composites is acceptable. The quantity of 2,3,7,8-TCDF calculated in the samples may be biased high due to a combination of correcting for low internal standard recoveries and quantification from the primary column, which may include the presence of non 2,3,7,8-TCDF compounds. It may be possible to more accurately quantify the presence of 2,3,7,8-TCDF through a re-extraction of a smaller amount of sediment, concentration of the extract to the customary 20µl volume and possibly, removing some of the porewater present through centrifugation prior to extraction. This additional work was not performed as it was out of the scope of the existing study.

3.3.3 Metals and CN

Metals

Quality control samples analyzed include initial calibration blanks, continuing calibration blanks, preparation blanks, laboratory control sample, matrix spike and matrix spike duplicate. Aluminum, antimony, iron, and manganese were detected in the preparation blank at a concentration greater than the method detection limit, but less than the reporting limit. Aluminum, iron and manganese concentrations in associated samples were all 3 to 4 orders of magnitude higher than the concentrations found in the blank and therefore blank contamination does not affect the quality of the results for these metals. Antimony was only detected in one sample (DAJ-082 PC-3(P07V, P08V, P09V)), however, the amount detected is similar to that detected in the blank and is most likely a direct result of background contamination. This value is qualified with a "B" should be used with caution.

Samples DAJ-081-PC (P04V, P05V, P06V), DAJ-084PC-5(P13V, P14V, P15V) and DAJ-080-PC-1 (P01V, P02V,P03V) all required dilutions to allow quantification of calcium within the calibration range of the instrument. Samples DAJ-0510BA-C-2(4,5,6) and DAJ-052BA-C-3(7,8,9) required dilutions for mercury. Values from the diluted samples are reported and are qualified with an "*" to indicate the result is from the dilution.

Matrix spike and matrix spike duplicate recoveries for mercury, iron, aluminum, manganese and zinc were not calculated because the concentration of these analytes in the field sample (DAJ-057-BA-C-7(19,20,21) was greater than four times the concentration of the spike being added. Additionally, 16 compounds were under-recovered in the matrix spike sample and five compounds were under-recovered in the matrix spike duplicate sample. All relative percent differences (RPDs) calculated between the matrix spike and matrix spike duplicate were acceptable, except for calcium. Sample data for compounds that had low matrix spike recoveries were qualified with an "N", and all calcium data has been qualified with an "*" to indicate the duplicate analysis RPD was not within the control limits. The

low matrix spike recoveries were most likely due to the high levels of these metals in the original sample (which in all cases were higher than the amount spiked) and do should not impact the quality of the data being reported for the field samples.

Cyanide

Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. Cyanide was under-recovered in both the matrix spike and matrix spike duplicate sample at 62% and 65%, respectively. The control limits for this compound are 75% - 125%. Accuracy for this compound was adequately demonstrated in the laboratory control sample.

3.4 Results for Additional Parameters (Weeks Marine List)

Additional parameters were analyzed based on the requirements of the State of Virginia Department of Environmental Quality Pollution Abatement Permit Application requirements (see Table 4). The following is a brief summary of any quality assurance/quality control (QA/QC) deviations associated with these additional analyses and a description of impacts to data quality, if any.

3.4.1 Bulk Sediment

General Chemistry – Additional general chemical parameters analyzed in bulk sediment include: Ammonia, Nitrate, Nitrite, Total Kjeldahl Nitrogen, pH, Phosphorus, Solids, Total Volatile Solids, Altlalinity, Forms of Sulfur and Calcium Carbonate Potential. Quality control samples analyzed include method blanks, laboratory controls, matrix spike and matrix spike duplicates. Results of quality control sample analyses were generally within established control limits with the following exceptions.

Nitrate was detected in the method blank at a concentration greater than the method detection limit, but less than the reporting limit. The data was qualified with a "B" in the method blank. Nitrate was not detected above the reporting limit in any of the associated samples.

Total Kejldahl nitrogen (TKN) was also detected in the method blank at a concentration greater than the method detection limit, but less than the reporting limit. The data were qualified with a "B" in the method blank. Any TKN concentrations detected in the field samples associated with this method blank was qualified with a "J" however, TKN values in the samples were 20 to 30 times higher than the level detected in the associated blank and therefore there is not impact on the quality of the data. Matrix spike and matrix spike duplicate sample recoveries for TKN were above the laboratory control limits. The exceeding recoveries were qualified with an "N". These exceedances were most likely a result of high native TKN concentrations relative to the amount of TKN spiked into the samples. Accuracy for this compound was adequately demonstrated in the laboratory control sample.

The matrix spike and matrix spike duplicate recoveries for ammonia were below the laboratory control limits. The exceeding recoveries were qualified with an "N". Accuracy for this compound has adequately been demonstrated in the laboratory control sample.

In the matrix spike and matrix spike samples, percent recoveries were not calculated for phosphate because these target analytes were not spiked at a concentration greater than four times the background. Accuracy for this compound has adequately been demonstrated in the laboratory control sample.

3.4.2 ASTM Leachates

Parameters analyzed in DI water leachates include: chloride, hardness, sulfate, sulfide, sulfite, hexavalent chromium, bromide, fluoride, sodium, cyanide, toc, phenolics, tritium and surfactants. Quality control samples analyzed include method blanks, laboratory controls, matrix spike and matrix spike duplicates. Results of quality control sample analyses were generally within established control limits with the following exceptions.

General Chemistry – Leachates were originally generated on 11/27/04 and sample preparation/analysis began on 12/1/04. At this time it was discovered that some leachates would not meet the required holding time for hexavalent chromium. It was determined to make new leachates of all sediment composites, and prepare and analyze this new leachate for hexavalent chromium only. This resulted in six samples exceeding the 14-day leachate preparation holding time by one or two days. These six samples are DAJ-050-BA-C-1 (1,2,3), DAJ-051-BA-C-2 (4,5,6), DAJ-052-BA-C-3 (7,8,9), DAJ-053-BA-C-4 (10,11,12), DAJ-054-BA-C-5(13,14,15), and DAJ-055-BA-C-6.

Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. One method blank (batch 4336084) had chloride detected at a concentration greater than the method detection limit, but less than the reporting limit. This data was qualified with a "B" in the procedural blank. Concentrations of chloride detected in any field sample processed in with this method blank were qualified with a "J", however, levels of chloride found in the samples were appreciably higher than those found in the associated blanks and therefore do not impact data quality. Additionally, chloride percent recoveries were not calculated in the matrix spike and matrix spike duplicate because the target analyte was not spiked at concentration greater than four times the background. Accuracy for this compound was adequately demonstrated in the laboratory control sample.

Metals – Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. Sodium was detected in both method blanks at a concentration greater than the method detection limit, but less than the reporting limit. These detections were qualified with a "B" in the method blank. Any sodium concentrations detected in the field samples associated with this method blank was qualified with a "J" however, levels of sodium detected in samples were appreciably higher than those found in the associated method blanks and therefore do not impact data quality. In the matrix spike and matrix spike samples, percent recoveries were not calculated for sodium because these target analytes were not spiked at a concentration greater than four times the background. Accuracy for this compound has adequately been demonstrated in the laboratory control sample.

3.4.3 TCLP Parameters

An extended list of parameters was analyzed in TCLP leachates (Table 4). Quality control samples analyzed include method blanks, laboratory controls, matrix spike and matrix spike duplicates. Results of quality control sample analyses were generally within established control limits with the following exceptions.

General Chemistry (TCLP) – Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. Due to the limited amount of sample available for extraction, the reporting limit for total petroleum hydrocarbons (TPH) increased. The matrix spike recovery for TPH is below the laboratory control limit at 60%. The data has been qualified with an "N". Accuracy for this parameter was adequately demonstrated in the matrix spike duplicate and laboratory control sample.

TCLP GC/MS Volatiles – Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. No target analytes were detected in the method blanks, and all percent recoveries were acceptable in both the laboratory control samples as well as the matrix spike and matrix spike duplicate samples. All relative percent differences (RPDs) calculated between the matrix spike and matrix spike duplicate samples were also within the laboratory limits. All surrogate compounds were recovered within range. Calibration requirements were met with the following exceptions. 2-chloroethyl vinyl ether was calculated to have an RSD greater than 30%, however the value was within the expected range. Additionally 1,1,2,2-tetrachloroethane and 2-chloroethyl vinyl ether had percent differences greater than 25% in the calibration verification standard at -28.9% and -40.8%, respectively. However, again these values are within the expected performance range for these compounds.

TCLP GC/MS Semivolatiles – Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. Samples were analyzed in three batches. The method blank associated with preparation batch 4348251 had diethyl phthalate detected at concentration greater than the method detection limit, yet less than the reporting limit. This value has been qualified with a "J" in the method blank; however this compound was not detected in the sample associated with this method blank, therefore it can be assumed this method blank detection has no impact on the data. No target analytes were detected in any other method blanks associated with this project. All percent recoveries were within the laboratory control limits for the laboratory control, matrix spike, and matrix spike duplicate samples. All surrogate compound recoveries were within the laboratory control limits except for in sample DAJ-052-BA-C-3 (7, 8, 9). 2-Flourophenol was under-recovered at 1.4%. The sample was re-extracted beyond the recommended holding time and re-analyzed. In the second analysis, Nitrobenzene-d5 and 2-Florobiphenyl were under-recovered at 22% and 29%, respectively. Data from the first analysis has been reported. However, no semivolatile compounds were detected above the RL in either replicate, nor in any of the other samples collected from within the berthing area. All calibration criteria were met.

TCLP Pesticides – Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. No target analytes were detected in the method blanks, and all percent recoveries were acceptable in both the laboratory control samples as well as the matrix spike and matrix spike duplicate samples. All RPDs calculated between the matrix spike and matrix spike duplicate samples were also within the laboratory limits. Several samples required dilutions. In samples that received a dilution of five or greater, surrogate recoveries were not calculated, as they were below the calibration range. Some continuing calibrations analyzed on the primary column (RTX-50 column) exceeded the 25% deviation criteria for alpha-BHC, beta-BHC, and delta-BHC. For these bracketing calibrations where analytes are detected, quantitation was performed off of the confirmation column (RTX-1701 column). Overall the quality of the pesticide data was good and quantification of a limited number of pesticides from the confirmation column should not affect the usability of the data.

TCLP PCBs – Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. No target analytes were detected in the method blanks, and all percent recoveries were acceptable in both the laboratory control samples as well as the matrix spike and matrix spike duplicate samples. All RPDs calculated between the matrix spike and matrix spike duplicate samples were also within the laboratory limits. All surrogate compounds were recovered within range, except for tetrachloro-m-xylene. This compound was over-recovered in samples DAJ-051-BA-C-2 (4, 5, 6), DAJ-052-BA-C-3 (7, 8, 9), DAJ-058-BA-C-8 (22, 23, 24), and DAJ-080-PC-1 (P01V, P02V, P03V), at 144%, 222%, 179%, and 147%, respectively. It is important to note that no Aroclors were detected in the samples. All calibration requirements were met.

TCLP Herbicides – Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. No quality assurance issues are noted for this analysis.

TCLP Organophosphorous Pesticides – Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. The surrogate tributyl phosphate was over-recovered in samples DAJ-050-BA-C-1(1,2,3), DAJ-051-BA-C-2(4,5,6), DAJ-052-BA-C-3(7,8,9), DAJ-BA-C-4(10,11,12), DAJ-055-BA-C-6(16,17,18), DAJ-057-BA-C-7(19,20,21), and DAJ-082-PC-3(P07V, P08V, P09V), at 142%, 127%, 136%, 136%, 127%, 126%, and 129%, respectively. Additionally samples DAJ-050-BA-C-1(1, 2, 3), DAJ-058-BA-C-8(22, 23, 24), and DAJ-080-PC-1(P01V, P02V, P03V) had over-recoveries of the surrogate triphenyl phosphate at 132%, 179%, and 147%, respectively. However it is important to note that these pesticides were not detected in any samples. Given the over recoveries of the surrogates, reporting of false negatives (non detects) is unlikely.

TCLP Metals — Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. Several analytes were detected in the method blanks at a concentration greater than the method detection limit, but less than the reporting limit. These data were qualified with a "B" in the method blank. Any field sample concentrations that were also detected in the associated method blank were qualified with a "J". In the matrix spike and matrix spike samples, percent recoveries were not calculated for iron and manganese because these target analytes were not spiked at a concentration greater than four times the background. Additionally zinc was under-recovered in both the matrix spike and matrix spike duplicate samples while boron, cobalt, magnesium, nickel, tin, and thallium were under-recovered in the matrix spike duplicate sample only. Under-recoveries were qualified with an "N". All RPDs were acceptable. Accuracy for the fore mentioned compounds was adequately demonstrated in the laboratory control sample.

Dioxins – Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. No quality assurance issues are noted for this analysis.

Butyltins – Quality control samples analyzed include method blanks, laboratory control, matrix spike and matrix spike duplicate. Monobutyltin was under-recovered in the matrix spike, matrix spike duplicate, and laboratory control sample. All other compounds had acceptable recoveries. The contract laboratory notes that historically low recoveries have been calculated for this compound. The under-recoveries were qualified with an "*". The quality of the results for the remaining butyltin compounds is acceptable.

Radiochemistry – Quality control samples analyzed include method blanks, laboratory control and laboratory control sample duplicate, matrix spike and matrix spike duplicate. Radium 226 and Total alpha-radium were both detected in the method blank at a concentration greater than the method detection limit, but less than the reporting limit. This data was qualified with a "J" in the procedural blank. Additionally, after analysis it was discovered that strontium 90 was inadvertently not spiked into the matrix spike and matrix spike duplicate sample. All sediment samples were re-extracted for this compound only, however, due to limited sample volumes, another MS/MSD was not possible. Instead, they ran a set of laboratory control spikes. Recoveries for LCS/LCSD were acceptable and demonstrate method accuracy and precision.

4.0 COMPARISON OF SEDIMENT AND LEACHATE DATA TO RELEVENT GUIDELINES AND CRITERIA

Leachate and bulk sediment chemistry results were compared to relevant guidelines and criteria (Appendix I). Specifically, bulk sediment concentrations were compared to risk based soil concentrations (RBC) derived by EPA Region 3 for industrial and residential exposures (EPA, 2004), as well as soil action levels derived by NJDEP for residential exposures (NJDEP, 1997). TCLP concentrations were compared to specified regulatory criteria for the protection of groundwater (EPA, 2003). For the purpose

of this evaluation, chemical concentrations reported as non-detect were assumed to be equivalent to one-half the laboratory method detection limit (MDL) as per EPA protocol (EPA 1989).

Table I-1 summarizes the comparison of the bulk sediment concentrations to the RBCs and action levels described above. Few chemicals in the bulk sediment exceeded their respective screening criteria. Exceptions included 2,3,7,8-TCDD, total PCBs, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and six inorganic compounds (i.e., aluminum, arsenic, beryllium, copper, cadmium, and iron). 2,3,7,8-TCDD exceeded the more restrictive EPA residential soil RBC criteria (EPA 2004) in all but two of the berthing area composites and in two of the five Pier 3 composites. Cadmium exceeded the NJDEP (1997) value in all composites except DAJ 050 BA-C-1. Total PCBs exceeded the EPA (2004) residential RBC in four of the berthing area samples (DAJ 051 BA-C-2, DAJ 052 BA-C-3, DAJ 055 BA-C-6, DAJ 057 BA-C-7) and the NJDEP (1997) action level in one sample (DAJ 052 BA-C-3). Most of the elevated PAH concentrations were associated with Pier 3 samples, particularly DAJ 081 PC-2 and DAJ 083 PC-4. Elevated metals were distributed relatively uniformly among the composite samples with the exception of beryllium which exceeded the NJDEP action levels only in the berthing area samples. Aluminum and copper exceeded screening criteria in only three pier samples (DAJ 080 PC-1, DAJ 081 PC-2 and DAJ 084 PC-5).

Table I-2 in Appendix I summarizes the comparison of the results of the Toxicity Characteristic Leaching Procedure (TCLP) analyses to regulatory levels (EPA, 2003) for both berthing area and Pier 3 samples. None of the leachate concentrations exceeded the criteria evaluated.

Virginia Water Quality Standard Quantitation Limits (QL) for select parameters are presented in Table 6. Leachate results from the bulk sediments composites were compared to the limited list of QLs provided. Most of the parameters noted in Table 6 were not detected in the leachate samples. Any detection was either at or below the QL with the exception of chloride in all samples and beta endosulfan in sample DAJ-083-PC-4. Beta-endosulfan was detected in this sample at 0.11 ug/L, just over the QL. A summary of leachate results for all samples and parameters can be found in Appendix G.

Table 6. Selected Virginia Water Quality Standard Quantitation Limits.

Parameter	QL	Units
TPH	5.0	mg/L
Total Residual Chlorine	0.1	mg/L
Hexavalent Chromium	0.5	ug/L
PCB Total	1.0	ug/L
Tetrachloroethylene	10.0	ug/L
4,4-DDD	0.1	ug/L
Beta Endosulfan	0.1	ug/L
Dichloromethane	20	ug/L
Di-2-Ethylehexyl Phthalate	10.0	ug/L

5.0 REFERENCES

Battelle. 2004. *Sediment Testing and Analysis for Upland Disposal of Non-Hars Suitable Material from the Pier Complex Replacement Project Quality Assurance Project Plan.* Prepared for Naval Facilities Engineering Command, Engineering Field Activity Northeast, Lester, PA.

EPA. 1989. Risk Assessment Guidance for Superfund Volume 1 Human Health Evaluation Manual (Part A). United States Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, DC, EPA/540/1-89/002. December.

EPA. 2003. Introduction to Hazardous Waste Identification (40 CFR Parts 261). Training Module. Solid Waste and Emergency Response (EPA530-R-04-012). September.

EPA. 2004. EPA Region III Risk Based Concentration (RBC) Table. Updated 10/ 8/ 2004. Environmental Protection Agency, Region III. http://www.epa.gov/reg3hwmd/risk/human/rbc/rbc1004.pdf

NJDEP. 1997. The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters. New Jersey Department of Environmental Protection. Technical Manual. October.

Appendix A

APPENDIX A

Field Sample Collection Information And Survey Chronology

Table A-1. Sediment Collection Station Data Summary.

Area	Station ID	Battelle Sample ID	Date	Time (EST)	Easting[1]	Northing[1]	Depth (ft-MLLW)	Penetration (ft)	Recovery (ft)	Depth to Holocene or Refusal (ft MLLW)
Pier	P01V	DAJ-060	11/17/04	1425	616781.5	590304.3	-13.3	23.0	11.3	-35.8
	P02V	DAJ-061	11/17/04	1250	616759.4	590399.4	-29.6	11.9	9.0	-40.1
	P03V	DAJ-062	11/17/04	1320	616861.9	590458.0	-14.1	23.0	14.0	-36.7
	P04V	DAJ-063	11/17/04	1216	616923.0	590579.1	-14.8	15.0	4.0	-29.8
	P05V	DAJ-064	11/17/04	1117	616980.4	590689.0	-17.1	13.0	5.8	-30.1
	P06V	DAJ-065	11/17/04	1046	617013.2	590749.8	-15.1	23.0	13.5	-38.1
	P07V	DAJ-066	11/16/04	0933	617040.4	590802.1	-16.0	14.0	7.3	-30.0
	P08V	DAJ-067	11/17/04	1510	617074.3	590870.1	-12.5	23.0	12.0	-35.5
	P09V	DAJ-068	11/16/04	1045	617102.3	590924.4	-13.6	13.5	4.7	-27.1
	P10V	DAJ-069	11/17/04	1532	617135.0	590986.4	-11.8	21.5	10.7	-33.3
	P11V	DAJ-070	11/16/04	1320	617163.5	591043.9	-11.9	10.4	6.8	-22.3
	P12V	DAJ-071	11/16/04	1420	617190.6	591098.2	-12.1	17.0	6.0	-29.0
	P13V	DAJ-072	11/16/04	1500	617217.9	591154.1	-10.5	21.5	8.0	-32.0
	P14V	DAJ-073	11/17/04	0821	617280.4	591269.8	-15.4	13.7	6.0	-29.1
	P15V	DAJ-074	11/17/04	0915	617341.1	591392.9	-16.9	13.5	6.0	-30.4
Berthing Area	1	DAJ-026	11/15/04	1100	616822.0	590221.0	-14.6	16.5	16.0	-28.9
	2	DAJ-027	11/15/04	1200	616869.0	590086.0	-17.3	16.0	12.0	-31.9
	3	DAJ-028	11/15/04	1230	617003.0	590000.0	-15.7	15.0	11.4	-29.3
	4	DAJ-029	11/15/04	1302	616990.0	590304.0	-33.4	10.0	7.0	-42.9
	5	DAJ-030	11/15/04	1350	617187.0	590355.0	-36.2	5.3	4.0	-40.5
	6	DAJ-031	11/15/04	1430	617113.0	590625.4	-35.0	8.5	4.2	-42.7
	7	DAJ-032	11/16/04	0847	617307.5	590580.4	-41.2	9.0	7.5	-48.8
	8	DAJ-033	11/16/04	0930	617300.1	590812.9	-40.6	9.0	7.3	-48.7
	9	DAJ-034	11/16/04	1000	617272.1	590988.8	-41.0	11.0	7.4	-51.8
	10	DAJ-035	11/16/04	1035	617343.2	591129.1	-40.5	7.5	5.5	-48.0
	11	DAJ-036	11/16/04	1115	617540.4	591078.1	-40.6	8.5	6.0	-48.1
	12	DAJ-037	11/16/04	1135	617530.0	591330.2	-40.3	6.0	4.4	-45.4
	13	DAJ-038	11/16/04	1240	617635.2	591310.9	-38.2	7.0.	5.2	-43.7
	14	DAJ-039	11/16/04	1310	617722.7	591427.9	-37.3	10.0	6.6	-45.2
	15	DAJ-040	11/16/04	1330	617372.0	591497.5	-38.7	8.0	5.2	-43.0
	16	DAJ-041	11/16/04	1400	617230.6	591462.6	-36.8	9.0	6.0	-45.8
	17	DAJ-042	11/16/04	1425	617124.1	591340.5	-37.0	7.0	5.2	-42.7
	18	DAJ-043	11/16/04	1450	617005.2	591190.5	-36.0	8.0	5.3	-43.2
	19	DAJ-044	11/17/04	0810	616908.2	591190.8	-39.6	9.5	6.7	-48.6
	20	DAJ-045	11/17/04	0910	616959.1	590984.5	-40.0	11.0	7.2	-50.5
	21	DAJ-046	11/17/04	0950	616792.3	590899.8	-42.9	11.5	6.8	-52.6
	22	DAJ-047	11/17/04	1035	616695.1	590834.3	-40.9	14.5	8.0	-52.9
	23	DAJ-048	11/17/04	1120	616820.8	590604.8	-39.1	7.5	5.4	-45.5
	24	DAJ-049	11/17/04	1140	616633.4	590486.0	-40.3	10.0	7.3	-47.2

[1] Coordinates reported in New Jersey State Planar; NAD83; FT

Table A-2. Survey Personnel for NSW-EARLE.

Organization/Responsibility	Personnel	Dates
Battelle Staff		
Field Manager	J. Hardin	11/11/04 – 11/18/04
Field Staff	M. Fitzpatrick	11/11/04 – 11/18/04
Field Staff	T. Himmer	11/11/04 – 11/18/04
Aqua Surveys Staff		
Field Manager/Captain	Jim Nickels	10/11/04 – 10/14/04
Field Staff	Fred Kushner	10/11/04
Field Staff	Jeff Clemens	10/12/04 – 10/14/04
Field Staff	Rob Croskey	10/12/04 – 10/14/04
Warren George Staff		
Field Manager	Reynolds Bridgpal	11/11/04 – 11/18/04
Field Staff	Kurt Conlon	11/11/04 – 11/18/04

Table A-3. Survey Chronology.

Wednesday, November 10, 2004	
200	J. Hardin departs San Diego
930	J. Hardin arrive Newark
1300	J. Hardin meets with Ensign Antonio Crite (ROICC at NWS Earle), NWS Earle fire department staff, Dave from Weeks Construction, and Steve Wunderlich (Weeks-NWS Earle coordinator). Discuss site security and safety.
	Pass applications not transferred to the NWS Earle security division by ROICC. Re-Fax applications from Battelle, ASI, and Warren George.
Thursday, November 11, 2004	
1300	NWS Earle Security closed for Veterans Day, no site access available.
1300	T. Himmer and M. Fitzpatrick complete mobilization in Duxbury and depart.
1800	Bob Janosy flies from Columbus Ohio to Newark, arrives Middletown.
1900	T. Himmer and M. Fitzpatrick arrive Middletown NJ..
Friday, November 12, 2004	
700	Battelle staff arrive at NWS Earle, get temporary badges. NWS Earle security staff expedite photo badge for Hardin
800	Pier coring cancelled due to weather. Strong winds (20-30 knots) and cold rain throughout the day.
	Inspect 24" manholes. Two northern manholes on drawing have been paved over and are not accessible. Two central manholes appear accessible. Southwest one is accessible and unrestricted, southeast access hole (rectangular) has fire hydrant and firefighting water pipe running through it.
1330	Warren George staff mobilizes and arrives on site to get temporary badges and assess site logistics.
1530	Depart for the day.
	Bob Janosy returns to Columbus
Saturday, November 13, 2004	
700	Arrive NWS Earle. Very cold (<32 dg F) and windy (15-25 knots).
	Set up for coring. Sediments difficult to sample. Material is very loose silts and clays with shells on the surface, gravel and sand layers on top of native formation.
	Several attempts and methods used to collect samples. Core catchers too stiff to allow soft material into core tube. Without catcher, samples lost from bottom of core tube. Late in the day, method of most success is driving core tube without catcher >2 feet into native material to plug and hold sample.

Table A-3. Survey Chronology. (continued)

Saturday, November 13, 2004 (continued)	
1030	Collect P01.
1323	Collect P02.
1530	Depart for the day.
Sunday, November 14, 2004	
700	Arrive NWS Earle. ~32 deg F, mild winds
	Continue coring. Low recoveries due to core clogging, losing plug at the tip, and hard concrete like material just above the native material.
820	Collect P03.
1142	Collect P04.
1140	Collect P05.
	Discuss modifying core catcher for Monday operations.
	Contact ASI regarding availability of vibracore. One is available if new modifications are not successful.
1530	Depart for the day.
Monday, November 15, 2004 – Barge Team	
800	ASI arrives at Belford Harbor. Transfer Battelle gear and Battelle staff (Fitzpatrick and Bullard) to ASI barge. Barge transits to NWS Earle Pier 3.
925	Arrive just outside Pier 3 and await security clearance.
1022	Clearance granted.
1037	Pull spuds and depart for Station 1
1051	Arrive Station 1.
1100	Collect first core
1200	Arrive Station 2. Collect and process core.
1230	Arrive Station 3. Collect and process core.
1302	Arrive Station 4. Collect and process core.
1350	Arrive Station 5. Collect and process 2 cores (not enough volume in 1 core for compositing).
1430	Arrive Station 6. Collect and process 2 cores (not enough volume in 1 core for compositing).
1530	Depart for dock.
Monday, November 15, 2004 – Pier Team	
830	Pier sampling team (Hardin and Himmer from Battelle) arrive NWS Earle. Pier team is required to have government escort (Antonio Crite and Steve Wunderlich act as escorts).
	Recovery of cores with WGI push core method continues to decline moving northward on pier. Arrange to have ASI three horsepower vibracore on site with operator on Tuesday.
1310	Pier team collects P06.
	Pier team composites BA cores and Pier cores.
1700	Leave NWS Earle.
Tuesday, November 16, 2004 – Barge Team	
715	Battelle staff onboard
735	Pull spuds and depart for Pier 3.
755	Arrive just outside Pier 3 and await security clearance
820	Clearance granted. Depart for Station 7.
847	Arrive Station 7. Collect and process core.
930	Arrive Station 8. Collect and process core.
1000	Arrive Station 9. Collect and process core.
1035	Arrive Station 10. Collect and process core.
1115	Arrive Station 11. Collect and process core.

Table A-3. Survey Chronology. (continued)

Tuesday, November 16, 2004 – Barge Team (continued)	
1135	Arrive Station 12. Collect and process core.
1240	Arrive Station 13. Collect and process core.
1310	Arrive Station 14. Collect and process core.
1330	Arrive Station 15. Collect and process core.
1400	Arrive Station 16. Collect and process core.
1425	Arrive Station 17. Collect and process core.
1450	Arrive Station 18. Collect and process core.
1540	Depart for dock.
1630	Arrive dock.
Tuesday, November 16, 2004 – Pier Team	
730	Pier team meets at NWS Earle. Set up for vibracore sampling (Steve Wunderlich acts as escort.)
	Vibracore method is quicker, and recovers a higher percentage of material.
933	Collect P07V.
1045	Collect P09V.
1320	Collect P11V.
1420	Collect P12V.
1500	Collect P13V.
	Pier team composites Berthing area cores. Pier cores kept at 4 deg C. Decision made to re-sample cores P01-P06 on Wednesday.
1800	Leave NWS Earle
Wednesday, November 17, 2004 – Barge Team	
700	Battelle staff onboard
712	Pull spuds and depart for security check.
742	Arrive just outside Pier 3 and await security clearance.
750	Clearance granted. Depart for station 19.
810	Arrive Station 19. Collect and process 2 cores for field dups.
910	Arrive Station 20. Collect and process 2 cores for field dups.
950	Arrive Station 21. Collect and process 2 cores for field dups.
1035	Arrive Station 22. Collect and process core.
1120	Arrive Station 23. Collect and process core.
1140	Arrive Station 24. Collect and process core.
1250	Arrive Station P02V. Collect and process core.
1335	Arrive Station P08. Unable to fit the vibracore past the shutdown valves. Demob the boat onto the dock and begin compositing BA cores while on Pier 3.
1500	Andy Bullard returns with boat to the dock to depart for PA.
Wednesday, November 17, 2004 – Pier Team	
700	Pier team meets at NWS Earle.
821	Collect P14V.
915	Collect P15V.
1046	Collect P06V.
1117	Collect P05V.
1216	Collect P04V.
1320	Collect P03V.
1425	Collect P01V.

Table A-3. Survey Chronology. (continued)

Wednesday, November 17, 2004 – Pier Team (continued)	
1510	Collect P08V.
1532	Collect P10V.
1800	Leave NWS Earle.
Thursday, November 17, 2004	
700	Hardin, Himmer, and Fitzpatrick arrive at NWS Earle. Receive photo badges to avoid escort requirement. Rental van battery dead, ~30 minutes to charge and start with jumpers. Hardin, Himmer, and Fitzpatrick composite five Pier samples. Complete compositing and clean up work area.
1430	Leave NWS Earle.
1500	Transit to Edison New Jersey and ship samples to STL via FedEx.
1730	Himmer and Fitzpatrick head to ASI to collect Blanks for Organics.
1755	Hardin departs Newark.
1900	Himmer and Fitzpatrick depart ASI for Duxbury with samples for amending and the University of Virginia.
Friday, November 18, 2004	
300	Himmer and Fitzpatrick arrive Duxbury, and place samples in the cold room.
300	Hardin arrives San Diego
800	Fitzpatrick transfers custody of the samples to Duxbury Laboratory.

This page intentionally left blank.

Appendix B
dGPS Log Forms

Battelle
The Business of Innovation

NAVAL WEAPONS STATION EARLE
DGPS DAILY LOG

Project No. G486312	Date: 13 AUG 04	Recorder: Hardin

DGPS Check	DGPS (make/model/SN): Trimble / GeoExplorerXT / SN: 4423E00145	DGPS Estimate of Accuracy (PDOP):	Time of check (local):

Benchmark or Reference Point ID: Waypoint 2 - End of Pier	Benchmark or Reference Point Established By: Weeks Construction
Established Northing (NAD83 / feet): 591419.8	Established Easting (NAD83 / feet): 617367.1
Measured Northing (NAD83 / feet): 591421.8	Measured Easting (NAD83 / feet): 617368.1

GPS Provided Displacement (feet): 3.591 FT

Displacement Acceptable? (≤20 ft): (YES) NO

DGPS Check	DGPS Estimate of Accuracy (PDOP):	Time of check (local):

Benchmark or Reference Point ID:	Benchmark or Reference Point Established By:
Established Northing (NAD83 / feet):	Established Easting (NAD83 / feet):
Measured Northing (NAD83 / feet):	Measured Easting (NAD83 / feet):

GPS Provided Displacement (feet):

Displacement Acceptable? (≤20 ft): YES NO

Field Activities / Comments / Observations:

Field Team Leader Signature _____

Battelle
The Business of Innovation

NAVAL WEAPONS STATION EARLE

DGPS DAILY LOG

Project No. G486312	Date: 14 NOV 04	Recorder: Hardin	
DGPS Check	DGPS (make/model/SN): Trimble / GeoExplorerXT / SN: 4423600145	DGPS Estimate of Accuracy (PDOP):	Time of check (local):
Benchmark or Reference Point ID: End of Pier - WP2		Benchmark or Reference Point Established By: Weeks Construction	
Established Northing (NAD83 / feet): 541419.8		Established Easting (NAD83 / feet): 617367.1	
Measured Northing (NAD83 / feet): 541421.4		Measured Easting (NAD83 / feet): 617364.2	
GPS Provided Displacement (feet): 3.327			
Displacement Acceptable? (≤20 ft): (YES) NO			
DGPS Check	DGPS Estimate of Accuracy (PDOP):	Time of check (local):	
Benchmark or Reference Point ID:		Benchmark or Reference Point Established By:	
Established Northing (NAD83 / feet):		Established Easting (NAD83 / feet):	
Measured Northing (NAD83 / feet):		Measured Easting (NAD83 / feet):	
GPS Provided Displacement (feet):			
Displacement Acceptable? (≤20 ft): YES NO			
Field Activities / Comments / Observations:			

Field Team Leader Signature _____

Battelle
The Business of Innovation

NAVAL WEAPONS STATION EARLE

DGPS DAILY LOG

Project No. G486312	Date: 15NOV04	Recorder: Hardin	
DGPS Check	DGPS (make/model/SN): Trimble / GeoExplorerXT / SN: 4423EW145	DGPS Estimate of Accuracy (PDOP):	Time of check (local):
Benchmark or Reference Point ID: End of Pier 3 - WP2		Benchmark or Reference Point Established By: Weeks Construction	
Established Northing (NAD83 / feet): 591419.8		Established Easting (NAD83 / feet): 617367.1	
Measured Northing (NAD83 / feet): 591424.9		Measured Easting (NAD83 / feet): 617362.7	
GPS Provided Displacement (feet): 6.7			
Displacement Acceptable? (≤20 ft): (YES) NO			
DGPS Check	DGPS Estimate of Accuracy (PDOP):	Time of check (local):	
Benchmark or Reference Point ID:		Benchmark or Reference Point Established By:	
Established Northing (NAD83 / feet):		Established Easting (NAD83 / feet):	
Measured Northing (NAD83 / feet):		Measured Easting (NAD83 / feet):	
GPS Provided Displacement (feet):			
Displacement Acceptable? (≤20 ft): YES NO			
Field Activities / Comments / Observations:			

Field Team Leader Signature _____

Battelle
The Business of Innovation

NAVAL WEAPONS STATION EARLE
DGPS DAILY LOG

Project No. G486312	Date: 16 NOV 04	Recorder: Hardin

DGPS Check	DGPS (make/model/SN): Trimble / GeoExplorerXT / SN: 4423E00145	DGPS Estimate of Accuracy (PDOP):	Time of check (local):

Benchmark or Reference Point ID: End of Pier 3 - WP2	Benchmark or Reference Point Established By: Weeks Construction
Established Northing (NAD83 / feet): 591419.8	Established Easting (NAD83 / feet): 617367.1
Measured Northing (NAD83 / feet): 591422.7	Measured Easting (NAD83 / feet): 617368.3

GPS Provided Displacement (feet): 4.0

Displacement Acceptable? (≤20 ft): (YES) NO

DGPS Check	DGPS Estimate of Accuracy (PDOP):	Time of check (local):

Benchmark or Reference Point ID:	Benchmark or Reference Point Established By:
Established Northing (NAD83 / feet):	Established Easting (NAD83 / feet):
Measured Northing (NAD83 / feet):	Measured Easting (NAD83 / feet):

GPS Provided Displacement (feet):

Displacement Acceptable? (≤20 ft): YES NO

Field Activities / Comments / Observations:

Field Team Leader Signature _____

Battelle
The Business of Innovation

NAVAL WEAPONS STATION EARLE

DGPS DAILY LOG

Project No. G486312	Date: 17NOV04	Recorder: Hardin

DGPS Check	DGPS (make/model/SN): Trimble / GeoExplorerXT / SN: 4423E00145	DGPS Estimate of Accuracy (PDOP):	Time of check (local):

Benchmark or Reference Point ID: End of Per 3 - WP2	Benchmark or Reference Point Established By: Weeks Construction
Established Northing (NAD83 / feet): 591419.8	Established Easting (NAD83 / feet): 617367.1
Measured Northing (NAD83 / feet): 591422.6	Measured Easting (NAD83 / feet): 617363.2

GPS Provided Displacement (feet): 4.78

Displacement Acceptable? (≤20 ft): (YES) NO

DGPS Check	DGPS Estimate of Accuracy (PDOP):	Time of check (local):

Benchmark or Reference Point ID:	Benchmark or Reference Point Established By:
Established Northing (NAD83 / feet):	Established Easting (NAD83 / feet):
Measured Northing (NAD83 / feet):	Measured Easting (NAD83 / feet):

GPS Provided Displacement (feet):

Displacement Acceptable? (≤20 ft): YES NO

Field Activities / Comments / Observations:

Field Team Leader Signature _____

Appendix C

Appendix C
Field Log Forms

Battelle
... Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 1	Northing (NAD 83):	590221
Core Sample ID:	DAJ-026	Easting (NAD 83):	616822
Total Penetration:	16.5'	Water Depth:	18.4'
Recovery:	16'		
Logged by:	A. Bullard	Date: 11/15/2004	11:00

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	Not noted	N	H	N/A	Z	S		black silty organic muck with shell hash. Detrital sulfur odor
1												
2												
3												
4												
				grey-black								grey-black silty organic muck with detrital sulfur odor. From 7.9 to 10.9 feet the material remains the same, but density increases. Between 9.4 and 9.5' a peat layer was observed.
5												
6												
7												
8											DAJ-026	
9	λλλλ											
10												
11				dark grey					FS			dark grey silty/fine silty clay to fine sandy/clayey silt
12												
13												
14				green-grey to brown					CS			greenish-grey brown silt to clay fine sand with traces of coarse sand
15												
16												
												final plug of material was orange - grey/brown fine sand with low moisture.

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
... Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 2	Northing (NAD 83):	590086
Core Sample ID:	DAJ-027	Easting (NAD 83):	616869
Total Penetration:	16'	Water Depth:	21'
Recovery:	12'		
Logged by:	A. Bullard	Date: 11/15/2004	12:02

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		very loose, black organic muck
1												black organic muck with shell hash
2												
3												black organic muck with traces of shells and wood
4												
5				grey-black	not noted							grey-black silty clay
6											DAJ-027	
			SC						FS			grey-black silty to fine sandy clay, some wood
7												
8			ML	dark grey					MP			dark grey silty fine sand to fine sandy silt, trace amounts of gravel, wood, and shells.
9												
10				orange-brown					FS			orange-brown silty fine sand
			SC	grey-brown								grey-brown to orange brown interbedded silty fine sand and silty to fine sandy clay
1												
1												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 3	Northing (NAD 83):	590000
Core Sample ID:	DAJ-028	Easting (NAD 83):	617003
Total Penetration:	15'	Water Depth:	19.2'
Recovery:	11.4'		
Logged by:	A. Bullard	Date: 11/15/2004	12:35 Page 3 of 25

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S	DAJ-028	black organic muck, very loose with shell hash
1												
2												
				dark grey	not noted							dark grey silty clay, sulfur odor
3												
4												
5												
6												
7			SC						FS			dark grey silty to find sandy clay
8												dark grey fine sandy clay
9												
10			SM	orange-dark brown								dark grey silty-fine sand orange-dark brown silty fine sand
11												
11.4'												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 4	Northing (NAD 83):	590304
Core Sample ID:	DAJ-029	Easting (NAD 83):	616990
Total Penetration:	10'	Water Depth:	36.6'
Recovery:	7'		
Logged by:	A. Bullard	Date: 11/15/2004	13:29 Page 4 of 25

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		black, loose organic muck with shell hash
1												
2												
3					not noted						DAJ-029	black silty clay, trace amount of shell hash
4												
5												
6												
			GM CH	grey-brown black					FS MP Z			grey-brown silty fine sand coarse sand and gravel layer underlain by mottled brown and black stiff clay
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 5	Northing (NAD 83):	590355
Core Sample ID:	DAJ-030	Easting (NAD 83):	617187
Total Penetration:	5.3'	Water Depth:	38.8'
Recovery:	4'		
Logged by:	A. Bullard	Date: 11/15/2004	13:55

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S	DAJ-030	black, loose organic muck, silt
1												
2												
3			SM	brown	not noted				CS			brown silty fine-medium sand, trace amounts of coarse sand
4												
5												
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 6	Northing (NAD 83):	590626.4
Core Sample ID:	DAJ-031	Easting (NAD 83):	617113.02
Total Penetration:	8.5'	Water Depth:	37'
Recovery:	5'		
Logged by:	A. Bullard	Date: 11/15/2004	14:30

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
1		N/A	ML	black	VS	N	H	N/A	Z	S	DAJ-031	loose, black organic muck, traces of shell hash
2					not noted				MP			black silty clay, traces of fine sand, gravel and shell hash. Discrete intervals of potential petroleum sheen noted throughout core.
3												
4			SW									medium to coarse sand with gravel
5												
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 7	Northing (NAD 83):	590580.43
Core Sample ID:	DAJ-032	Easting (NAD 83):	617307.45
Total Penetration:	9'	Water Depth:	42.5'
Recovery:	7.5'		
Logged by:	A. Bullard	Date: 11/16/2004	8:47

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose, black organic muck
1												
2												
3					not noted						DAJ-032	black silty clay
4												
5												
6			SW	orange-brown					MP			orange-brown sandy gravel
			ML	grey-green					Z			grey-green silty clay
7												
8												
9												
10												
1												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
... Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 8	Northing (NAD 83):	590812.9
Core Sample ID:	DAJ-033	Easting (NAD 83):	617300.06
Total Penetration:	9'	Water Depth:	42.6
Recovery:	7.3'		
Logged by:	A. Bullard	Date: 11/16/2004	9:30

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose, black organic muck
1												
2												
3					not noted							
4											DAJ-033	black silty clay
5			SC ML						FS Z			black fine sandy clay, trace shell black silty clay, more stiff than from 3.7' to 4.8'
6												
7			SM	brown-black					CS			brown-black silty fine to medium sand, trace amounts of coarse sand
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 9	Northing (NAD 83):	590988.79
Core Sample ID:	DAJ-034	Easting (NAD 83):	617272.07
Total Penetration:	11'	Water Depth:	43.5'
Recovery:	7.4'		
Logged by:	A. Bullard	Date: 11/16/2004	9:56

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose, black organic muck, minor shell hash layer at surface
1												
2												
3					not noted						DAJ-034	same material as above, signficant shell hash
4												black silty clay with trace amounts of shell hash
5												
6									FS			black silty clay with trace amounts of fine sand
7			CH	green-black	H				Z			green-black hard clay
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 10	Northing (NAD 83):	591129.11
Core Sample ID:	DAJ-035	Easting (NAD 83):	617343.22
Total Penetration:	7.5'	Water Depth:	43.5'
Recovery:	5.5'		
Logged by:	A. Bullard	Date: 11/16/2004	10:27

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S	DAJ-035	loose, black organic muck, minor shell hash layer at surface, shell hash throughout layer
1												
2					not noted							black silty clay, with traces of shell hash
3												
4												
5									FS			black silty clay, with traces of fine sand
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
... Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 11	Northing (NAD 83):	591078.1
Core Sample ID:	DAJ-036	Easting (NAD 83):	617540.36
Total Penetration:	8.5'	Water Depth:	44'
Recovery:	6'		
Logged by:	A. Bullard	Date: 11/16/2004	11:16

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose, black organic muck
1												
2					not noted				FS		DAJ-036	black silty clay with traces of fine sand
3												
4			SW	green-black					MS			green-black fine to medium sand
				orange-green/brown					CS			orange-green/brown fine to medium sand, with traces of coarse sand
5				orange-brown					MP			orange-brown gravelly fine sand
6												
7												
8												
9												
10												
1												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 12	Northing (NAD 83):	591330.16
Core Sample ID:	DAJ-037	Easting (NAD 83):	617530.03
Total Penetration:	6'	Water Depth:	43.8'
Recovery:	4.4'		
Logged by:	A. Bullard	Date: 11/16/2004	11:40

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose, black organic muck. Shell hash noted from 1.7 to 1.9' below mudline.
1												
2					not noted				FS		DAJ-037	black silty clay with traces of fine sand
3			SM	grey-brown								grey-brown silty fine sand
4												
5												
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 13	Northing (NAD 83):	591310.86
Core Sample ID:	DAJ-038	Easting (NAD 83):	617635.17
Total Penetration:	7'	Water Depth:	41.8'
Recovery:	5.2'		
Logged by:	A. Bullard	Date: 11/16/2004	12:51 Page 13 of 25

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose, black organic muck.
1												
2					not noted				FS		DAJ-038	black silty clay with traces of fine sand
3												
4			SW SP SW	grey brown orange-brown					MP FS MS			grey-brown f. to med gravelly sand brown silty fine sand orange-brown gravelly fine to medium sand
5												
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 14	Northing (NAD 83):	591427.86
Core Sample ID:	DAJ-039	Easting (NAD 83):	617722.65
Total Penetration:	10'	Water Depth:	40.8'
Recovery:	6.6'		
Logged by:	A. Bullard	Date: 11/16/2004	13:10

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose, black organic muck.
1												
2					not noted				FS			black silty clay with traces of fine sand
3											DAJ-039	
4												
5			SP SW	grey brown					MS MP			grey-brown silty fine-med sand brown fine to medium sand with traces of coarse sand and gravel
6				orange-brown								orange-brown gravelly fine to medium sand
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 15	Northing (NAD 83):	591499.48
Core Sample ID:	DAJ-040	Easting (NAD 83):	617372.04
Total Penetration:	8'	Water Depth:	42'
Recovery:	5.2'		
Logged by:	A. Bullard	Date: 11/16/2004	Page 15 of 25

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose, black organic muck, layer of shell hash noted between 1.4 and 1.5'
1			SW	grey brown brown	not noted				MS			grey-brown to orange brown gravelly fine to medium sand
2									CS		DAJ-040	brown silty fine sand with traces of medium to coarse sand
3				grey brown-orange					MP			grey-brown to orange brown gravelly fine to medium sand
4												
5												
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
... Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 16	Northing (NAD 83):	591462.55
Core Sample ID:	DAJ-041	Easting (NAD 83):	617230.82
Total Penetration:	9'	Water Depth:	39.8'
Recovery:	6'		
Logged by:	A. Bullard	Date:	11/16/2004

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose, black organic muck
1					not noted							black silty clay with traces of shell hash
2												black silty clay, shell hash throughout
3									FS		DAJ-041	black silty clay with traces of fine sand
4												
5												
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
... Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 17	Northing (NAD 83):	591340.54
Core Sample ID:	DAJ-042	Easting (NAD 83):	617124.1
Total Penetration:	7'	Water Depth:	39.7'
Recovery:	5.2'		
Logged by:	A. Bullard	Date: 11/16/2004	14:26

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose, black organic muck. Shell hash noted from 2.3 to 2.5'
1					not noted							
2									FS		DAJ-042	black silty clay with traces of fine sand
3												
4			SW	orange-brown					MP			orange-brown gravelly fine to medium sand
5												
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 18	Northing (NAD 83):	591190.53
Core Sample ID:	DAJ-043	Easting (NAD 83):	617005.19
Total Penetration:	8'	Water Depth:	38.4'
Recovery:	5.3'		
Logged by:	A. Bullard	Date:	11/16/2004

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose, black organic muck.
1												
2					not noted						DAJ-043	black silty clay, shell has noted between 2.7 and 3.2'.
3												black silty clay
4												
5			SW	brown-black					MP			brown-black gravelly fine to medium sand
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 19	Northing (NAD 83):	591190.8
Core Sample ID:	DAJ-044	Easting (NAD 83):	616908.21
Total Penetration:	11'	Water Depth:	39.9'
Recovery:	6.7'		
Logged by:	A. Bullard	Date: 11/17/2004	8:10

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose, black organic muck.
1												
2					not noted							black silty clay, minor amount of shell hash noted at 5'
3											DAJ-044	
4												
5												
6			SC SM						FS			black fine sandy clay black silty fine sand
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 20	Northing (NAD 83):	590984.47
Core Sample ID:	DAJ-045	Easting (NAD 83):	616959.07
Total Penetration:	11'	Water Depth:	40.9'
Recovery:	7.2'		
Logged by:	A. Bullard	Date: 11/17/2004	9:12

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S	DAJ-045	loose, black organic muck, significant shell hash noted between 1.7 and 2.2'
1												
2					not noted							black silty clay
3												
4												
5												
6									FS			black silty clay with traces of fine sand
7			SM	grey-brown					MP			grey-brown silty fine to medium sand with traces of gravel
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 21	Northing (NAD 83):	590899.83
Core Sample ID:	DAJ-046	Easting (NAD 83):	616792.28
Total Penetration:	11.5'	Water Depth:	44.3'
Recovery:	6.8'		
Logged by:	A. Bullard	Date: 11/17/2004	9:45

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose black organic muck
1												
2												
3					not noted						DAJ-046	black silty clay
4												
5			SP	gr.brown					MS			grey brown fine to medium sand
			SM	or.brown					FS			orange brown silty fine sand
				gr.brown								grey brown silty fine sand
6			SP	grey-brown					MS			grey-brown fine to medium sand, gravel content notable from 6.4 to 6.8'
									MP			
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 22	Northing (NAD 83):	590834.32
Core Sample ID:	DAJ-047	Easting (NAD 83):	616695.07
Total Penetration:	14.5'	Water Depth:	44.3'
Recovery:	8'		
Logged by:	A. Bullard	Date: 11/17/2004	10:37

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S	DAJ-047	loose black organic muck
1												
2												
3					not noted							black silty clay
4												
5												
			SC						FS			black fine sandy clay
			SM	gr.brown								grey-brown silty fine sand
6			SW	or.brown					MP			brown-orange brown gravelly fine to medium sand
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
... Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 23	Northing (NAD 83):	590604.79
Core Sample ID:	DAJ-048	Easting (NAD 83):	6616820.8
Total Penetration:	7.5'	Water Depth:	41.8'
Recovery:	5.4'		
Logged by:	A. Bullard	Date: 11/17/2004	11:20

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose black organic muck with shell hash throughout
1												
2					not noted							black silty clay with shell hash throughout
3											DAJ-048	
4			SM/SC SP SM	gr.black					FS			black silty to fine sandy clay grey-black silty fine sand
5			CH	grey					Z			grey black silty fine sand with very hard clay plug in end of catcher
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Berthing Area 24	Northing (NAD 83):	590486.03
Core Sample ID:	DAJ-049	Easting (NAD 83):	616633.4
Total Penetration:	10'	Water Depth:	43.2'
Recovery:	7.3'		
Logged by:	A. Bullard	Date: 11/17/2004	11:40

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		loose black organic muck traces of shell hash
1												
2					not noted							black silty clay and traces of shell hash
3												
4			SM/SC						FS		DAJ-049	black silty to fine sandy clay, traces of shell hash
			SW	grey					MS			gr.silty fine to med sand with traces of gravel
			SM	or.brown								or.brown silty f-med sand, traces of gravel
5			SW	grey-brown								grey brown fine to medium sand
									FS			grey brown silty fine sand
6									MP			grey brown fine to medium sand with traces of gravel
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected were usually less than total penetration

LITHOLOGY	TYPE	DESCRIPTION
	GM	Silty gravels, gravel and silt and sand mixtures
	SW	Well-graded sands, gravelly sands
	SP	Poorly-graded sands, gravelly sands
	SM	Silty sands, sand-silt mixtures
	SC	Clayey sands, sand-clay mixtures
	ML	Silts and very fine sands, silty or clayey fine sands, or clayey silts, with slight plasticity.
	CH	Clays of high plasticity, fat clays
∩		Shell hash
| λλλλ |		Peat/organic matter

CONSISTENCY
Penetration of thumb:
<0.25 cm = hard (H)
0.25 - 2.0 cm = firm (F)
2.0 - 4.0 cm = soft (S)
>4.0 cm = very soft (VS

CEMENTION
N = not cemented
W = weakly cemented
M = Moderately cemented
S = Strongly cemented

STRUCTURE
H = Homogeneous
S = Stratified
L = Laminated
M = Mottled

HCl REACTION
N = None
W = Weak
S = Strong

MAXIMUM PARTICLE SIZE
SC = Small Cobble
CP = Coarse Pebble
MP = Medium Pebble
SP = Small Pebble
CS = Coarse Sand
MS = Medium Sand
FS = Fine Sand
VFS = Very Fine Sand
Z = Silt

ODOR
N = None
H = Hydrocarbon
S =Sulfide

COLOR
g or gr. = grey
or. = orange
gm. = green

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 1 (P01V)	Northing (NAD 83):	590304.28
Core Sample ID:	DAJ-060	Easting (NAD 83):	616781.476
Total Penetration:	23'	Pier to Water:	9.3'
Recovery:	11.3'	Pier to Mudline:	25.8'
Logged by:	T.Himmer	Date: 11/17/2004 13:50	Page 1 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	FS	S		black silt, fine sand, shell hash
									Z			black silt, clay, shell hash
1												
2												
3												black silt, shell hash, increasing clay with depth
4			CH	dark grey	F				LC			dark grey clay, homogeneous, fat, firm, some large cobbles.
5												
6											DAJ-060	
			SC						MS			
7												dark grey clay, with increasing sand (medium-fine) with depth
8												
9			SP	orange/ brown								well sorted, orange-brown sand
10			CH	dark grey	H				Z			very hard clay
11			SC	brown-grey	F				MS			clay-rich sand
11.3'												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
... Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 2 (P02aV)	Northing (NAD 83):	590304.28 (coordinates from J.Hardin reading)
Core Sample ID:	DAJ-061	Easting (NAD 83):	616781.476
Total Penetration:	11.9'	Pier to Water:	9.3'
Recovery:	0'	Pier to Mudline:	25.8' Depth measured from boat: 33.3'
Logged by:	A. Bullard	Date: 11/17/2004 13:00	Page 1 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S		shell hash and muck
1												loose black, organic muck with significant shell hash.
2												
3					not noted							black silty clay with trace of shell hash
4				grey green								grey green silty clay
									FS			grey green silty to f. sandy clay
5			SM	green								green silty fine sand
			ML	or.brown grey green					MP Z		DAJ-061	orange/brown silty f.sand and gravel grey green silty clay
6												
7			SM	gn.brown or.brown green-brown					FS			green-brown silty fine sand orange/brown f.sandy silt and clay green-brown to light orange silty fine sand
8												
9												This core was collected by ASI using R/v Hayes
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 3 (P03V)	Northing (NAD 83):	590458.045
Core Sample ID:	DAJ - 062	Easting (NAD 83):	616861.872
Total Penetration:	23'	Pier to Water:	8.5'
Recovery:	14'	Pier to Mudline:	26'
Logged by:	T.Himmer	Date: 11/17/2004 13:00	Page 3 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	S	N	H	N/A	MP	S		soft black silt and clay, some sand, shell hash, minor amount of gravel
1												
2												soft black silt and clay, some sand, shell hash, increasing gravel content
3												
4												
			N/A	grey	H				SC			concrete plug
5			SC	black	F				MS	H		black clay and sand, hydrocarbon smell noted.
6												
7											DAJ-062	
8			ML						MP	N		silt, gravel, sand
			SC	dark grey					MS			dark grey sandy clay
9												
10												
												transition from sandy clay to sand
11			SP	grey-green								clean, well sorted sand.
			CH	dark grey					Z			dark grey, firm clay, medium/fat clay.
12												
13												
14												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 4 (P04V)	Northing (NAD 83):	590579.113
Core Sample ID:	DAJ-063	Easting (NAD 83):	616923.022
Total Penetration:	15'	Pier to Water:	7.6'
Recovery:	4'	Pier to Mudline:	25.6'
Logged by:	T.Himmer	Date: 11/17/2004 11:54	Page 4 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	FS	S		black silt and sand
1												
2			GM		S				MP		DAJ-063	predominantly gravel, with sand and silt, poorly sorted, some shell hash.
3												
4												
5												
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 5 (P05V)	Northing (NAD 83):	590689.006
Core Sample ID:	DAJ-064	Easting (NAD 83):	616980.407
Total Penetration:	13'	Pier to Water:	7.3'
Recovery:	5.8'	Pier to Mudline:	27.2'
Logged by:	T.Himmer	Date: 11/17/2004 10:55	Page 5 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	FS	S		Very wet, black silty sand, some shell hash
1			GM		S				MP			Black sand, gravel, silt, soft, some shell hash. Oily sheen noted on liquid within core.
2												
3											DAJ-064	
4												
5			N/A	grey	H				N/A			Concrete/refusal
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 6 (P06V)	Northing (NAD 83):	590749.783
Core Sample ID:	DAJ-065	Easting (NAD 83):	617013.172
Total Penetration:	23'	Pier to Water:	8.7'
Recovery:	13.5'	Pier to Mudline:	26.1'
Logged by:	T.Himmer	Date: 11/17/2004 9:45	Page 5 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	VFS	S, H		Black silt, very fine sand, shell hash. Spots of oily sheen noted throughout core.
1					S							
2												
3												
4			GM		F				MP			Gravel, black silt, fine to medium sand, some shell hash, firm.
5												
6												
			SM								DAJ-065	black, predominantly med-coarse sand, with gravel and silt, minor amount of shell hash, firm.
7												
8												
9												
10												
11												
12												
			SM	dark grey to black	H							Very coarse sand, some gravel, dark grey to black, hard.
13												
14												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 7 (P07V)	Northing (NAD 83):	590802.129
Core Sample ID:	DAJ-066	Easting (NAD 83):	617040.401
Total Penetration:	14'	Pier to Water:	7.9'
Recovery:	5.8'	Pier to Mudline:	25.9'
Logged by:	T.Himmer	Date: 11/16/2004 9:33	Page 7 of 15

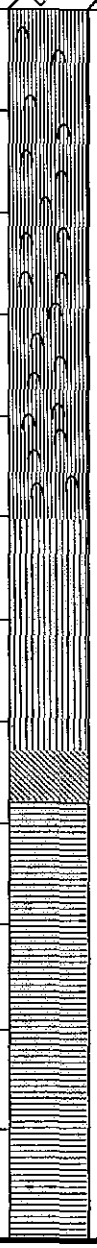
Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	H		very soft, very wet black silt
1, 2, 3, 4, 5			GM/ shells		S				MP		DAJ-066	Predominantely shell hash, with some gravel, fine sand, and silt.
5.8', 6, 7, 8, 9, 10, 11												Total recovery was 7'3" and 1.5' of settling occurred after collection, but prior to processing. Water was drained off prior to description/sampling. After the first attempt approximately 6' of concrete was removed from the bottom of the vibracore. The material was collected into a drum liner. Material, even concrete, had strong creosote/hydrocarbon oder. A sheen was noted in wet, silty material collected in drum liner. Attempt 2 (used for sampling): vibracore was stopped when resistance first encountered.

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 8 (P08V)	Northing (NAD 83):	590870.055
Core Sample ID:	DAJ-067	Easting (NAD 83):	617074.28
Total Penetration:	23'	Pier to Water:	10.7'
Recovery:	12'	Pier to Mudline:	26'
Logged by:	T.Himmer	Date: 11/16/2004 14:50	Page 8 of 15



Depth below mudline (ft)*	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
	N/A	ML	black	VS	N	H	N/A	MS	H, S		black, silt, medium sand, some clay, shell hash
3				S				CS			black, silt, medium to coarse sand, some clay, shell hash
5		GM		F				MP		DAJ-067	gravel, black silt, shell hash, sand.
7		SC						MS			black sandy clay
8		SM						MP			coarse sand, gravel, black silt/clay, minor amount of shell hash.

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 9 (P09V)	Northing (NAD 83):	590924.441
Core Sample ID:	DAJ-068	Easting (NAD 83):	617102.341
Total Penetration:	13.5'	Pier to Water:	9'
Recovery:	4.7'	Pier to Mudline:	25.7'
Logged by:	T.Himmer	Date: 11/16/2004 10:45	Page 9 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	FS	S		very soft, wet black silt with fine sand. Oily sheen noted on liquid when core transferred to drum liner for processing.
1					S				MP			black silt, shell hash, some medium to coarse sand and gravel.
2											DAJ-068	
3			GM									black gravel with sand and silt, soft
4			SW	dark grey	F							dark grey coarse sand and gravel.
5												
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 10 (P010V)	Northing (NAD 83):	590986.442
Core Sample ID:	DAJ-069	Easting (NAD 83):	590986.442
Total Penetration:	21.5'	Pier to Water:	11.4'
Recovery:	10.7'	Pier to Mudline:	25.7'
Logged by:	T.Himmer	Date: 11/17/2004 15:32	Page 10 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	FS	S	DAJ-069	very wet, black silt with some fine to medium sand.
1												
2									MP			black silt, medium to coarse sand, gravel.
3												
4			GM		H					H		black, sandy gravel, very hard. Noted one spot that was light brown in color and smelled strongly of diesel fuel
5												
6												
7												
8			CH	dark grey	F				Z	N		very firm, dark grey clay, high plasticity (fat)
9												
10												
10'8* 11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 11 (P11V)	Northing (NAD 83):	591043.911
Core Sample ID:	DAJ-070	Easting (NAD 83):	617163.484
Total Penetration:	10.4'	Pier to Water:	10.3'
Recovery:	6.7'	Pier to Mudline:	25.5'
Logged by:	T.Himmer	Date: 11/16/2004 13:20	Page 11 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	FS	H		very wet black silt with some fine sand, very soft.
1					S				MP			shell hash with black silt, medium sand and some gravel.
2												
3			GM		H				MP		DAJ-070	poorly sorted gravel with coarse sand and silt, black
4			SM						CS			v.firm, coarse sand with black silt
5									MS			v.firm-hard, medium sand with some silt and clay.
6												
6.75'												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 12 (P012V)	Northing (NAD 83):	591098.205
Core Sample ID:	DAJ-071	Easting (NAD 83):	617190.611
Total Penetration:	17'	Pier to Water:	10.9'
Recovery:	6'	Pier to Mudline:	25.8'
Logged by:	T.Himmer	Date: 11/16/2004 14:20	Page 12 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	FS	S		very wet black silt with some fine sand.
1					F				MP			black silt with course sand, some shell hash and gravel, firm
2					H							black silt with course sand, some shell hash and gravel, hard
3											DAJ-071	
4			GM		F							black gravel and coarse sand, some silt
5												
6			SM	dk grey								coarse sand and gravel
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 13 (P13V)	Northing (NAD 83):	591154.081
Core Sample ID:	DAJ-072	Easting (NAD 83):	617217.898
Total Penetration:	21.5'	Pier to Water:	13'
Recovery:	6.75'	Pier to Mudline:	25.8'
Logged by:	T.Himmer	Date: 11/16/2004 15:00	Page 13 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	CS	S		Black silt with coarse sand and gravel, some shell hash, very poorly sorted.
1												
2			SM	dark grey	H				MP			coarse sand and gravel with some black silt, very hard, poorly sorted.
3											DAJ-072	
4												plug of concrete noted within silty material
5			ML	black	S							soft black silt and coarse sand, some gravel.
6			CH	olive grey	H				MS			clay and fine to medium sand, hard
7												Approximately 8' or material was initially recovered; however due to difficulties in removing sample from vibracore tube, the very loose/wet material from the top of the core was lost.
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Statio 14 (P14V)	Northing (NAD 83):	591269.828
Core Sample ID:	DAJ-073	Easting (NAD 83):	617280.357
Total Penetration:	13.7'	Pier to Water:	10'
Recovery:	6'	Pier to Mudline:	25.8'
Logged by:	T.Himmer	Date: 11/17/2004 8:21	Page 14 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	FS	S,H		silty clay with some fine sand and shell hash, very wet and loose, black. Oily sheen observed throughout core.
1												
2					S				MS		DAJ-073	silty clay with some fine sand and shell hash (larger shells), wet and loose, black
3												
4			GM						MP			silty gravel with some sand
5												
			CH	dark grey	F				CS			fat clay with some coarse sand
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

Battelle
. . . Putting Technology To Work

Project Title: Naval Weapons Station Earle Sediment Characterization

Station:	Pier Station 15 (P15V)	Northing (NAD 83):	591392.92
Core Sample ID:	DAJ-074	Easting (NAD 83):	617341.057
Total Penetration:	13.5'	Pier to Water:	9'
Recovery:	6'	Pier to Mudline:	26.8'
Logged by:	T.Himmer	Date: 11/17/2004 8:52	Page 15 of 15

Depth below mudline (ft)*	Lithology	Dilatancy	Type	Color	Consistency	Cementation	Structure	HCl reaction	Maximum particle size	Odor	Samples	Comments
		N/A	ML	black	VS	N	H	N/A	Z	S, H		black silt with some clay, very wet/soft, shell hash
1			GM		S				MP			sandy gravel and shell hash with pockets of clay (moderate plasticity), sand is medium to coarse
2												
3											DAJ-074	
4												
5												
6												
7												
8												
9												
10												
11												

*Characterization was done using top of core as 0 feet below mudline. The recoveries of cores collected on the pier was significantly less than the total penetration of the vibracore.

LITHOLOGY	TYPE	DESCRIPTION
	GM	Silty gravels, gravel and silt and sand mixtures
	SW	Well-graded sands, gravelly sands
	SP	Poorly-graded sands, gravelly sands
	SM	Silty sands, sand-silt mixtures
	SC	Clayey sands, sand-clay mixtures
	ML	Silts and very fine sands, silty or clayey fine sands, or clayey silts, with slight plasticity
	CH	Clays of high plasticity, fat clays
∩		Shell hash

CONSISTENCY

Penetration of thumb:
<0.25 cm = hard (H)
0.25 - 2.0 cm = firm (F)
2.0 - 4.0 cm = soft (S)
>4.0 cm = very soft (VS

CEMENTION

N = not cemented
W = weakly cemented
M = Moderately cemented
S = Strongly cemented

STRUCTURE

H = Homogeneous
S = Stratified
L = Laminated
M = Mottled

HCl REACTION

N = None
W = Weak
S = Strong

MAXIMUM PARTICLE SIZE

SC = Small Cobble
CP = Coarse Pebble
MP = Medium Pebble
SP = Small Pebble
CS = Coarse Sand
MS = Medium Sand
FS = Fine Sand
VFS = Very Fine Sand
Z = Silt

ODOR

N = None
H = Hydrocarbon
S =Sulfide

COLOR

g or gr. = grey
or. = orange
gn. = green

Appendix D

Appendix D
Sample Custody Forms

Battelle
. . . Putting Technology To Work

Chain of Custody

2/3

Proj. No: G486312

Proj. Name: Navy Fowle

SAMPLERS: Signature

ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"

DATE	TIME	BATTELLE ID	CLIENT ID	SAMPLE DESCRIPTION	PEST	PCB	TPH FINGERPRINT	PAH	VOA	TBT	METALS	~~OTHER~~	ACIDIFIED	UNPRESERVED	Total Number of Containers
11/16/04	15:05		DAJ-043	Sediment (core) from Berthing Area Site 18											
11/17/04	0835		DAJ-044	19											
	0930		DAJ-045	20											
	0930		Dup of DAJ-045	20											
	1005		DAJ-046	21											
	1050		DAJ-047	22											
	1135		DAJ-048	23											
	1200		DAJ-049	24											
11/17/04	13:50		DAJ-060	Sediment (core) from Pier Site P01-V											
	13:20		DAJ-061	P02-V											
	13:00		DAJ-062	P03-V											
	~~12:15~~	1300	DAJ-062 Dup	P03-V											
	~~10:55~~	1215	DAJ-063	P04-V											
	~~9:45~~	1055	DAJ-064	P05-V											
	9	945	DAJ-065	P06-V											
11/16/04	—	933	DAJ-066	P07-V											
11/17/04	1450		DAJ-067	P08-V											

Relinquished by: [signature] — Date/Time: 18 NOV 04 ~~18~~ 1545 — Received by:

Relinquished by: — Date/Time: — Received by:

Comments:

CLIENT COPY

3/3

Battelle
. . . Putting Technology To Work

Chain of Custody

Proj. No	Proj. Name
G486312	Navy Earle

SAMPLERS: Signature

ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"

DATE	TIME	BATTELLE ID	CLIENT ID	SAMPLE DESCRIPTION	PEST	PCB	TPH FINGERPRINT	PAH	VOA	TBT	METALS	Grain Size	ACIDIFIED	PRESERVED	Total Number of Containers
11/16/04	10:45		DAJ-068	Sediment (core) from Pier Area Site P09-V											
11/17/04	15:32		DAJ-069	P10-V											
11/16/04	13:20		DAJ-070	P11-V											
↓	14:20		DAJ-071	P12-V											
↓	15:00		DAJ-072	P13-V											
~~11/14/04~~															
11/17/04	8:21		DAJ-073	P14-V											
↓	9:15		DAJ-074	P15-V											

Relinquished by:	Date/Time	Received by:	Date/Time
	18NOV04 1545	Fed Ex	
Relinquished by:	Date/Time	Received by:	Date/Time

Comments:

CLIENT COPY

UV

Battelle
. . . Putting Technology To Work

Chain of Custody

Proj. No: G486312

Proj. Name: Naval Weapons Station Earle Sediment Characterization

SAMPLERS: Signature

ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"

DATE	TIME	BATTELLE ID	Battelle ~~CLIENT ID~~	SAMPLE DESCRIPTION	PEST	PCB	TPH FINGERPRINT	PAH	VOA	TBT	METALS	OTHER	ACIDIFIED	PRESERVED	Total Number of Containers
11/15/04	16:00		DAJ-050 ✓	Composite from Berthing Area Sites 1, 2, 3 BA-C-1											
↓	↓		DAJ-051 ✓	BA-C-2 (4, 5, 6)											
11/16/04	16:20		DAJ-052 ✓	BA-C-3 (7, 8, 9)											
	16:45		DAJ-053 ✓	BA-C-4 10, 11, 12											
	16:55		DAJ-054 ✓	BA-C-5 13, 14, 15											
↓	17:04		DAJ-055 ✓	BA-C-6 16, 17, 18											
11/17/04	16:00		DAJ-056 ✓	BA-C-7 19, 20, 21											
↓	16:00		DAJ-057 DUP ✓	BA-C-7 ~~BA-C-8~~ 19, 20, 21											
	15:15		DAJ-058 ✓	BA-C-8 22, 23, 24											
11/18/04	9:30		DAJ-080 ✓	Composite from Pier Sites PC-1 P01V, P02V, P03V											
	9:30		DAJ-080 DUP ✓	PC-1 P01V, P02V, P03V											
	10:15		DAJ-081 ✓	PC-2 P04V, P05V, P06V											
	11:00		DAJ-082 ✓	PC-3 P07V, P08V, P09V											
	11:45		DAJ-083 ✓	PC-4 P10V, P11V, P12V											
	12:00		DAJ-084 ✓	PC-5 P13V, P14V, P15V											

Relinquished by:	Date/Time		Received by:	Date/Time
	18NOV04	1545	Fed Ex	
Relinquished by:	Date/Time		Received by:	Date/Time

Comments:

CLIENT COPY

BDO

Battelle
. . . Putting Technology To Work

Chain of Custody

Proj. No	Proj. Name
G4186312	Naval Weapons Station Earle Sediment Characterization

SAMPLERS: Signature

ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"

DATE	TIME	BATTELLE ID	CLIENT ID	SAMPLE DESCRIPTION	PEST	PCB	TPH FINGERPRINT	PAH	VOA	TBT	METALS	OTHER	ACIDIFIED	UNPRESERVED	Total Number of Containers
11/15/04	16:00	DAJ-050 ✓		Composite from Berthing Area BA-C-1 (1,2,3)											
↓	↓	DAJ-051 ✓		BA-C-2 (4,5,6)											
11/16/04	16:20	DAJ-052 ✓		BA-C-3 (7,8,9)											
	16:45	DAJ-053 ✓		BA-C-4 (10,11,12)											
	16:55	DAJ-054 ✓		BA-C-5 (13,14,15)											
	17:04	DAJ-055 ✓		BA-C-6 (16,17,18)											
11/17/04	1600	DAJ-057 ✓		BA-C-7 (19,20,21)											
	1600	DAJ-057 DUP ✓		BA-C-7 (19,20,21)											
	15:15	~~DAJ-058~~	S/B DAJ-058 ✓	BA-C-8 (22,23,24)											
11/18/04	9:30	DAJ-080 TH ✓		Composite from Pier PC-1 (P01V, P02V, P03V)											
	9:30	DAJ-080 DUP ✓		↓ ↓											
	10:15	~~DAJ-082~~	~~S/B DAJ-082~~	DAJ-081 ✓ PC-2 (P04V, P05V, P06V)											
	11:00	DAJ-082 ✓		PC-3 (P07V, P08V, P09V)											
	11:45	DAJ-083 ✓		PC-4 (P10V, P11V, P12V)											
	12:00	DAJ-084 ✓		PC-5 (P13V, P14V, P15V)											

Relinquished by:	Date/Time	Received by:	Date/Time
Jd Hark	19NOV04 1545	FedEx	
Relinquished by:	Date/Time	Received by:	Date/Time

Comments:

CLIENT COPY

STL

Battelle
. . . Putting Technology To Work

Chain of Custody

Proj. No: G4816312

Proj. Name: Naval Weapons Station Earle Sediment Characterization

SAMPLERS: Signature

ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"

DATE	TIME	BATTELLE ID	CLIENT ID	SAMPLE DESCRIPTION	PEST	PCB	TPH FINGERPRINT	PAH	VOA	TBT	METALS	OTHER	ACIDIFIED	BRISSERVED	Total Number of Containers
11/15/04	1600	DAJ-050 ✓		Composite from Berthing Area BA-C-1 (1,2,3)											1
↓	1600	DAJ-051 ✓		BA-C-2 (4,5,6)											
11/16/04	1620	DAJ-052 ✓		BA-C-3 (7,8,9)											
	1645	DAJ-053 ✓		BA-C-4 (10,11,12)											
	1655	~~1655~~ DAJ-054 ✓		BA-C-5 (13,14,15)											
↓	1704	DAJ-055 ✓		BA-C-6 (16,17,18)											
11/17/04	1600	DAJ-057 ✓		BA-C-7 (19,20,21)											
	1600	DAJ-057 Dup ✓		BA-C-7 (19,20,21)											
↓	1515	DAJ-058 ✓		BA-C-8 (22,23,24)											
11/18/04	9:30	DAJ-080 ✓		Composite from Pier PC-1 (P01V, P02V, P03V)											
	9:30	DAJ-080 Dup ✓		↓ ↓											
	10:15	DAJ-081 ✓		PC2 (P04V, P05V, P06V)											
	11:00	DAJ-082 ✓		PC3 (P07V, P08V, P09V)											
	11:45	DAJ-083 ✓		PC4 (P10V, P11V, P12V)											
↓	12:00	DAJ-084 ✓		PC5 (P13V, P14V, P15V)											

Relinquished by:	Date/Time	Received by:	Date/Time
[signature]	18NOV04 1545	Fed Ex	
Relinquished by:	Date/Time	Received by:	Date/Time

Comments:

CLIENT COPY

Battelle
. . . Putting Technology To Work

Chain of Custody

TOC 3/3

Proj. No	Proj. Name
G486312	Navy Earle

SAMPLERS: Signature

ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"

DATE	TIME	BATTELLE ID	CLIENT ID	SAMPLE DESCRIPTION	PEST	PCB	TPH FINGERPRINT	PAH	VOA	TBT	METALS	OTHER TOC	ACIDIFIED	PRESERVED	Total Number of Containers
11/16/04	10:45		DAJ-068	Sediment core from Pier Area Site P09-V								X			1
11/17/04	15:32		DAJ-069	P10-V											
11/16/04	13:20		DAJ-070	P11-V											
	14:20		DAJ-071	P12-V											
	15:00		DAJ-072	P13-V											
11/17/04	8:21		DAJ-073	P14-V											
	9:15		DAJ-074	P-15V											

Relinquished by:	Date/Time	Received by:	Date/Time
	18NOV04 1545	FedEx	
Relinquished by:	Date/Time	Received by:	Date/Time

Comments:

CLIENT COPY

Battelle
. . . Putting Technology To Work

Chain of Custody

TOC 2/3

Proj. No. 64866312

Proj. Name Navy Eagle

SAMPLERS: Signature

ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"

DATE	TIME	BATTELLE ID	CLIENT ID	SAMPLE DESCRIPTION	PEST	POB	TPH FINGERPRINT	PAH	VOA	TBT	METALS	~~OTHER~~ TOC	ACIDIFIED	PRESERVED	Total Number of Containers
11/16/04	15:05	TMH	DAJ-043 •	Sediment from Berthing Area Site #18											
11/17/04	~~0:835~~	s/b 0835	DAJ-044 •	core 19											
	09:30		DAJ-045 •	20											
	09:30		Dup of DAJ 045.	20											
	10:05		DAJ-046 •	21											
	10:50		DAJ-047 •	22											
	11:35		DAJ-048 •	23											
	12:20		DAJ-049 •	24											
11/17/04	13:50		DAJ-060 •	Sediment core from Pier Area Site P04V											
	13:20		DAJ-061 •	s/b P02-V ~~P02V~~											
	~~13:00~~	s/b 13:00 TH	DAJ-062 •	P03-V											
	13:00		DAJ-062 DUP.	P03V											
	12:15		DAJ-063 •	P04-V											
	10:55		DAJ-064 •	P05-V											
	9:45		DAJ-065 •	P06-V											
11/16/04	9:33		DAJ-066 •	P07-V											
11/17/04	14:50		DAJ-067 •	P08-V											

Relinquished by:	Date/Time	Received by:	Date/Time
	18 NOV 04 1545	FedEx	
Relinquished by:	Date/Time	Received by:	Date/Time

Comments:

CLIENT COPY

TOC 1/3

Battelle
. . . Putting Technology To Work

Chain of Custody

Proj. No	Proj. Name
G486312	NAVY - EARLE

SAMPLERS: Signature

Naval Weapons Station Earle Sediment Characterization

ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"

DATE	TIME	BATTELLE ID	CLIENT ID	SAMPLE DESCRIPTION	PEST	PCB	TPH FINGERPRINT	PAH	VOA	TBT	METALS	~~OTHER~~	~~MOISTURE~~	~~DISSOLVED~~	~~Total Number of Containers~~
10/15/04	11:46		DAJ-026 •	Sediment from Berthing Area Site #1											
	12:05		DAJ-027 •	#2											
	12:45		DAJ-028 •	#3											
	13:30		DAJ-029 •	#4											
	14:15		DAJ-030 •	#5											
	[illegible]		DAJ-031 •	#6											
11/16/04	09:20		DAJ-032 •	#7											
	09:45		DAJ-033 •	#8											
	10:15		DAJ-034 •	#9											
	10:50		DAJ035 •	#10											
	11:30		DAJ-036 •	#11											
	11:55		DAJ-037 •	#12											
	13:05		DAJ-038 •	#13											
	13:25		DAJ-039 •	#14											
	13:50		DAJ-040 •	#15											
	14:15		DAJ-041 •	(Lab QC) (2 ~~for~~ PJS jars) #16*											2
	14:40		DAJ-042 •	#17											

Relinquished by:	Date/Time	Received by:	Date/Time
[signature]	1545 18NOV04	FedEx	
Relinquished by:	Date/Time	Received by:	Date/Time

Comments:

CLIENT COPY

Battelle
. . . Putting Technology To Work

Chain of Custody

PNA
PCB
Peat

Proj. No: G486312

Proj. Name: Naval Weapons Station Earle Sed. Characterization

SAMPLERS: Signature: Matthew R. Kyzewski

ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"

DATE	TIME	BATTELLE ID	CLIENT ID	SAMPLE DESCRIPTION	PEST	PCB	TPH FINGERPRINT	PAH	VOA	TBT	METALS	OTHER (Blank)	ACID FILLED	PRESERVED	Total Number of Containers
11/18/04	1830	DAJ-100		Vibracore Blanks											
		DAJ-101													
		DAJ-102													
		DAJ-103													
		DAJ-104													
		DAJ-105	Collected on												
		DAJ-106													
		DAJ-107													
		DAJ-108													
		DAJ-109													
		DAJ-110													
		DAJ-111													
11/17/04	1040	DAJ-096	RA											X	
11/17/04	1040	DAJ-095											X		
	1330	DAJ-098	P	Pier EB1									X		
		DAJ-099		Pier EB2									X		

Relinquished by:	Date/Time	Received by:	Date/Time
Matthew R. Kyzewski	11/19/04 1300	Fed-Ex	
Relinquished by:	Date/Time	Received by:	Date/Time

Comments:

CLIENT COPY

[redacted]

Chain of Custody Record

SEVERN TRENT **STL** Send to STL-Pittsburgh

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Battelle	Project Manager: Lisa Lefkovitz	Date: 11-19-04	Chain of Custody Number: 175[redacted]
Address: 397 Washington St.	Telephone Number (Area Code)/Fax Number: 781-952-5254	Lab Number	Page 1 of 2
City: Duxbury; State: MA; Zip Code: 02332	Site Contact	Lab Contact	
Project Name and Location (State): Navy Earle - Amended Seds	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Analysis (Attach list if more space is needed): See Workplan

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date (*)	Time	Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	CS2	Phenols	Cyanide	Sulfide/Sulfate	MEP	Special Instructions/Conditions of Receipt
BA-C-1(1,2,3)-A	11/15/04				X		X						X	X	X	X	X	
BA-C-2(4,5,6)-A	11/15/04																	
BA-C-3(7,8,9)-A	11/16/04																	
BA-C-4(10,11,12)-A	11/16/04																	
BA-C-5(13,14,15)-A	11/16/04																	
BA-C-6(16,17,18)-A	11/16/04																	
BA-C-7(19,20,21)-A	11/17/04																	
BA-C-7(19,20,21)-A QC	11/17/04																	extra for QC
BA-C-7(19,20,21)-A QC2	11/17/04																	extra for QC
BA-C-8(22,23,24)-A	11/17/04																	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are stored longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☑ Other 4 wks

QC Requirements (Specify): See Workplan - Carrie Garner

	Date	Time		Date	Time
1. Relinquished By	11/19/04	17:00	1. Received By		
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: (*) Field collection Date!

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

[redacted]

Chain of Custody Record

SEVERN TRENT **STL** Sent to Pittsburgh

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Battelle	Project Manager: Lisa Lefkowitz	Date: 11-19-04	Chain of Custody Number: 17537
Address:	Telephone Number (Area Code)/Fax Number: 781-~~[illegible]~~952-5254	Lab Number:	Page 2 of 2
City: / State: / Zip Code:	Site Contact:	Lab Contact:	
Project Name and Location (State): Navy Earle Amended Seds	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.:			

Analysis (Attach list if more space is needed): See work plan

Special Instructions/Conditions of Receipt:

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date (*)	Time	Matrix: Air	Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		Cd/Zn	Metals	Organics	Oil/Pet/Sulfur	TOC
PC-1 (P01V, P02V, P03V)-A	11-18-04				X			X							X	X	X	X	X
PC-2 (P04V, P05V, P06V)-A	↓				↓			↓							↓	↓	↓	↓	↓
PC-3 (P07V, P08V, P09V)-A																			
PC-4 (P10V, P11V, P12V)-A																			
PC-5 (P13V, P14V, P15V)-A																			

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☑ Other 4 wks

QC Requirements (Specify): See work plan

	Date	Time		Date	Time
1. Relinquished By: [signature]	11/19/04	17:00	1. Received By:		
2. Relinquished By:			2. Received By:		
3. Relinquished By:			3. Received By:		

Comments: (*) Date Collected in Field

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

[redacted]

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

Sent to: Burlington VT.

STL-4124 (0901)

Client: Battelle	Project Manager: LISA LEFKOVITZ	Date: 11-19-04	Chain of Custody Number: 175371
Address: 397 Washington St.	Telephone Number (Area Code)/Fax Number: 781-952-5254 / fax 781-934-2124	Lab Number	Page 1 of 2
City: Duxbury; State: MA; Zip Code: 02332	Site Contact	Lab Contact	
Project Name and Location (State): Navy Earle - Amended Sediment Comps	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date (*)	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed): GC	GC/MS	Cd Lead Nickel	Special Instructions/Conditions of Receipt
BA-C-1 (1,2,3)-A	11/15/04				X		X						X	X		
BA-C-2 (4,5,6)-A	"															
BA-C-3 (7,8,9)-A	11/16/04															
BA-C-4 (10,11,12)-A																
BA-C-5 (13,14,15)-A																
BA-C-6 (16,17,18)-A																
BA-C7 (19,20,21)-A	11/17/04															
BA-C7 (19,20,21)-A QC																extra for QC
BA-C7 (19,20,21)-A QC2																extra for QC
BA C8 (22,23,24)-A																

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☒ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other ____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	11/19/04	17:00	1. Received By		
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: (*) Date Collected in field

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Co

[redacted]

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

Sent to Burlington VT.

STL-4124 (0901)

Client: Battelle	Project Manager: Lisa Lefkovitz	Date: 11-19-04	Chain of Custody Number: 175372
Address: 397 Washington St	Telephone Number (Area Code)/Fax Number: 781-952-5254	Lab Number	Page: 2 of 2
City: Duxbury; State: MA; Zip Code: 02332	Site Contact	Lab Contact	
Project Name and Location (State): Navy Eagle - Amended Sed Composites	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Analysis (Attach list if more space is needed): See Worksheet

Special Instructions/Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date (*)	Time	Air	Aqueous	Sed.	Soil		Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH		GC	TPH									
PC-1 (P01V, P02V, P03V)-A	11-18-04				X			X							X	X									
PC-2 (P04V, P05V, P06V)-A	↓				↓			↓							↓	↓									
PC-3 (P07V, P08V, P09V)-A																									
PC-4 (P10V, P11V, P12V)-A																									
PC-5 (P13V, P14V, P15V)-A																									

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other ____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By			1. Received By		
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: (*) Date collected in field

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

G.S. 1/3

Battelle
. . . Putting Technology To Work

Chain of Custody

Proj. No: G4816312

Proj. Name: Navy Weapons Station Earle, Sed. Characterization

SAMPLERS: Signature

ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"

DATE	TIME	BATTELLE ID	CLIENT ID	SAMPLE DESCRIPTION	PEST	PCB	TPH FINGERPRINT	PAH	VOA	TBT	METALS	OTHER G.S.	ACIDIFIED	PRESERVED	Total Number of Containers
11/15/04	11:46		DAJ-026 •	Sediment (core) from Berthing Area Site # 1											
	12:05		DAJ-027 •	2											
	12:45		DAJ-028 •	3											
	13:30		DAJ-029 •	4											
	14:15		DAJ-030 •	5											
	14:45		DAJ-031 •	6											
11/16/04	09:20		DAJ-032 •	7											
	0945		DAJ-033 •	8											
	10:15		DAJ-034 •	9											
	10:50		DAJ-035 •	10											
	11:30		DAJ-036 •	11											
	11:55		DAJ-037 •	12											
	13:05		DAJ-038 •	13											
	13:25		DAJ-039 •	14											
	13:50		DAJ-040 •	15											
	14:15		DAJ-041 •	(QC) 16											2
	14:40		DAJ-042 •	17											

Relinquished by:	Date/Time	Received by:	Date/Time
	18NOV04 1545	Fed Ex	
Relinquished by:	Date/Time	Received by:	Date/Time

Comments:

CLIENT COPY

Appendix E

Appendix E
Grain Size and TOC Results (Individual Cores and Composites)

Summary of TOC in Sediment Cores Composites (Lot 4K190132)
Method: TOC by Lloyd Kahn

Lab ID	Sample ID	Result	qual	units	pql (1)
599804	DAJ-050 BA-C-1(1,2,3)	12300		mg/Kg	951
599805	DAJ-051 BA-C-2(4,5,6)	32200		mg/Kg	1400
599806	DAJ-052 BA-C-3(7,8,9)	28900		mg/Kg	1320
599807	DAJ053BAC3(10,11,12)	27800		mg/Kg	1420
599808	DAJ054BAC5(13,14,15)	32900		mg/Kg	1380
599809	DAJ055BAC6(16,17,18)	33700		mg/Kg	1330
599810	DAJ057BAC7(192021)	39900		mg/Kg	1390
599810DP	DAJ057BAC7(192021)RE	40500		mg/Kg	1390
599811	DAJ058BAC8(22,23,24)	39900		mg/Kg	1400
599812	DAJ080PC1(P01VP02VP03)	22000		mg/Kg	904
599813	DAJ081PC2(P04VP05VP046)	31400		mg/Kg	1180
599814	DAJ082PC3(P07VP08VP09)	31000		mg/Kg	1170
599815	DAJ083PC4(P10VP11VP12)	19700		mg/Kg	845
599816	DAJ084PC5(P13VP14VP15)	14000		mg/Kg	963
BLKLK1130A	BLKLK1130A	500	U	mg/Kg	500
BLKLK1130B	BLKLK1130B	500	U	mg/Kg	500
BLKLK1201B	BLKLK1201B	500	U	mg/Kg	500
BLKLK1202B	BLKLK1202B	500	U	mg/Kg	500
LCSLK1130A	LCSLK1130A	78		%	500
LCSLK1130B	LCSLK1130B	98		%	500
LCSLK1201B	LCSLK1201B	102		%	500
LCSLK1202B	LCSLK1202B	93		%	500
599810MS	DAJ057BAC7(192021)MS	100		%	1390

U indicates not detected at or above PQL
(1) pql = Practical Quantitation Limit

Grain Size Individual Cores

SEVERN TRENT STL

Geotechnical Analysis
Sample Data Summary Package

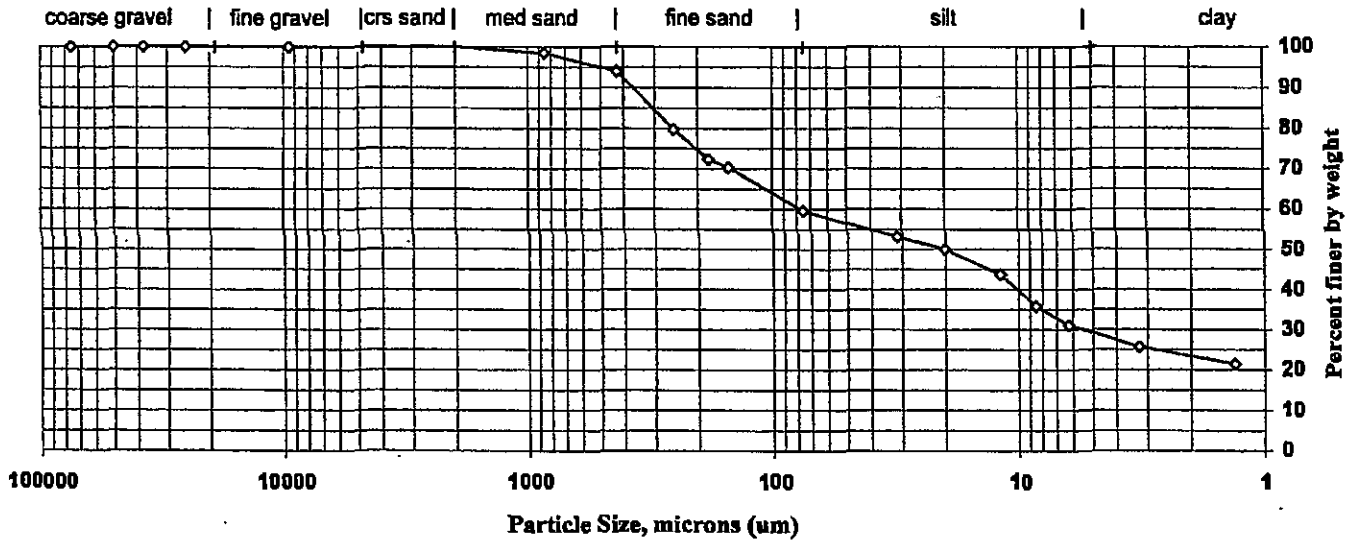
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	15-Dec-04

Lab ID: 599753 **Sample ID:** DAJ-026 BAS#1

Percent Solids:	60.0%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	19.9%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	98.5	1.5
#40	425	94.0	4.5
#60	250	79.7	14.3
#80	180	72.3	7.4
#100	150	70.3	2.1
#200	75	59.6	10.7
Hydrometer	31.4	53.1	6.4
|	20.1	50.0	3.1
|	11.9	43.7	6.3
|	8.5	35.9	7.9
|	6.2	31.2	4.7
|	3.2	25.7	5.5
V	1.3	21.5	4.2

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	40.4
Coarse Sand	0.0
Medium Sand	6.0
Fine Sand	34.5
Silt	28.4
Clay	31.2

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

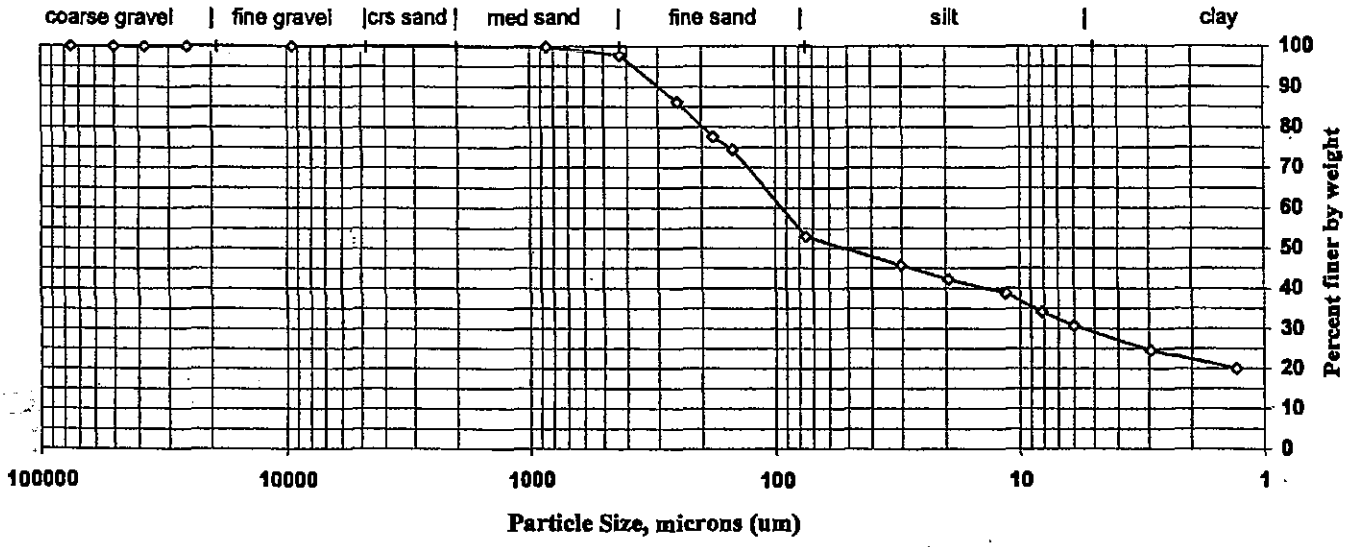
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	15-Dec-04

Lab ID: 599754 **Sample ID:** DAJ-027 BAS#2

Percent Solids:	63.9%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	1.0%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.8	0.2
#40	425	97.9	1.9
#60	250	86.1	11.7
#80	180	77.6	8.6
#100	150	74.4	3.2
#200	75	53.0	21.4
Hydrometer	30.1	45.7	7.3
|	19.4	42.3	3.4
|	11.4	38.9	3.4
|	8.2	34.1	4.8
|	6.0	30.7	3.4
|	3.0	24.6	6.1
V	1.3	20.0	4.6

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	47.0
Coarse Sand	0.0
Medium Sand	2.1
Fine Sand	44.9
Silt	22.3
Clay	30.7

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

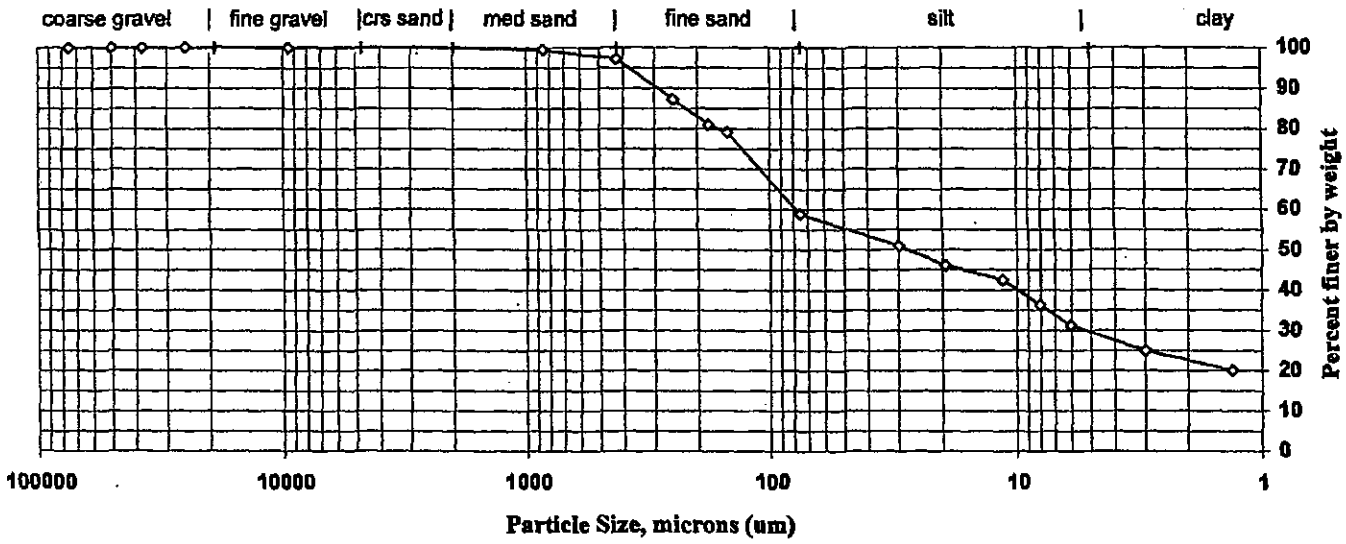
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	15-Dec-04

Lab ID: 599755 **Sample ID:** DAJ-028 BAS#3

Percent Solids:	57.7%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	0.6%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.5	0.5
#40	425	97.2	2.2
#60	250	87.2	10.0
#80	180	81.1	6.1
#100	150	79.1	2.0
#200	75	58.9	20.2
Hydrometer	29.9	51.0	7.9
|	19.4	46.1	4.9
|	11.4	42.4	3.7
|	8.0	36.3	6.1
|	6.0	31.3	5.1
|	3.0	25.0	6.3
V	1.3	20.1	4.9

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	41.1
Coarse Sand	0.0
Medium Sand	2.8
Fine Sand	38.4
Silt	27.6
Clay	31.3

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

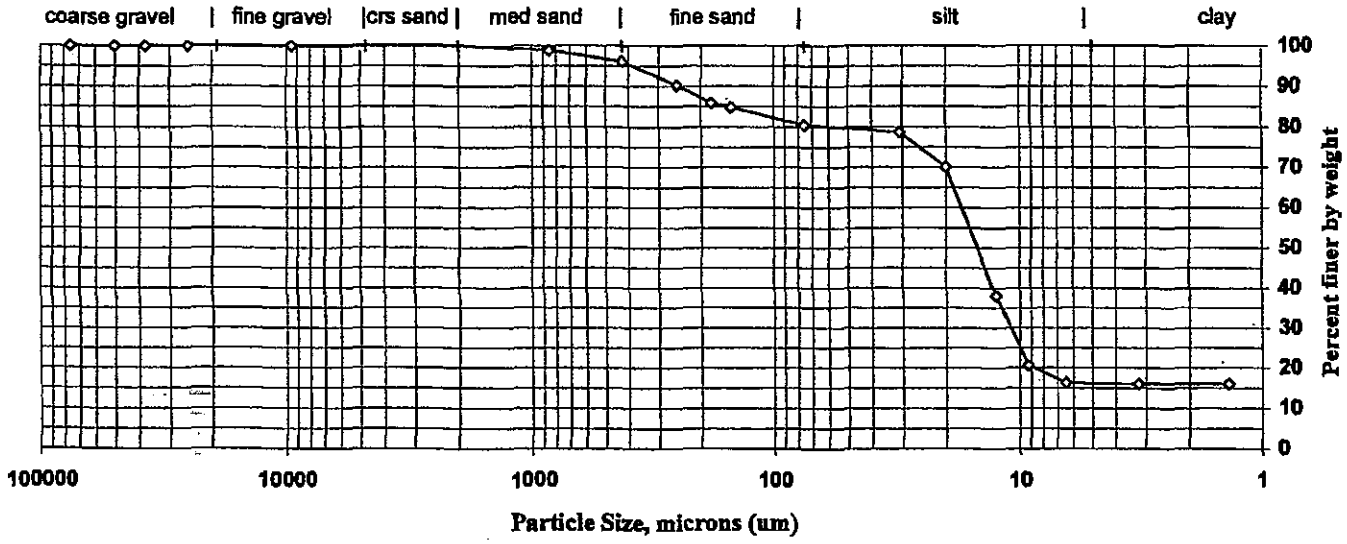
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	15-Dec-04

Lab ID: 599756 **Sample ID:** DAJ-029 BAS#4

Percent Solids:	40.3%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	0.8%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	98.9	1.1
#40	425	96.2	2.7
#60	250	90.3	5.9
#80	180	85.9	4.4
#100	150	84.8	1.1
#200	75	80.5	4.2
Hydrometer	30.8	78.7	1.9
|	20.0	70.1	8.5
|	12.5	38.1	32.0
|	9.2	20.6	17.4
|	6.4	16.4	4.3
|	3.2	16.0	0.4
V	1.4	16.0	0.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	19.5
Coarse Sand	0.0
Medium Sand	3.8
Fine Sand	15.6
Silt	64.2
Clay	16.4

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

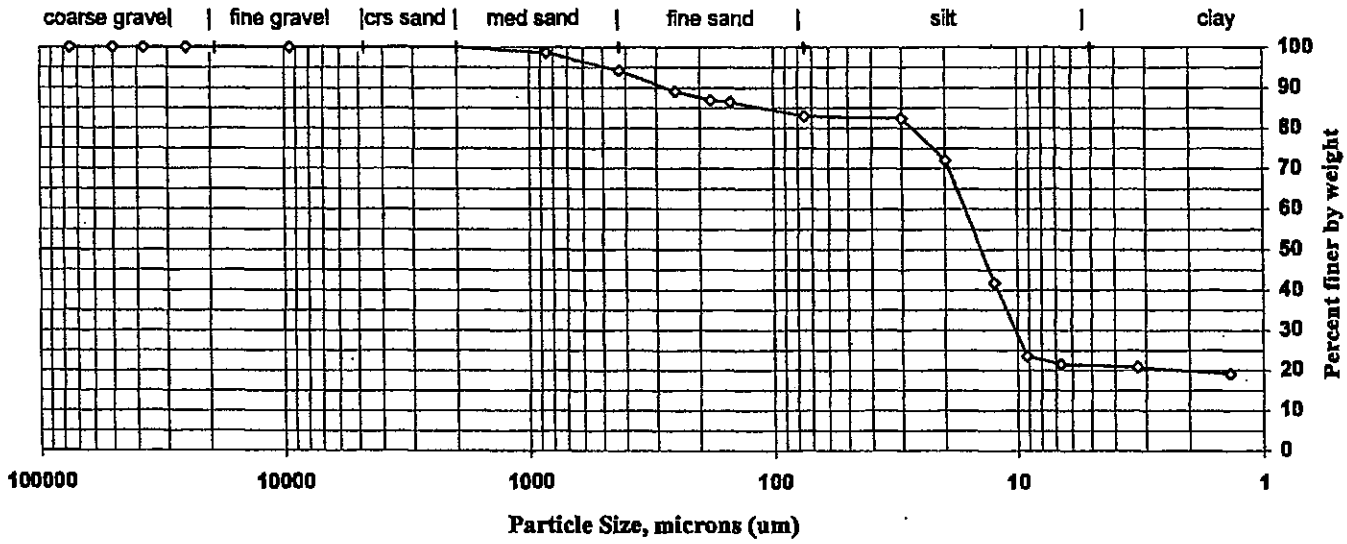
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	15-Dec-04

Lab ID: 599757 **Sample ID:** DAJ-030 BAS#5

Percent Solids:	39.9%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	0.3%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	98.7	1.3
#40	425	94.2	4.5
#60	250	89.1	5.1
#80	180	86.9	2.2
#100	150	86.5	0.4
#200	75	83.0	3.5
Hydrometer	30.1	82.4	0.6
|	19.8	72.0	10.4
|	12.4	41.7	30.3
|	9.2	23.5	18.2
|	6.7	21.5	2.0
|	3.2	20.9	0.7
V	1.4	19.2	1.7

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	17.0
Coarse Sand	0.0
Medium Sand	5.8
Fine Sand	11.1
Silt	61.5
Clay	21.5

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

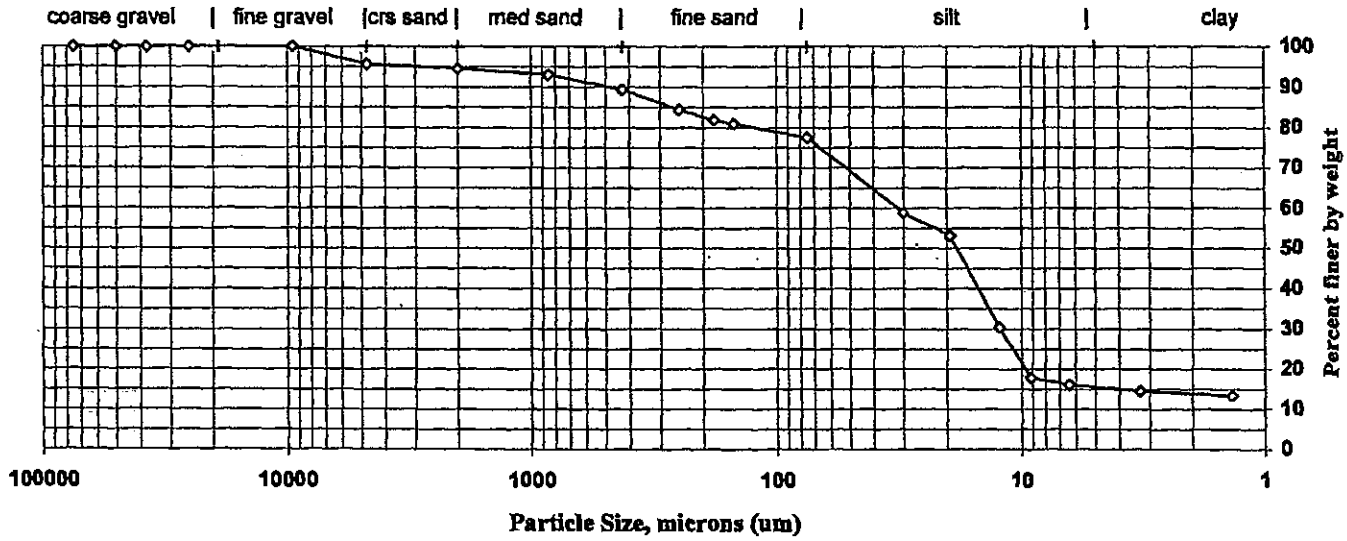
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	15-Dec-04

Lab ID: 599758 **Sample ID:** DAJ-031 BAS#6

Percent Solids:	52.4%		**Maximum Particle Size:**	9.5 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	rounded
Non-soil mass:	1.4%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	95.6	4.4
#10	2000	94.6	1.0
#20	850	93.1	1.5
#40	425	89.4	3.7
#60	250	84.4	5.0
#80	180	81.9	2.5
#100	150	81.0	0.9
#200	75	77.6	3.4
Hydrometer	29.9	58.8	18.8
|	19.4	53.2	5.6
|	12.3	30.4	22.7
|	9.1	17.8	12.6
|	6.4	16.2	1.6
|	3.3	14.5	1.6
V	1.4	13.3	1.2

Soil Classification	Percent of Total Sample
Gravel	4.4
Sand	18.1
Coarse Sand	1.0
Medium Sand	5.2
Fine Sand	11.8
Silt	61.4
Clay	16.2

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

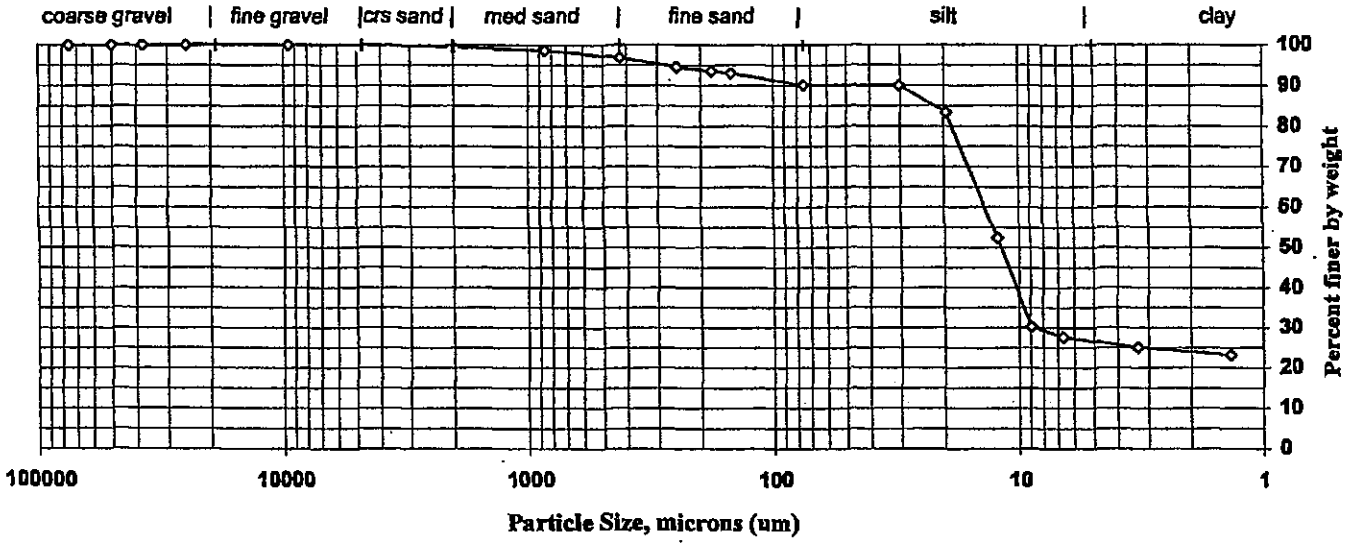
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	15-Dec-04

Lab ID: 599759 **Sample ID:** DAJ-032 BAS#7

Percent Solids:	35.0%		**Maximum Particle Size:**	Crs sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	N/A		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.6	0.4
#20	850	98.7	0.8
#40	425	96.9	1.8
#60	250	94.6	2.3
#80	180	93.6	1.0
#100	150	93.1	0.4
#200	75	90.1	3.0
Hydrometer	30.3	90.0	0.1
|	19.5	83.4	6.6
|	12.2	52.4	31.0
|	8.9	30.2	22.1
|	6.7	27.7	2.6
|	3.3	25.1	2.6
V	1.4	23.2	1.8

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	9.9
Coarse Sand	0.4
Medium Sand	2.6
Fine Sand	6.8
Silt	62.5
Clay	27.7

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

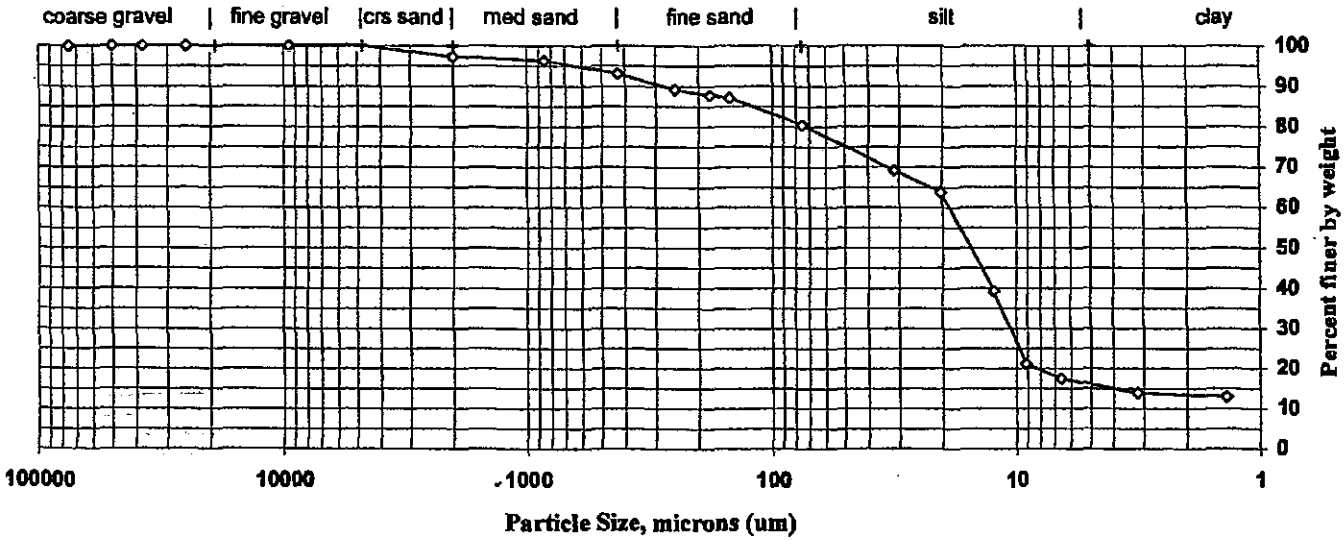
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103986
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	103986
Date Received:	19-Nov-04	Start Date:	9-Dec-04	End Date:	16-Dec-04

Lab ID: 599760 Sample ID: DAJ-033 BAS#8

Percent Solids:	44.5%		Maximum Particle Size:	Crs sand
Specific Gravity:	2.65	(assumed)	Shape (> #10):	subangular
Non-soil mass:	N/A		Hardness (> #10):	soft



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	97.3	2.7
#20	850	96.4	0.9
#40	425	93.1	3.3
#60	250	89.3	3.9
#80	180	87.7	1.5
#100	150	87.0	0.7
#200	75	80.4	6.6
Hydrometer	31.3	69.2	11.3
|	20.1	63.8	5.4
|	12.3	39.3	24.5
|	9.2	21.2	18.1
|	6.6	17.5	3.6
|	3.2	13.9	3.6
V	1.4	13.0	0.9

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	19.6
Coarse Sand	2.7
Medium Sand	4.2
Fine Sand	12.7
Silt	62.9
Clay	17.5

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

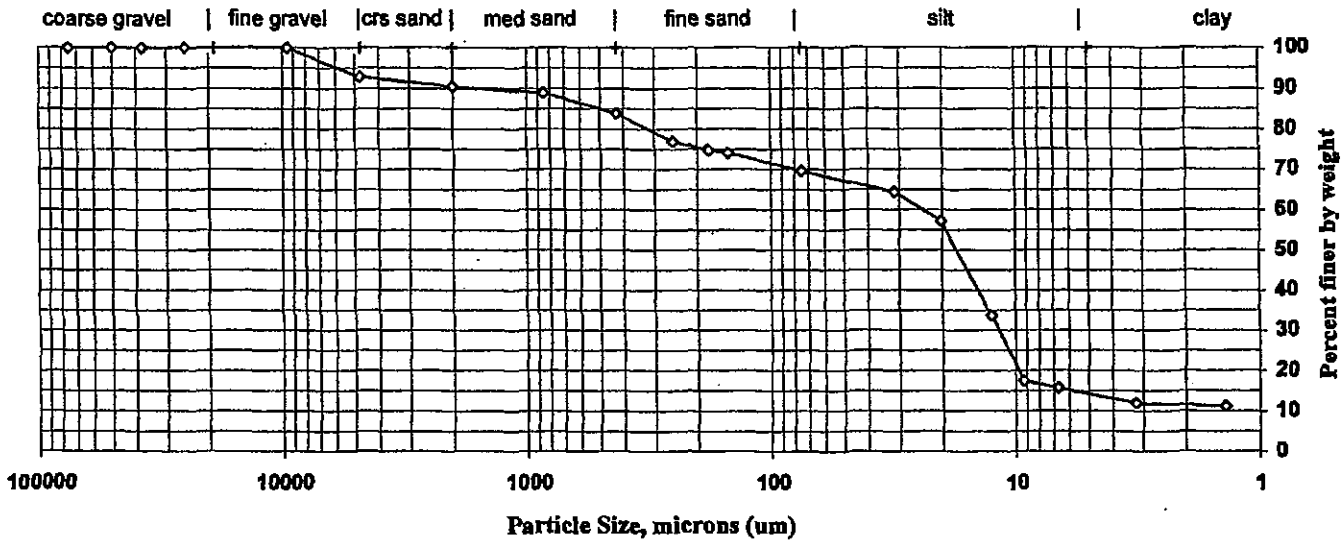
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599761 **Sample ID:** DAJ-034 BAS#9

Percent Solids:	44.4%		**Maximum Particle Size:**	9.5 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	7.8%		**Hardness (> #10):**	soft



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	92.8	7.2
#10	2000	90.4	2.4
#20	850	88.9	1.5
#40	425	83.9	5.1
#60	250	76.9	6.9
#80	180	74.7	2.2
#100	150	74.1	0.7
#200	75	69.6	4.5
Hydrometer	31.2	64.4	5.2
|	20.2	57.2	7.2
|	12.5	33.7	23.5
|	9.2	17.5	16.3
|	6.7	15.6	1.8
|	3.2	12.0	3.6
V	1.4	11.1	0.9

Soil Classification	Percent of Total Sample
Gravel	7.2
Sand	23.2
Coarse Sand	2.4
Medium Sand	6.6
Fine Sand	14.2
Silt	54.0
Clay	15.6

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

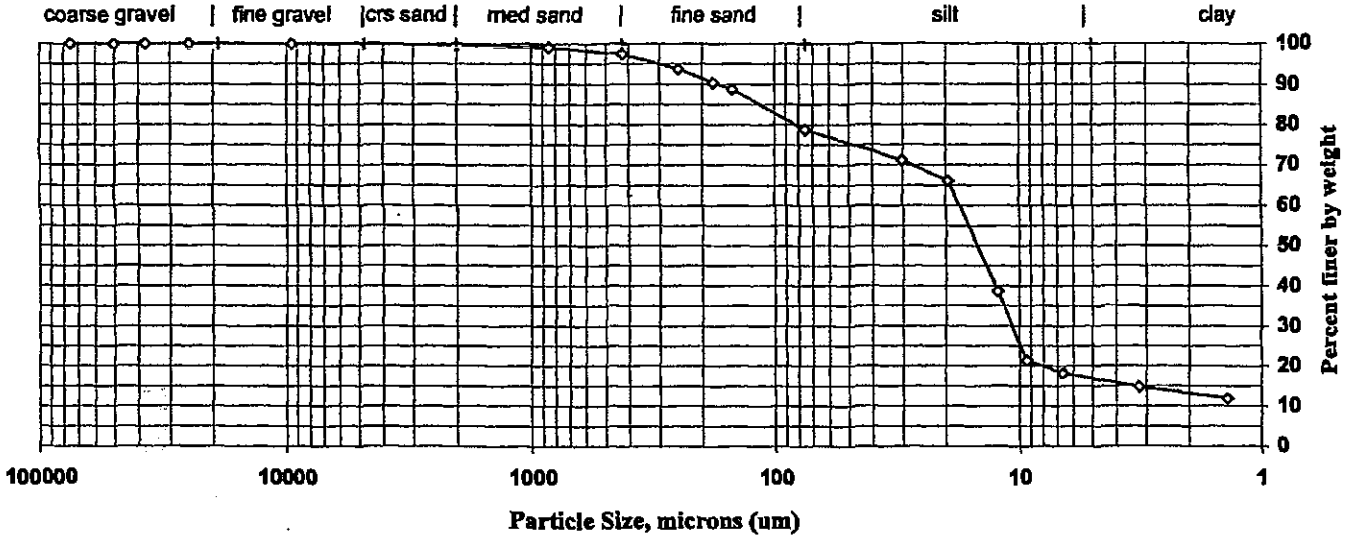
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599762 **Sample ID:** DAJ-035 BAS#10

Percent Solids:	45.1%		**Maximum Particle Size:**	Crs sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	5.2%		**Hardness (> #10):**	soft



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.5	0.5
#20	850	99.1	0.4
#40	425	97.5	1.7
#60	250	93.7	3.7
#80	180	90.4	3.4
#100	150	88.8	1.6
#200	75	78.7	10.0
Hydrometer	30.1	71.2	7.6
|	19.4	66.0	5.1
|	12.3	38.7	27.3
|	9.3	21.3	17.4
|	6.6	18.2	3.1
|	3.2	14.8	3.4
V	1.4	12.0	2.8

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	21.3
Coarse Sand	0.5
Medium Sand	2.1
Fine Sand	18.8
Silt	60.5
Clay	18.2

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

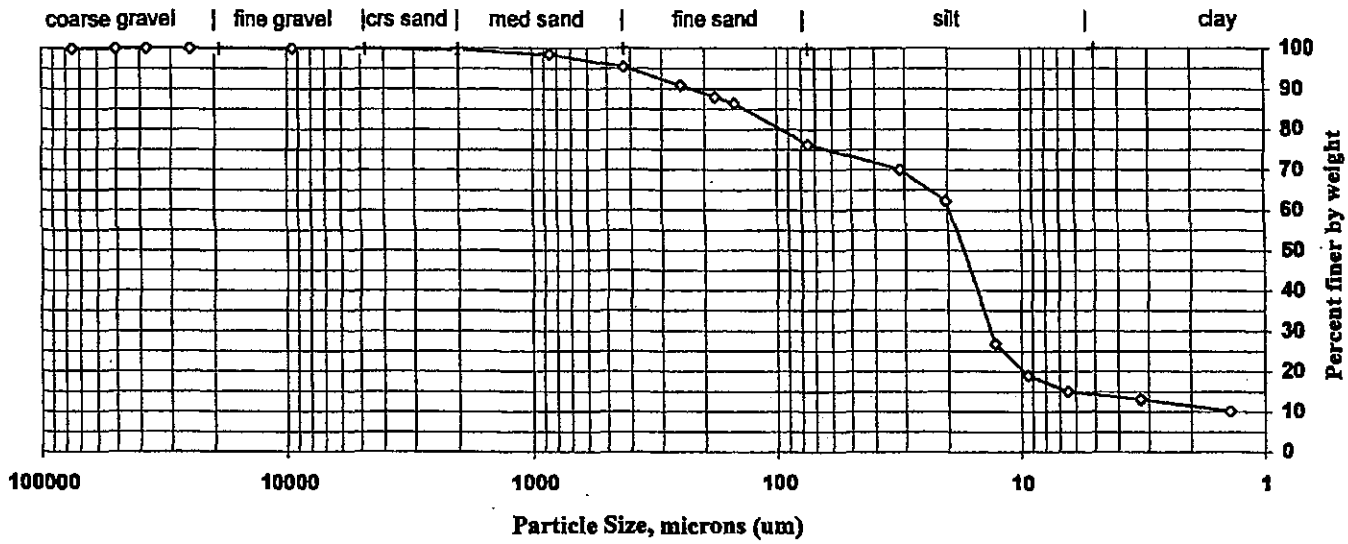
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599763 **Sample ID:** DAJ-036 BAS#11

Percent Solids:	41.1%		**Maximum Particle Size:**	Crs sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	N/A		**Hardness (> #10):**	soft



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.6	0.4
#20	850	98.6	1.0
#40	425	95.4	3.2
#60	250	90.9	4.5
#80	180	88.0	2.9
#100	150	86.5	1.5
#200	75	76.3	10.2
Hydrometer	31.2	70.1	6.2
|	20.2	62.2	7.9
|	12.8	26.8	35.4
|	9.4	19.0	7.9
|	6.4	15.1	3.9
|	3.2	13.1	2.0
V	1.4	10.1	2.9

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	23.7
Coarse Sand	0.4
Medium Sand	4.2
Fine Sand	19.2
Silt	61.2
Clay	15.1

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

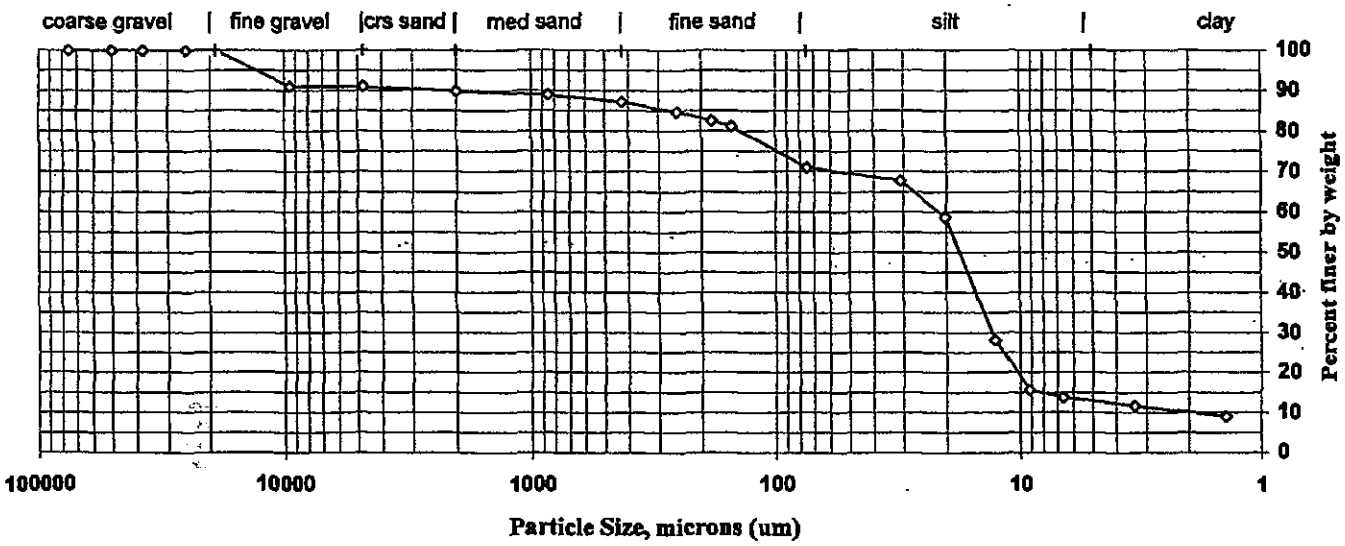
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599764 **Sample ID:** DAJ-037 BAS#12

Percent Solids:	44.0%		**Maximum Particle Size:**	19 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	0.6%		**Hardness (> #10):**	soft



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	91.0	9.0
#4	4750	91.0	0.0
#10	2000	89.9	1.1
#20	850	89.0	0.9
#40	425	87.2	1.8
#60	250	84.7	2.5
#80	180	82.6	2.1
#100	150	81.1	1.5
#200	75	71.1	10.0
Hydrometer	30.9	67.7	3.3
|	20.1	58.7	9.0
|	12.7	28.2	30.6
|	9.1	15.6	12.6
|	6.6	13.8	1.8
|	3.3	11.7	2.1
V	1.4	9.0	2.7

Soil Classification	Percent of Total Sample
Gravel	9.0
Sand	19.9
Coarse Sand	1.1
Medium Sand	2.7
Fine Sand	16.1
Silt	57.3
Clay	13.8

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

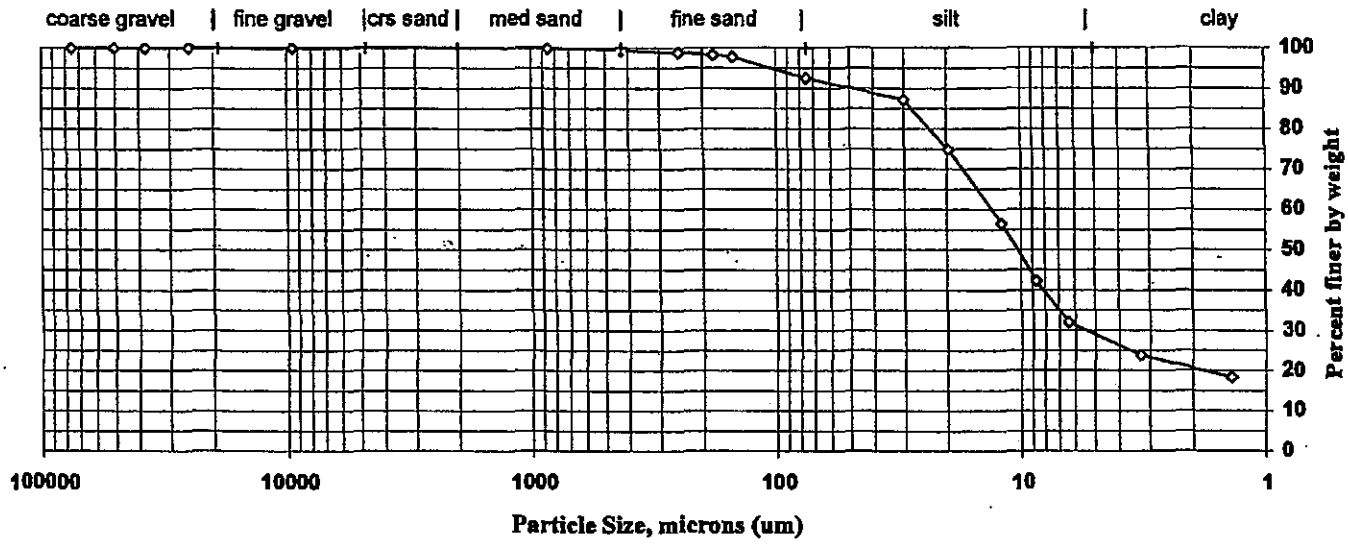
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599765 **Sample ID:** DAJ-038 BAS#13

Percent Solids:	38.4%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	N/A		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.8	0.2
#40	425	99.4	0.5
#60	250	98.8	0.6
#80	180	98.3	0.6
#100	150	97.8	0.5
#200	75	92.5	5.3
Hydrometer	29.9	87.2	5.3
|	19.6	74.9	12.3
|	11.9	56.5	18.4
|	8.6	42.2	14.3
|	6.4	32.0	10.2
|	3.3	23.8	8.2
V	1.4	18.4	5.4

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	7.5
Coarse Sand	0.0
Medium Sand	0.6
Fine Sand	6.9
Silt	60.5
Clay	32.0

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

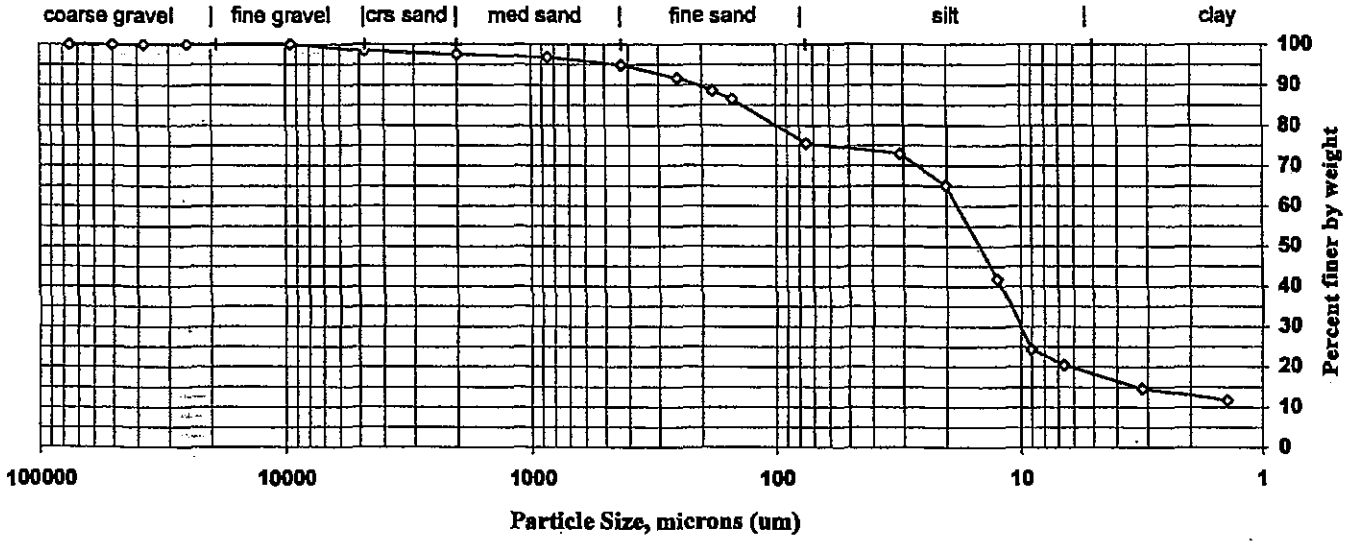
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599766 **Sample ID:** DAJ-039 BAS#14

Percent Solids:	43.0%		**Maximum Particle Size:**	9.5 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	N/A		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	98.3	1.7
#10	2000	97.5	0.8
#20	850	96.8	0.7
#40	425	94.9	1.9
#60	250	91.6	3.2
#80	180	88.6	3.0
#100	150	86.5	2.2
#200	75	75.5	10.9
Hydrometer	31.1	73.0	2.5
|	20.1	65.2	7.8
|	12.4	41.8	23.4
|	9.0	24.3	17.5
|	6.6	20.4	3.9
|	3.2	14.6	5.8
V	1.4	11.7	2.9

Soil Classification	Percent of Total Sample
Gravel	1.7
Sand	22.8
Coarse Sand	0.8
Medium Sand	2.6
Fine Sand	19.4
Silt	55.1
Clay	20.4

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

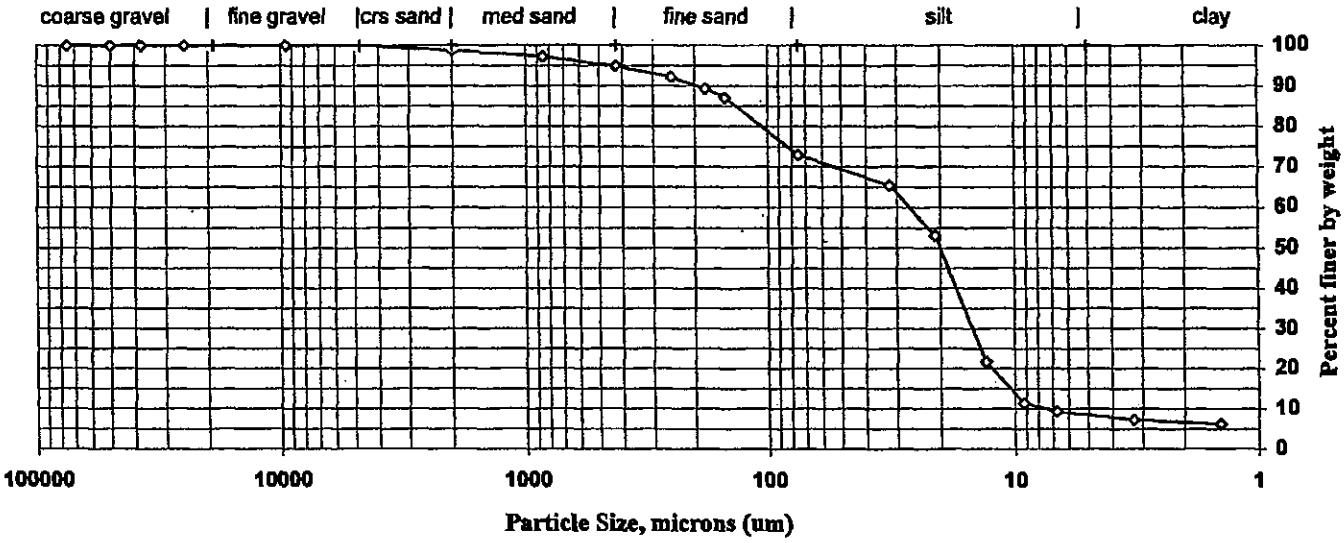
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599767 **Sample ID:** DAJ-040 BAS#15

Percent Solids:	39.3%		**Maximum Particle Size:**	Crs sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	0.8%		**Hardness (> #10):**	soft



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	98.7	1.3
#20	850	97.3	1.5
#40	425	95.0	2.3
#60	250	92.1	2.9
#80	180	89.3	2.8
#100	150	87.1	2.2
#200	75	72.9	14.2
Hydrometer	32.0	65.4	7.5
|	20.9	53.0	12.4
|	13.1	21.7	31.3
|	9.2	11.4	10.3
|	6.7	9.3	2.1
|	3.3	7.2	2.1
V	1.4	6.2	1.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	27.1
Coarse Sand	1.3
Medium Sand	3.8
Fine Sand	22.0
Silt	63.6
Clay	9.3

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

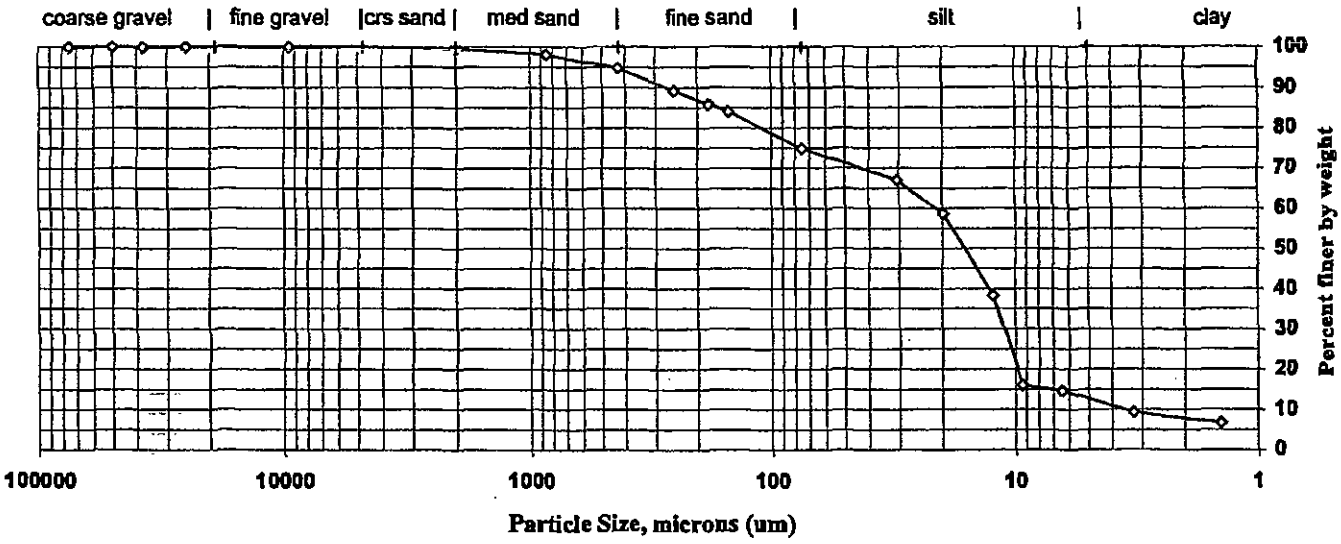
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599768 **Sample ID:** DAJ-041 BAS#16

Percent Solids:	45.8%		**Maximum Particle Size:**	Crs sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	0.2%		**Hardness (> #10):**	soft



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.5	0.5
#20	850	98.2	1.4
#40	425	94.8	3.4
#60	250	89.2	5.5
#80	180	85.9	3.4
#100	150	84.0	1.8
#200	75	74.9	9.2
Hydrometer	30.5	67.1	7.8
|	19.9	58.6	8.5
|	12.3	38.3	20.3
|	9.3	16.1	22.3
|	6.4	14.7	1.4
|	3.3	9.3	5.4
V	1.4	6.8	2.5

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	25.1
Coarse Sand	0.5
Medium Sand	4.8
Fine Sand	19.9
Silt	60.2
Clay	14.7

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

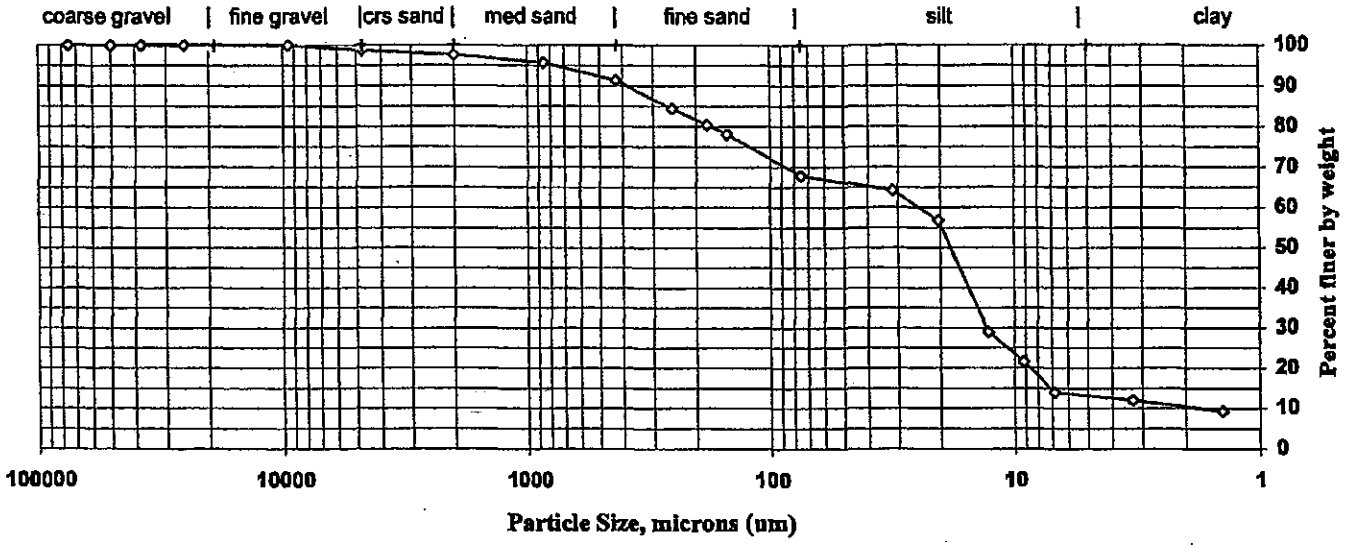
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599768DP **Sample ID:** DAJ-041 BAS#16REP

Percent Solids:	46.8%		**Maximum Particle Size:**	9.5 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	1.7%		**Hardness (> #10):**	soft



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	98.8	1.2
#10	2000	97.6	1.2
#20	850	95.7	1.9
#40	425	91.3	4.4
#60	250	84.4	6.9
#80	180	80.4	4.0
#100	150	78.1	2.3
#200	75	67.9	10.2
Hydrometer	31.4	64.2	3.7
|	20.3	56.8	7.4
|	12.7	29.0	27.8
|	9.2	21.6	7.4
|	6.8	13.9	7.7
|	3.3	12.0	1.9
V	1.4	9.3	2.8

Soil Classification	Percent of Total Sample
Gravel	1.2
Sand	30.9
Coarse Sand	1.2
Medium Sand	6.3
Fine Sand	23.4
Silt	54.0
Clay	13.9

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

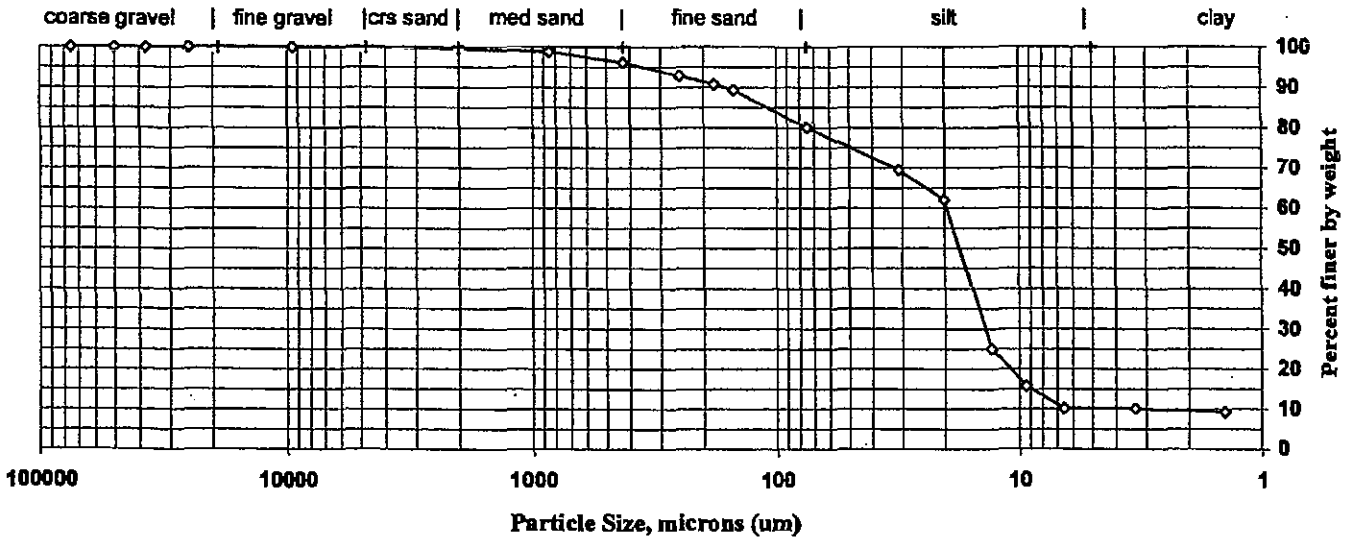
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599769 **Sample ID:** DAJ-042 BAS#17

Percent Solids:	41.5%		**Maximum Particle Size:**	Crs sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	N/A		**Hardness (> #10):**	soft



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.6	0.4
#20	850	98.8	0.8
#40	425	96.1	2.7
#60	250	92.9	3.3
#80	180	90.7	2.2
#100	150	89.4	1.4
#200	75	80.0	9.4
Hydrometer	31.1	69.4	10.6
|	20.1	62.0	7.4
|	12.9	25.0	37.0
|	9.3	15.7	9.3
|	6.5	10.2	5.6
|	3.3	10.2	0.0
V	1.4	9.3	0.9

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	20.0
Coarse Sand	0.4
Medium Sand	3.4
Fine Sand	16.1
Silt	69.8
Clay	10.2

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

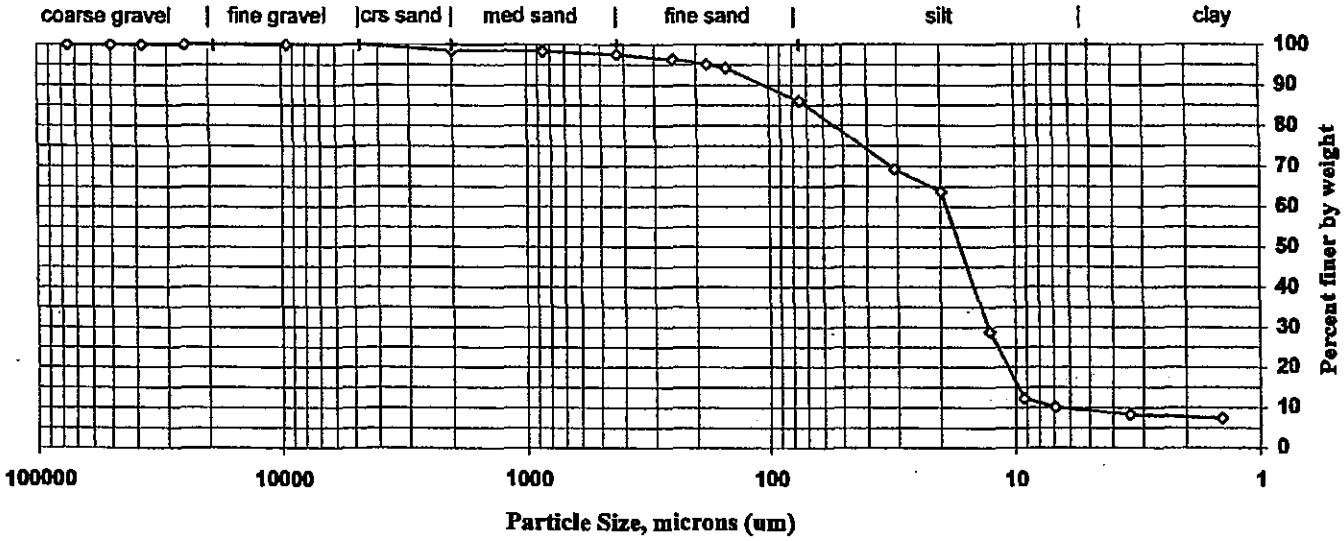
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599770 **Sample ID:** DAJ-043 BAS#18

Percent Solids:	40.7%		**Maximum Particle Size:**	Crs sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	1.9%		**Hardness (> #10):**	soft



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	98.6	1.4
#20	850	98.4	0.2
#40	425	97.5	0.8
#60	250	96.4	1.2
#80	180	95.1	1.2
#100	150	94.2	0.9
#200	75	86.1	8.1
Hydrometer	30.9	69.3	16.9
|	19.9	63.8	5.5
|	12.7	28.8	34.9
|	9.2	12.3	16.6
|	6.9	10.1	2.1
|	3.4	8.3	1.8
V	1.4	7.4	0.9

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	13.9
Coarse Sand	1.4
Medium Sand	1.0
Fine Sand	11.4
Silt	76.0
Clay	10.1

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

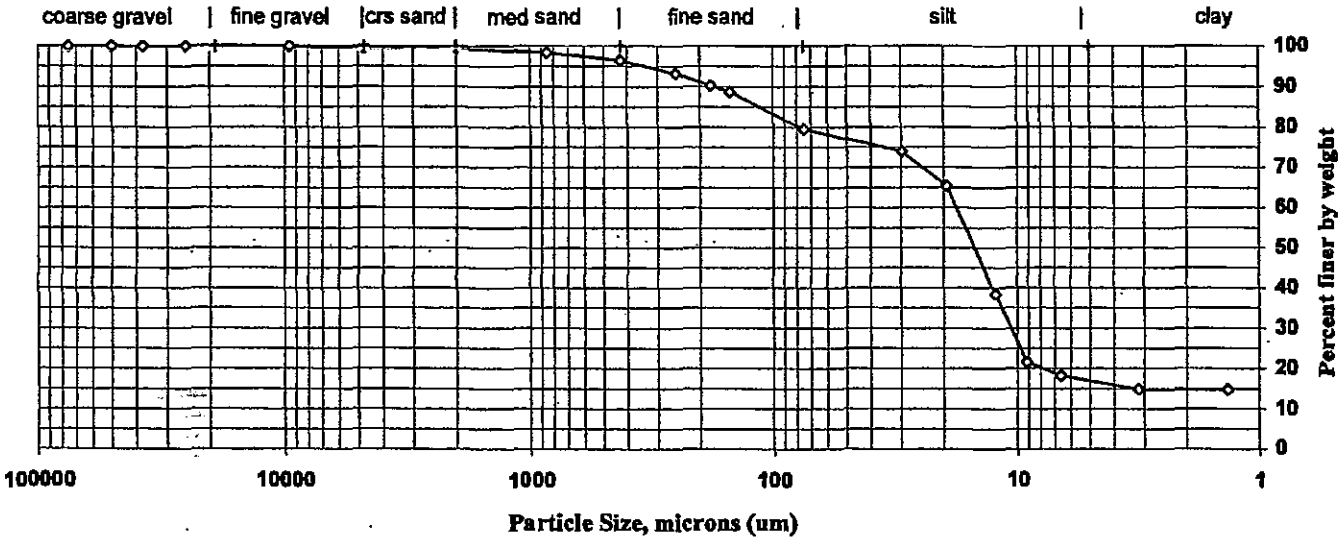
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599771 **Sample ID:** DAJ-044 #BAS19

Percent Solids:	43.8%		**Maximum Particle Size:**	9.5 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	N/A		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.4	0.6
#10	2000	99.4	0.0
#20	850	98.4	1.1
#40	425	96.5	1.9
#60	250	93.2	3.3
#80	180	90.3	3.0
#100	150	88.7	1.6
#200	75	79.4	9.3
Hydrometer	29.7	73.9	5.5
|	19.4	65.5	8.4
|	12.3	38.4	27.0
|	9.1	21.5	16.9
|	6.6	18.2	3.4
|	3.2	14.9	3.2
V	1.3	14.8	0.1

Soil Classification	Percent of Total Sample
Gravel	0.6
Sand	20.0
Coarse Sand	0.0
Medium Sand	2.9
Fine Sand	17.1
Silt	61.2
Clay	18.2

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

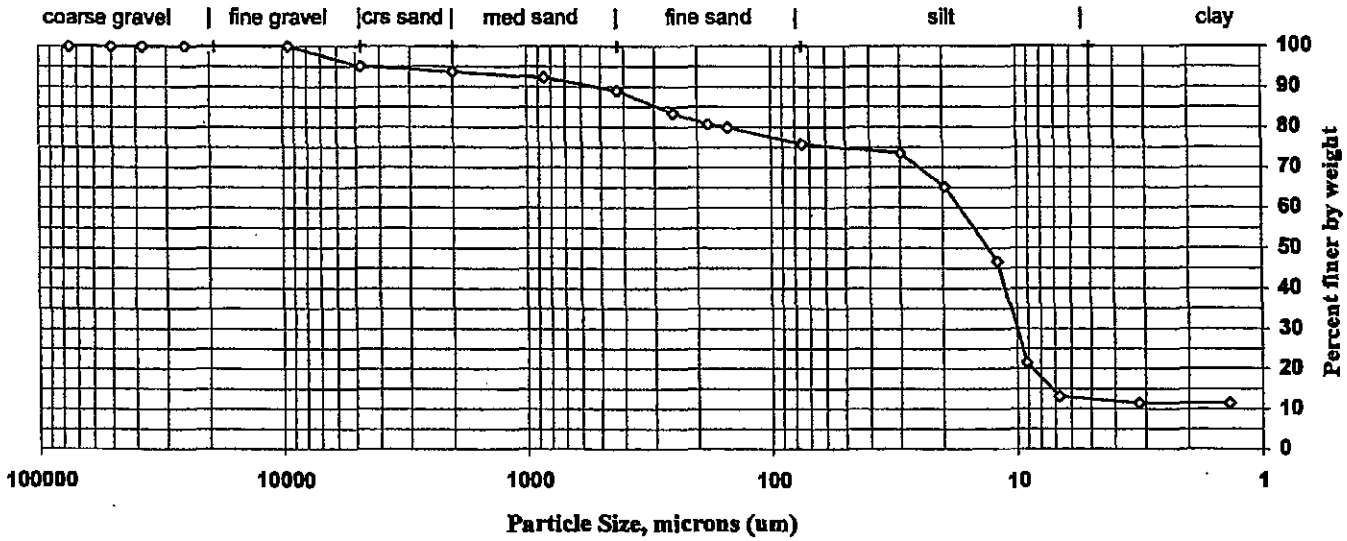
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103986
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103986
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599772 **Sample ID:** DAJ-045 #BAS20

Percent Solids:	41.8%		**Maximum Particle Size:**	9.5 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	10.4%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	95.0	5.0
#10	2000	93.8	1.2
#20	850	92.3	1.5
#40	425	89.0	3.2
#60	250	83.4	5.6
#80	180	80.6	2.8
#100	150	79.8	0.8
#200	75	75.7	4.1
Hydrometer	29.9	73.5	2.3
|	19.5	65.0	8.4
|	12.0	46.7	18.4
|	9.1	21.4	25.2
|	6.7	13.0	8.4
|	3.2	11.5	1.5
V	1.4	11.4	0.1

Soil Classification	Percent of Total Sample
Gravel	5.0
Sand	19.3
Coarse Sand	1.2
Medium Sand	4.7
Fine Sand	13.3
Silt	62.7
Clay	13.0

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

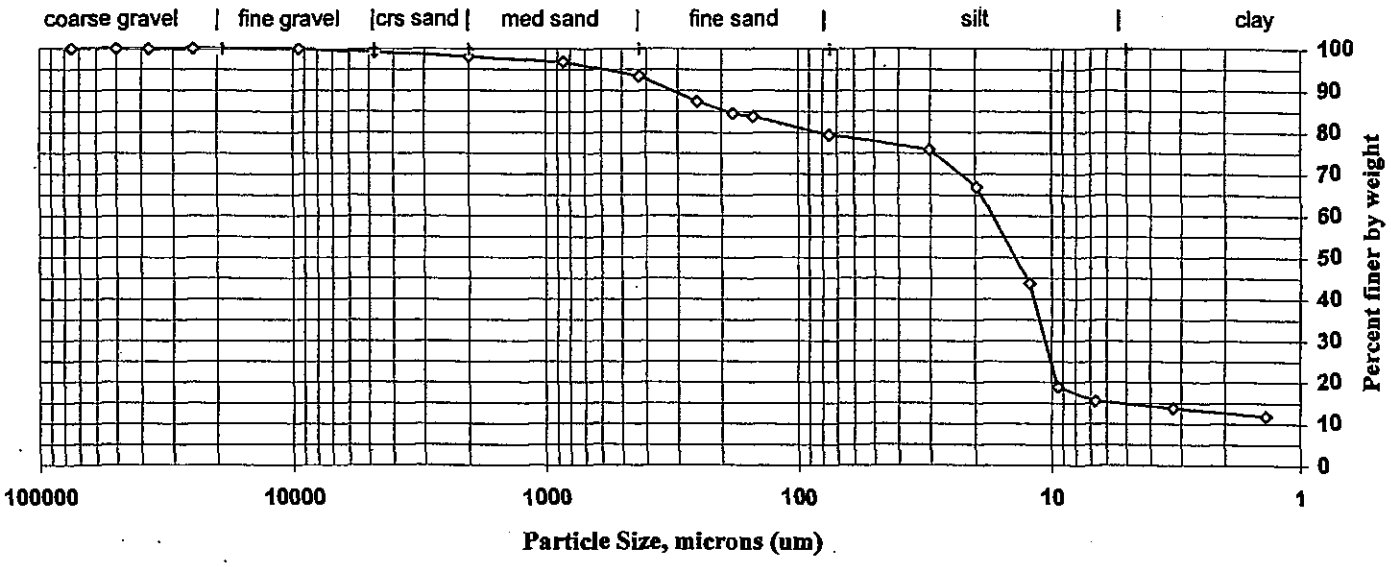
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599782 **Sample ID:** DUP DAJ-045 BAS#20

Percent Solids:	39.9%		**Maximum Particle Size:**	9.5 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	rounded
Non-soil mass:	N/A		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.2	0.8
#10	2000	98.1	1.2
#20	850	96.8	1.2
#40	425	93.4	3.4
#60	250	87.4	6.0
#80	180	84.6	2.8
#100	150	83.8	0.8
#200	75	79.4	4.3
Hydrometer	30.1	75.8	3.6
|	19.6	66.9	8.9
|	12.2	43.8	23.1
|	9.4	19.0	24.9
|	6.7	15.5	3.4
|	3.2	13.8	1.8
V	1.4	11.8	1.9

Soil Classification	Percent of Total Sample
Gravel	0.8
Sand	19.8
Coarse Sand	1.2
Medium Sand	4.6
Fine Sand	14.0
Silt	63.9
Clay	15.5

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

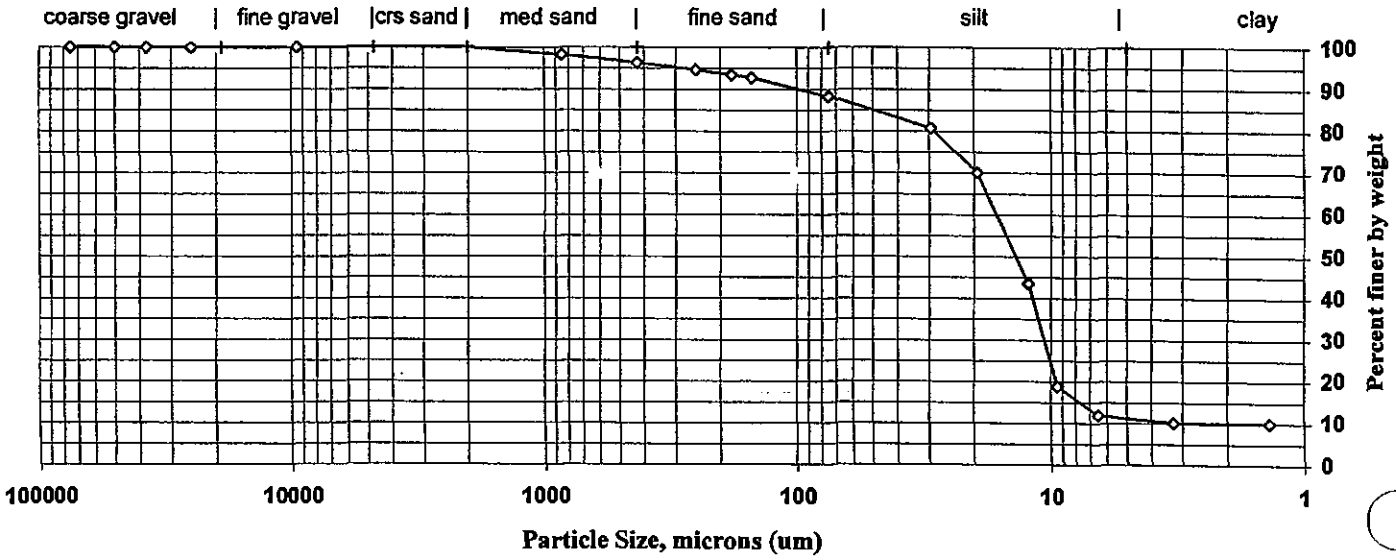
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599783 **Sample ID:** DAJ-046 BAS#21

Percent Solids:	37.5%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	0.4%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	98.3	1.7
#40	425	96.4	1.9
#60	250	94.6	1.7
#80	180	93.5	1.1
#100	150	92.8	0.7
#200	75	88.3	4.5
Hydrometer	29.5	80.7	7.6
|	19.4	70.1	10.6
|	12.2	43.6	26.5
|	9.4	18.9	24.7
|	6.5	11.9	6.9
|	3.3	10.2	1.8
V	1.4	10.0	0.1

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	11.7
Coarse Sand	0.0
Medium Sand	3.6
Fine Sand	8.0
Silt	76.4
Clay	11.9

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

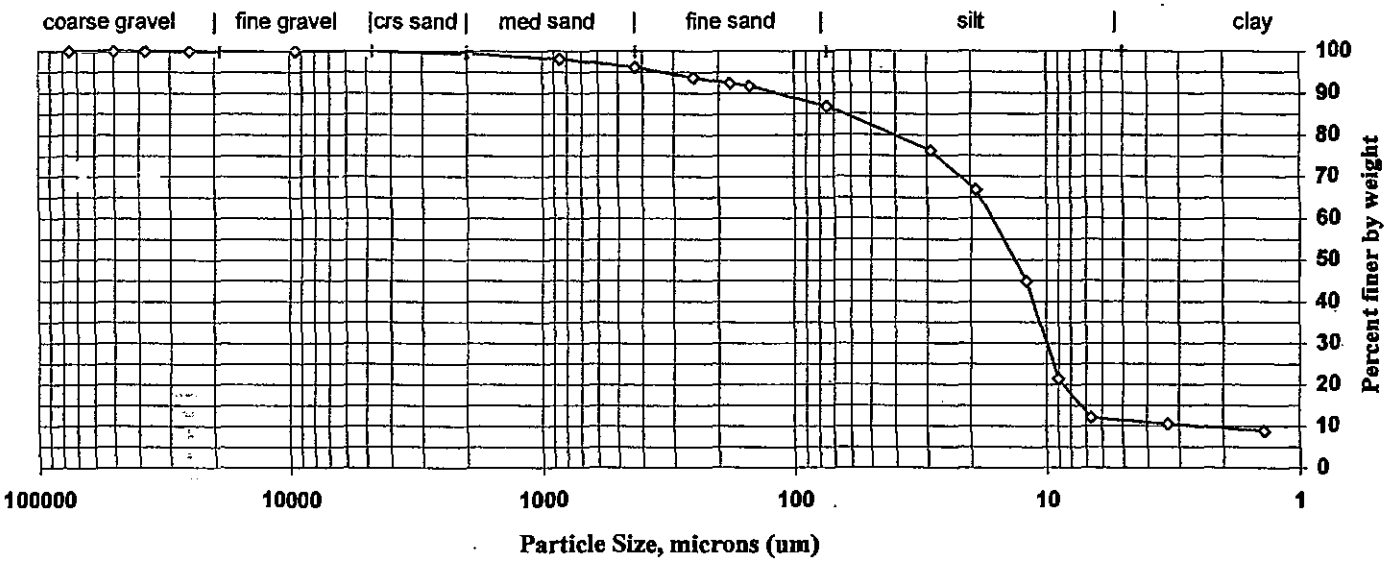
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599784 **Sample ID:** DAJ-047 BAS#22

Percent Solids:	40.8%		**Maximum Particle Size:**	Crs sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	N/A		**Hardness (> #10):**	brittle



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.5	0.5
#20	850	98.2	1.3
#40	425	96.2	2.0
#60	250	93.8	2.4
#80	180	92.3	1.4
#100	150	91.7	0.6
#200	75	86.8	4.9
Hydrometer	28.8	76.2	10.6
|	19.0	66.8	9.4
|	12.0	44.9	21.9
|	9.0	21.4	23.5
|	6.6	12.0	9.4
|	3.3	10.6	1.4
V	1.4	8.9	1.7

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	13.2
Coarse Sand	0.5
Medium Sand	3.3
Fine Sand	9.4
Silt	74.8
Clay	12.0

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

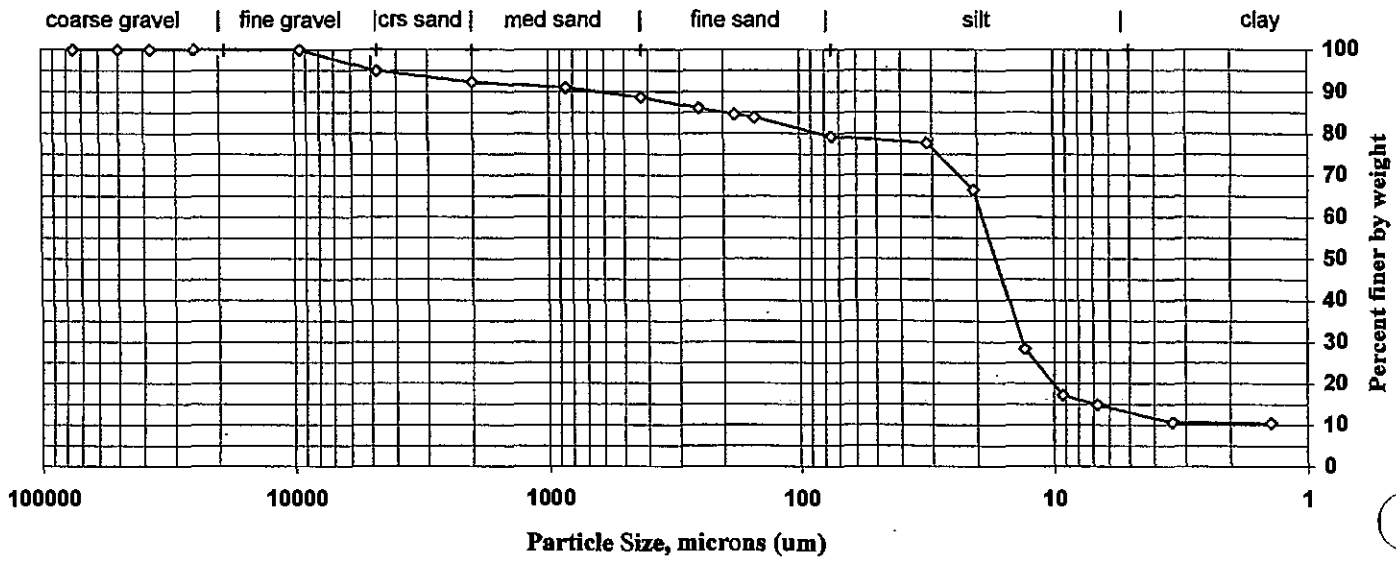
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599785 **Sample ID:** DAJ-048 BAS#23

Percent Solids:	37.4%		**Maximum Particle Size:**	9.5 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	12.9%		**Hardness (> #10):**	soft



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	95.0	5.0
#10	2000	92.3	2.7
#20	850	90.9	1.4
#40	425	88.7	2.2
#60	250	86.0	2.7
#80	180	84.6	1.5
#100	150	83.9	0.7
#200	75	79.2	4.7
Hydrometer	31.6	77.7	1.5
|	20.6	66.5	11.2
|	13.0	28.4	38.1
|	9.2	17.2	11.2
|	6.7	14.9	2.2
|	3.4	10.6	4.3
V	1.4	10.5	0.2

Soil Classification	Percent of Total Sample
Gravel	5.0
Sand	15.8
Coarse Sand	2.7
Medium Sand	3.6
Fine Sand	9.5
Silt	64.3
Clay	14.9

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

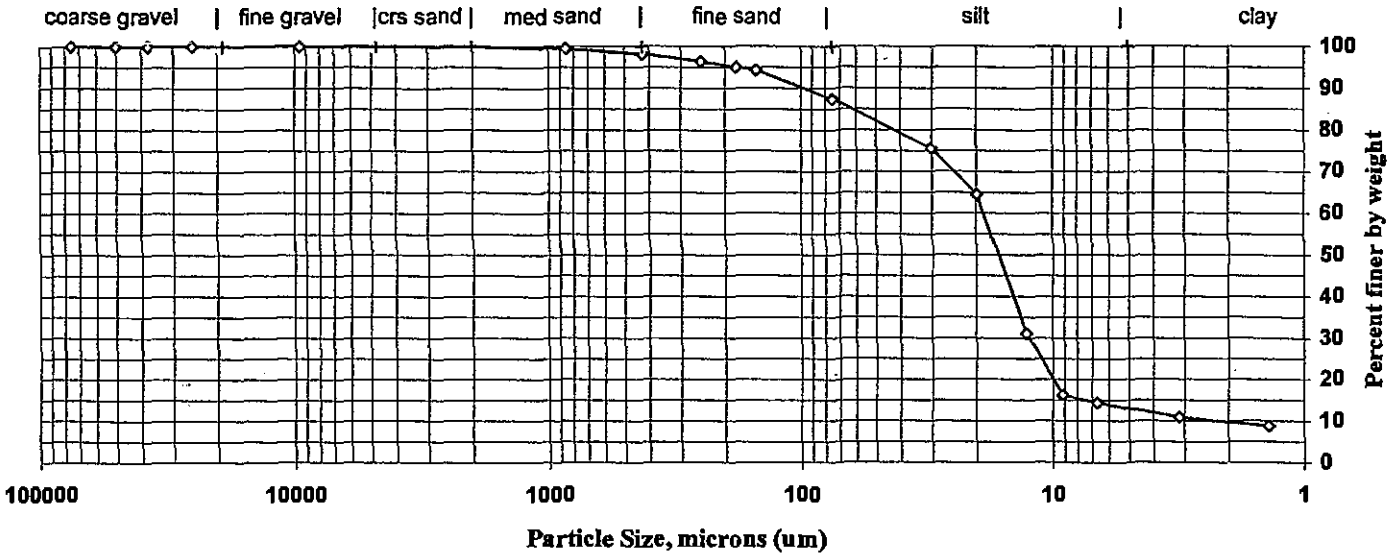
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599786 **Sample ID:** DAJ-049 BAS#24

Percent Solids:	40.1%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	N/A		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.5	0.5
#40	425	98.2	1.3
#60	250	96.4	1.8
#80	180	95.1	1.3
#100	150	94.3	0.7
#200	75	87.4	6.9
Hydrometer	30.3	75.6	11.8
|	19.9	64.5	11.1
|	12.7	31.1	33.4
|	9.1	16.2	14.9
|	6.7	14.4	1.9
|	3.2	10.8	3.6
V	1.4	8.8	2.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	12.6
Coarse Sand	0.0
Medium Sand	1.8
Fine Sand	10.8
Silt	73.0
Clay	14.4

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

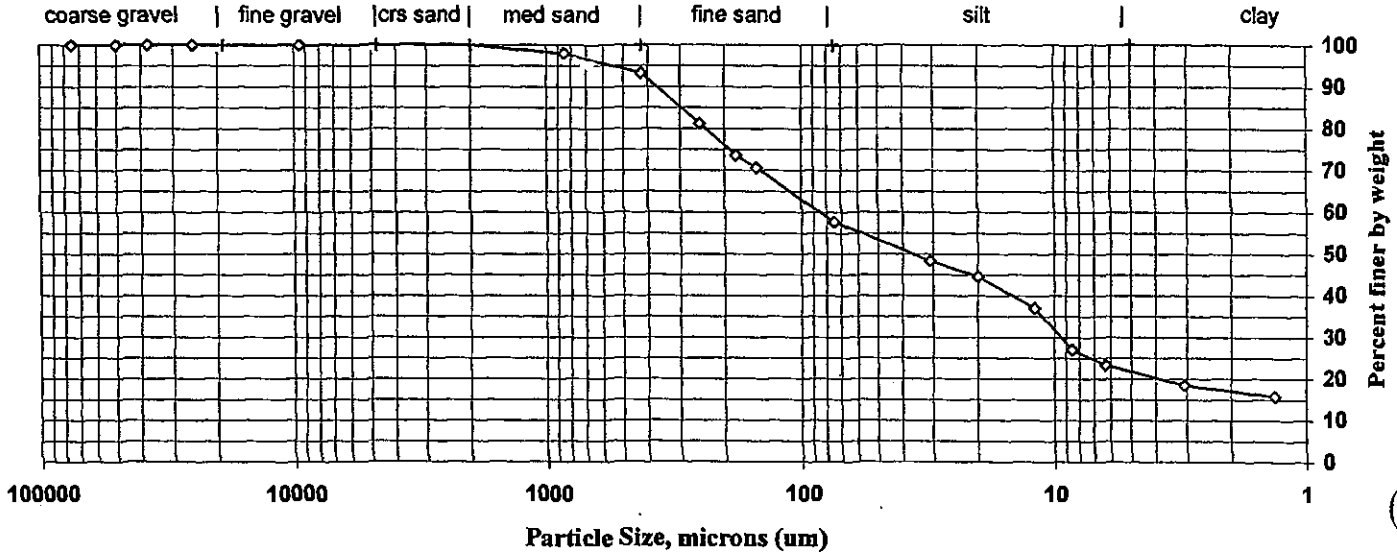
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599787 **Sample ID:** DAJ-060 PAS P01V

Percent Solids:	61.6%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	11.3%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	97.9	2.1
#40	425	93.3	4.6
#60	250	81.2	12.1
#80	180	73.6	7.6
#100	150	70.7	3.0
#200	75	57.8	12.9
Hydrometer	30.9	48.3	9.5
|	19.9	44.5	3.7
|	11.9	37.1	7.5
|	8.5	27.1	10.0
|	6.3	23.3	3.7
|	3.1	18.4	4.9
V	1.3	15.8	2.6

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	42.2
Coarse Sand	0.0
Medium Sand	6.7
Fine Sand	35.5
Silt	34.4
Clay	23.3

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

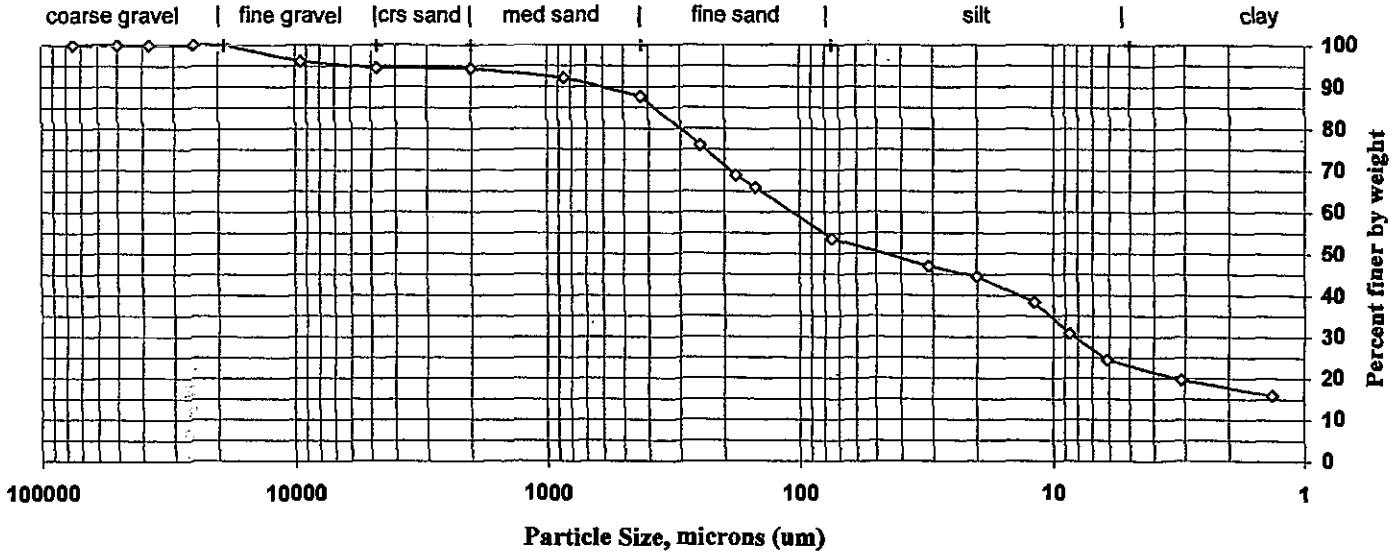
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599787DP **Sample ID:** DAJ-060 PAS P01VREP

Percent Solids:	61.2%		**Maximum Particle Size:**	19 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	8.8%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	96.2	3.8
#4	4750	94.6	1.6
#10	2000	94.5	0.2
#20	850	92.2	2.3
#40	425	87.7	4.4
#60	250	76.0	11.7
#80	180	68.8	7.2
#100	150	65.9	2.9
#200	75	53.6	12.3
Hydrometer	31.1	47.0	6.6
|	19.9	44.5	2.5
|	11.8	38.3	6.2
|	8.6	30.8	7.5
|	6.1	24.5	6.2
|	3.1	19.7	4.9
V	1.3	15.9	3.7

Soil Classification	Percent of Total Sample
Gravel	5.4
Sand	41.0
Coarse Sand	0.2
Medium Sand	6.7
Fine Sand	34.1
Silt	29.1
Clay	24.5

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

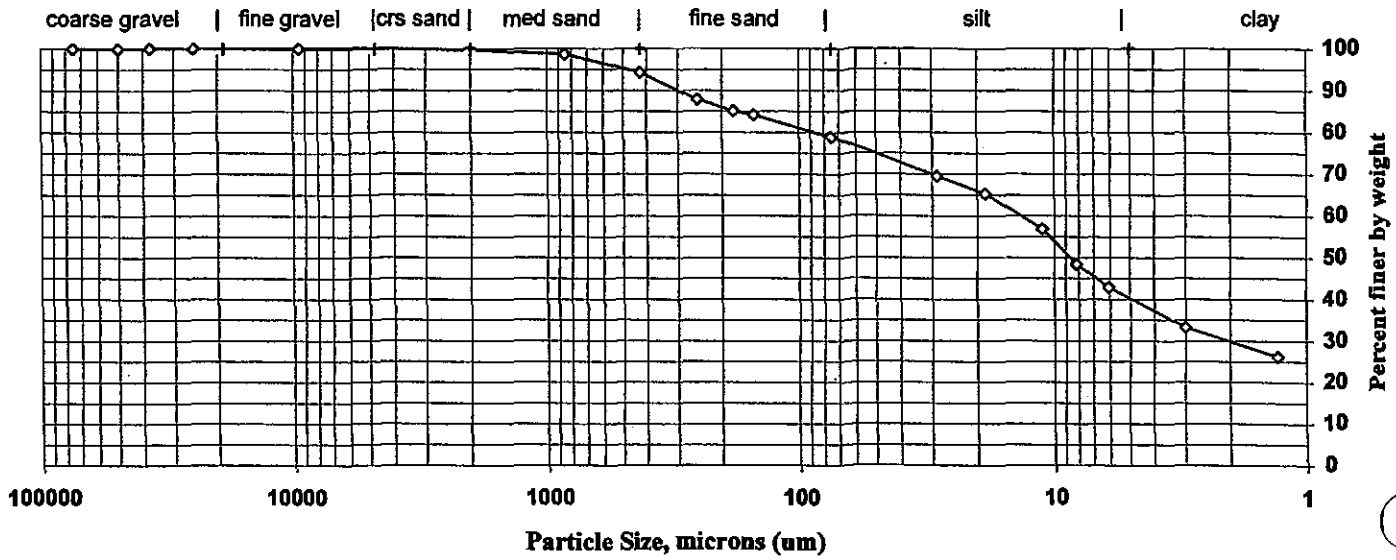
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599788 **Sample ID:** DAJ-061 PAS P02V

Percent Solids:	63.0%		**Maximum Particle Size:**	Crs sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	14.3%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.7	0.3
#20	850	98.7	1.0
#40	425	94.3	4.4
#60	250	87.9	6.4
#80	180	85.1	2.8
#100	150	84.1	1.0
#200	75	78.9	5.3
Hydrometer	28.6	69.5	9.4
	18.5	65.3	4.2
	11.1	56.9	8.4
	8.2	48.5	8.4
	6.1	42.9	5.6
	3.0	33.2	9.7
V	1.3	26.2	7.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	21.1
Coarse Sand	0.3
Medium Sand	5.3
Fine Sand	15.5
Silt	36.0
Clay	42.9

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

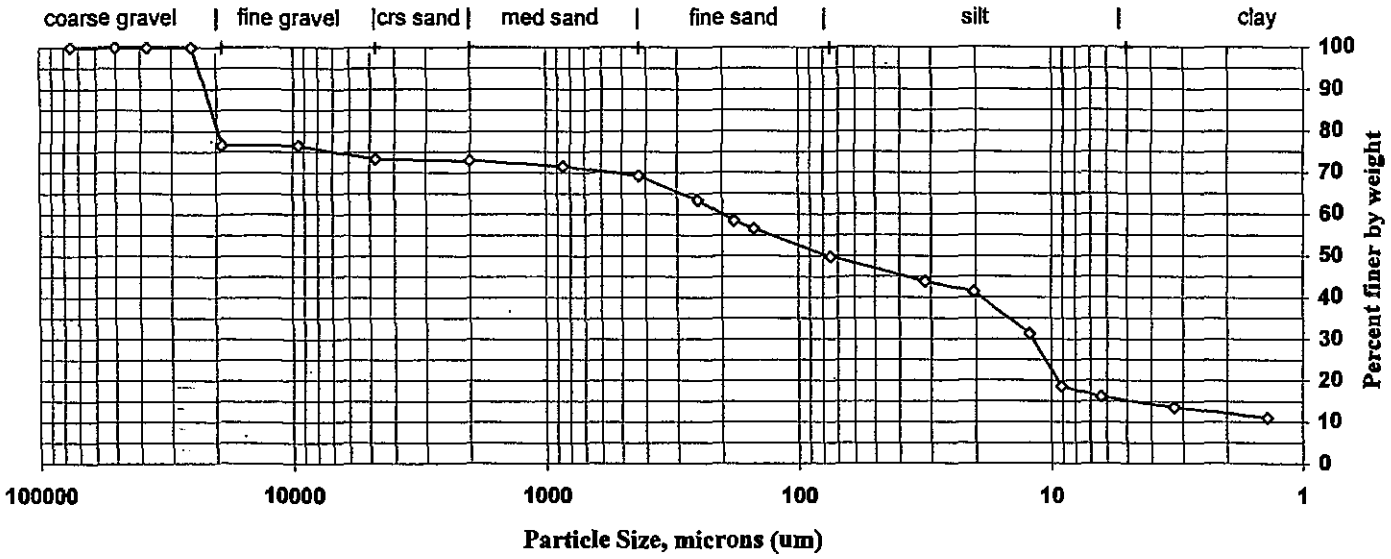
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599789 **Sample ID:** DAJ-062 PAS P03V

Percent Solids:	58.7%		**Maximum Particle Size:**	25 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	rounded
Non-soil mass:	12.1%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	76.5	23.5
3/8 inch	9500	76.5	0.0
#4	4750	73.3	3.2
#10	2000	72.9	0.4
#20	850	71.6	1.4
#40	425	69.3	2.3
#60	250	63.4	5.9
#80	180	58.5	4.9
#100	150	56.5	1.9
#200	75	49.8	6.7
Hydrometer	31.6	43.9	5.9
|	20.2	41.4	2.5
|	12.2	31.2	10.1
|	9.1	18.6	12.7
|	6.3	16.0	2.5
|	3.3	13.6	2.4
V	1.4	11.0	2.6

Soil Classification	Percent of Total Sample
Gravel	26.7
Sand	23.5
Coarse Sand	0.4
Medium Sand	3.7
Fine Sand	19.5
Silt	33.8
Clay	16.0

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

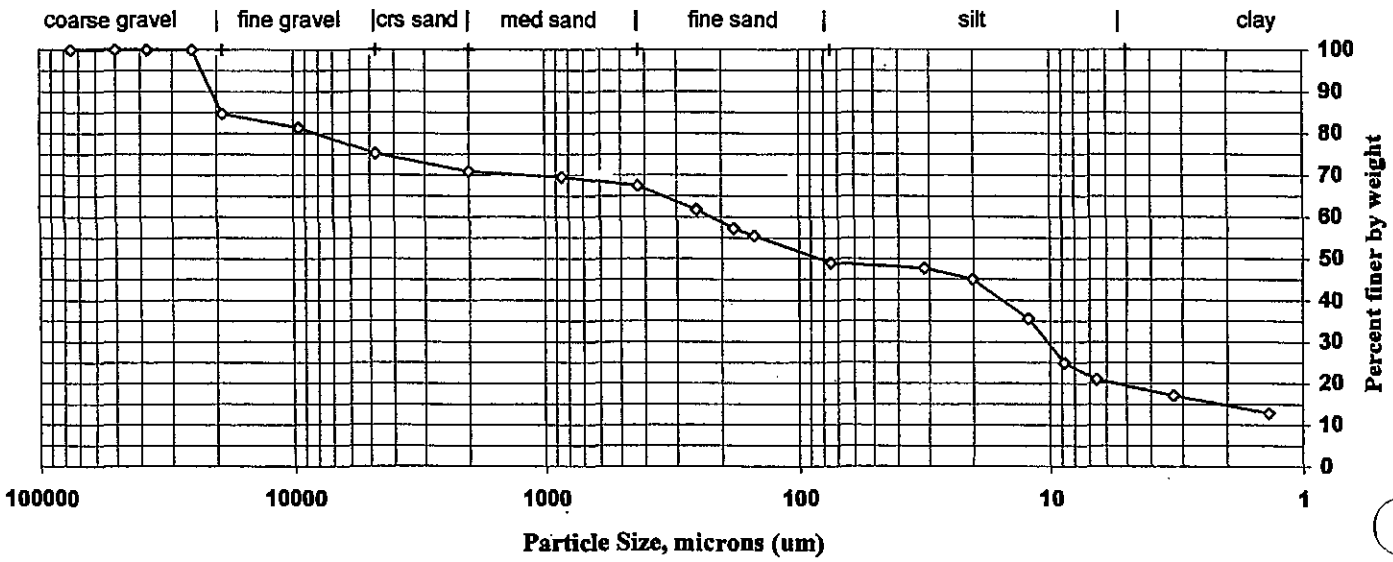
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	16-Dec-04

Lab ID: 599790 **Sample ID:** DAJ-062 DUP PAS P03V

Percent Solids:	57.9%		**Maximum Particle Size:**	25 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	4.5%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	84.7	15.3
3/8 inch	9500	81.4	3.4
#4	4750	75.2	6.2
#10	2000	70.9	4.3
#20	850	69.5	1.4
#40	425	67.4	2.1
#60	250	61.8	5.7
#80	180	57.2	4.6
#100	150	55.4	1.8
#200	75	49.0	6.4
Hydrometer	31.4	47.7	1.3
|	20.1	45.0	2.7
|	12.1	35.7	9.4
|	8.8	25.0	10.7
|	6.6	20.9	4.0
|	3.3	17.0	3.9
V	1.4	12.9	4.1

Soil Classification	Percent of Total Sample
Gravel	24.8
Sand	26.2
Coarse Sand	4.3
Medium Sand	3.5
Fine Sand	18.5
Silt	28.0
Clay	20.9

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

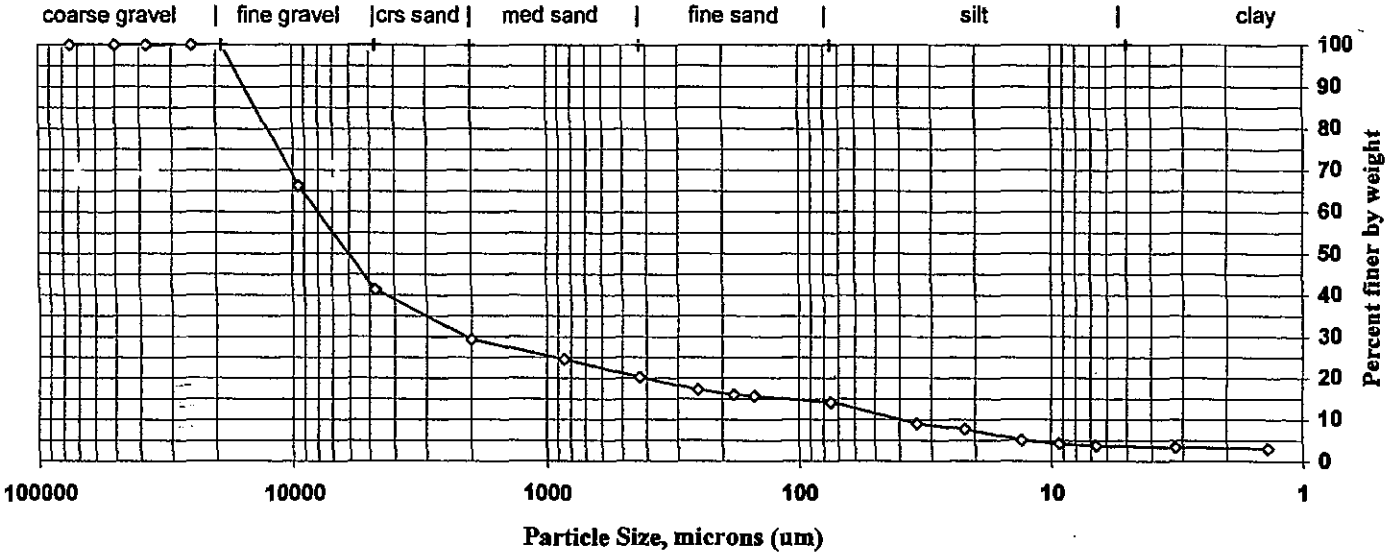
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	17-Dec-04

Lab ID: 599791 **Sample ID:** DAJ-063 PAS P04V

Percent Solids:	84.5%		**Maximum Particle Size:**	19 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	0.8%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	66.3	33.7
#4	4750	41.4	24.9
#10	2000	29.3	12.0
#20	850	24.6	4.8
#40	425	20.2	4.3
#60	250	17.2	3.0
#80	180	16.0	1.2
#100	150	15.6	0.4
#200	75	14.1	1.5
Hydrometer	34.2	9.0	5.1
|	21.9	7.7	1.3
|	13.0	5.1	2.6
|	9.3	4.2	0.9
|	6.7	3.7	0.4
|	3.2	3.3	0.4
V	1.4	3.1	0.2

Soil Classification	Percent of Total Sample
Gravel	58.6
Sand	27.2
Coarse Sand	12.0
Medium Sand	9.1
Fine Sand	6.1
Silt	10.4
Clay	3.7

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

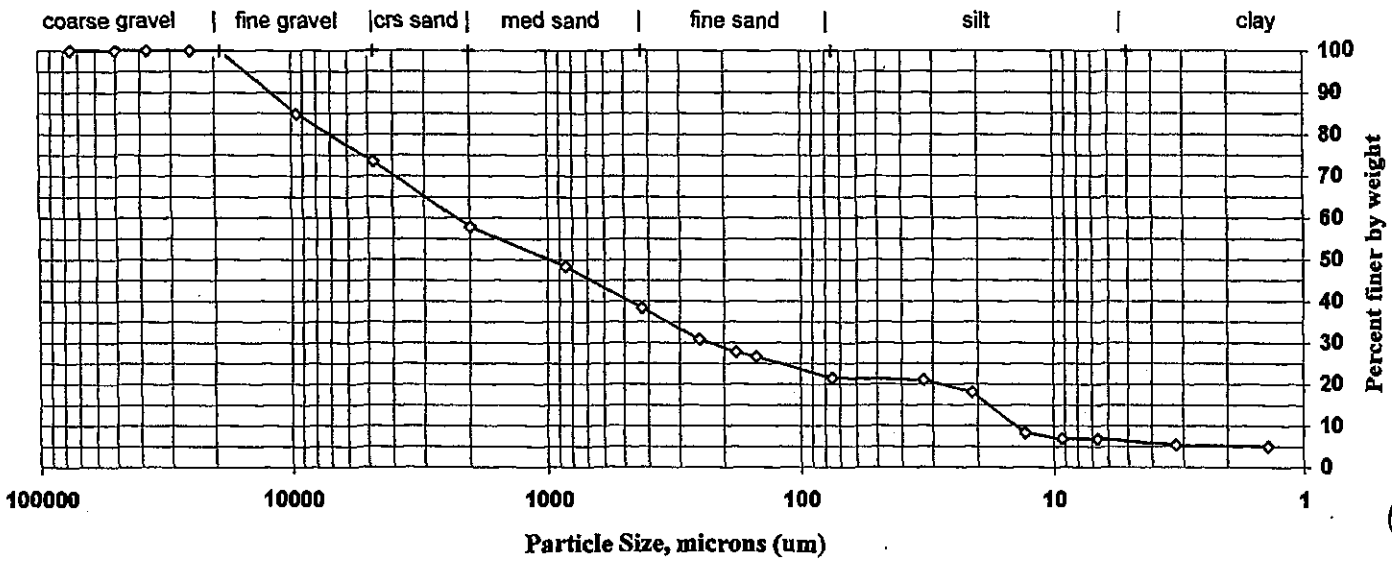
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	17-Dec-04

Lab ID: 599792 **Sample ID:** DAJ-064 PAS P05V

Percent Solids:	59.8%		**Maximum Particle Size:**	19 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	11.4%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	84.9	15.1
#4	4750	73.5	11.4
#10	2000	57.8	15.7
#20	850	48.4	9.4
#40	425	38.3	10.1
#60	250	30.8	7.5
#80	180	27.8	3.0
#100	150	26.7	1.1
#200	75	21.5	5.2
Hydrometer	32.5	21.0	0.4
I	21.1	18.1	2.9
I	12.9	8.3	9.8
I	9.2	6.9	1.4
I	6.6	6.9	0.0
I	3.2	5.3	1.5
V	1.4	5.0	0.4

Soil Classification	Percent of Total Sample
Gravel	26.5
Sand	52.1
Coarse Sand	15.7
Medium Sand	19.5
Fine Sand	16.8
Silt	14.6
Clay	6.9

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

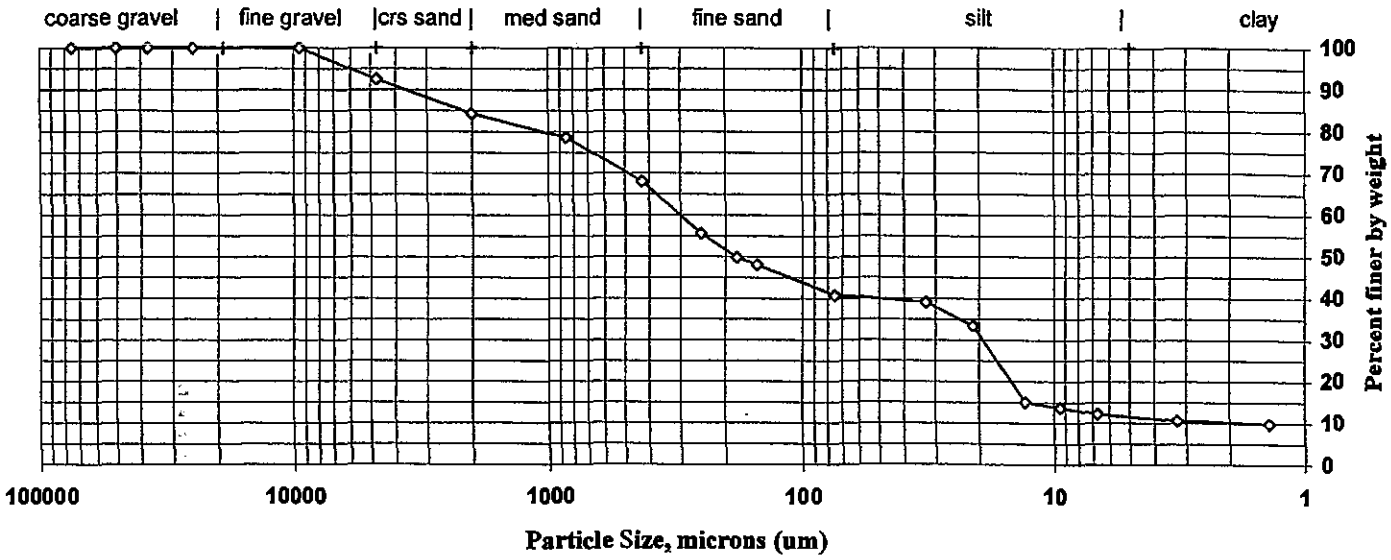
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	17-Dec-04

Lab ID: 599793 **Sample ID:** DAJ-065 PAS P06V

Percent Solids:	62.4%		**Maximum Particle Size:**	9.5 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	48.5%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	92.5	7.5
#10	2000	84.4	8.2
#20	850	78.6	5.8
#40	425	68.1	10.5
#60	250	55.6	12.5
#80	180	49.8	5.8
#100	150	48.1	1.7
#200	75	40.8	7.4
Hydrometer	32.7	39.1	1.7
|	21.1	33.4	5.7
|	13.0	15.1	18.4
|	9.4	13.7	1.4
|	6.7	12.2	1.4
|	3.3	10.6	1.6
V	1.4	9.9	0.7

Soil Classification	Percent of Total Sample
Gravel	7.5
Sand	51.8
Coarse Sand	8.2
Medium Sand	16.3
Fine Sand	27.3
Silt	28.5
Clay	12.2

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

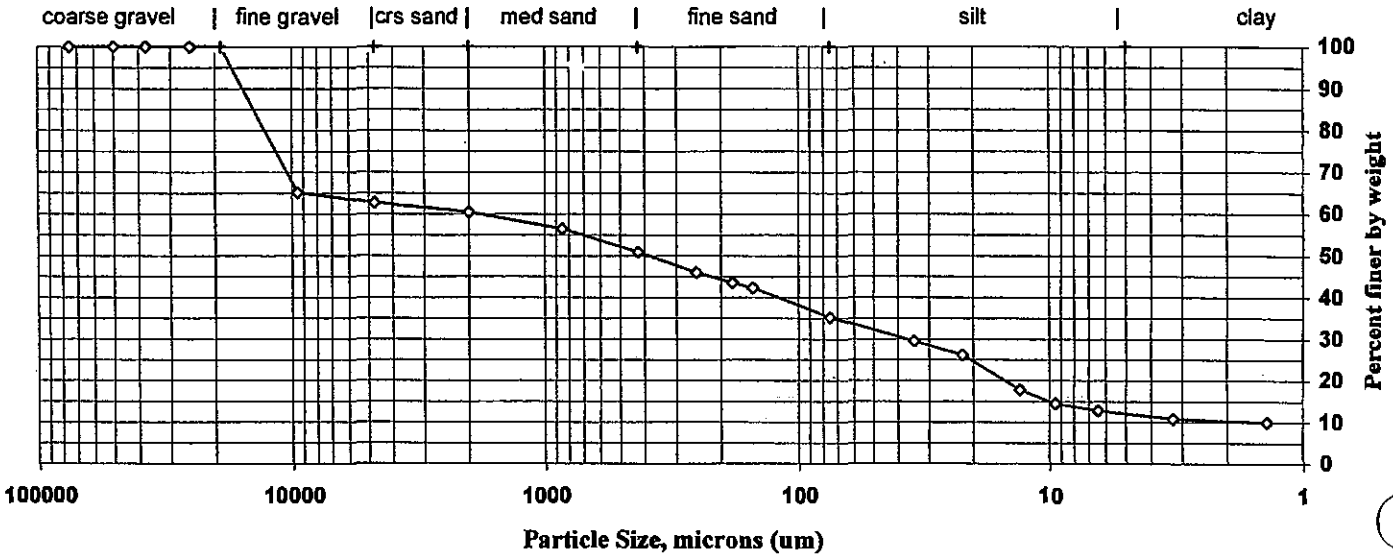
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	17-Dec-04

Lab ID: 599794 **Sample ID:** DAJ-066 PAS P07V

Percent Solids:	59.5%		**Maximum Particle Size:**	19 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	34.0%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	65.2	34.8
#4	4750	62.7	2.5
#10	2000	60.5	2.3
#20	850	56.5	4.0
#40	425	50.9	5.6
#60	250	46.1	4.8
#80	180	43.5	2.5
#100	150	42.4	1.2
#200	75	35.2	7.2
Hydrometer	34.4	29.5	5.7
|	22.0	26.2	3.3
|	13.0	17.8	8.4
|	9.4	14.5	3.3
|	6.4	12.8	1.7
|	3.3	10.9	1.9
V	1.4	10.0	0.8

Soil Classification	Percent of Total Sample
Gravel	37.3
Sand	27.6
Coarse Sand	2.3
Medium Sand	9.6
Fine Sand	15.7
Silt	22.4
Clay	12.8

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

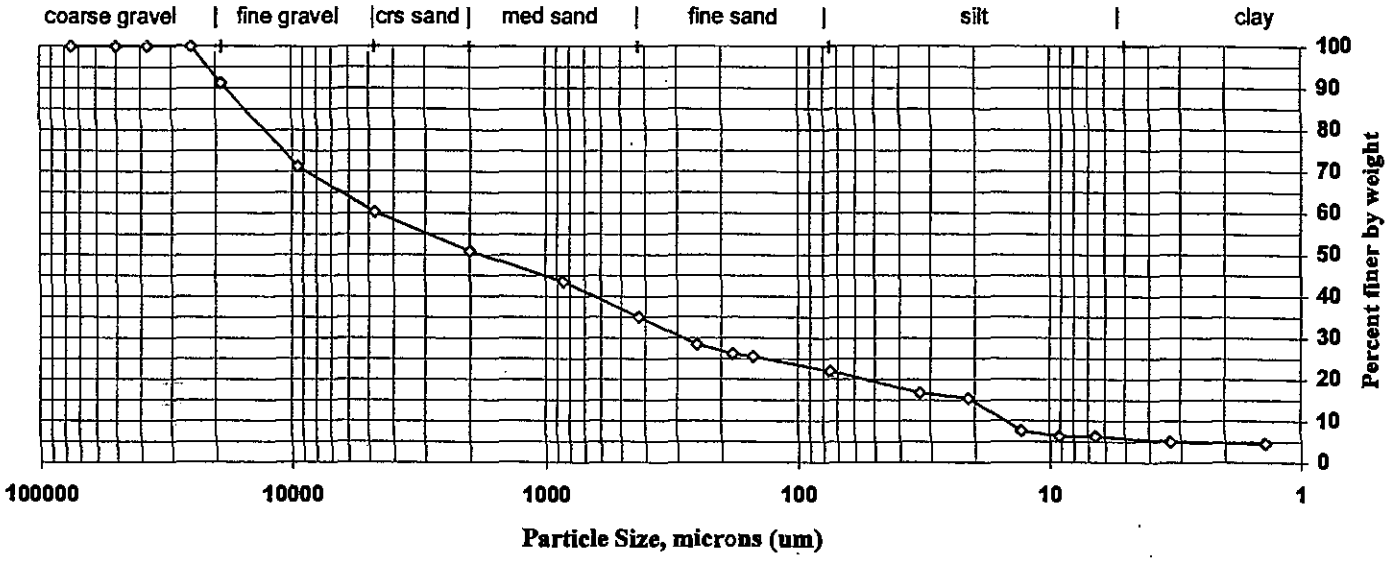
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	17-Dec-04

Lab ID: 599795 **Sample ID:** DAJ-067 PAS P08V

Percent Solids:	72.9%		**Maximum Particle Size:**	25 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	9.9%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	91.2	8.8
3/8 inch	9500	71.2	20.0
#4	4750	60.2	11.0
#10	2000	50.9	9.3
#20	850	43.5	7.5
#40	425	35.0	8.4
#60	250	28.4	6.6
#80	180	26.2	2.2
#100	150	25.6	0.7
#200	75	22.0	3.6
Hydrometer	33.1	16.7	5.2
|	21.1	15.4	1.3
|	12.9	7.6	7.8
|	9.1	6.3	1.3
|	6.5	6.3	0.0
|	3.3	5.0	1.3
V	1.4	4.6	0.4

Soil Classification	Percent of Total Sample
Gravel	39.8
Sand	38.2
Coarse Sand	9.3
Medium Sand	15.9
Fine Sand	13.1
Silt	15.7
Clay	6.3

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

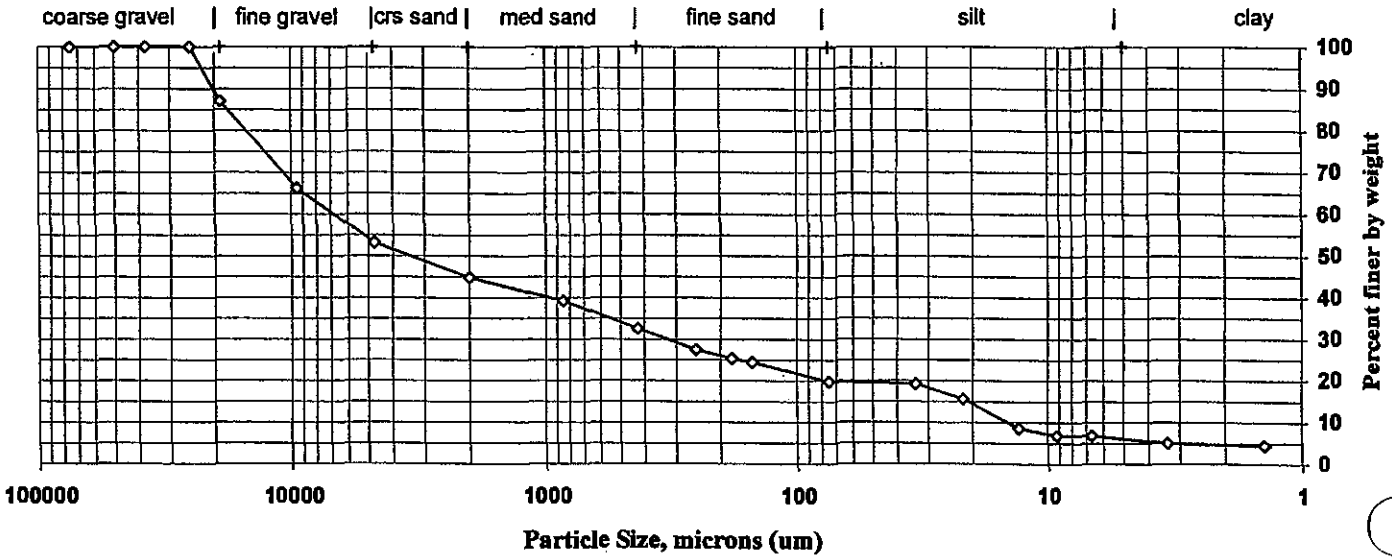
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	17-Dec-04

Lab ID: 599796 **Sample ID:** DAJ-068 PAS P09V

Percent Solids:	49.9%		**Maximum Particle Size:**	25 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	21.0%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	87.0	13.0
3/8 inch	9500	66.3	20.7
#4	4750	53.2	13.1
#10	2000	44.8	8.4
#20	850	39.2	5.6
#40	425	32.5	6.7
#60	250	27.5	5.0
#80	180	25.4	2.2
#100	150	24.5	0.9
#200	75	19.8	4.7
Hydrometer	33.8	19.2	0.6
|	21.8	15.7	3.6
|	13.1	8.6	7.1
|	9.2	6.8	1.8
|	6.6	6.8	0.0
|	3.4	5.0	1.8
V	1.4	4.4	0.6

Soil Classification	Percent of Total Sample
Gravel	46.8
Sand	33.4
Coarse Sand	8.4
Medium Sand	12.3
Fine Sand	12.7
Silt	13.0
Clay	6.8

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

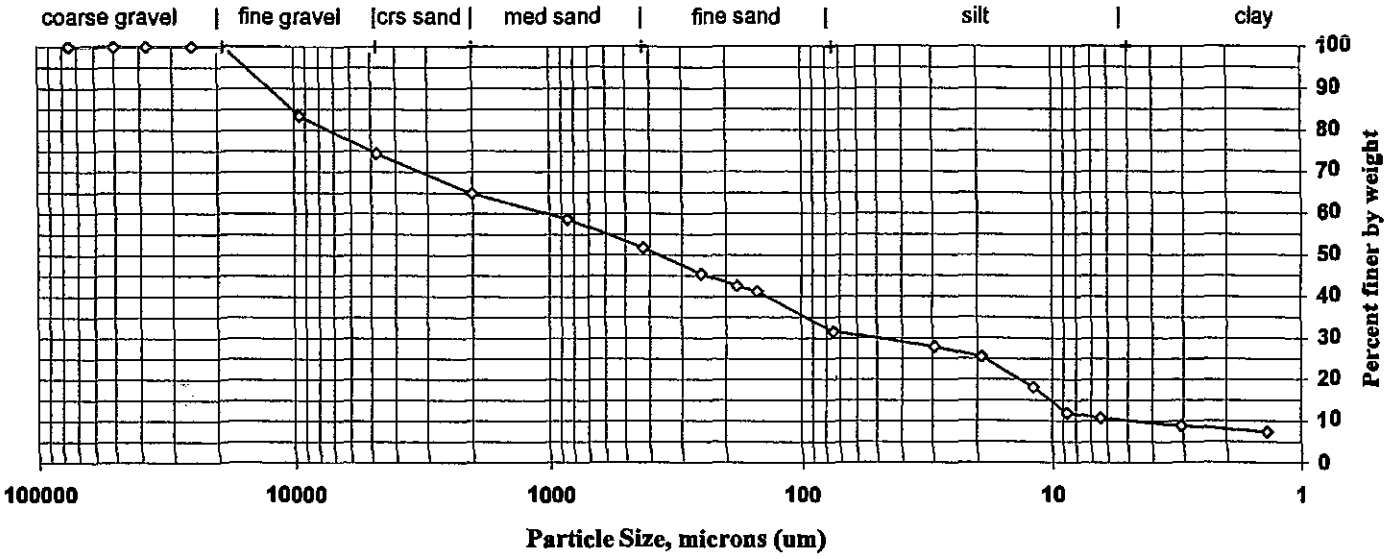
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	17-Dec-04

Lab ID: 599797 **Sample ID:** DAJ-069 PAS P10V

Percent Solids:	66.6%		**Maximum Particle Size:**	19 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	5.9%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	83.4	16.6
#4	4750	74.4	9.0
#10	2000	64.8	9.6
#20	850	58.7	6.2
#40	425	51.8	6.9
#60	250	45.5	6.3
#80	180	42.5	3.0
#100	150	41.2	1.3
#200	75	31.6	9.7
Hydrometer	29.5	27.9	3.7
|	19.1	25.4	2.5
|	11.9	18.1	7.4
|	8.7	12.0	6.1
|	6.4	10.7	1.2
|	3.1	8.9	1.8
V	1.4	7.4	1.5

Soil Classification	Percent of Total Sample
Gravel	25.6
Sand	42.8
Coarse Sand	9.6
Medium Sand	13.0
Fine Sand	20.2
Silt	20.8
Clay	10.7

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

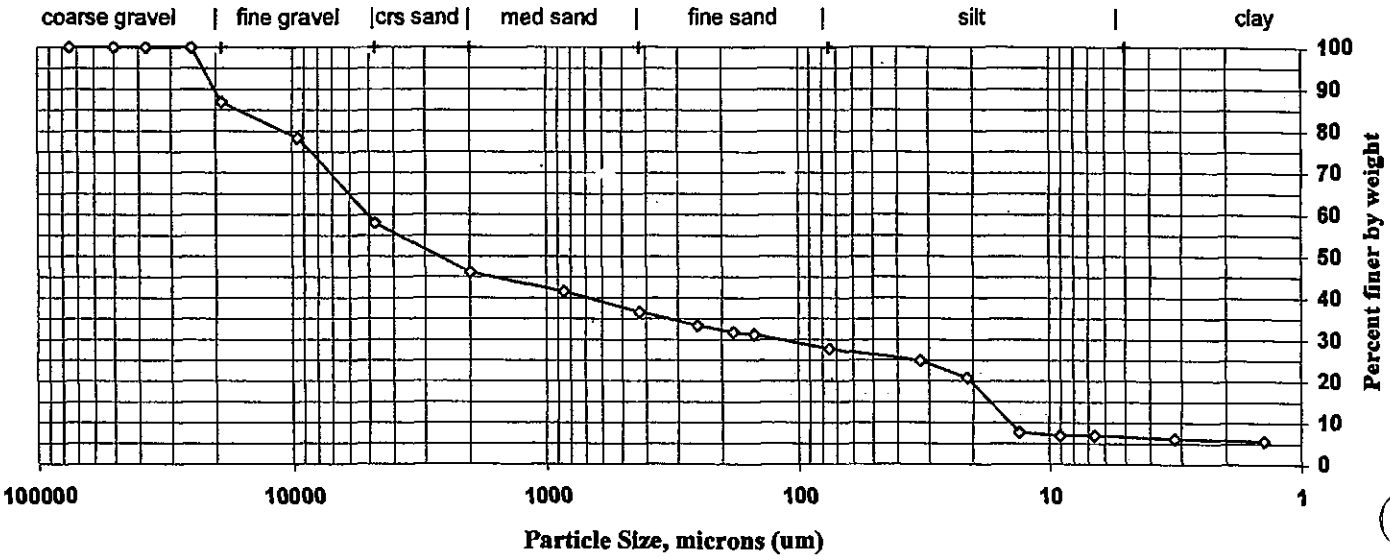
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	17-Dec-04

Lab ID: 599798 **Sample ID:** DAJ-070 PAS P11V

Percent Solids:	65.0%		**Maximum Particle Size:**	25 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	17.8%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	86.9	13.1
3/8 inch	9500	78.3	8.6
#4	4750	57.9	20.3
#10	2000	46.2	11.7
#20	850	41.5	4.7
#40	425	36.6	4.9
#60	250	33.3	3.3
#80	180	31.7	1.6
#100	150	31.2	0.5
#200	75	27.7	3.5
Hydrometer	32.4	24.8	2.9
|	21.0	20.8	4.1
|	13.2	7.7	13.0
|	9.0	6.9	0.8
|	6.6	6.9	0.0
|	3.2	6.1	0.8
V	1.4	5.6	0.5

Soil Classification	Percent of Total Sample
Gravel	42.1
Sand	30.2
Coarse Sand	11.7
Medium Sand	9.6
Fine Sand	8.9
Silt	20.8
Clay	6.9

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

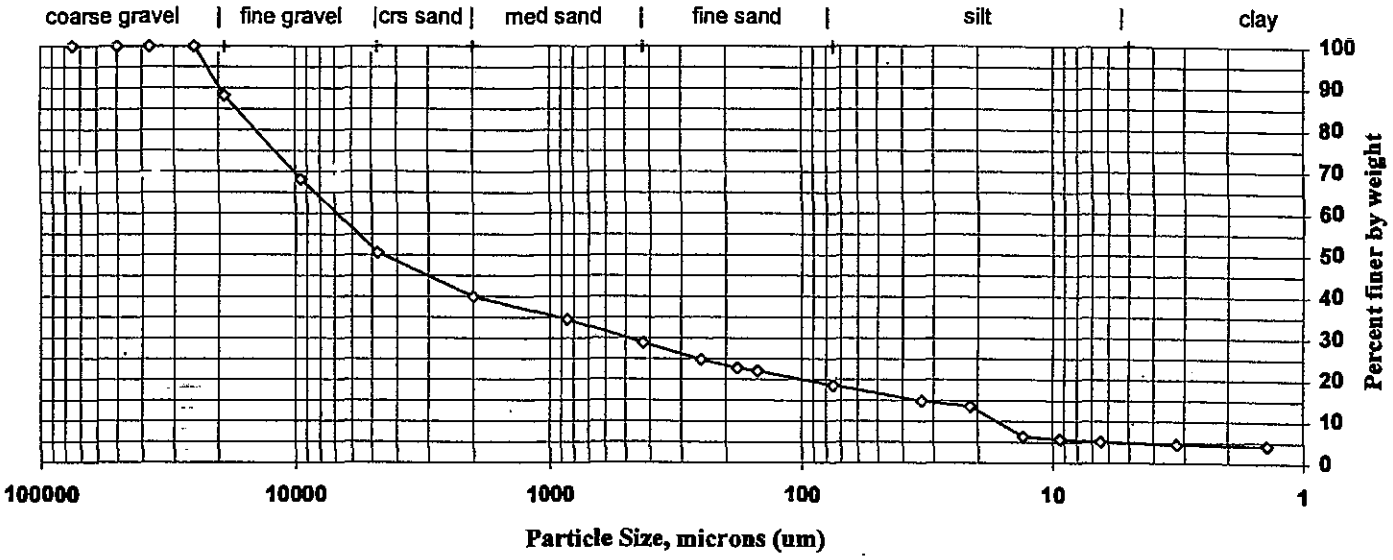
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	17-Dec-04

Lab ID: 599799 **Sample ID:** DAJ-071 PAS P12V

Percent Solids:	71.5%		**Maximum Particle Size:**	25 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	15.1%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	88.2	11.8
3/8 inch	9500	68.2	20.0
#4	4750	50.5	17.6
#10	2000	40.0	10.6
#20	850	34.5	5.5
#40	425	28.8	5.7
#60	250	24.7	4.1
#80	180	22.8	1.9
#100	150	22.1	0.7
#200	75	18.7	3.4
Hydrometer	33.4	14.8	3.8
|	21.4	13.6	1.2
|	13.1	6.4	7.3
|	9.3	5.8	0.6
|	6.4	5.2	0.6
|	3.2	4.5	0.6
V	1.4	4.2	0.3

Soil Classification	Percent of Total Sample
Gravel	49.5
Sand	31.9
Coarse Sand	10.6
Medium Sand	11.1
Fine Sand	10.2
Silt	13.5
Clay	5.2

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

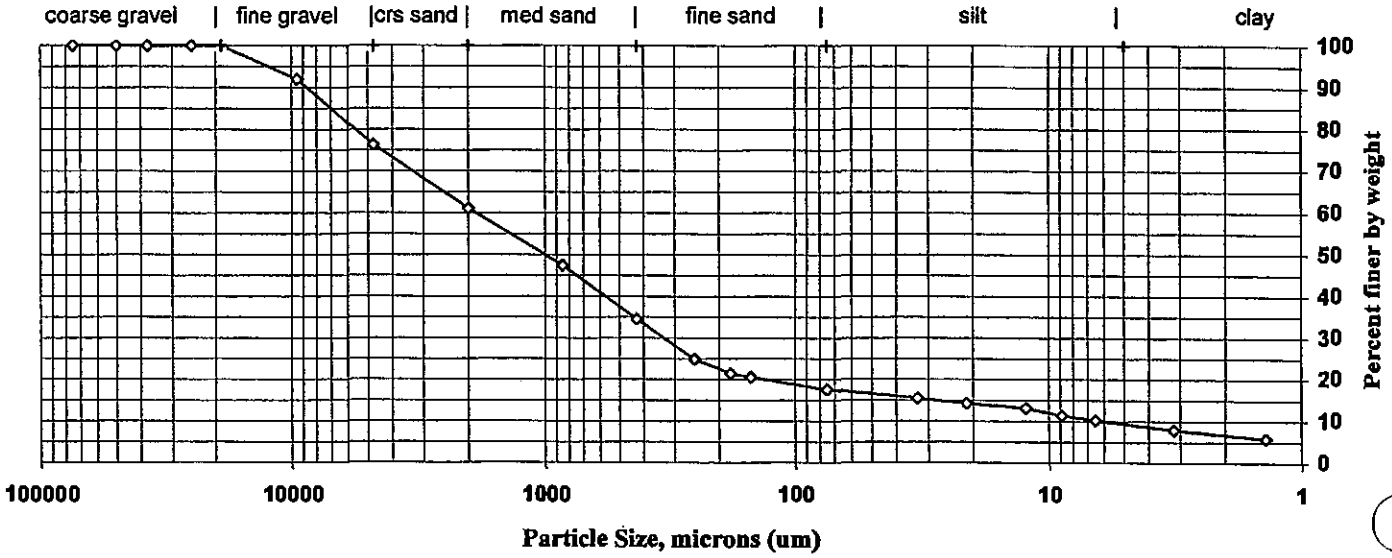
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	17-Dec-04

Lab ID: 599800 **Sample ID:** DAJ-072 PAS P13V

Percent Solids:	72.2%		**Maximum Particle Size:**	19 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subrounded
Non-soil mass:	2.4%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	92.0	8.0
#4	4750	76.3	15.7
#10	2000	61.1	15.2
#20	850	47.4	13.7
#40	425	34.5	12.9
#60	250	24.9	9.7
#80	180	21.4	3.5
#100	150	20.5	0.9
#200	75	17.6	2.9
Hydrometer	33.1	15.5	2.1
|	21.2	14.3	1.2
|	12.3	13.2	1.2
|	8.9	11.4	1.8
|	6.5	10.2	1.2
|	3.2	7.9	2.3
V	1.4	5.8	2.0

Soil Classification	Percent of Total Sample
Gravel	23.7
Sand	58.7
Coarse Sand	15.2
Medium Sand	26.5
Fine Sand	16.9
Silt	7.4
Clay	10.2

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

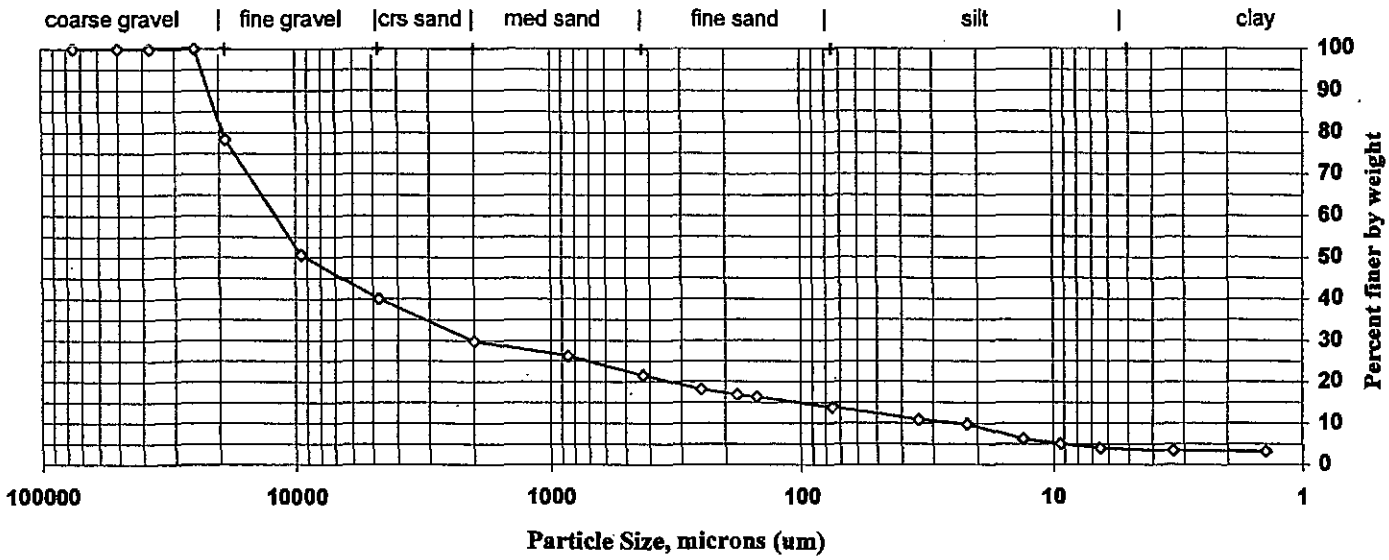
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	17-Dec-04

Lab ID: 599801 **Sample ID:** DAJ-073 PAS P14V

Percent Solids:	75.1%		**Maximum Particle Size:**	25 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	13.1%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	78.3	21.7
3/8 inch	9500	50.6	27.7
#4	4750	40.0	10.6
#10	2000	29.8	10.2
#20	850	26.2	3.5
#40	425	21.6	4.7
#60	250	18.2	3.4
#80	180	16.9	1.3
#100	150	16.4	0.5
#200	75	13.9	2.5
Hydrometer	34.2	10.9	3.0
|	21.8	9.8	1.1
|	13.0	6.1	3.7
|	9.3	5.0	1.1
|	6.5	4.0	1.1
|	3.3	3.4	0.5
V	1.4	3.2	0.3

Soil Classification	Percent of Total Sample
Gravel	60.0
Sand	26.2
Coarse Sand	10.2
Medium Sand	8.2
Fine Sand	7.7
Silt	9.9
Clay	4.0

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

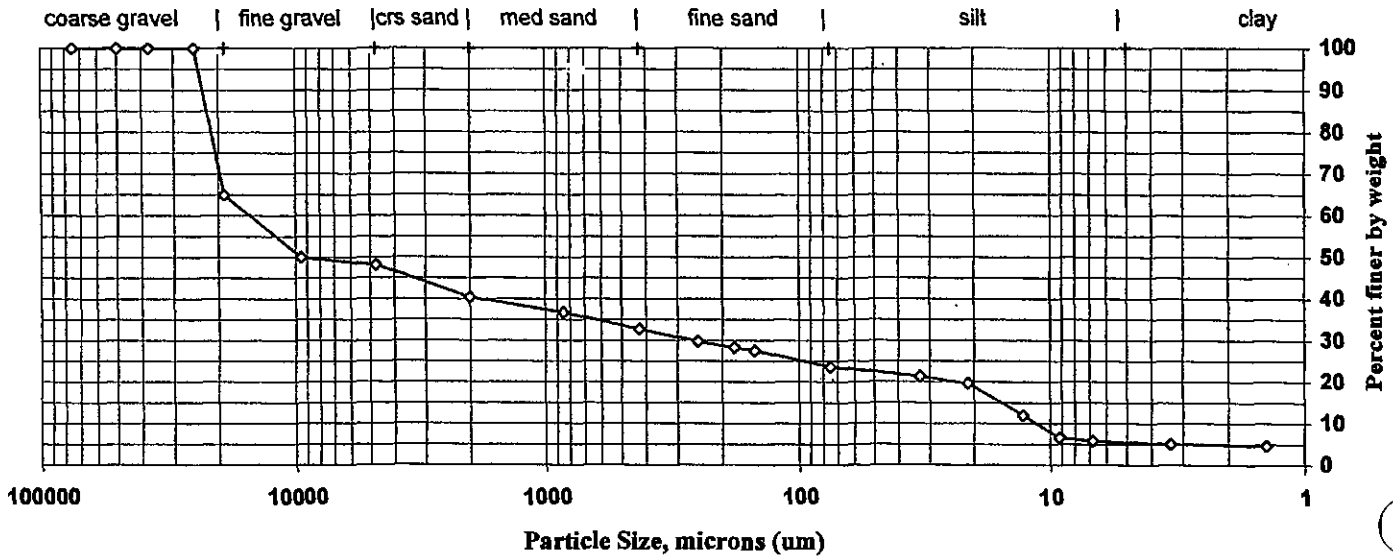
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103991
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	103991
Date Received:	19-Nov-04	**Start Date:**	9-Dec-04	**End Date:**	17-Dec-04

Lab ID: 599802 **Sample ID:** DAJ-074 PAS P15V

Percent Solids:	63.9%		**Maximum Particle Size:**	25 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	12.1%		**Hardness (> #10):**	brittle



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	64.9	35.1
3/8 inch	9500	50.0	14.9
#4	4750	48.2	1.8
#10	2000	40.4	7.8
#20	850	36.7	3.6
#40	425	32.7	4.0
#60	250	29.7	3.0
#80	180	28.3	1.4
#100	150	27.5	0.8
#200	75	23.6	3.9
Hydrometer	32.7	21.3	2.3
|	21.0	19.7	1.7
|	12.8	12.0	7.7
|	9.2	6.6	5.4
|	6.8	5.8	0.8
|	3.4	5.0	0.8
V	1.4	4.6	0.4

Soil Classification	Percent of Total Sample
Gravel	51.8
Sand	24.5
Coarse Sand	7.8
Medium Sand	7.6
Fine Sand	9.1
Silt	17.9
Clay	5.8

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

Grain Size Composites

SEVERN TRENT STL

PARTICLE SIZE

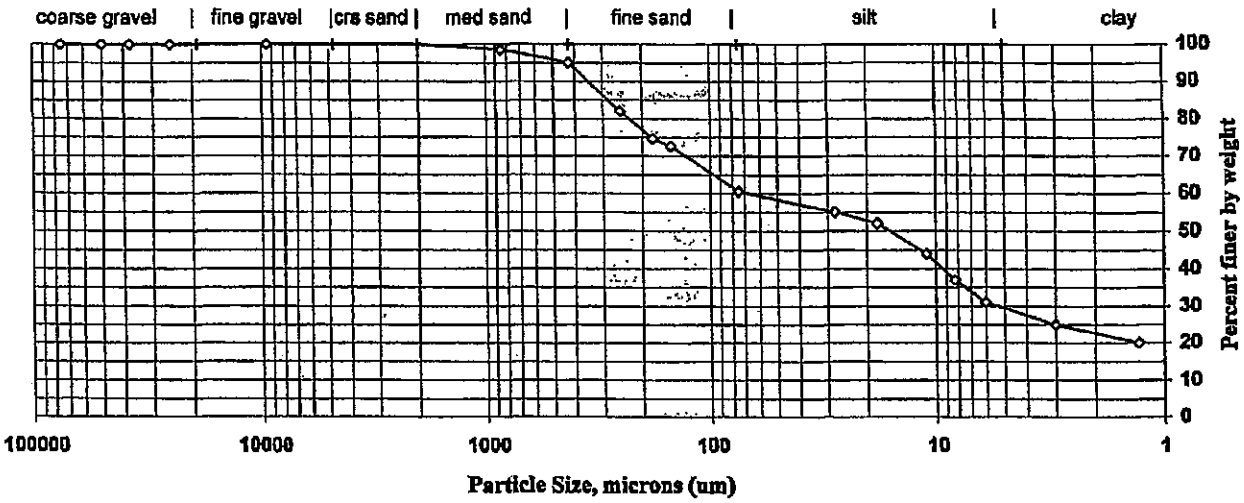
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599804 Sample ID: DAJ-050 BA-C-1(1,2,3)

Percent Solids:	54.9%		Maximum Particle Size:	Med sand
Specific Gravity:	2.65	(assumed)	Shape (> #10):	N/A
Non-soil mass:	3.3%		Hardness (> #10):	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	98.6	1.4
#40	425	95.1	3.5
#60	250	82.0	13.1
#80	180	74.7	7.4
#100	150	72.6	2.0
#200	75	60.6	12.0
Hydrometer	27.7	55.0	5.6
|	18.0	52.0	3.0
|	11.0	44.1	8.0
|	8.3	37.1	7.0
|	6.1	31.1	6.0
|	3.0	25.1	6.0
V	1.3	20.1	5.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	39.4
Coarse Sand	0.0
Medium Sand	4.9
Fine Sand	34.5
Silt	29.5
Clay	31.1

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

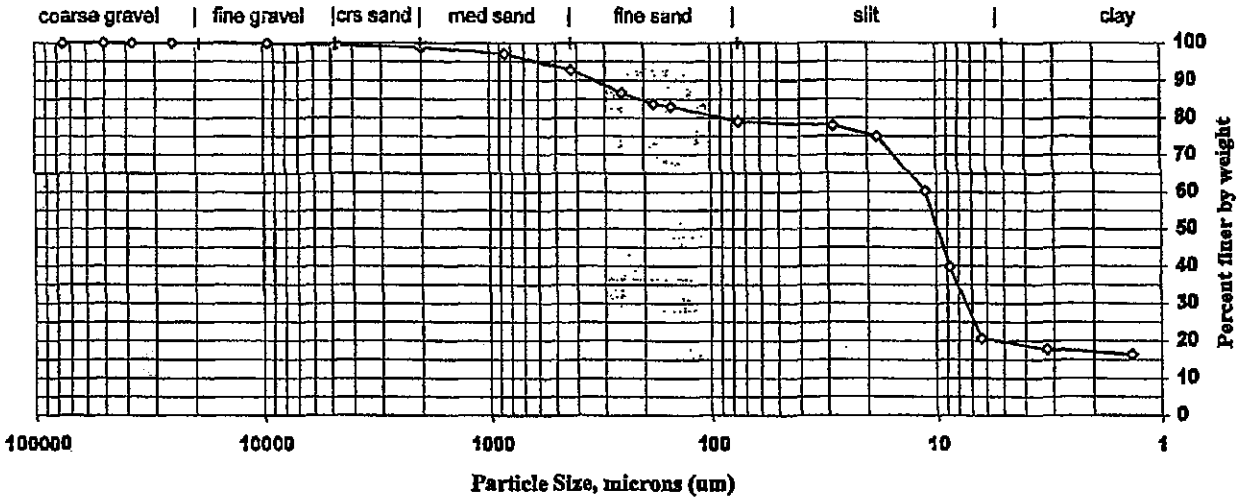
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599805 | Sample ID: DAJ-051 BA-C-2(4,5,6)

Percent Solids:	37.1%		Maximum Particle Size:	9.5 mm
Specific Gravity:	2.65	(assumed)	Shape (> #10):	subrounded
Non-soil mass:	0.4%		Hardness (> #10):	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.4	0.6
#10	2000	98.7	0.7
#20	850	97.1	1.6
#40	425	92.8	4.3
#60	250	86.6	6.2
#80	180	83.7	2.8
#100	150	83.0	0.7
#200	75	79.1	3.9
Hydrometer	28.2	77.9	1.2
|	18.1	74.9	2.9
|	11.2	60.3	14.6
|	8.8	39.8	20.5
|	6.3	20.8	19.0
|	3.2	17.8	2.9
V	1.3	16.4	1.5

Soil Classification	Percent of Total Sample
Gravel	0.6
Sand	20.3
Coarse Sand	0.7
Medium Sand	5.9
Fine Sand	13.8
Silt	58.3
Clay	20.8

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

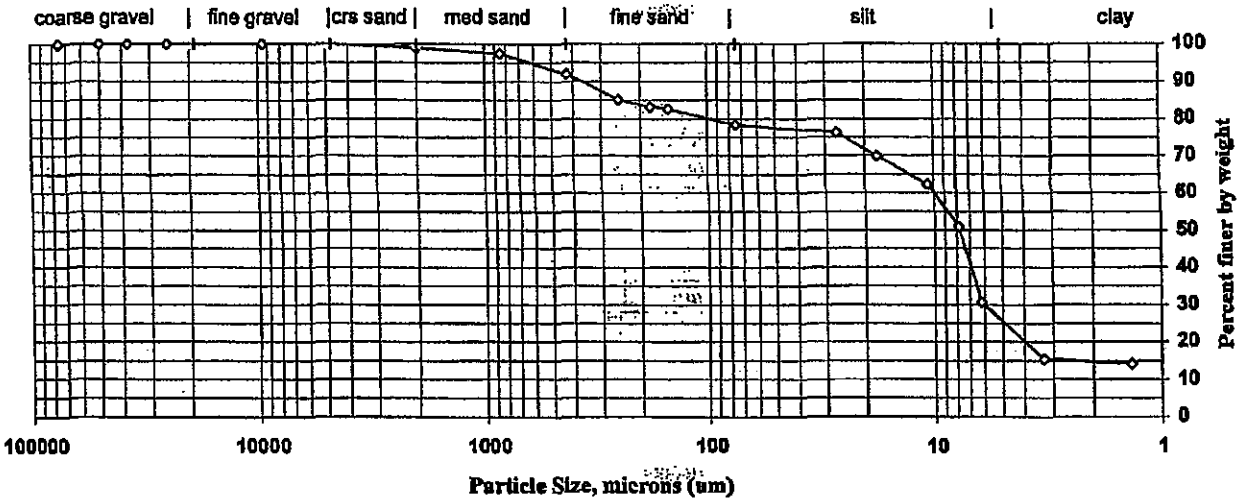
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599806 | Sample ID: DAJ-052 BA-C-3(7,8,9)

Percent Solids:	38.5%		Maximum Particle Size:	Crs sand
Specific Gravity:	2.65	(assumed)	Shape (> #10):	subrounded
Non-soil mass:	1.6%		Hardness (> #10):	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.0	1.0
#20	850	97.4	1.6
#40	425	92.0	5.4
#60	250	85.1	6.9
#80	180	83.2	1.9
#100	150	82.6	0.6
#200	75	78.4	4.2
Hydrometer	26.6	76.2	2.2
|	17.5	69.9	6.3
|	10.6	62.3	7.6
|	7.8	50.9	11.4
|	6.2	30.6	20.3
|	3.3	15.4	15.2
V	1.4	14.1	1.3

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	21.6
Coarse Sand	1.0
Medium Sand	7.0
Fine Sand	13.6
Silt	47.8
Clay	30.6

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

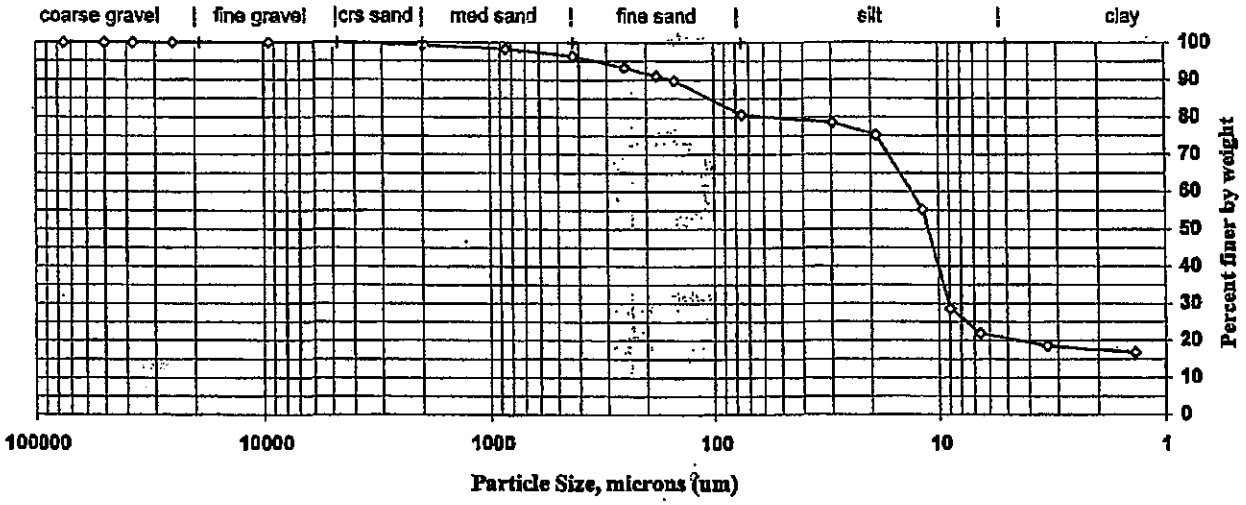
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599807 **Sample ID:** DAJ053BAC3(10,11,12)

Percent Solids:	35.8%		Maximum Particle Size:	Crs sand
Specific Gravity:	2.65	(assumed)	Shape (> #10):	subrounded
Non-soil mass:	3.6%		Hardness (> #10):	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.3	0.7
#20	850	98.3	1.0
#40	425	96.3	1.9
#60	250	93.3	3.1
#80	180	91.0	2.2
#100	150	89.7	1.3
#200	75	80.7	9.1
Hydrometer	29.4	78.5	2.2
|	18.9	75.2	3.3
|	11.8	55.2	20.0
|	8.9	28.6	26.6
|	6.6	21.9	6.7
|	3.3	18.6	3.3
V	1.4	16.9	1.7

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	19.3
Coarse Sand	0.7
Medium Sand	3.0
Fine Sand	15.6
Silt	58.8
Clay	21.9

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

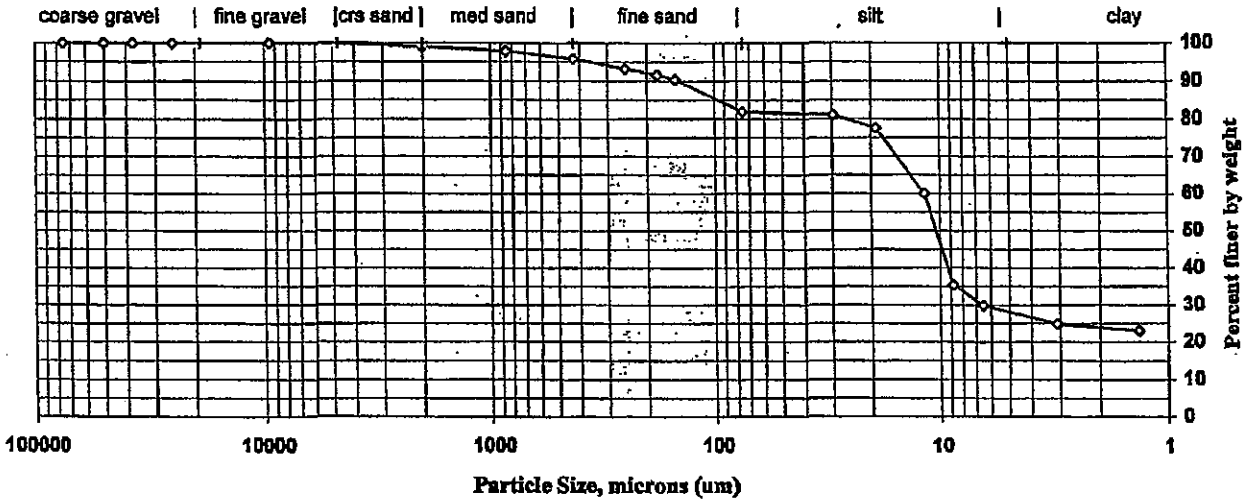
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599808 Sample ID: DAJ054BAC5(13,14,15)

Percent Solids:	36.7%		Maximum Particle Size:	Crs sand
Specific Gravity:	2.65	(assumed)	Shape (> #10):	subangular
Non-soil mass:	0.1%		Hardness (> #10):	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.0	1.0
#20	850	97.9	1.1
#40	425	95.8	2.0
#60	250	93.2	2.6
#80	180	91.6	1.6
#100	150	90.3	1.2
#200	75	81.9	8.5
Hydrometer	29.7	81.1	0.8
I	19.0	77.6	3.5
I	11.7	60.0	17.6
I	8.8	35.4	24.6
I	6.5	29.9	5.6
I	3.1	24.9	5.0
V	1.3	23.1	1.8

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	18.1
Coarse Sand	1.0
Medium Sand	3.1
Fine Sand	14.0
Silt	52.0
Clay	29.9

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

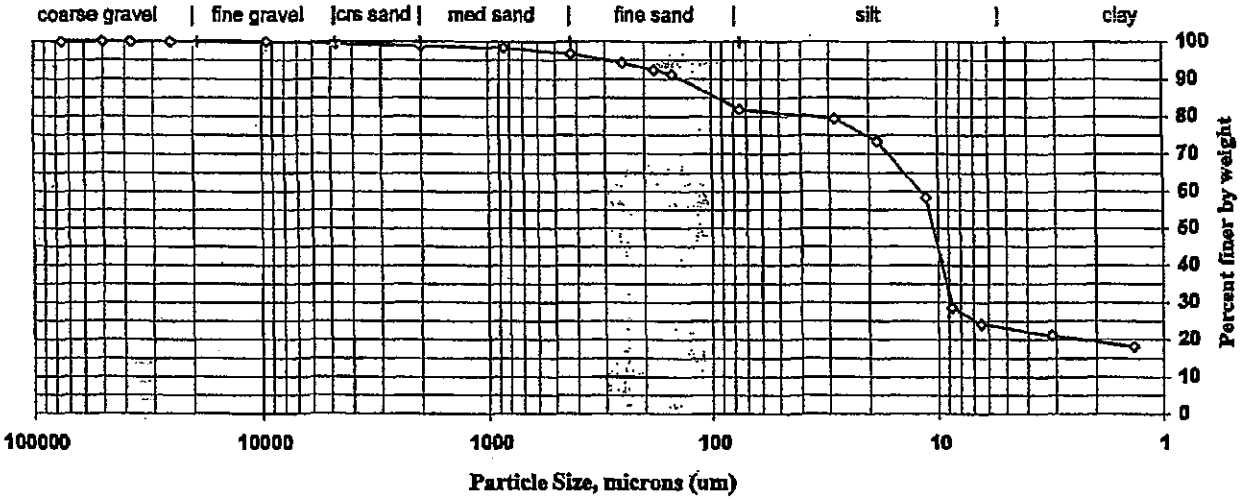
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599809 Sample ID: DAJ055BAC6(16,17,18)

Percent Solids:	38.8%		Maximum Particle Size:	9.5 mm
Specific Gravity:	2.65	(assumed)	Shape (> #10):	subrounded
Non-soil mass:	0.3%		Hardness (> #10):	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.4	0.6
#10	2000	98.8	0.7
#20	850	98.3	0.4
#40	425	96.7	1.6
#60	250	94.3	2.5
#80	180	92.5	1.8
#100	150	91.2	1.2
#200	75	82.0	9.2
Hydrometer	28.2	79.3	2.7
|	18.4	73.4	6.0
|	11.3	58.4	14.9
|	8.7	28.6	29.8
|	6.4	24.1	4.5
|	3.1	21.1	3.0
V	1.4	18.2	3.0

Soil Classification	Percent of Total Sample
Gravel	0.6
Sand	17.4
Coarse Sand	0.7
Medium Sand	2.0
Fine Sand	14.8
Silt	57.9
Clay	24.1

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

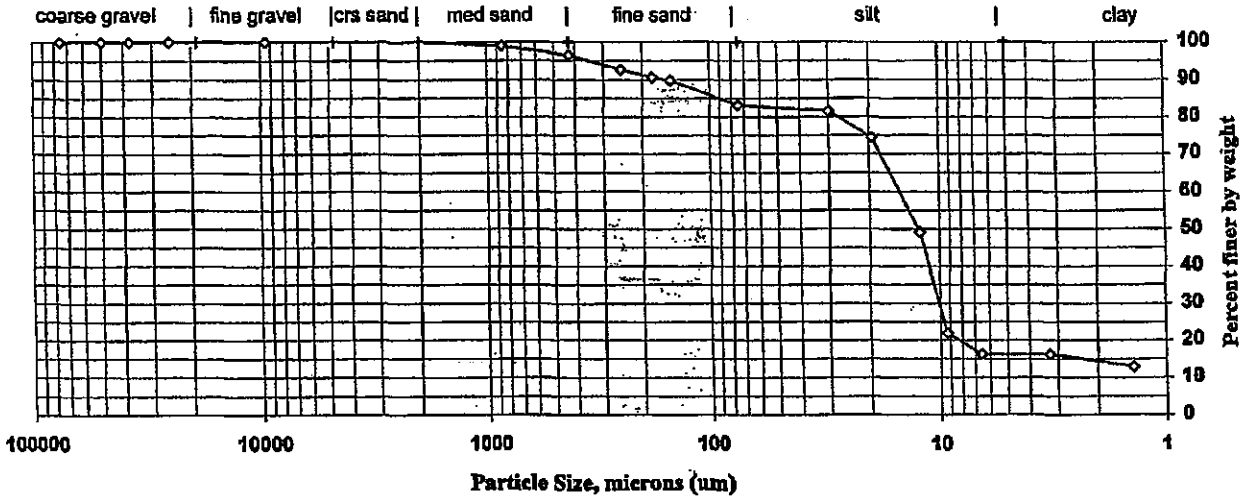
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599810 Sample ID: DAJ057BAC7(192021)

Percent Solids:	36.8%		Maximum Particle Size:	Crs sand
Specific Gravity:	2.65	(assumed)	Shape (> #10):	subrounded
Non-soil mass:	6.7%		Hardness (> #10):	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.8	0.2
#20	850	98.9	0.9
#40	425	96.5	2.5
#60	250	92.7	3.8
#80	180	90.6	2.1
#100	150	89.8	0.8
#200	75	83.2	6.6
Hydrometer	29.9	81.6	1.6
|	19.4	74.4	7.2
|	12.2	49.1	25.3
|	9.3	22.0	27.1
|	6.5	16.3	5.7
|	3.3	16.3	0.0
V	1.4	12.9	3.3

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	16.8
Coarse Sand	0.2
Medium Sand	3.3
Fine Sand	13.3
Silt	66.9
Clay	16.3

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

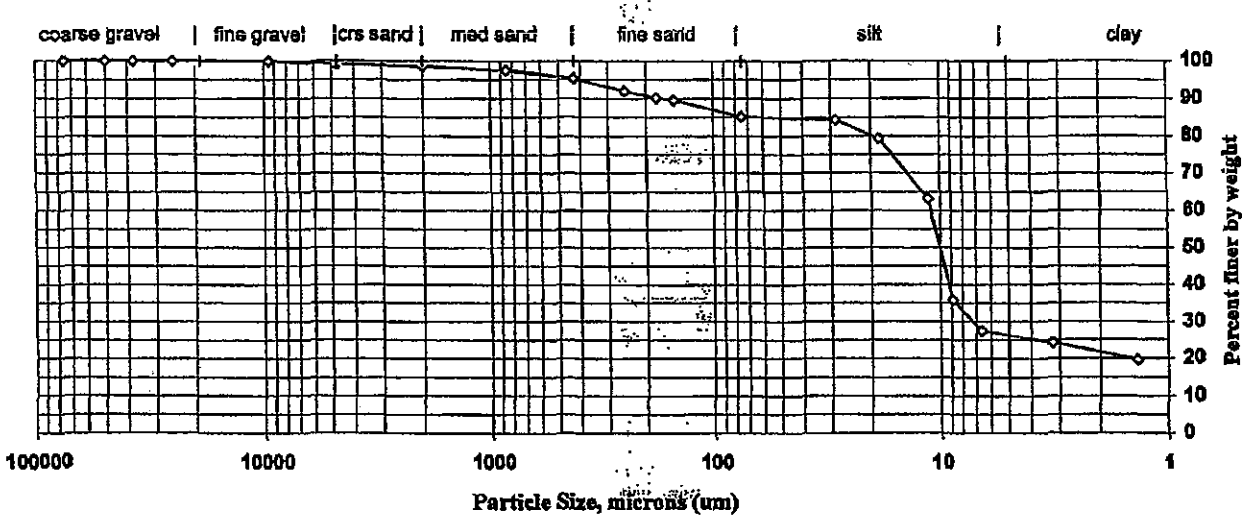
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599810DP Sample ID: DAJ057BAC7(192021)REP

Percent Solids:	37.6%		Maximum Particle Size:	9.5 mm
Specific Gravity:	2.65	(assumed)	Shape (> #10):	subrounded
Non-soil mass:	0.4%		Hardness (> #10):	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.2	0.8
#10	2000	98.6	0.6
#20	850	97.5	1.1
#40	425	95.3	2.2
#60	250	91.9	3.4
#80	180	90.2	1.8
#100	150	89.5	0.6
#200	75	85.2	4.4
Hydrometer	28.4	84.2	0.9
|	18.4	79.4	4.8
|	11.3	63.2	16.1
|	8.8	35.8	27.4
|	6.6	27.4	8.3
|	3.2	24.2	3.2
V	1.4	19.6	4.6

Soil Classification	Percent of Total Sample
Gravel	0.8
Sand	14.0
Coarse Sand	0.6
Medium Sand	3.3
Fine Sand	10.2
Silt	57.7
Clay	27.4

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

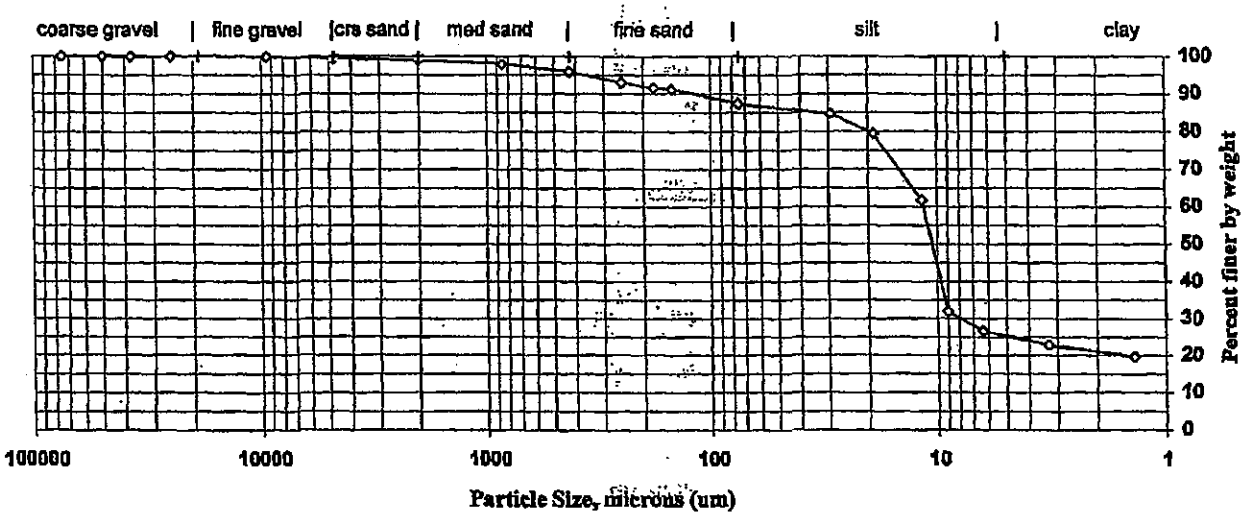
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599811 Sample ID: DAJ058BAC8(22,23,24)

Percent Solids:	36.3%		Maximum Particle Size:	9.5 mm
Specific Gravity:	2.65	(assumed)	Shape (> #10):	subrounded
Non-soil mass:	3.8%		Hardness (> #10):	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.3	0.7
#10	2000	99.0	0.3
#20	850	97.9	1.1
#40	425	96.0	2.0
#60	250	93.0	3.0
#80	180	91.7	1.4
#100	150	91.2	0.5
#200	75	87.4	3.8
Hydrometer	29.2	84.7	2.7
|	18.9	79.4	5.3
|	11.6	61.8	17.6
|	9.0	31.9	29.9
|	6.3	26.7	5.3
|	3.3	22.8	3.8
V	1.4	19.6	3.2

Soil Classification	Percent of Total Sample
Gravel	0.7
Sand	11.9
Coarse Sand	0.3
Medium Sand	3.0
Fine Sand	8.6
Silt	60.7
Clay	26.7

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

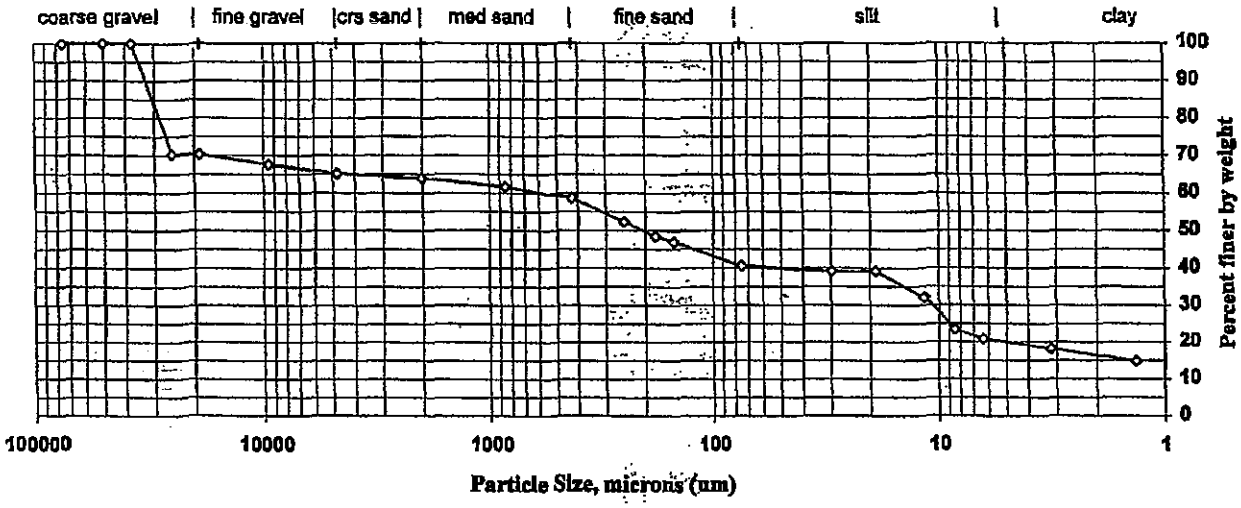
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	**Project No.:**	24006	**ETR(s) #:**	103993
Client Code:	STLPAP	**Job No.:**	N/A	**SDG(s):**	4K190132
Date Received:	20-Nov-04	**Start Date:**	14-Dec-04	**End Date:**	20-Dec-04

Lab ID: 599812 **Sample ID:** DAJ080PC1(P01VP02VP03V

Percent Solids:	63.9%		**Maximum Particle Size:**	37.5 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	subangular
Non-soil mass:	5.4%		**Hardness (> #10):**	hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	70.2	29.8
3/4 inch	19000	70.2	0.0
3/8 inch	9500	67.7	2.6
#4	4750	65.2	2.4
#10	2000	63.9	1.3
#20	850	61.7	2.2
#40	425	58.6	3.1
#60	250	52.3	6.4
#80	180	48.4	3.9
#100	150	46.9	1.4
#200	75	40.6	6.3
Hydrometer	29.7	39.2	1.4
	18.8	39.2	0.0
	11.5	32.1	7.1
	8.5	23.5	8.6
	6.3	20.9	2.6
	3.2	18.3	2.6
V	1.3	14.8	3.5

Soil Classification	Percent of Total Sample
Gravel	34.8
Sand	24.7
Coarse Sand	1.3
Medium Sand	5.3
Fine Sand	18.0
Silt	19.7
Clay	20.9

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

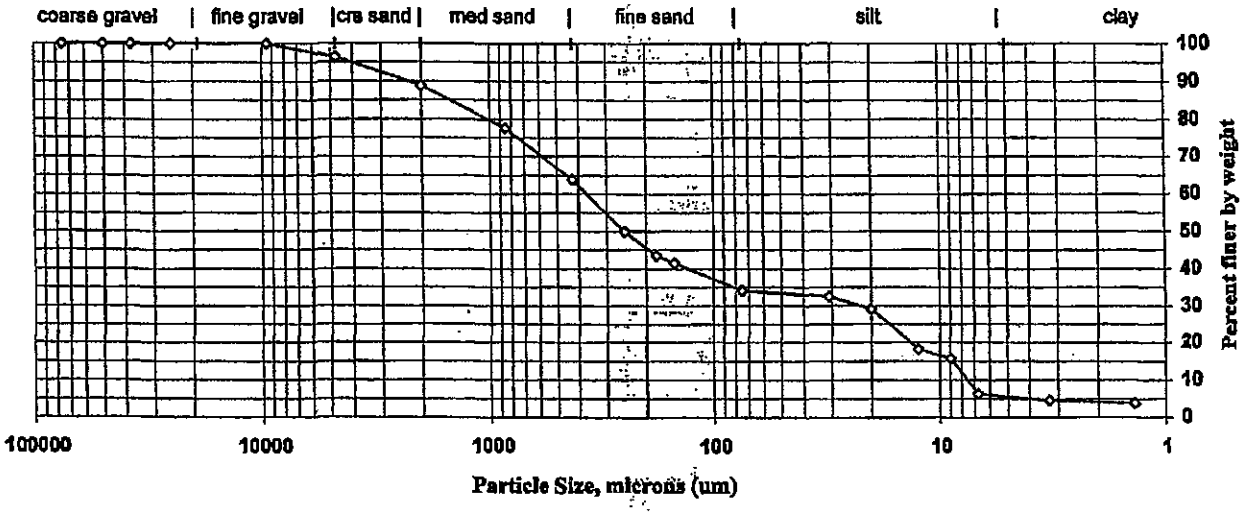
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599813 Sample ID: DAJ081PC2 (P04VP05VP06

Percent Solids:	52.3%		Maximum Particle Size:	9.5 mm
Specific Gravity:	2.65	(assumed)	Shape (> #10):	angular
Non-soil mass:	4.8%		Hardness (> #10):	brittle



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	96.4	3.6
#10	2000	88.8	7.6
#20	850	77.5	11.3
#40	425	63.8	13.7
#60	250	49.9	13.9
#80	180	43.5	6.4
#100	150	41.5	2.0
#200	75	34.1	7.4
Hydrometer	30.9	32.5	1.6
|	20.0	29.1	3.4
|	12.4	18.2	10.9
|	8.9	15.7	2.5
|	6.7	6.4	9.3
|	3.3	4.6	1.7
V	1.4	3.8	0.8

Soil Classification	Percent of Total Sample
Gravel	3.6
Sand	62.3
Coarse Sand	7.6
Medium Sand	25.0
Fine Sand	29.7
Silt	27.7
Clay	6.4

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

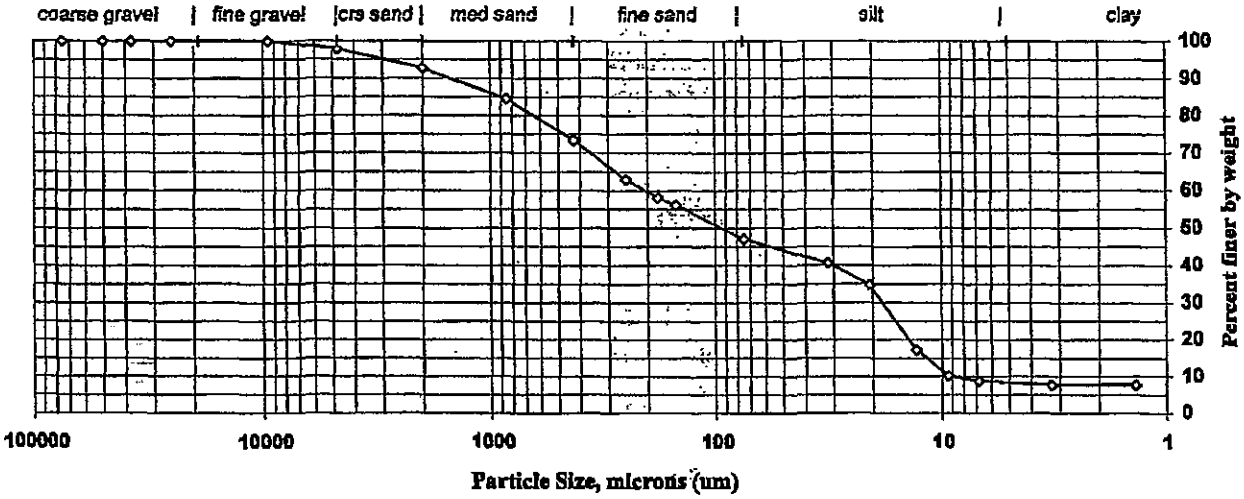
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599814 Sample ID: DAJ082PC3 (P07VP08VP09

Percent Solids:	46.8%		Maximum Particle Size:	9.5 mm
Specific Gravity:	2.65	(assumed)	Shape (> #10):	angular
Non-soil mass:	6.3%		Hardness (> #10):	brittle



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	97.8	2.2
#10	2000	92.8	5.1
#20	850	84.5	8.3
#40	425	73.4	11.1
#60	250	63.0	10.4
#80	180	58.1	4.9
#100	150	56.2	1.9
#200	75	47.1	9.1
Hydrometer	31.6	40.6	6.4
|	20.6	34.8	5.9
|	12.9	17.2	17.6
|	9.4	10.2	7.0
|	6.8	8.9	1.3
|	3.3	7.7	1.2
V	1.4	7.7	0.0

Soil Classification	Percent of Total Sample
Gravel	2.2
Sand	50.8
Coarse Sand	5.1
Medium Sand	19.4
Fine Sand	26.3
Silt	38.2
Clay	8.9

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

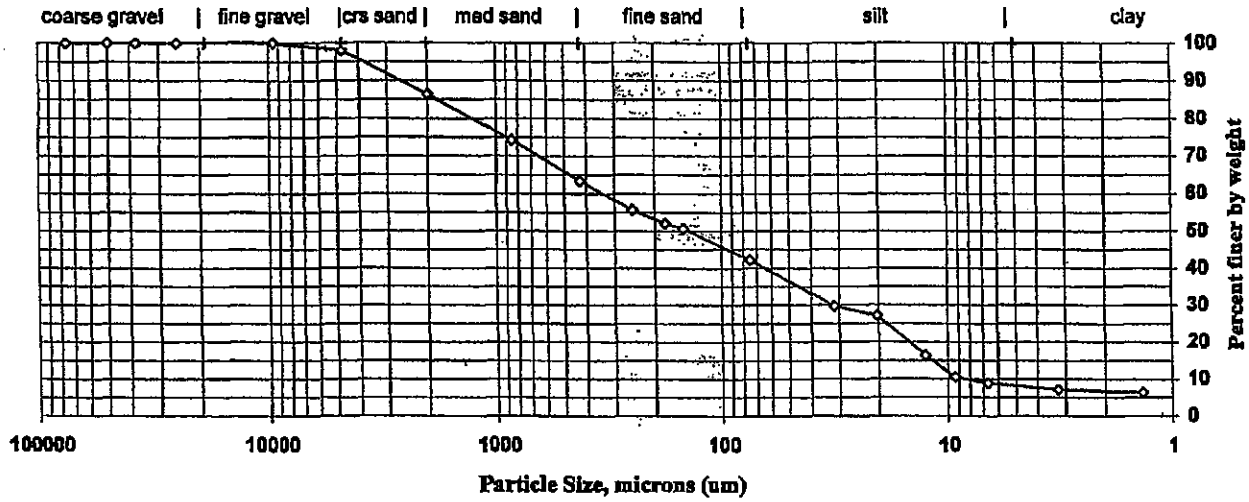
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599815 Sample ID: DAJ083PC4 (P10VP11VP12

Percent Solids:	60.1%		Maximum Particle Size:	9.5 mm
Specific Gravity:	2.65	(assumed)	Shape (> #10):	angular
Non-soil mass:	1.7%		Hardness (> #10):	brittle



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	98.0	2.0
#10	2000	86.4	11.6
#20	850	74.3	12.2
#40	425	63.4	10.9
#60	250	55.8	7.6
#80	180	52.1	3.7
#100	150	50.7	1.4
#200	75	42.3	8.4
Hydrometer	31.4	29.6	12.7
|	20.2	27.1	2.5
|	12.5	16.3	10.8
|	9.3	10.5	5.8
|	6.7	8.9	1.7
|	3.3	7.1	1.7
V	1.4	6.4	0.8

Soil Classification	Percent of Total Sample
Gravel	2.0
Sand	55.7
Coarse Sand	11.6
Medium Sand	23.0
Fine Sand	21.1
Silt	33.4
Clay	8.9

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

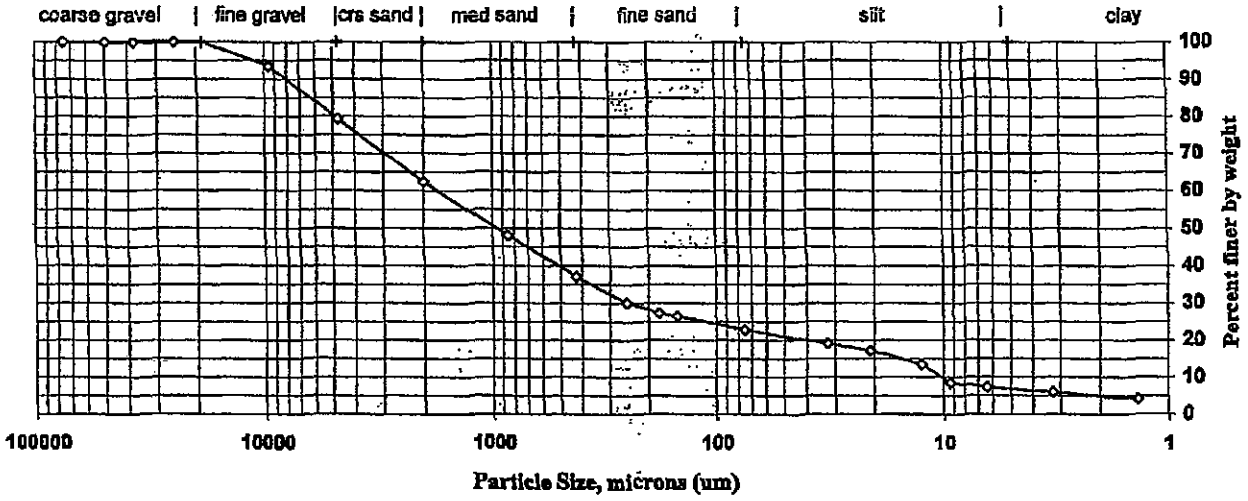
Particle Size of Soils by ASTM D422

Sample preparation method: D2217

Client:	STLPAP	Project No.:	24006	ETR(s) #:	103993
Client Code:	STLPAP	Job No.:	N/A	SDG(s):	4K190132
Date Received:	20-Nov-04	Start Date:	14-Dec-04	End Date:	20-Dec-04

Lab ID: 599816 Sample ID: DAJ084PC5 (P13VP14VP15

Percent Solids:	66.6%		Maximum Particle Size:	19 mm
Specific Gravity:	2.65	(assumed)	Shape (> #10):	angular
Non-soil mass:	12.8%		Hardness (> #10):	brittle



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	93.5	6.5
#4	4750	79.3	14.2
#10	2000	62.4	16.9
#20	850	48.0	14.4
#40	425	37.0	11.0
#60	250	30.1	6.9
#80	180	27.4	2.8
#100	150	26.5	0.9
#200	75	22.9	3.6
Hydrometer	32.4	19.1	3.8
|	20.8	17.2	1.9
|	12.4	13.5	3.7
|	9.3	8.5	5.0
|	6.4	7.3	1.2
|	3.2	6.0	1.3
V	1.4	4.1	1.8

Soil Classification	Percent of Total Sample
Gravel	20.7
Sand	56.4
Coarse Sand	16.9
Medium Sand	25.3
Fine Sand	14.2
Silt	15.6
Clay	7.3

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

Particle Size Analysis
Hydrometer Data

Set Number	Client:	Project No.:	ETR(s) #:
4K190132	STLPAP	24006	103993
	Client Code: STLPAP	Job No.: N/A	SDG(s): 4K190132
	Date Received: 20-Nov-04	Start Date: 14-Dec-04	End Date: 20-Dec-04

Date and Analyst

Percent Solids	Weighed/Mixed	Hydrometer	Large sieves	Non-soil	Small sieves
MAP 12/15/04	MAP 12/15/04	RRM 12/16/04	RRM 12/16/04	RRM 12/16/04	RRM 12/17/04
RRM 12/16/04	RRM 12/16/04	RRM 12/17/04	MAP 12/20/04	MAP 12/20/04	MAP 12/18/04

Test number	1	2	3	4	5	6	7	8	9	10	11	12
Lab number			599804	599805	599806	599807	599808	599809	599810	599810DP	599811	599812
Time, min. (2)	2	2	2	2	2	2	2	2	2	2	2	2
Reading			1.0300	1.0290	1.0325	1.0260	1.0255	1.0290	1.0250	1.0285	1.0265	1.0250
Temperature, C			20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	21.0
Time, min. (5)	5	5	5	5	5	5	5	5	5	5	5	5
Reading			1.0285	1.0280	1.0300	1.0250	1.0245	1.0270	1.0230	1.0270	1.0250	1.0250
Temperature, C			20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	21.0
Time, min. (15)	15	15	15	15	15	15	15	15	15	15	15	15
Reading			1.0245	1.0230	1.0270	1.0190	1.0195	1.0220	1.0160	1.0220	1.0200	1.0210
Temperature, C			20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
Time, min. (30)	30	30	29	29	31	31	31	32	30	30	30	31
Reading			1.0210	1.0160	1.0225	1.0110	1.0125	1.0120	1.0085	1.0135	1.0115	1.0160
Temperature, C			20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
Time, min. (60)	59	58	58	63	60	59	59	60	63	57	63	57
Reading			1.0180	1.0095	1.0145	1.0090	1.0110	1.0105	1.0070	1.0110	1.0100	1.0145
Temperature, C			20.5	20.5	20.5	20.5	20.0	20.5	20.0	20.0	20.5	20.5
Time, min. (250)	256	256	250	250	240	234	265	259	253	247	241	235
Reading			1.0150	1.0085	1.0085	1.0080	1.0095	1.0095	1.0070	1.0100	1.0090	1.0130
Temperature, C			20.5	20.5	20.5	20.5	20.5	20.5	20.0	20.0	20.0	20.5
Time, min. (1440)	1440	1440	1434	1434	1424	1418	1412	1406	1400	1394	1388	1382
Reading			1.0125	1.0080	1.0080	1.0075	1.0090	1.0085	1.0060	1.0085	1.0080	1.0110
Temperature, C			20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5

Hydrometer used: 723427 Model #: ASTM 151H Manufacturer: VWR Hydrometer start time: 13:45

Calibrations:

L temp, C	L read	H Temp, C	H read
17.0	1.0030	23.0	1.0020

Cal. Date: 23-Feb-04 Hydrometer data entered: MAP 12/17/04

Particle Size Analysis
Hydrometer Data

Set Number	Client:	Project No.:	ETR(s) #:
4K190132B	STLPAP	24006	103993
	Client Code: STLPAP	Job No.: N/A	SDG(s): 4K190132
	Date Received: 20-Nov-04	Start Date: 14-Dec-04	End Date: 20-Dec-04

Date and Analyst

Percent Solids	Weighed/Mixed	Hydrometer	Large sieves	Non-soil	Small sieves
MAP 12/15/04	MAP 12/15/04	RRM 12/17/04	RRM 12/16/04	RRM 12/10/04	MAP 12/18/04
MAP 12/16/04	RRM 12/16/04	MAP 12/18/04	DMA 12/20/04	DMA 12/20/04	DMA 12/20/04

Test number	1	2	3	4	5	6	7	8	9	10	11	12
Lab number	599813	599814	599815	599816								
Time, min. (2)	2	2	2	2	2	2	2	2	2	2	2	2
Reading	1.0220	1.0200	1.0205	1.0180								
Temperature, C	21.0	21.0	21.0	21.0								
Time, min. (5)	5	5	5	5	5	5	5	5	5	5	5	5
Reading	1.0200	1.0175	1.0190	1.0165								
Temperature, C	21.0	21.0	21.0	21.0								
Time, min. (15)	15	15	15	15	15	15	15	15	15	15	15	15
Reading	1.0135	1.0100	1.0125	1.0135								
Temperature, C	21.0	21.0	21.0	21.0								
Time, min. (30)	30	30	29	29	31	31	31	32	30	30	30	31
Reading	1.0120	1.0070	1.0090	1.0095								
Temperature, C	21.0	21.0	21.0	21.0								
Time, min. (60)	59	58	58	63	60	59	59	60	63	57	63	57
Reading	1.0065	1.0065	1.0080	1.0085								
Temperature, C	20.5	20.5	21.0	21.0								
Time, min. (250)	256	256	250	250	240	234	265	259	253	247	241	235
Reading	1.0055	1.0060	1.0070	1.0075								
Temperature, C	20.0	20.5	20.5	20.5								
Time, min. (1440)	1440	1440	1434	1434	1424	1418	1412	1406	1400	1394	1388	1382
Reading	1.0050	1.0060	1.0065	1.0060								
Temperature, C	20.5	20.5	21.0	21.0								

Hydrometer used: 548355 Model #: ASTM 151H Manufacturer: CHASE Hydrometer start time: 12:36

Calibrations:

L temp, C	L read	H Temp, C	H read
17.0	1.0030	23.0	1.0025

Cal. Date: 23-Feb-04 Hydrometer data entered: DMA 12/20/04

Particle Size Analysis
Hydrometer Data

Set Number	Client:	Project No.:	ETR(s) #:
4K190132	STLPAP	24006	103993
	Client Code: STLPAP	Job No.: N/A	SDG(s): 4K190132
	Date Received: 20-Nov-04	Start Date: 14-Dec-04	End Date: ~~12/17/04~~ 12/20/04 RCM 12/17/04

Date and Analyst

Percent Solids	Weighed/Mixed	Hydrometer	Large sieves	Non-soil	Small sieves
MAP 12-15-04 RCM 12/16/04	MAP 12-15-04 RCM 12/16/04	DMA 12-16-04 RCM 12/17/04	RCM 12/16/04 ~~RCM 12/16/04~~ ~~MAP 12/15/04~~ RCM 12/20/04	RCM 12/16/04 MAP 12/20/04	RCM 12/17/04 MAP 12/18/04

Test number	1	2	3	4	5	6	7	8	9	10	11	12
Lab number			599804	599805	599806	599807	599808	599809	599810	599810DP	599811	599812
Time, min. (2)	2	2	2	1.0290 2	2	2	2	2	2	2	2	2
Reading			1.0300	~~1.00~~	1.0325	1.0260	1.0255	1.0290	1.0250	1.0285	1.0265	1.0250
Temperature, C			20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	21.0
Time, min. (5)	5	5	5	5	5	5	5	1.0270 5	5	5	5	5
Reading			1.0285	1.0280	1.0300	1.0250	1.0245	~~1.0280~~	1.0230	1.0270	1.0250	1.0250
Temperature, C			20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	21.0
Time, min. (15)	15	15	15	15	15	15	15	15	15	15	15	15
Reading			1.0245	1.0250	1.0270	1.0190	1.0195	1.0220	1.0160	1.0220	1.0200	1.0210
Temperature, C			20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
Time, min. (30)	30	30	29	29	31	31	31	32	30	30	30	31
Reading			1.0210	1.0160	1.0225	1.0110	1.0125	1.0120	1.0085	1.0135	1.0115	1.0160
Temperature, C			20.5	20.5	20.5	20.5	20.5	20.5	20.0	20.5	20.5	20.5
Time, min. (60)	59	58	58	63	60	59	59	60	63	57	63	57
Reading			1.0180	1.0095	1.0145	1.0090	1.0110	1.0105	1.0070	1.0110	1.0106	1.0145
Temperature, C			20.5	20.5	20.5	20.5	20.0	20.5	20.0	20.0	20.5	20.5
Time, min. (250)	256	256	250	250	240	234	265	259	253	247	241	235
Reading			1.0150	1.0085	1.0085	1.0080	1.0095	1.0095	1.0070	1.0100	1.0090	1.0130
Temperature, C			20.5	20.5	20.5	20.5	20.5	20.5	20.0	20.0	20.0	20.5
Time, min. (1440)	1440	1440	1434	1434	1424	1418	1412	1406	1400	1394	1388	1382
Reading			1.0125	1.0080	1.0080	1.0075	1.0090	1.0085	1.0060	1.0085	1.0080	1.0110
Temperature, C			20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5

Hydrometer used: 723427 Model #: ASTM 151H Manufacturer: Hydrometer start time: 1345

Calibrations:	L temp, C	L read	H Temp, C	H read
	17.0		23.0	

Cal. Date: 23-Feb-04 Hydrometer data entered: MAP 12-17-04

Particle Size Analysis
Hydrometer Data

Set Number	Client:	Project No.:	ETR(s) #:
4K190132B	STLPAP	24006	103993
	Client Code: STLPAP	Job No.: N/A	SDG(s): 4K190132
	Date Received: 20-Nov-04	Start Date: 14-Dec-04	End Date: 12/20/04

Date and Analyst

Percent Solids	Weighed/Mixed	Hydrometer	Large sieves	Non-soil	Small sieves
MAP 12-15-04	MAP 12-15-04	RRm 12/17/04	RRm 12/16/04	RRm 12/16/04	MAP 12-18-04
MAP 12-16-04	RRm 12/16/04	MAP 12/18/04	DMA 12/20/04	DMA 12/20/04	DMA 12/20/04

Test number	1	2	3	4	5	6	7	8	9	10	11	12
Lab number	599813	599814	599815	599816								
Time, min. (2)	2	2	2	2	2	2	2	2	2	2	2	2
Reading	1.0220	1.0200	1.0205	1.0180								
Temperature, C	21.0	21.0	21.0	21.0								
Time, min. (5)	5	5	5	5	5	5	5	5	5	5	5	5
Reading	1.0200	1.0175	1.0196	1.0165								
Temperature, C	21.0	21.0	21.0	21.0								
Time, min. (15)	15	15	15	15	15	15	15	15	15	15	15	15
Reading	1.0135	1.0100	1.0125	1.0135								
Temperature, C	21.0	21.0	21.0	21.0								
Time, min. (30)	30	30	29	29	31	31	31	32	30	30	30	31
Reading	1.0120	1.0070	1.0090	1.0095								
Temperature, C	21.0	21.0	21.0	21.0								
Time, min. (60)	59	58	58	63	60	59	59	60	63	57	63	57
Reading	1.0065	1.0065	1.0080	1.0086								
Temperature, C	20.5	20.5	21.0	21.0								
Time, min. (250)	256	256	250	250	240	234	265	259	253	247	241	235
Reading	1.0055	1.0060	1.0070	1.0075								
Temperature, C	20.0	20.5	20.5	20.5								
Time, min. (1440)	1440	1440	1434	1434	1424	1418	1412	1406	1400	1394	1388	1382
Reading	1.0050	1.0060	1.0065	1.0060								
Temperature, C	20.5	20.0	21.0	21.0								

Hydrometer used: 548355 Model #: ASTM 151H Manufacturer: Hydrometer start time: 12:36

Calibrations:

L temp, C	L read	H Temp, C	H read
17.0		23.0	

Cal. Date: 23-Feb-04 Hydrometer data entered: DMA 12/20/04

SEVERN TRENT STL

Sample Preparation And Equipment Calibration Information

0579

Appendix F

Appendix F
Summary Tables of Bulk Sediment Chemistry Results

SAMPLE ID		DAJ-050 BA-C-1(1,2,3)			DAJ-051 BA-C-2(4,5,6)		
LAB SAMPLE ID		C4K190132001			C4K190132002		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
Dioxin							
2,3,7,8-TCDF		4.7 Q	0	0.46	24 Q	0	2.7
1,2,3,7,8-PeCDF		1.9 J	0	0.075	8	0	0.39
2,3,4,7,8-PeCDF		2 J	0	0.094	8.7 Q	0	0.95
1,2,3,4,7,8-HxCDF		4.5 B J	0	0.054	22	0	0.17
2,3,4,6,7,8-HxCDF		1.4 B J	0	0.058	6.8	0	0.21
1,2,3,7,8,9-HxCDF		0.24 J	0	0.072	0.81 Q J	0	0.22
1,2,3,4,6,7,8-HpCDF		28 B	0	0.079	100	0	0.21
OCDF		31 B	0	0.12	120 Q	0	0.24
2,3,7,8-TCDD		2.5	0	0.17	13 Q	0	0.65
1,2,3,7,8-PeCDD		1.1 J	0	0.11	5.3 J	0	0.46
1,2,3,7,8,9-HxCDD		5.5 B	0	0.085	29	0	0.28
1,2,3,4,6,7,8-HpCDD		69 B	0	0.1	360	0	0.34
OCDD		1100 B	0	0.17	3600 B	0	0.39
1,2,3,6,7,8-HxCDF		1.8 B J	0	0.054	9.2	0	0.17
1,2,3,4,7,8,9-HpCDF		1.3 B J	0	0.1	7.1	0	0.32
1,2,3,4,7,8-HxCDD		1.1 J	0	0.089	4.7 J	0	0.28
1,2,3,6,7,8-HxCDD		6.2	0	0.089	43	0	0.3
PCB							
Aroclor 1016	ug/kg	31 U	25	31	44 U	36	44
Aroclor 1221	ug/kg	31 U	12	31	44 U	17	44
Aroclor 1232	ug/kg	31 U	15	31	44 U	21	44
Aroclor 1242	ug/kg	31	10	31	44 U	15	44
Aroclor 1248	ug/kg	180	11	31	260	16	44
Aroclor 1254	ug/kg	31 U	4.1	31	44 U	5.9	44
Aroclor 1260	ug/kg	75	3.4	31	91	4.9	44
GC Semivolatiles							
Dieldrin	ug/kg	1.5 J PG	0.75	7.9	2.7 J PG	1.1	11
Endosulfan I	ug/kg	7.9 U	0.76	7.9	11 U	1.1	11
Endosulfan II	ug/kg	2.8 J PG	1.2	7.9	11 U	1.7	11
Endosulfan sulfate	ug/kg	7.9 U	1.1	7.9	11 U	1.5	11
Endrin	ug/kg	6.6 J	0.77	7.9	7.8 J	1.1	11
Endrin aldehyde	ug/kg	7.9 U	1.7	7.9	11 U	2.4	11
Endrin ketone	ug/kg	7.9 U	1	7.9	11 U	1.5	11
Heptachlor	ug/kg	7.9 U	0.75	7.9	11 U	1.1	11
Heptachlor epoxide	ug/kg	2.2 J	0.95	7.9	2.9 J	1.4	11
Methoxychlor	ug/kg	15 U	1.7	15	22 U	2.5	22
alpha-BHC	ug/kg	7.9 U	0.66	7.9	11 U	0.96	11
beta-BHC	ug/kg	7.9 U	1	7.9	11 U	1.5	11
delta-BHC	ug/kg	2.4 J	0.85	7.9	1.3 J PG	1.2	11
gamma-BHC (Lindane)	ug/kg	7.9 U	0.65	7.9	11 U	0.95	11
Toxaphene	ug/kg	310 U	52	310	450 U	75	450
alpha-Chlordane	ug/kg	3.6 J	1	7.9	5 J	1.5	11
gamma-Chlordane	ug/kg	1.2 J PG	0.98	7.9	1.5 J PG	1.4	11
Aldrin	ug/kg	2.2 J PG	0.98	7.9	2.5 J PG	1.4	11
4,4'-DDD	ug/kg	3.3 J PG	0.76	7.9	5 J PG	1.1	11
4,4'-DDE	ug/kg	7.8 J	0.97	7.9	9.1 J	1.4	11
4,4'-DDT	ug/kg	7.9 U	0.84	7.9	11 U	1.2	11

SAMPLE ID		DAJ-050 BA-C-1(1,2,3)			DAJ-051 BA-C-2(4,5,6)		
LAB SAMPLE ID		C4K190132001			C4K190132002		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
GC/MS Semivolatiles							
Acenaphthene	ug/kg	28 J	13	610	170 J	20	890
Diethyl phthalate	ug/kg	610 U	12	610	890 U	18	890
2,4-Dimethylphenol	ug/kg	610 U	10	610	890 U	14	890
Dimethyl phthalate	ug/kg	610 U	13	610	890 U	19	890
Di-n-octyl phthalate	ug/kg	610 U	14	610	890 U	21	890
4,6-Dinitro-2-methylphenol	ug/kg	3000 U	1500	3000	4300 U	2200	4300
2,4-Dinitrophenol	ug/kg	3000 U	1500	3000	4300 U	2200	4300
2,4-Dinitrotoluene	ug/kg	610 U	6.5	610	890 U	9.4	890
2,6-Dinitrotoluene	ug/kg	610 U	8.8	610	890 U	13	890
Anthracene	ug/kg	130 J	14	610	240 J	20	890
Fluoranthene	ug/kg	750	13	610	1400	19	890
Fluorene	ug/kg	610 U	15	610	150 J	21	890
Hexachlorobenzene	ug/kg	610 U	12	610	890 U	18	890
Hexachlorobutadiene	ug/kg	610 U	12	610	890 U	18	890
Hexachlorocyclopentadiene	ug/kg	3000 U	50	3000	4300 U	72	4300
Hexachloroethane	ug/kg	610 U	12	610	890 U	17	890
Indeno(1,2,3-cd)pyrene	ug/kg	83 J	12	610	180 J	18	890
Isophorone	ug/kg	610 U	12	610	890 U	17	890
2-Methylnaphthalene	ug/kg	16 J	15	610	80 J	22	890
2-Methylphenol	ug/kg	610 U	14	610	890 U	20	890
4-Methylphenol	ug/kg	610 U	14	610	890 U	20	890
Naphthalene	ug/kg	56 J	15	610	170 J	21	890
2-Nitroaniline	ug/kg	3000 U	7.7	3000	4300 U	11	4300
3-Nitroaniline	ug/kg	3000 U	310	3000	4300 U	450	4300
4-Nitroaniline	ug/kg	3000 U	8.6	3000	4300 U	13	4300
Nitrobenzene	ug/kg	610 U	20	610	890 U	29	890
2-Nitrophenol	ug/kg	610 U	11	610	890 U	16	890
4-Nitrophenol	ug/kg	3000 U	8.3	3000	4300 U	12	4300
Benzo(a)anthracene	ug/kg	290 J	14	610	510 J	20	890
N-Nitrosodi-n-propylamine	ug/kg	610 U	13	610	890 U	18	890
N-Nitrosodiphenylamine	ug/kg	610 U	130	610	890 U	190	890
Benzo(b)fluoranthene	ug/kg	210 J	12	610	520 J	18	890
Benzo(k)fluoranthene	ug/kg	91 J	12	610	890 U	18	890
Benzo(ghi)perylene	ug/kg	110 J	12	610	200 J	17	890
Benzo(a)pyrene	ug/kg	170 J	10	610	320 J	15	890
Pentachlorophenol	ug/kg	3000 U	850	3000	4300 U	1200	4300
Phenanthrene	ug/kg	100 J	15	610	420 J	21	890
Phenol	ug/kg	610 U	13	610	890 U	18	890
Pyrene	ug/kg	820	15	610	1000	22	890
1,2,4-Trichlorobenzene	ug/kg	610 U	13	610	890 U	18	890
2,4,5-Trichlorophenol	ug/kg	610 U	35	610	890 U	51	890
2,4,6-Trichlorophenol	ug/kg	610 U	11	610	890 U	15	890
Carbazole	ug/kg	610 U	14	610	48 J	21	890
bis(2-Chloroethoxy)methane	ug/kg	610 U	14	610	890 U	20	890
bis(2-Chloroethyl) ether	ug/kg	610 U	12	610	890 U	17	890
bis(2-Ethylhexyl) phthalate	ug/kg	250 J	38	610	10000 D	90	1800
4-Bromophenyl phenyl ether	ug/kg	610 U	31	610	890 U	45	890
2,2'-oxybis(1-Chloropropane)	ug/kg	610 U	9	610	890 U	13	890
Butyl benzyl phthalate	ug/kg	610 U	14	610	45 J	20	890
Acenaphthylene	ug/kg	33 J	13	610	120 J	19	890
4-Chloroaniline	ug/kg	610 U	31	610	890 U	45	890
4-Chloro-3-methylphenol	ug/kg	610 U	13	610	890 U	19	890
2-Chloronaphthalene	ug/kg	610 U	13	610	890 U	19	890
2-Chlorophenol	ug/kg	610 U	9.8	610	890 U	14	890
4-Chlorophenyl phenyl ether	ug/kg	610 U	13	610	890 U	18	890
Chrysene	ug/kg	300 J	12	610	570 J	17	890
Dibenz(a,h)anthracene	ug/kg	610 U	10	610	890 U	15	890
Dibenzofuran	ug/kg	610 U	14	610	74 J	20	890
Di-n-butyl phthalate	ug/kg	610 U	75	610	890 U	110	890
1,2-Dichlorobenzene	ug/kg	610 U	13	610	890 U	19	890
1,3-Dichlorobenzene	ug/kg	610 U	11	610	890 U	16	890
1,4-Dichlorobenzene	ug/kg	14 J	13	610	38 J	19	890
3,3'-Dichlorobenzidine	ug/kg	3000 U	15	3000	4300 U	22	4300
2,4-Dichlorophenol	ug/kg	610 U	12	610	890 U	17	890

SAMPLE ID	DAJ-050 BA-C-1(1,2,3)				DAJ-051 BA-C-2(4,5,6)			
LAB SAMPLE ID	C4K190132001				C4K190132002			
MATRIX	SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Metals**									
Antimony	mg/kg	0.93	N U	0.3	0.93	1.3	N U	0.43	1.3
Arsenic	mg/kg	11.8	N	0.31	0.93	26.9	N	0.44	1.3
Iron	mg/kg	22900		1.7	9.3	37600		2.4	13.4
Lead	mg/kg	37.1	N	0.15	0.28	163	N	0.21	0.4
Magnesium	mg/kg	5170	N	0.95	464	7980	N	1.4	672
Manganese	mg/kg	221		0.011	1.4	594		0.015	2
Barium	mg/kg	27.8	N	0.093	18.6	73.6	N	0.13	26.9
Nickel	mg/kg	17.2	N	0.11	3.7	35	N	0.17	5.4
Potassium	mg/kg	2750		7	464	3770		10.1	672
Beryllium	mg/kg	0.84	N	0.039	0.37	1.3	N	0.056	0.54
Selenium	mg/kg	1.1	N	0.24	0.46	2.6	N	0.35	0.67
Silver	mg/kg	0.75		0.028	0.46	4.9		0.04	0.67
Sodium	mg/kg	7290	N	14.5	464	14700	N	21	672
Thallium	mg/kg	0.93	N U	0.42	0.93	1.3	N U	0.61	1.3
Vanadium	mg/kg	30.6	N	0.096	4.6	61.9	N	0.14	6.7
Zinc	mg/kg	94.8	E	0.16	1.9	327	E	0.23	2.7
Chromium	mg/kg	37.1	N	0.086	0.46	132	N	0.13	0.67
Cadmium	mg/kg	0.89	N	0.065	0.46	2.9	N	0.094	0.67
Calcium	mg/kg	11700	N*	3.7	464	12600	N*	5.3	672
Cobalt	mg/kg	6.4	N	0.049	4.6	11.7	N	0.071	6.7
Copper	mg/kg	34.4	N	0.11	2.3	170	N	0.15	3.4
Aluminum	mg/kg	8990		0.74	18.6	14000		1.1	26.9
Mercury	mg/kg	0.49		0.011	0.031	2.7		0.032	0.09
Cyanide, Total	mg/kg	0.93	U	0.4	0.93	1.3	U	0.58	1.3
Percent Solids	%	53.9		0	1	37.2		0	1

Qualifiers
U= Analyte not detected. Reporting Limit reported
J= Analyte detected at a concentration less than the Reporting Limit
B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
PG = The percent difference between the original and confirmation analysis is greater than 40%
Q=Estimated maximum possible concentration
D= Dilution data reported
S=Ion suppresion

**Qualifiers for Metals Only
U= Result is less than the MDL. Reporting Limit reported
B= Result is between the MDL and RL
J= Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E= Serial dilution percent difference not within limits
N= matrix spike and/or matrix spike recover failed
* Duplicate RPD was not within limits.

SAMPLE ID		DAJ-052 BA-C-3(7,8,9)			DAJ-053 BA-C-4(10,11,12)		
LAB SAMPLE ID		C4K190132003			C4K190132004R2		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
Dioxin							
2,3,7,8-TCDF		16 Q	0	1.3	14 S	0	0.95
1,2,3,7,8-PeCDF		6.1 J	0	0.16	5.3 J	0	0.25
2,3,4,7,8-PeCDF		7.2	0	0.21	6.1 J	0	0.38
1,2,3,4,7,8-HxCDF		18 B	0	0.076	14	0	0.18
2,3,4,6,7,8-HxCDF		5.1 B J	0	0.087	4.7 J	0	0.23
1,2,3,7,8,9-HxCDF		0.5 Q J	0	0.096	0.25 U	0	0.25
1,2,3,4,6,7,8-HpCDF		73 B	0	0.11	71	0	0.22
OCDF		130 B Q	0	0.12	88 Q	0	0.27
2,3,7,8-TCDD		11	0	0.25	8.4	0	0.54
1,2,3,7,8-PeCDD		3.4 J	0	0.16	2.6 J	0	0.31
1,2,3,7,8,9-HxCDD		19 B	0	0.1	14	0	0.25
1,2,3,4,6,7,8-HpCDD		210 B	0	0.18	220	0	0.31
OCDD		2200 B	0	0.19	2200 B	0	0.44
1,2,3,6,7,8-HxCDF		6.1 B J	0	0.073	5.7 J	0	0.19
1,2,3,4,7,8,9-HpCDF		4.8 B J	0	0.12	4.5 J	0	0.31
1,2,3,4,7,8-HxCDD		2.9 J	0	0.1	2.4 J	0	0.25
1,2,3,6,7,8-HxCDD		31	0	0.11	20	0	0.27
PCB							
Aroclor 1016	ug/kg	42 U	34	42	44 U	35	44
Aroclor 1221	ug/kg	42 U	16	42	44 U	17	44
Aroclor 1232	ug/kg	42 U	20	42	44 U	21	44
Aroclor 1242	ug/kg	42 U	14	42	44 U	15	44
Aroclor 1248	ug/kg	350	16	42	150	16	44
Aroclor 1254	ug/kg	42 U	5.7	42	44 U	5.9	44
Aroclor 1260	ug/kg	130	4.7	42	65	4.9	44
GC Semivolatiles							
Dieldrin	ug/kg	2.9 J PG	1	11	1.6 J PG	1.1	11
Endosulfan I	ug/kg	1.8 J PG	1	11	11 U	1.1	11
Endosulfan II	ug/kg	4.6 J PG	1.7	11	2.4 J PG	1.7	11
Endosulfan sulfate	ug/kg	11 U	1.5	11	11 U	1.5	11
Endrin	ug/kg	8.9 J	1.1	11	6.3 J	1.1	11
Endrin aldehyde	ug/kg	11 U	2.3	11	11 U	2.4	11
Endrin ketone	ug/kg	11 U	1.4	11	11 U	1.5	11
Heptachlor	ug/kg	11 U	1	11	11 U	1.1	11
Heptachlor epoxide	ug/kg	3.9 J	1.3	11	2 J	1.4	11
Methoxychlor	ug/kg	21 U	2.4	21	22 U	2.5	22
alpha-BHC	ug/kg	11 U	0.92	11	11 U	0.96	11
beta-BHC	ug/kg	11 U	1.4	11	11 U	1.5	11
delta-BHC	ug/kg	4.5 J	1.2	11	1.5 J PG	1.2	11
gamma-BHC (Lindane)	ug/kg	11 U	0.91	11	11 U	0.94	11
Toxaphene	ug/kg	430 U	72	430	450 U	74	450
alpha-Chlordane	ug/kg	5.8 J	1.4	11	3 J	1.5	11
gamma-Chlordane	ug/kg	1.7 J PG	1.4	11	11 U	1.4	11
Aldrin	ug/kg	11 U	1.4	11	11 U	1.4	11
4,4'-DDD	ug/kg	5.4 J PG	1.1	11	3.1 J PG	1.1	11
4,4'-DDE	ug/kg	13	1.3	11	6.4 J	1.4	11
4,4'-DDT	ug/kg	11 U	1.2	11	17	1.2	11

SAMPLE ID		DAJ-052 BA-C-3(7,8,9)			DAJ-053 BA-C-4(10,11,12)		
LAB SAMPLE ID		C4K190132003			C4K190132004R2		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
GC/MS Semivolatiles							
Acenaphthene	ug/kg	220 J	19	850	220 J	19	880
Diethyl phthalate	ug/kg	850 U	17	850	880 U	18	880
2,4-Dimethylphenol	ug/kg	850 U	14	850	880 U	14	880
Dimethyl phthalate	ug/kg	850 U	18	850	880 U	19	880
Di-n-octyl phthalate	ug/kg	850 U	20	850	880 U	21	880
4,6-Dinitro-2-methylphenol	ug/kg	4100 U	2100	4100	4300 U	2200	4300
2,4-Dinitrophenol	ug/kg	4100 U	2100	4100	4300 U	2200	4300
2,4-Dinitrotoluene	ug/kg	850 U	9	850	880 U	9.3	880
2,6-Dinitrotoluene	ug/kg	850 U	12	850	880 U	13	880
Anthracene	ug/kg	260 J	20	850	190 J	20	880
Fluoranthene	ug/kg	1500	18	850	1500	19	880
Fluorene	ug/kg	190 J	20	850	120 J	21	880
Hexachlorobenzene	ug/kg	850 U	17	850	880 U	18	880
Hexachlorobutadiene	ug/kg	850 U	17	850	880 U	17	880
Hexachlorocyclopentadiene	ug/kg	4100 U	69	4100	4300 U	71	4300
Hexachloroethane	ug/kg	850 U	16	850	880 U	17	880
Indeno(1,2,3-cd)pyrene	ug/kg	160 J	17	850	140 J	18	880
Isophorone	ug/kg	850 U	16	850	880 U	17	880
2-Methylnaphthalene	ug/kg	82 J	21	850	60 J	22	880
2-Methylphenol	ug/kg	850 U	19	850	880 U	20	880
4-Methylphenol	ug/kg	40 J	19	850	880 U	20	880
Naphthalene	ug/kg	140 J	20	850	140 J	21	880
2-Nitroaniline	ug/kg	4100 U	11	4100	4300 U	11	4300
3-Nitroaniline	ug/kg	4100 U	430	4100	4300 U	450	4300
4-Nitroaniline	ug/kg	4100 U	12	4100	4300 U	12	4300
Nitrobenzene	ug/kg	850 U	28	850	880 U	29	880
2-Nitrophenol	ug/kg	850 U	15	850	880 U	16	880
4-Nitrophenol	ug/kg	4100 U	11	4100	4300 U	12	4300
Benzo(a)anthracene	ug/kg	480 J	19	850	420 J	20	880
N-Nitrosodi-n-propylamine	ug/kg	850 U	17	850	880 U	18	880
N-Nitrosodiphenylamine	ug/kg	850 U	180	850	880 U	190	880
Benzo(b)fluoranthene	ug/kg	490 J	17	850	49 J	18	880
Benzo(k)fluoranthene	ug/kg	850 U	17	850	880 U	17	880
Benzo(ghi)perylene	ug/kg	190 J	16	850	150 J	17	880
Benzo(a)pyrene	ug/kg	300 J	14	850	120 J	15	880
Pentachlorophenol	ug/kg	4100 U	1200	4100	4300 U	1200	4300
Phenanthrene	ug/kg	660 J	20	850	380 J	21	880
Phenol	ug/kg	850 U	18	850	880 U	18	880
Pyrene	ug/kg	1100	21	850	1200	22	880
1,2,4-Trichlorobenzene	ug/kg	850 U	17	850	880 U	18	880
2,4,5-Trichlorophenol	ug/kg	850 U	49	850	880 U	51	880
2,4,6-Trichlorophenol	ug/kg	850 U	15	850	880 U	15	880
Carbazole	ug/kg	58 J	20	850	31 J	21	880
bis(2-Chloroethoxy)methane	ug/kg	850 U	19	850	880 U	20	880
bis(2-Chloroethyl) ether	ug/kg	850 U	17	850	880 U	17	880
bis(2-Ethylhexyl) phthalate	ug/kg	7200 D	86	1700	3400	55	880
4-Bromophenyl phenyl ether	ug/kg	850 U	43	850	880 U	45	880
2,2'-oxybis(1-Chloropropane)	ug/kg	850 U	12	850	880 U	13	880
Butyl benzyl phthalate	ug/kg	850 U	19	850	880 U	20	880
Acenaphthylene	ug/kg	100 J	18	850	93 J	19	880
4-Chloroaniline	ug/kg	850 U	43	850	880 U	45	880
4-Chloro-3-methylphenol	ug/kg	850 U	19	850	880 U	19	880
2-Chloronaphthalene	ug/kg	850 U	18	850	880 U	19	880
2-Chlorophenol	ug/kg	850 U	14	850	880 U	14	880
4-Chlorophenyl phenyl ether	ug/kg	850 U	18	850	880 U	18	880
Chrysene	ug/kg	510 J	17	850	410 J	17	880
Dibenz(a,h)anthracene	ug/kg	850 U	14	850	880 U	15	880
Dibenzofuran	ug/kg	100 J	19	850	70 J	20	880
Di-n-butyl phthalate	ug/kg	850 U	100	850	880 U	110	880
1,2-Dichlorobenzene	ug/kg	850 U	18	850	880 U	19	880
1,3-Dichlorobenzene	ug/kg	850 U	15	850	880 U	15	880
1,4-Dichlorobenzene	ug/kg	30 J	18	850	19 J	19	880
3,3'-Dichlorobenzidine	ug/kg	4100 U	21	4100	4300 U	22	4300
2,4-Dichlorophenol	ug/kg	850 U	16	850	880 U	17	880

SAMPLE ID		DAJ-052 BA-C-3(7,8,9)			DAJ-053 BA-C-4(10,11,12)		
LAB SAMPLE ID		C4K190132003			C4K190132004R2		
MATRIX		SOIL			SOIL		
PARAMETER	UNITS	RESULT Q	MDL	RL	RESULT Q	MDL	RL
Metals**							
Antimony	mg/kg	1.3 N U	0.41	1.3	1.3 N U	0.43	1.3
Arsenic	mg/kg	26.9 N	0.42	1.3	20.5 N	0.44	1.3
Iron	mg/kg	34900	2.3	12.8	32500	2.4	13.4
Lead	mg/kg	151 N	0.2	0.39	120 N	0.21	0.4
Magnesium	mg/kg	7660 N	1.3	642	7280 N	1.4	669
Manganese	mg/kg	538	0.015	1.9	488	0.015	2
Barium	mg/kg	70.2 N	0.13	25.7	58.8 N	0.13	26.8
Nickel	mg/kg	33.7 N	0.16	5.1	29.3 N	0.17	5.4
Potassium	mg/kg	3640	9.6	642	3620	10	669
Beryllium	mg/kg	1.2 N	0.054	0.51	1.2 N	0.056	0.54
Selenium	mg/kg	2.6 N	0.34	0.64	2 N	0.35	0.67
Silver	mg/kg	4.5	0.038	0.64	3.6	0.04	0.67
Sodium	mg/kg	14400 N	20.1	642	14400 N	21	669
Thallium	mg/kg	1.3 N U	0.59	1.3	1.3 N U	0.61	1.3
Vanadium	mg/kg	58.3 N	0.13	6.4	50.9 N	0.14	6.7
Zinc	mg/kg	312 E	0.22	2.6	249 E	0.23	2.7
Chromium	mg/kg	123 N	0.12	0.64	97 N	0.12	0.67
Cadmium	mg/kg	2.7 N	0.089	0.64	2.1 N	0.093	0.67
Calcium	mg/kg	12700 N*	5.1	642	16000 N*	5.3	669
Cobalt	mg/kg	10.9 N	0.068	6.4	10.1 N	0.071	6.7
Copper	mg/kg	158 N	0.15	3.2	119 N	0.15	3.3
Aluminum	mg/kg	13300	1	25.7	12400	1.1	26.8
Mercury	mg/kg	2.7	0.03	0.086	1.9	0.016	0.045
Cyanide, Total	mg/kg	1.3 U	0.56	1.3	1.3 U	0.58	1.3
Percent Solids	%	38.9	0	1	37.4	0	1

Qualifiers
U= Analyte not detected. Reporting Limit reported
J= Analyte detected at a concentration less than the Reporting Limit
B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
PG = The percent difference between the original and confirmation analysis is greater than 40%
Q=Estimated maximum possible concentration
D= Dilution data reported
S=Ion suppresion

**Qualifiers for Metals Only
U= Result is less than the MDL. Reporting Limit reported
B= Result is between the MDL and RL
J= Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E= Serial dilution percent difference not within limits
N= matrix spike and/or matrix spike recover failed
* Duplicate RPD was not within limits.

SAMPLE ID		DAJ-054 BA-C-5(13,14,15)			DAJ-055 BA-C-6(16,17,18)		
LAB SAMPLE ID		C4K190132005R2			C4K190132006		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
Dioxin							
2,3,7,8-TCDF		14 S	0	0.73	7.2 Q	0	0.63
1,2,3,7,8-PeCDF		5 J	0	0.28	2.7 J	0	0.15
2,3,4,7,8-PeCDF		6.4 Q J	0	0.5	2.8 Q J	0	0.19
1,2,3,4,7,8-HxCDF		17	0	0.16	6.9 B	0	0.11
2,3,4,6,7,8-HxCDF		4.5 Q J	0	0.18	2.1 B J	0	0.12
1,2,3,7,8,9-HxCDF		0.37 Q J	0	0.2	0.15 U	0	0.15
1,2,3,4,6,7,8-HpCDF		69	0	0.26	28 B	0	0.17
OCDF		120 Q	0	0.28	53 Q B	0	0.3
2,3,7,8-TCDD		6.8	0	0.55	3.9	0	0.24
1,2,3,7,8-PeCDD		2.5 J	0	0.33	1.4 J	0	0.18
1,2,3,7,8,9-HxCDD		15	0	0.3	6.4 B	0	0.17
1,2,3,4,6,7,8-HpCDD		210	0	0.39	87 B	0	0.33
OCDD		2300 B	0	0.34	990 B	0	0.53
1,2,3,6,7,8-HxCDF		5.8 J	0	0.16	2.5 B J	0	0.1
1,2,3,4,7,8,9-HpCDF		4.7 J	0	0.31	2.3 B J	0	0.25
1,2,3,4,7,8-HxCDD		2.7 Q J	0	0.31	1.1 Q J	0	0.18
1,2,3,6,7,8-HxCDD		22	0	0.33	9.2	0	0.18
PCB							
Aroclor 1016	ug/kg	43 U	35	43	41 U	33	41
Aroclor 1221	ug/kg	43 U	17	43	41 U	16	41
Aroclor 1232	ug/kg	43 U	21	43	41 U	19	41
Aroclor 1242	ug/kg	43 U	15	43	41 U	14	41
Aroclor 1248	ug/kg	110	16	43	230	15	41
Aroclor 1254	ug/kg	43 U	5.8	43	41 U	5.4	41
Aroclor 1260	ug/kg	44	4.8	43	100	4.5	41
GC Semivolatiles							
Dieldrin	ug/kg	11 U	1.1	11	2.3 J PG	0.99	10
Endosulfan I	ug/kg	11 U	1.1	11	10 U	1	10
Endosulfan II	ug/kg	2 J	1.7	11	4.3 J	1.6	10
Endosulfan sulfate	ug/kg	11 U	1.5	11	10 U	1.4	10
Endrin	ug/kg	3.3 J	1.1	11	2.9 J PG	1	10
Endrin aldehyde	ug/kg	11 U	2.4	11	10 U	2.2	10
Endrin ketone	ug/kg	11 U	1.4	11	10 U	1.3	10
Heptachlor	ug/kg	11 U	1.1	11	10 U	0.99	10
Heptachlor epoxide	ug/kg	11 U	1.3	11	3.6 J	1.3	10
Methoxychlor	ug/kg	22 U	2.4	22	20 U	2.3	20
alpha-BHC	ug/kg	11 U	0.94	11	10 U	0.88	10
beta-BHC	ug/kg	11 U	1.5	11	10 U	1.4	10
delta-BHC	ug/kg	11 U	1.2	11	3.8 J	1.1	10
gamma-BHC (Lindane)	ug/kg	11 U	0.92	11	10 U	0.87	10
Toxaphene	ug/kg	440 U	73	440	410 U	68	410
alpha-Chlordane	ug/kg	1.7 J	1.4	11	4.2 J	1.3	10
gamma-Chlordane	ug/kg	11 U	1.4	11	10 U	1.3	10
Aldrin	ug/kg	11 U	1.4	11	10 U	1.3	10
4,4'-DDD	ug/kg	1.6 J PG	1.1	11	6 J	1	10
4,4'-DDE	ug/kg	3.8 J	1.4	11	10	1.3	10
4,4'-DDT	ug/kg	11 U	1.2	11	10 U	1.1	10

SAMPLE ID		DAJ-054 BA-C-5(13,14,15)			DAJ-055 BA-C-6(16,17,18)		
LAB SAMPLE ID		C4K190132005R2			C4K190132006		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
GC/MS Semivolatiles							
Acenaphthene	ug/kg	33 J	19	860	220 J	36	1600
Diethyl phthalate	ug/kg	860 U	18	860	1600 U	33	1600
2,4-Dimethylphenol	ug/kg	860 U	14	860	1600 U	26	1600
Dimethyl phthalate	ug/kg	860 U	18	860	1600 U	34	1600
Di-n-octyl phthalate	ug/kg	860 U	20	860	1600 U	38	1600
4,6-Dinitro-2-methylphenol	ug/kg	4200 U	2200	4200	7900 U	4100	7900
2,4-Dinitrophenol	ug/kg	4200 U	2200	4200	7900 U	4100	7900
2,4-Dinitrotoluene	ug/kg	860 U	9.1	860	1600 U	17	1600
2,6-Dinitrotoluene	ug/kg	860 U	12	860	1600 U	23	1600
Anthracene	ug/kg	110 J	20	860	240 J	37	1600
Fluoranthene	ug/kg	500 J	19	860	1100 J	35	1600
Fluorene	ug/kg	43 J	21	860	150 J	39	1600
Hexachlorobenzene	ug/kg	860 U	18	860	1600 U	33	1600
Hexachlorobutadiene	ug/kg	860 U	17	860	1600 U	32	1600
Hexachlorocyclopentadiene	ug/kg	4200 U	70	4200	7900 U	130	7900
Hexachloroethane	ug/kg	860 U	17	860	1600 U	31	1600
Indeno(1,2,3-cd)pyrene	ug/kg	110 J	17	860	180 J	33	1600
Isophorone	ug/kg	860 U	17	860	1600 U	31	1600
2-Methylnaphthalene	ug/kg	47 J	21	860	81 J	40	1600
2-Methylphenol	ug/kg	860 U	19	860	1600 U	37	1600
4-Methylphenol	ug/kg	860 U	20	860	45 J	37	1600
Naphthalene	ug/kg	76 J	21	860	140 J	39	1600
2-Nitroaniline	ug/kg	4200 U	11	4200	7900 U	20	7900
3-Nitroaniline	ug/kg	4200 U	440	4200	7900 U	830	7900
4-Nitroaniline	ug/kg	4200 U	12	4200	7900 U	23	7900
Nitrobenzene	ug/kg	860 U	28	860	1600 U	53	1600
2-Nitrophenol	ug/kg	860 U	16	860	1600 U	29	1600
4-Nitrophenol	ug/kg	4200 U	12	4200	7900 U	22	7900
Benzo(a)anthracene	ug/kg	300 J	19	860	460 J	36	1600
N-Nitrosodi-n-propylamine	ug/kg	860 U	18	860	1600 U	33	1600
N-Nitrosodiphenylamine	ug/kg	860 U	180	860	1600 U	340	1600
Benzo(b)fluoranthene	ug/kg	250 J	17	860	370 J	33	1600
Benzo(k)fluoranthene	ug/kg	88 J	17	860	150 J	32	1600
Benzo(ghi)perylene	ug/kg	130 J	17	860	230 J	31	1600
Benzo(a)pyrene	ug/kg	230 J	15	860	310 J	28	1600
Pentachlorophenol	ug/kg	4200 U	1200	4200	7900 U	2200	7900
Phenanthrene	ug/kg	150 J	21	860	440 J	39	1600
Phenol	ug/kg	860 U	18	860	46 J B	34	1600
Pyrene	ug/kg	490 J	21	860	1000 J	40	1600
1,2,4-Trichlorobenzene	ug/kg	860 U	18	860	1600 U	33	1600
2,4,5-Trichlorophenol	ug/kg	860 U	50	860	1600 U	93	1600
2,4,6-Trichlorophenol	ug/kg	860 U	15	860	1600 U	28	1600
Carbazole	ug/kg	860 U	20	860	1600 U	38	1600
bis(2-Chloroethoxy)methane	ug/kg	860 U	20	860	1600 U	37	1600
bis(2-Chloroethyl) ether	ug/kg	860 U	17	860	1600 U	32	1600
bis(2-Ethylhexyl) phthalate	ug/kg	5900	54	860	3400	100	1600
4-Bromophenyl phenyl ether	ug/kg	860 U	44	860	1600 U	82	1600
2,2'-oxybis(1-Chloropropane)	ug/kg	860 U	13	860	1600 U	24	1600
Butyl benzyl phthalate	ug/kg	860 U	19	860	1600 U	36	1600
Acenaphthylene	ug/kg	78 J	18	860	110 J	34	1600
4-Chloroaniline	ug/kg	860 U	44	860	1600 U	82	1600
4-Chloro-3-methylphenol	ug/kg	860 U	19	860	1600 U	36	1600
2-Chloronaphthalene	ug/kg	860 U	19	860	1600 U	35	1600
2-Chlorophenol	ug/kg	860 U	14	860	1600 U	26	1600
4-Chlorophenyl phenyl ether	ug/kg	860 U	18	860	1600 U	34	1600
Chrysene	ug/kg	300 J	17	860	470 J	32	1600
Dibenz(a,h)anthracene	ug/kg	860 U	14	860	48 J	27	1600
Dibenzofuran	ug/kg	27 J	20	860	71 J	37	1600
Di-n-butyl phthalate	ug/kg	860 U	110	860	1600 U	200	1600
1,2-Dichlorobenzene	ug/kg	860 U	18	860	1600 U	34	1600
1,3-Dichlorobenzene	ug/kg	860 U	15	860	1600 U	28	1600
1,4-Dichlorobenzene	ug/kg	20 J	18	860	1600 U	34	1600
3,3'-Dichlorobenzidine	ug/kg	4200 U	22	4200	7900 U	40	7900
2,4-Dichlorophenol	ug/kg	860 U	16	860	1600 U	31	1600

SAMPLE ID		DAJ-054 BA-C-5(13,14,15)			DAJ-055 BA-C-6(16,17,18)		
LAB SAMPLE ID		C4K190132005R2			C4K190132006		
MATRIX		SOIL			SOIL		
PARAMETER	UNITS	RESULT Q	MDL	RL	RESULT Q	MDL	RL
Metals**							
Antimony	mg/kg	1.3 N U	0.42	1.3	1.2 N U	0.39	1.2
Arsenic	mg/kg	22.7 N	0.43	1.3	20.4 N	0.41	1.2
Iron	mg/kg	34000	2.4	13.1	31500	2.2	12.3
Lead	mg/kg	131 N	0.21	0.39	121 N	0.2	0.37
Magnesium	mg/kg	7680 N	1.3	655	6930 N	1.3	615
Manganese	mg/kg	574	0.015	2	483	0.014	1.8
Barium	mg/kg	65.1 N	0.13	26.2	56.9 N	0.12	24.6
Nickel	mg/kg	31.2 N	0.16	5.2	28.1 N	0.15	4.9
Potassium	mg/kg	3780	9.8	655	3410	9.2	615
Beryllium	mg/kg	1.2 N	0.055	0.52	1.1 N	0.051	0.49
Selenium	mg/kg	2.1 N	0.34	0.65	1.9 N	0.32	0.61
Silver	mg/kg	3.8	0.039	0.65	3.6	0.037	0.61
Sodium	mg/kg	14100 N	20.5	655	13000 N	19.3	615
Thallium	mg/kg	1.3 N U	0.6	1.3	1.2 N U	0.56	1.2
Vanadium	mg/kg	55.2 N	0.14	6.5	50 N	0.13	6.1
Zinc	mg/kg	261 E	0.22	2.6	254 E	0.21	2.5
Chromium	mg/kg	106 N	0.12	0.65	96.6 N	0.11	0.61
Cadmium	mg/kg	2.4 N	0.091	0.65	2.2 N	0.086	0.61
Calcium	mg/kg	26200 N*	5.2	655	12200 N*	4.9	615
Cobalt	mg/kg	10.6 N	0.069	6.5	9.8 N	0.065	6.1
Copper	mg/kg	136 N	0.15	3.3	123 N	0.14	3.1
Aluminum	mg/kg	13100	1	26.2	11900	0.98	24.6
Mercury	mg/kg	2	0.015	0.044	1.8	0.014	0.041
Cyanide, Total	mg/kg	1.3 U	0.57	1.3	1.2 U	0.53	1.2
Percent Solids	%	38.2	0	1	40.7	0	1

Qualifiers
U= Analyte not detected. Reporting Limit reported
J= Analyte detected at a concentration less than the Reporting Limit
B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
PG = The percent difference between the original and confirmation analysis is greater than 40%
Q=Estimated maximum possible concentration
D= Dilution data reported
S=Ion suppresion

**Qualifiers for Metals Only
U= Result is less than the MDL. Reporting Limit reported
B= Result is between the MDL and RL
J= Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E= Serial dilution percent difference not within limits
N= matrix spike and/or matrix spike recover failed
* Duplicate RPD was not within limits.

SAMPLE ID		DAJ-057 BA-C-7(19,20,21)			DAJ-058 BA-C-8(22,23,24)		
LAB SAMPLE ID		C4K190132007R2			C4K190132009		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
Dioxin							
2,3,7,8-TCDF		13	0	0.74	12 Q	0	1.3
1,2,3,7,8-PeCDF		4.1 Q J	0	0.32	5.3 J	0	0.15
2,3,4,7,8-PeCDF		6.1 Q	0	0.39	5.5 J	0	0.23
1,2,3,4,7,8-HxCDF		13	0	0.19	14 B	0	0.088
2,3,4,6,7,8-HxCDF		3.6 Q J	0	0.22	3.9 B J	0	0.1
1,2,3,7,8,9-HxCDF		0.46 J	0	0.28	0.42 J	0	0.11
1,2,3,4,6,7,8-HpCDF		64	0	0.24	55 B	0	0.12
OCDF		71 Q	0	0.26	96 Q B	0	0.19
2,3,7,8-TCDD		6	0	0.54	6.1 Q	0	0.27
1,2,3,7,8-PeCDD		2.3 J	0	0.25	2.5 J	0	0.15
1,2,3,7,8,9-HxCDD		13	0	0.27	12 B	0	0.1
1,2,3,4,6,7,8-HpCDD		160	0	0.37	170 B	0	0.2
OCDD		1600 B	0	0.45	1900 B	0	0.26
1,2,3,6,7,8-HxCDF		5.3 J	0	0.19	5 B J	0	0.086
1,2,3,4,7,8,9-HpCDF		4.3 J	0	0.36	4.2 B J	0	0.15
1,2,3,4,7,8-HxCDD		2.6 J	0	0.28	2.7 J	0	0.11
1,2,3,6,7,8-HxCDD		21	0	0.3	17	0	0.11
PCB							
Aroclor 1016	ug/kg	40 U	32	40	44 U	35	44
Aroclor 1221	ug/kg	40 U	16	40	44 U	17	44
Aroclor 1232	ug/kg	40 U	19	40	44 U	21	44
Aroclor 1242	ug/kg	40 U	13	40	44 U	15	44
Aroclor 1248	ug/kg	240	15	40	180	16	44
Aroclor 1254	ug/kg	40 U	5.4	40	44 U	5.8	44
Aroclor 1260	ug/kg	110	4.5	40	84	4.9	44
GC Semivolatiles							
Dieldrin	ug/kg	4.7 J PG	0.98	10	2.3 J PG	1.1	11
Endosulfan I	ug/kg	10 U	0.99	10	11 U	1.1	11
Endosulfan II	ug/kg	6.9 J PG	1.6	10	3.1 J PG	1.7	11
Endosulfan sulfate	ug/kg	10 U	1.4	10	11 U	1.5	11
Endrin	ug/kg	11	1	10	3.1 J PG	1.1	11
Endrin aldehyde	ug/kg	10 U	2.2	10	11 U	2.4	11
Endrin ketone	ug/kg	10 U	1.3	10	11 U	1.4	11
Heptachlor	ug/kg	10 U	0.98	10	11 U	1.1	11
Heptachlor epoxide	ug/kg	4.7 J	1.2	10	2.7 J	1.3	11
Methoxychlor	ug/kg	20 U	2.2	20	22 U	2.4	22
alpha-BHC	ug/kg	10 U	0.87	10	11 U	0.95	11
beta-BHC	ug/kg	10 U	1.3	10	11 U	1.5	11
delta-BHC	ug/kg	3.4 J PG	1.1	10	3.4 J	1.2	11
gamma-BHC (Lindane)	ug/kg	10 U	0.86	10	11 U	0.93	11
Toxaphene	ug/kg	410 U	68	410	440 U	73	440
alpha-Chlordane	ug/kg	3.8 J PG	1.3	10	3.9 J	1.4	11
gamma-Chlordane	ug/kg	2.1 J PG	1.3	10	1.5 J PG	1.4	11
Aldrin	ug/kg	10 U	1.3	10	11 U	1.4	11
4,4'-DDD	ug/kg	17	1	10	3.3 J PG	1.1	11
4,4'-DDE	ug/kg	13	1.3	10	8.5 J	1.4	11
4,4'-DDT	ug/kg	10 U	1.1	10	11 U	1.2	11

SAMPLE ID		DAJ-057 BA-C-7(19,20,21)			DAJ-058 BA-C-8(22,23,24)		
LAB SAMPLE ID		C4K190132007R2			C4K190132009		
MATRIX		SOIL			SOIL		
PARAMETER	UNITS	RESULT Q	MDL	RL	RESULT Q	MDL	RL
GC/MS Semivolatiles							
Acenaphthene	ug/kg	110 J	18	800	300 J	19	870
Diethyl phthalate	ug/kg	800 U	16	800	870 U	18	870
2,4-Dimethylphenol	ug/kg	800 U	13	800	870 U	14	870
Dimethyl phthalate	ug/kg	800 U	17	800	870 U	18	870
Di-n-octyl phthalate	ug/kg	800 U	19	800	870 U	20	870
4,6-Dinitro-2-methylphenol	ug/kg	3900 U	2000	3900	4200 U	2200	4200
2,4-Dinitrophenol	ug/kg	3900 U	2000	3900	4200 U	2200	4200
2,4-Dinitrotoluene	ug/kg	800 U	8.5	800	870 U	9.2	870
2,6-Dinitrotoluene	ug/kg	800 U	12	800	870 U	13	870
Anthracene	ug/kg	160 J	18	800	350 J	20	870
Fluoranthene	ug/kg	800	17	800	1600	19	870
Fluorene	ug/kg	93 J	19	800	240 J	21	870
Hexachlorobenzene	ug/kg	800 U	16	800	870 U	18	870
Hexachlorobutadiene	ug/kg	800 U	16	800	870 U	17	870
Hexachlorocyclopentadiene	ug/kg	3900 U	65	3900	4200 U	70	4200
Hexachloroethane	ug/kg	800 U	16	800	870 U	17	870
Indeno(1,2,3-cd)pyrene	ug/kg	99 J	16	800	130 J	18	870
Isophorone	ug/kg	800 U	15	800	870 U	17	870
2-Methylnaphthalene	ug/kg	66 J	20	800	100 J	22	870
2-Methylphenol	ug/kg	800 U	18	800	870 U	20	870
4-Methylphenol	ug/kg	800 U	18	800	870 U	20	870
Naphthalene	ug/kg	83 J	19	800	220 J	21	870
2-Nitroaniline	ug/kg	3900 U	10	3900	4200 U	11	4200
3-Nitroaniline	ug/kg	3900 U	410	3900	4200 U	440	4200
4-Nitroaniline	ug/kg	3900 U	11	3900	4200 U	12	4200
Nitrobenzene	ug/kg	800 U	26	800	870 U	28	870
2-Nitrophenol	ug/kg	800 U	15	800	870 U	16	870
4-Nitrophenol	ug/kg	3900 U	11	3900	4200 U	12	4200
Benzo(a)anthracene	ug/kg	380 J	18	800	580 J	19	870
N-Nitrosodi-n-propylamine	ug/kg	800 U	16	800	870 U	18	870
N-Nitrosodiphenylamine	ug/kg	800 U	170	800	870 U	180	870
Benzo(b)fluoranthene	ug/kg	270 J	16	800	480 J	18	870
Benzo(k)fluoranthene	ug/kg	140 J	16	800	230 J	17	870
Benzo(ghi)perylene	ug/kg	110 J	15	800	130 J	17	870
Benzo(a)pyrene	ug/kg	270 J	14	800	380 J	15	870
Pentachlorophenol	ug/kg	3900 U	1100	3900	4200 U	1200	4200
Phenanthrene	ug/kg	260 J	19	800	690 J	21	870
Phenol	ug/kg	800 U	17	800	870 U	18	870
Pyrene	ug/kg	690 J	20	800	1200	21	870
1,2,4-Trichlorobenzene	ug/kg	800 U	16	800	870 U	18	870
2,4,5-Trichlorophenol	ug/kg	800 U	46	800	870 U	50	870
2,4,6-Trichlorophenol	ug/kg	800 U	14	800	870 U	15	870
Carbazole	ug/kg	25 J	19	800	63 J	20	870
bis(2-Chloroethoxy)methane	ug/kg	800 U	18	800	870 U	20	870
bis(2-Chloroethyl) ether	ug/kg	800 U	16	800	870 U	17	870
bis(2-Ethylhexyl) phthalate	ug/kg	6100	50	800	5500	55	870
4-Bromophenyl phenyl ether	ug/kg	800 U	40	800	870 U	44	870
2,2'-oxybis(1-Chloropropane)	ug/kg	800 U	12	800	870 U	13	870
Butyl benzyl phthalate	ug/kg	24 J	18	800	870 U	19	870
Acenaphthylene	ug/kg	85 J	17	800	130 J	18	870
4-Chloroaniline	ug/kg	800 U	40	800	870 U	44	870
4-Chloro-3-methylphenol	ug/kg	800 U	18	800	870 U	19	870
2-Chloronaphthalene	ug/kg	800 U	17	800	870 U	19	870
2-Chlorophenol	ug/kg	800 U	13	800	870 U	14	870
4-Chlorophenyl phenyl ether	ug/kg	800 U	17	800	870 U	18	870
Chrysene	ug/kg	380 J	16	800	770 J	17	870
Dibenz(a,h)anthracene	ug/kg	19 J	13	800	870 U	14	870
Dibenzofuran	ug/kg	58 J	18	800	110 J	20	870
Di-n-butyl phthalate	ug/kg	800 U	99	800	870 U	110	870
1,2-Dichlorobenzene	ug/kg	800 U	17	800	870 U	18	870
1,3-Dichlorobenzene	ug/kg	800 U	14	800	870 U	15	870
1,4-Dichlorobenzene	ug/kg	18 J	17	800	23 J	18	870
3,3'-Dichlorobenzidine	ug/kg	3900 U	20	3900	4200 U	22	4200
2,4-Dichlorophenol	ug/kg	800 U	15	800	870 U	17	870

SAMPLE ID		DAJ-057 BA-C-7(19,20,21)			DAJ-058 BA-C-8(22,23,24)		
LAB SAMPLE ID		C4K190132007R2			C4K190132009		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
Metals**							
Antimony	mg/kg	1.2 N U	0.39	1.2	1.3 N U	0.42	1.3
Arsenic	mg/kg	20 N	0.4	1.2	21.6 N	0.43	1.3
Iron	mg/kg	30000	2.2	12.1	32200	2.4	13.2
Lead	mg/kg	116 N	0.19	0.36	134 N	0.21	0.4
Magnesium	mg/kg	6750 N	1.2	607	7130 N	1.4	660
Manganese	mg/kg	465	0.014	1.8	471	0.015	2
Barium	mg/kg	53.9 N	0.12	24.3	62.8 N	0.13	26.4
Nickel	mg/kg	26.7 N	0.15	4.9	29.3 N	0.16	5.3
Potassium	mg/kg	3260	9.1	607	3490	9.9	660
Beryllium	mg/kg	1.1 N	0.051	0.49	1.2 N	0.055	0.53
Selenium	mg/kg	2.1 N	0.32	0.61	2.1 N	0.35	0.66
Silver	mg/kg	3.4	0.036	0.61	4.2	0.039	0.66
Sodium	mg/kg	13200 N	19	607	13900 N	20.7	660
Thallium	mg/kg	1.2 N U	0.55	1.2	1.3 N U	0.6	1.3
Vanadium	mg/kg	48.1 N	0.13	6.1	51.2 N	0.14	6.6
Zinc	mg/kg	244 E	0.2	2.4	282 E	0.22	2.6
Chromium	mg/kg	92.7 N	0.11	0.61	104 N	0.12	0.66
Cadmium	mg/kg	2.1 N	0.085	0.61	2.4 N	0.092	0.66
Calcium	mg/kg	11600 N*	4.8	607	14600 N*	5.2	660
Cobalt	mg/kg	9.4 N	0.064	6.1	10 N	0.07	6.6
Copper	mg/kg	117 N	0.14	3	137 N	0.15	3.3
Aluminum	mg/kg	11300	0.97	24.3	12300	1.1	26.4
Mercury	mg/kg	1.9	0.014	0.04	2.1	0.016	0.044
Cyanide, Total	mg/kg	1.2 U	0.53	1.2	1.3 U	0.57	1.3
Percent Solids	%	41.2	0	1	37.9	0	1

Qualifiers
U= Analyte not detected. Reporting Limit reported
J= Analyte detected at a concentration less than the Reporting Limit
B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
PG = The percent difference between the original and confirmation analysis is greater than 40%
Q=Estimated maximum possible concentration
D= Dilution data reported
S=Ion suppresion

**Qualifiers for Metals Only
U= Result is less than the MDL. Reporting Limit reported
B= Result is between the MDL and RL
J= Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E= Serial dilution percent difference not within limits
N= matrix spike and/or matrix spike recover failed
* Duplicate RPD was not within limits.

SAMPLE ID		DAJ-080 PC-1(P01V,P02V,P03V)			DAJ-081 PC-2(P04V,P05V,P06V)		
LAB SAMPLE ID		C4K190132010R2			C4K190132012R2		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
Dioxin							
2,3,7,8-TCDF		5.5 Q	0	0.53	4.5 Q	0	2.7
1,2,3,7,8-PeCDF		1.5 J	0	0.15	0.99 Q J	0	0.24
2,3,4,7,8-PeCDF		2.1 Q J	0	0.19	1.6 J	0	0.53
1,2,3,4,7,8-HxCDF		5.8	0	0.093	2.7 Q J	0	0.15
2,3,4,6,7,8-HxCDF		1.7 J	0	0.11	0.98 J	0	0.17
1,2,3,7,8,9-HxCDF		0.12 U	0	0.12	0.17 U	0	0.17
1,2,3,4,6,7,8-HpCDF		37	0	0.13	15	0	0.19
OCDF		36	0	0.12	21	0	0.32
2,3,7,8-TCDD		2.6	0	0.26	2.2	0	0.61
1,2,3,7,8-PeCDD		1.3 J	0	0.14	0.61 Q J	0	0.35
1,2,3,7,8,9-HxCDD		4.5	0	0.13	1.9 Q J	0	0.23
1,2,3,4,6,7,8-HpCDD		58	0	0.19	34	0	0.35
OCDD		800 B	0	0.17	450 B	0	0.52
1,2,3,6,7,8-HxCDF		2.4 J	0	0.097	1.1 Q J	0	0.14
1,2,3,4,7,8,9-HpCDF		1.7 J	0	0.14	0.7 Q J	0	0.25
1,2,3,4,7,8-HxCDD		0.88 Q J	0	0.14	0.66 J	0	0.24
1,2,3,6,7,8-HxCDD		5.8	0	0.13	3.4 J	0	0.24
PCB							
Aroclor 1016	ug/kg	31 U	25	31	31 U	25	31
Aroclor 1221	ug/kg	31 U	12	31	31 U	12	31
Aroclor 1232	ug/kg	31 U	15	31	31 U	15	31
Aroclor 1242	ug/kg	31 U	10	31	31 U	10	31
Aroclor 1248	ug/kg	71	11	31	110	11	31
Aroclor 1254	ug/kg	31 U	4.1	31	31 U	4.1	31
Aroclor 1260	ug/kg	51	3.5	31	61	3.4	31
GC Semivolatiles							
Dieldrin	ug/kg	3.1 J PG	0.76	8	7.9 U	0.75	7.9
Endosulfan I	ug/kg	8 U	0.77	8	7.9 U	0.76	7.9
Endosulfan II	ug/kg	8 U	1.2	8	7.9 U	1.2	7.9
Endosulfan sulfate	ug/kg	8 U	1.1	8	7.9 U	1.1	7.9
Endrin	ug/kg	1.8 J PG	0.78	8	7.9 U	0.77	7.9
Endrin aldehyde	ug/kg	8 U	1.7	8	7.9 U	1.7	7.9
Endrin ketone	ug/kg	8 U	1	8	7.9 U	1	7.9
Heptachlor	ug/kg	8 U	0.76	8	7.9 U	0.75	7.9
Heptachlor epoxide	ug/kg	2.1 J	0.95	8	1.7 J PG	0.94	7.9
Methoxychlor	ug/kg	15 U	1.7	15	15 U	1.7	15
alpha-BHC	ug/kg	8 U	0.67	8	7.9 U	0.66	7.9
beta-BHC	ug/kg	8 U	1	8	7.9 U	1	7.9
delta-BHC	ug/kg	2.5 J PG	0.86	8	2.9 J PG	0.85	7.9
gamma-BHC (Lindane)	ug/kg	8 U	0.66	8	7.9 U	0.65	7.9
Toxaphene	ug/kg	310 U	52	310	310 U	52	310
alpha-Chlordane	ug/kg	8 U	1	8	1.6 J PG	1	7.9
gamma-Chlordane	ug/kg	8 U	0.99	8	7.9 U	0.98	7.9
Aldrin	ug/kg	8 U	0.99	8	7.9 U	0.98	7.9
4,4'-DDD	ug/kg	9.8	0.77	8	6.6 J PG	0.76	7.9
4,4'-DDE	ug/kg	25	0.98	8	17	0.96	7.9
4,4'-DDT	ug/kg	8 U	0.85	8	7.9 U	0.84	7.9

SAMPLE ID		DAJ-080 PC-1(P01V,P02V,P03V)			DAJ-081 PC-2(P04V,P05V,P06V)		
LAB SAMPLE ID		C4K190132010R2			C4K190132012R2		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
GC/MS Semivolatiles							
Acenaphthene	ug/kg	790	14	620	1200	13	610
Diethyl phthalate	ug/kg	620 U	13	620	610 U	12	610
2,4-Dimethylphenol	ug/kg	16 J	10	620	610 U	9.9	610
Dimethyl phthalate	ug/kg	620 U	13	620	610 U	13	610
Di-n-octyl phthalate	ug/kg	620 U	14	620	610 U	14	610
4,6-Dinitro-2-methylphenol	ug/kg	3000 U	1600	3000	3000 U	1500	3000
2,4-Dinitrophenol	ug/kg	3000 U	1600	3000	3000 U	1500	3000
2,4-Dinitrotoluene	ug/kg	620 U	6.5	620	610 U	6.5	610
2,6-Dinitrotoluene	ug/kg	620 U	8.9	620	610 U	8.8	610
Anthracene	ug/kg	470 J	14	620	1100	14	610
Fluoranthene	ug/kg	2300	13	620	5100 D	26	1200
Fluorene	ug/kg	690	15	620	830	15	610
Hexachlorobenzene	ug/kg	620 U	13	620	610 U	12	610
Hexachlorobutadiene	ug/kg	620 U	12	620	610 U	12	610
Hexachlorocyclopentadiene	ug/kg	3000 U	50	3000	3000 U	49	3000
Hexachloroethane	ug/kg	620 U	12	620	610 U	12	610
Indeno(1,2,3-cd)pyrene	ug/kg	63 J	12	620	190 J	12	610
Isophorone	ug/kg	620 U	12	620	610 U	12	610
2-Methylnaphthalene	ug/kg	410 J	15	620	280 J	15	610
2-Methylphenol	ug/kg	620 U	14	620	610 U	14	610
4-Methylphenol	ug/kg	620 U	14	620	610 U	14	610
Naphthalene	ug/kg	2200	15	620	2100	15	610
2-Nitroaniline	ug/kg	3000 U	7.8	3000	3000 U	7.7	3000
3-Nitroaniline	ug/kg	3000 U	310	3000	3000 U	310	3000
4-Nitroaniline	ug/kg	3000 U	8.7	3000	3000 U	8.6	3000
Nitrobenzene	ug/kg	620 U	20	620	610 U	20	610
2-Nitrophenol	ug/kg	620 U	11	620	610 U	11	610
4-Nitrophenol	ug/kg	3000 U	8.4	3000	3000 U	8.3	3000
Benzo(a)anthracene	ug/kg	500 J	14	620	1700	14	610
N-Nitrosodi-n-propylamine	ug/kg	620 U	13	620	610 U	13	610
N-Nitrosodiphenylamine	ug/kg	620 U	130	620	610 U	130	610
Benzo(b)fluoranthene	ug/kg	330 J	12	620	1900	12	610
Benzo(k)fluoranthene	ug/kg	130 J	12	620	610 U	12	610
Benzo(ghi)perylene	ug/kg	63 J	12	620	170 J	12	610
Benzo(a)pyrene	ug/kg	240 J	10	620	930	10	610
Pentachlorophenol	ug/kg	3000 U	860	3000	3000 U	850	3000
Phenanthrene	ug/kg	2000 D	12	520	3600	15	610
Phenol	ug/kg	620 U	13	620	42 J	13	610
Pyrene	ug/kg	1400	15	620	3600	15	610
1,2,4-Trichlorobenzene	ug/kg	620 U	13	620	610 U	12	610
2,4,5-Trichlorophenol	ug/kg	620 U	36	620	610 U	35	610
2,4,6-Trichlorophenol	ug/kg	620 U	11	620	610 U	11	610
Carbazole	ug/kg	240 J	14	620	280 J	14	610
bis(2-Chloroethoxy)methane	ug/kg	620 U	14	620	610 U	14	610
bis(2-Chloroethyl) ether	ug/kg	620 U	12	620	610 U	12	610
bis(2-Ethylhexyl) phthalate	ug/kg	110 J	39	620	510 J	38	610
4-Bromophenyl phenyl ether	ug/kg	620 U	31	620	610 U	31	610
2,2'-oxybis(1-Chloropropane)	ug/kg	620 U	9.1	620	610 U	8.9	610
Butyl benzyl phthalate	ug/kg	620 U	14	620	610 U	14	610
Acenaphthylene	ug/kg	49 J	13	620	160 J	13	610
4-Chloroaniline	ug/kg	620 U	31	620	610 U	31	610
4-Chloro-3-methylphenol	ug/kg	620 U	14	620	610 U	13	610
2-Chloronaphthalene	ug/kg	620 U	13	620	610 U	13	610
2-Chlorophenol	ug/kg	620 U	9.9	620	610 U	9.7	610
4-Chlorophenyl phenyl ether	ug/kg	620 U	13	620	610 U	13	610
Chrysene	ug/kg	460 J	12	620	2100	12	610
Dibenz(a,h)anthracene	ug/kg	20 J	10	620	59 J	10	610
Dibenzofuran	ug/kg	480 J	14	620	540 J	14	610
Di-n-butyl phthalate	ug/kg	620 U	76	620	610 U	75	610
1,2-Dichlorobenzene	ug/kg	620 U	13	620	610 U	13	610
1,3-Dichlorobenzene	ug/kg	620 U	11	620	610 U	11	610
1,4-Dichlorobenzene	ug/kg	30 J	13	620	610 U	13	610
3,3'-Dichlorobenzidine	ug/kg	3000 U	15	3000	3000 U	15	3000
2,4-Dichlorophenol	ug/kg	620 U	12	620	610 U	12	610

SAMPLE ID		DAJ-080 PC-1(P01V,P02V,P03V)			DAJ-081 PC-2(P04V,P05V,P06V)		
LAB SAMPLE ID		C4K190132010R2			C4K190132012R2		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
Metals**							
Antimony	mg/kg	0.94 N U	0.3	0.94	0.93 N U	0.3	0.93
Arsenic	mg/kg	12 N	0.31	0.94	20.1 N	0.31	0.93
Iron	mg/kg	16800	1.7	9.4	23700	1.7	9.3
Lead	mg/kg	72.3 N	0.15	0.28	57.9 N	0.15	0.28
Magnesium	mg/kg	4150 N	0.96	468	5190 N	0.95	463
Manganese	mg/kg	308	0.011	1.4	230	0.011	1.4
Barium	mg/kg	33.8 N	0.094	18.7	42.2 N	0.093	18.5
Nickel	mg/kg	16.5 N	0.12	3.7	19 N	0.11	3.7
Potassium	mg/kg	1910	7	468	2680	6.9	463
Beryllium	mg/kg	0.63 N	0.039	0.37	0.91 N	0.039	0.37
Selenium	mg/kg	1 N	0.24	0.47	1.5 N	0.24	0.46
Silver	mg/kg	2.3	0.028	0.47	1.3	0.028	0.46
Sodium	mg/kg	8380 N	14.7	468	7630 N	14.5	463
Thallium	mg/kg	0.94 N U	0.43	0.94	0.93 N U	0.42	0.93
Vanadium	mg/kg	27.7 N	0.097	4.7	38.8 N	0.096	4.6
Zinc	mg/kg	147 E	0.16	1.9	130 E	0.16	1.9
Chromium	mg/kg	53.5 N	0.087	0.47	57.6 N	0.086	0.46
Cadmium	mg/kg	1.3 N	0.065	0.47	1.2 N	0.065	0.46
Calcium	mg/kg	5.3 N	0.049	4.7	6.8 N	0.049	4.6
Cobalt	mg/kg	72.6 N	0.11	2.3	53.3 N	0.11	2.3
Copper	mg/kg	6440	0.75	18.7	8550	0.74	18.5
Aluminum	mg/kg	80200 N*	7.4	936	87700 N*	7.3	926
Mercury	mg/kg	0.68	0.011	0.031	0.76	0.011	0.031
Cyanide, Total	mg/kg	0.78 U	0.34	0.78	0.53 B	0.4	0.93
Percent Solids	%	64	0	1	54	0	1

Qualifiers
U= Analyte not detected. Reporting Limit reported
J= Analyte detected at a concentration less than the Reporting Limit
B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
PG = The percent difference between the original and confirmation analysis is greater than 40%
Q=Estimated maximum possible concentration
D= Dilution data reported
S=Ion suppresion

**Qualifiers for Metals Only
U= Result is less than the MDL. Reporting Limit reported
B= Result is between the MDL and RL
J= Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E= Serial dilution percent difference not within limits
N= matrix spike and/or matrix spike recover failed
* Duplicate RPD was not within limits.

SAMPLE ID		DAJ-082 PC-3(P07V,P08V,P09V)			DAJ-083 PC-4(P10V,P11V,P12V)		
LAB SAMPLE ID		C4K190132013R2			C4K190132014R2		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
Dioxin							
2,3,7,8-TCDF		4.4 U	0	4.4	5.5 U	0	5.5
1,2,3,7,8-PeCDF		3.5 Q J	0	1.1	1.2 J	0	0.41
2,3,4,7,8-PeCDF		2.7 U	0	2.7	1.2 U	0	1.2
1,2,3,4,7,8-HxCDF		6.4 Q	0	0.32	2.8 Q J	0	0.21
2,3,4,6,7,8-HxCDF		1.8 Q J	0	0.57	1.1 Q J	0	0.28
1,2,3,7,8,9-HxCDF		0.29 U	0	0.29	0.25 U	0	0.25
1,2,3,4,6,7,8-HpCDF		34	0	0.24	22	0	0.25
OCDF		45	0	0.29	23	0	0.34
2,3,7,8-TCDD		6.7	0	2.2	1.1 U	0	1.1
1,2,3,7,8-PeCDD		1.7 U	0	1.7	0.62 U	0	0.62
1,2,3,7,8,9-HxCDD		12	0	0.64	2.7 J	0	0.28
1,2,3,4,6,7,8-HpCDD		91	0	0.49	39	0	0.45
OCDD		1100 B	0	0.44	570 B	0	0.51
1,2,3,6,7,8-HxCDF		2.7 Q J	0	0.32	1.4 J	0	0.2
1,2,3,4,7,8,9-HpCDF		2 Q J	0	0.34	1 J	0	0.31
1,2,3,4,7,8-HxCDD		1.9 Q J	0	0.63	0.91 J	0	0.29
1,2,3,6,7,8-HxCDD		10	0	0.71	3.7 J	0	0.29
PCB							
Aroclor 1016	ug/kg	31 U	25	31	33 U	26	33
Aroclor 1221	ug/kg	31 U	12	31	33 U	13	33
Aroclor 1232	ug/kg	31 U	15	31	33 U	16	33
Aroclor 1242	ug/kg	31 U	10	31	33 U	11	33
Aroclor 1248	ug/kg	78	11	31	42	12	33
Aroclor 1254	ug/kg	31 U	4.2	31	33 U	4.4	33
Aroclor 1260	ug/kg	37	3.5	31	32 J	3.7	33
GC Semivolatiles							
Dieldrin	ug/kg	8 U	0.76	8	1.5 J PG	0.81	8.5
Endosulfan I	ug/kg	8 U	0.77	8	1.3 J PG	0.82	8.5
Endosulfan II	ug/kg	1.2 J PG	1.2	8	8.5 U	1.3	8.5
Endosulfan sulfate	ug/kg	8 U	1.1	8	8.5 U	1.1	8.5
Endrin	ug/kg	2 J PG	0.78	8	8.5 U	0.83	8.5
Endrin aldehyde	ug/kg	8 U	1.7	8	8.5 U	1.8	8.5
Endrin ketone	ug/kg	8 U	1	8	8.5 U	1.1	8.5
Heptachlor	ug/kg	8 U	0.76	8	8.5 U	0.81	8.5
Heptachlor epoxide	ug/kg	1.2 J PG	0.96	8	8.5 U	1	8.5
Methoxychlor	ug/kg	16 U	1.7	16	17 U	1.8	17
alpha-BHC	ug/kg	8 U	0.67	8	8.5 U	0.72	8.5
beta-BHC	ug/kg	8 U	1	8	8.5 U	1.1	8.5
delta-BHC	ug/kg	1.8 J PG	0.86	8	2.1 J PG	0.92	8.5
gamma-BHC (Lindane)	ug/kg	8 U	0.66	8	8.5 U	0.71	8.5
Toxaphene	ug/kg	320 U	52	320	340 U	56	340
alpha-Chlordane	ug/kg	1.8 J PG	1	8	8.5 U	1.1	8.5
gamma-Chlordane	ug/kg	8 U	0.99	8	8.5 U	1.1	8.5
Aldrin	ug/kg	8 U	1	8	8.5 U	1.1	8.5
4,4'-DDD	ug/kg	3.2 J PG	0.77	8	3.9 J	0.82	8.5
4,4'-DDE	ug/kg	7.9 J	0.98	8	11	1	8.5
4,4'-DDT	ug/kg	8 U	0.85	8	8.5 U	0.91	8.5

SAMPLE ID		DAJ-082 PC-3(P07V,P08V,P09V)			DAJ-083 PC-4(P10V,P11V,P12V)		
LAB SAMPLE ID		C4K190132013R2			C4K190132014R2		
MATRIX		SOIL			SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
GC/MS Semivolatiles							
Acenaphthene	ug/kg	420 J	14	620	2800	15	660
Diethyl phthalate	ug/kg	620 U	13	620	660 U	13	660
2,4-Dimethylphenol	ug/kg	620 U	10	620	660 U	11	660
Dimethyl phthalate	ug/kg	620 U	13	620	660 U	14	660
Di-n-octyl phthalate	ug/kg	620 U	14	620	660 U	15	660
4,6-Dinitro-2-methylphenol	ug/kg	3000 U	1600	3000	3200 U	1700	3200
2,4-Dinitrophenol	ug/kg	3000 U	1600	3000	3200 U	1700	3200
2,4-Dinitrotoluene	ug/kg	620 U	6.6	620	660 U	7	660
2,6-Dinitrotoluene	ug/kg	620 U	8.9	620	660 U	9.5	660
Anthracene	ug/kg	350 J	14	620	1300	15	660
Fluoranthene	ug/kg	2200	13	620	4700 D	28	1300
Fluorene	ug/kg	270 J	15	620	1500	16	660
Hexachlorobenzene	ug/kg	620 U	13	620	660 U	13	660
Hexachlorobutadiene	ug/kg	620 U	12	620	660 U	13	660
Hexachlorocyclopentadiene	ug/kg	3000 U	50	3000	3200 U	53	3200
Hexachloroethane	ug/kg	620 U	12	620	660 U	13	660
Indeno(1,2,3-cd)pyrene	ug/kg	85 J	13	620	110 J	13	660
Isophorone	ug/kg	620 U	12	620	660 U	13	660
2-Methylnaphthalene	ug/kg	180 J	15	620	930	16	660
2-Methylphenol	ug/kg	620 U	14	620	660 U	15	660
4-Methylphenol	ug/kg	620 U	14	620	660 U	15	660
Naphthalene	ug/kg	980	15	620	4800 D	32	1300
2-Nitroaniline	ug/kg	3000 U	7.6	3000	3200 U	6.3	3200
3-Nitroaniline	ug/kg	3000 U	320	3000	3200 U	340	3200
4-Nitroaniline	ug/kg	3000 U	8.8	3000	3200 U	9.3	3200
Nitrobenzene	ug/kg	620 U	20	620	660 U	22	660
2-Nitrophenol	ug/kg	620 U	11	620	660 U	12	660
4-Nitrophenol	ug/kg	3000 U	8.4	3000	3200 U	9	3200
Benzo(a)anthracene	ug/kg	730	14	620	1300	15	660
N-Nitrosodi-n-propylamine	ug/kg	620 U	13	620	660 U	14	660
N-Nitrosodiphenylamine	ug/kg	620 U	130	620	660 U	140	660
Benzo(b)fluoranthene	ug/kg	580 J	13	620	1300	13	660
Benzo(k)fluoranthene	ug/kg	200 J	12	620	660 U	13	660
Benzo(ghi)perylene	ug/kg	77 J	12	620	100 J	13	660
Benzo(a)pyrene	ug/kg	390 J	11	620	600 J	11	660
Pentachlorophenol	ug/kg	3000 U	860	3000	3200 U	910	3200
Phenanthrene	ug/kg	790	15	620	4100	16	660
Phenol	ug/kg	24 J	13	620	19 J	14	660
Pyrene	ug/kg	1200	15	620	3400	16	660
1,2,4-Trichlorobenzene	ug/kg	620 U	13	620	660 U	14	660
2,4,5-Trichlorophenol	ug/kg	620 U	36	620	660 U	38	660
2,4,6-Trichlorophenol	ug/kg	620 U	11	620	660 U	11	660
Carbazole	ug/kg	74 J	14	620	590 J	15	660
bis(2-Chloroethoxy)methane	ug/kg	620 U	14	620	660 U	15	660
bis(2-Chloroethyl) ether	ug/kg	620 U	12	620	660 U	13	660
bis(2-Ethylhexyl) phthalate	ug/kg	290 J	39	620	170 J	41	660
4-Bromophenyl phenyl ether	ug/kg	620 U	31	620	660 U	33	660
2,2'-oxybis(1-Chloropropane)	ug/kg	620 U	9.1	620	660 U	9.7	660
Butyl benzyl phthalate	ug/kg	620 U	14	620	660 U	15	660
Acenaphthylene	ug/kg	82 J	13	620	140 J	14	660
4-Chloroaniline	ug/kg	620 U	31	620	660 U	33	660
4-Chloro-3-methylphenol	ug/kg	620 U	14	620	660 U	15	660
2-Chloronaphthalene	ug/kg	620 U	13	620	660 U	14	660
2-Chlorophenol	ug/kg	620 U	9.9	620	660 U	11	660
4-Chlorophenyl phenyl ether	ug/kg	620 U	13	620	660 U	14	660
Chrysene	ug/kg	810	12	620	1500	13	660
Dibenz(a,h)anthracene	ug/kg	29 J	10	620	36 J	11	660
Dibenzofuran	ug/kg	230 J	14	620	1200	15	660
Di-n-butyl phthalate	ug/kg	620 U	77	620	660 U	81	660
1,2-Dichlorobenzene	ug/kg	620 U	13	620	660 U	14	660
1,3-Dichlorobenzene	ug/kg	620 U	11	620	660 U	12	660
1,4-Dichlorobenzene	ug/kg	620 U	13	620	660 U	14	660
3,3'-Dichlorobenzidine	ug/kg	3000 U	15	3000	3200 U	16	3200
2,4-Dichlorophenol	ug/kg	620 U	12	620	660 U	13	660

SAMPLE ID	DAJ-082 PC-3(P07V,P08V,P09V)				DAJ-083 PC-4(P10V,P11V,P12V)		
LAB SAMPLE ID	C4K190132013R2				C4K190132014R2		
MATRIX	SOIL				SOIL		
PARAMETER	**UNITS**	**RESULT Q**	**MDL**	**RL**	**RESULT Q**	**MDL**	**RL**
Metals**							
Antimony	mg/kg	0.57 BN	0.3	0.94	1 N U	0.32	1
Arsenic	mg/kg	11.2 N	0.31	0.94	15.4 N	0.33	1
Iron	mg/kg	29600	1.7	9.4	29100	1.8	10
Lead	mg/kg	45 N	0.15	0.28	40.8 N	0.16	0.3
Magnesium	mg/kg	12100 N	0.96	470	24500 N	1	500
Manganese	mg/kg	229	0.011	1.4	278	0.011	1.5
Barium	mg/kg	25.1 N	0.094	18.8	35.1 N	0.1	20
Nickel	mg/kg	14.6 N	0.12	3.8	20.6 N	0.12	4
Potassium	mg/kg	1140	7	470	1670	7.5	500
Beryllium	mg/kg	0.46 N	0.039	0.38	0.58 N	0.042	0.4
Selenium	mg/kg	1.2 N	0.25	0.47	1.3 N	0.26	0.5
Silver	mg/kg	1	0.028	0.47	0.95	0.03	0.5
Sodium	mg/kg	5720 N	14.7	470	6950 N	15.7	500
Thallium	mg/kg	0.94 N U	0.43	0.94	1 N U	0.46	1
Vanadium	mg/kg	21.2 N	0.098	4.7	26.8 N	0.1	5
Zinc	mg/kg	159 E	0.16	1.9	112 E	0.17	2
Chromium	mg/kg	38.5 N	0.087	0.47	44.8 N	0.093	0.5
Cadmium	mg/kg	1.3 N	0.065	0.47	1.3 N	0.07	0.5
Calcium	mg/kg	21600 N*	3.7	470	54300 N*	4	500
Cobalt	mg/kg	4.4 BN	0.05	4.7	5.5 N	0.053	5
Copper	mg/kg	55.6 N	0.11	2.3	50.2 N	0.12	2.5
Aluminum	mg/kg	5000	0.75	18.8	8040	0.8	20
Mercury	mg/kg	0.44	0.011	0.031	0.54	0.012	0.033
Cyanide, Total	mg/kg	0.66 B	0.34	0.78	0.91 U	0.39	0.91
Percent Solids	%	63.8	0	1	55	0	1

Qualifiers
U= Analyte not detected. Reporting Limit reported
J= Analyte detected at a concentration less than the Reporting Limit
B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
PG = The percent difference between the original and confirmation analysis is greater than 40%
Q=Estimated maximum possible concentration
D= Dilution data reported
S=Ion suppresion

**Qualifiers for Metals Only
U= Result is less than the MDL. Reporting Limit reported
B= Result is between the MDL and RL
J= Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E= Serial dilution percent difference not within limits
N= matrix spike and/or matrix spike recover failed
* Duplicate RPD was not within limits.

SAMPLE ID	DAJ-084 PC-5(P13V,P14V,P15V)
LAB SAMPLE ID	C4K190132015R2
MATRIX	SOIL

PARAMETER	UNITS	RESULT Q	MDL	RL
Dioxin				
2,3,7,8-TCDF		7.4 Q	0	1.8
1,2,3,7,8-PeCDF		1.7 Q J	0	0.29
2,3,4,7,8-PeCDF		2.3 Q J	0	0.42
1,2,3,4,7,8-HxCDF		6.3	0	0.18
2,3,4,6,7,8-HxCDF		1.4 J	0	0.21
1,2,3,7,8,9-HxCDF		0.27 U	0	0.27
1,2,3,4,6,7,8-HpCDF		43	0	0.34
OCDF		33	0	0.67
2,3,7,8-TCDD		6.6	0	0.6
1,2,3,7,8-PeCDD		1 Q J	0	0.37
1,2,3,7,8,9-HxCDD		4.5 J	0	0.32
1,2,3,4,6,7,8-HpCDD		66	0	0.61
OCDD		730 B	0	0.72
1,2,3,6,7,8-HxCDF		2.2 Q J	0	0.18
1,2,3,4,7,8,9-HpCDF		2.1 J	0	0.49
1,2,3,4,7,8-HxCDD		0.83 Q J	0	0.33
1,2,3,6,7,8-HxCDD		5.9	0	0.35
PCB				
Aroclor 1016	ug/kg	32 U	26	32
Aroclor 1221	ug/kg	32 U	13	32
Aroclor 1232	ug/kg	32 U	15	32
Aroclor 1242	ug/kg	32 U	11	32
Aroclor 1248	ug/kg	89	12	32
Aroclor 1254	ug/kg	32 U	4.3	32
Aroclor 1260	ug/kg	49	3.6	32
GC Semivolatiles				
Dieldrin	ug/kg	3.9 J	0.79	8.4
Endosulfan I	ug/kg	1.2 J PG	0.8	8.4
Endosulfan II	ug/kg	2.6 J	1.3	8.4
Endosulfan sulfate	ug/kg	8.4 U	1.1	8.4
Endrin	ug/kg	2 J PG	0.82	8.4
Endrin aldehyde	ug/kg	8.4 U	1.8	8.4
Endrin ketone	ug/kg	8.4 U	1.1	8.4
Heptachlor	ug/kg	8.4 U	0.79	8.4
Heptachlor epoxide	ug/kg	1.3 J	1	8.4
Methoxychlor	ug/kg	16 U	1.8	16
alpha-BHC	ug/kg	8.4 U	0.7	8.4
beta-BHC	ug/kg	8.4 U	1.1	8.4
delta-BHC	ug/kg	2.1 J	0.9	8.4
gamma-BHC (Lindane)	ug/kg	8.4 U	0.69	8.4
Toxaphene	ug/kg	330 U	55	330
alpha-Chlordane	ug/kg	1.3 J PG	1.1	8.4
gamma-Chlordane	ug/kg	1.1 J PG	1	8.4
Aldrin	ug/kg	8.4 U	1	8.4
4,4'-DDD	ug/kg	7.1 J	0.81	8.4
4,4'-DDE	ug/kg	14	1	8.4
4,4'-DDT	ug/kg	8.4 U	0.89	8.4

SAMPLE ID	DAJ-084 PC-5(P13V,P14V,P15V)
LAB SAMPLE ID	C4K190132015R2
MATRIX	SOIL

PARAMETER	UNITS	RESULT Q	MDL	RL
GC/MS Semivolatiles				
Acenaphthene	ug/kg	1000	14	650
Diethyl phthalate	ug/kg	650 U	13	650
2,4-Dimethylphenol	ug/kg	650 U	11	650
Dimethyl phthalate	ug/kg	650 U	14	650
Di-n-octyl phthalate	ug/kg	650 U	15	650
4,6-Dinitro-2-methylphenol	ug/kg	3100 U	1600	3100
2,4-Dinitrophenol	ug/kg	3100 U	1600	3100
2,4-Dinitrotoluene	ug/kg	650 U	6.9	650
2,6-Dinitrotoluene	ug/kg	650 U	9.3	650
Anthracene	ug/kg	430 J	15	650
Fluoranthene	ug/kg	1900	14	650
Fluorene	ug/kg	530 J	16	650
Hexachlorobenzene	ug/kg	650 U	13	650
Hexachlorobutadiene	ug/kg	650 U	13	650
Hexachlorocyclopentadiene	ug/kg	3100 U	52	3100
Hexachloroethane	ug/kg	650 U	13	650
Indeno(1,2,3-cd)pyrene	ug/kg	85 J	13	650
Isophorone	ug/kg	650 U	13	650
2-Methylnaphthalene	ug/kg	130 J	16	650
2-Methylphenol	ug/kg	650 U	15	650
4-Methylphenol	ug/kg	650 U	15	650
Naphthalene	ug/kg	1100	16	650
2-Nitroaniline	ug/kg	3100 U	8.1	3100
3-Nitroaniline	ug/kg	3100 U	330	3100
4-Nitroaniline	ug/kg	3100 U	9.2	3100
Nitrobenzene	ug/kg	650 U	21	650
2-Nitrophenol	ug/kg	650 U	12	650
4-Nitrophenol	ug/kg	3100 U	8.8	3100
Benzo(a)anthracene	ug/kg	510 J	14	650
N-Nitrosodi-n-propylamine	ug/kg	650 U	13	650
N-Nitrosodiphenylamine	ug/kg	650 U	140	650
Benzo(b)fluoranthene	ug/kg	300 J	13	650
Benzo(k)fluoranthene	ug/kg	100 J	13	650
Benzo(ghi)perylene	ug/kg	88 J	12	650
Benzo(a)pyrene	ug/kg	230 J	11	650
Pentachlorophenol	ug/kg	3100 U	900	3100
Phenanthrene	ug/kg	1500	16	650
Phenol	ug/kg	54 J	13	650
Pyrene	ug/kg	1300	16	650
1,2,4-Trichlorobenzene	ug/kg	650 U	13	650
2,4,5-Trichlorophenol	ug/kg	650 U	37	650
2,4,6-Trichlorophenol	ug/kg	650 U	11	650
Carbazole	ug/kg	220 J	15	650
bis(2-Chloroethoxy)methane	ug/kg	650 U	15	650
bis(2-Chloroethyl) ether	ug/kg	650 U	13	650
bis(2-Ethylhexyl) phthalate	ug/kg	230 J	41	650
4-Bromophenyl phenyl ether	ug/kg	650 U	33	650
2,2'-oxybis(1-Chloropropane)	ug/kg	650 U	9.5	650
Butyl benzyl phthalate	ug/kg	650 U	15	650
Acenaphthylene	ug/kg	87 J	14	650
4-Chloroaniline	ug/kg	650 U	33	650
4-Chloro-3-methylphenol	ug/kg	650 U	14	650
2-Chloronaphthalene	ug/kg	650 U	14	650
2-Chlorophenol	ug/kg	650 U	10	650
4-Chlorophenyl phenyl ether	ug/kg	650 U	13	650
Chrysene	ug/kg	510 J	13	650
Dibenz(a,h)anthracene	ug/kg	650 U	11	650
Dibenzofuran	ug/kg	500 J	15	650
Di-n-butyl phthalate	ug/kg	650 U	80	650
1,2-Dichlorobenzene	ug/kg	650 U	14	650
1,3-Dichlorobenzene	ug/kg	650 U	11	650
1,4-Dichlorobenzene	ug/kg	650 U	14	650
3,3'-Dichlorobenzidine	ug/kg	3100 U	16	3100
2,4-Dichlorophenol	ug/kg	650 U	12	650

SAMPLE ID	DAJ-084 PC-5(P13V,P14V,P15V)
LAB SAMPLE ID	C4K190132015R2
MATRIX	SOIL

PARAMETER	UNITS	RESULT	Q	MDL	RL
Metals**					
Antimony	mg/kg	0.98	N U	0.31	0.98
Arsenic	mg/kg	12.7	N	0.32	0.98
Iron	mg/kg	20200		1.8	9.8
Lead	mg/kg	40.8	N	0.16	0.29
Magnesium	mg/kg	24700	N	1	492
Manganese	mg/kg	276		0.011	1.5
Barium	mg/kg	40	N	0.098	19.7
Nickel	mg/kg	14.6	N	0.12	3.9
Potassium	mg/kg	1410		7.4	492
Beryllium	mg/kg	0.54	N	0.041	0.39
Selenium	mg/kg	0.93	N	0.26	0.49
Silver	mg/kg	0.91		0.029	0.49
Sodium	mg/kg	6950	N	15.4	492
Thallium	mg/kg	0.98	N U	0.45	0.98
Vanadium	mg/kg	22.9	N	0.1	4.9
Zinc	mg/kg	105	E	0.17	2
Chromium	mg/kg	36.9	N	0.092	0.49
Cadmium	mg/kg	1	N	0.068	0.49
Calcium	mg/kg	4.8	BN	0.052	4.9
Cobalt	mg/kg	39.6	N	0.11	2.5
Copper	mg/kg	8080		0.78	19.7
Aluminum	mg/kg	82700	N*	7.8	983
Mercury	mg/kg	0.66		0.012	0.033
Cyanide, Total	mg/kg	0.98	U	0.43	0.98
Percent Solids	%	50.9		0	1

Qualifiers
U= Analyte not detected. Reporting Limit reported
J= Analyte detected at a concentration less than the Reporting Limit
B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
PG = The percent difference between the original and confirmation analysis is greater than 40%
Q=Estimated maximum possible concentration
D= Dilution data reported
S=Ion suppresion

**Qualifiers for Metals Only
U= Result is less than the MDL. Reporting Limit reported
B= Result is between the MDL and RL
J= Method blank contamination. The associated method blank contains the target analyte at a reportable level.
E= Serial dilution percent difference not within limits
N= matrix spike and/or matrix spike recover failed
* Duplicate RPD was not within limits.

Appendix G
Summary Tables of Additional Parameters
(Weeks Marine List)

SAMPLE ID		DAJ-080 PC-1(P01V,P02V,P03V)				DAJ-081 PC-2(P04V,P05V,P06V)			
LAB SAMPLE ID		C4K190106010				C4K190106012			
MATRIX		SEDIMENT				SEDIMENT			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Additional Sediment Parameters									
Percent Solids	%	62.8		0		51.3		0	
Total Volatile Solids (TVS)	%	4.3		0.5	0.5	4.5		0.5	0.5
Carbonate Alkalinity	mg/kg	1030		159	79.6	355		195	97.5
Total Kjeldahl Nitrogen	mg/kg	1430	J	76.5	239	1980	J	93.6	292
Nitrite as N	mg/kg	0.097	B	0.08	1.6	0.11	B	0.097	1.9
Nitrate	mg/kg	1.6	U	0.43	1.6	1.9	U	0.53	1.9
Total phosphorus	mg/kg	645		36.6	79.6	190		9	19.5
Ammonia Nitrogen	mg/kg	233		3.9	8	167		4.7	9.7
ASTM (DI water) Leachable Parameters									
DI Leachable Chloride	mg/L	311		0.88	5	358		0.88	5
DI Leachable Fluoride	mg/L	0.25		0.022	0.05	0.19		0.022	0.05
TOC	mg/L	4.7		0.31	1	2.2		0.31	1
Hexavalent Chromium	mg/L	0.01	U	0.0035	0.01	0.01	U	0.0035	0.01
Total Recoverable Phenolics	mg/L	0.026	B	0.0065	0.1	0.1	U	0.0065	0.1
Bromide	mg/L	1.1		0.054	0.2	1.2		0.054	0.2
TPH (SGT-HEM)-TCLP	mg/L	4.8	U	0.51	4.8	4.8	U	0.51	4.8
pH	No Units	8.5				9			
Hardness	mg/L	46.1			33	82.3			33
Total Sulfide	mg/L	1	U	0.1	1	1	U	0.1	1
DI Leachable Sulfate	mg/L	28.6		1.1	5	27.5		1.1	5
DI Leachable Cyanide	mg/L	0.01	U	0.0043	0.01	0.01	U	0.0043	0.01
TCLP Herbicides & Pesticides									
Malathion-TCLP	ug/L	1	U	0.24	1	1	U	0.24	1
Parathion-TCLP	ug/L	1	U	0.24	1	1	U	0.24	1
Guthion (Azinphos-methyl)-TCLP	ug/L	1	U	0.27	1	1	U	0.27	1
Chlorpyrifos-TCLP	ug/L	1	U	0.23	1	1	U	0.23	1
Demeton (total)-TCLP	ug/L	1	U	0.74	1	1	U	0.74	1
2,4,5-TP (Silvex)-TCLP	mg/L	0.01	U	0.00034	0.01	0.01	U	0.00034	0.01
2,4-D-TCLP	mg/L	0.04	U	0.0014	0.04	0.04	U	0.0014	0.04
TCLP PCBs									
Aroclor 1016-TCLP	ug/L	1	U	0.49	1	1	U	0.49	1
Aroclor 1221-TCLP	ug/L	1	U	0.45	1	1	U	0.45	1
Aroclor 1232-TCLP	ug/L	1	U	0.53	1	1	U	0.53	1
Aroclor 1242-TCLP	ug/L	1	U	0.25	1	1	U	0.25	1
Aroclor 1248-TCLP	ug/L	1	U	0.34	1	1	U	0.34	1
Aroclor 1254-TCLP	ug/L	1	U	0.35	1	1	U	0.35	1
Aroclor 1260-TCLP	ug/L	1	U	0.58	1	1	U	0.58	1
PCBs (total)-TCLP	ug/L	5	U	0.58	5	5	U	0.58	5
TCLP Chlorinated Pesticides									
Dieldrin-TCLP	mg/L	0.0005	U	0.00008	0.0005	0.0001	U	0.000016	0.0001
Endosulfan I-TCLP	mg/L	0.00025	U	0.000077	0.00025	0.00005	U	0.000015	0.00005
Endosulfan II-TCLP	mg/L	0.0005	U	0.00014	0.0005	0.0001	U	0.000028	0.0001
Endosulfan sulfate-TCLP	mg/L	0.0005	U	0.000085	0.0005	0.0001	U	0.000017	0.0001
Endrin-TCLP	mg/L	0.00025	U	0.000074	0.00025	0.00005	U	0.000015	0.00005
Endrin aldehyde-TCLP	mg/L	0.0005	U	0.00008	0.0005	0.0001	U	0.000016	0.0001
Heptachlor-TCLP	mg/L	0.00025	U	0.000069	0.00025	0.00005	U	0.000014	0.00005
Heptachlor epoxide-TCLP	mg/L	0.00025	U	0.000077	0.00025	0.00005	U	0.000015	0.00005
Methoxychlor-TCLP	mg/L	0.00025	U	0.00016	0.00025	0.00005	U	0.000031	0.00005
Mirex-TCLP	mg/L	0.0005	U	0.000017	0.0005	0.0001	U	0.000017	0.0001
alpha-BHC-TCLP	mg/L	0.00026		0.000069	0.00025	0.00012		0.000014	0.00005

SAMPLE ID		DAJ-080 PC-1(P01V,P02V,P03V)				DAJ-081 PC-2(P04V,P05V,P06V)			
LAB SAMPLE ID		C4K190106010				C4K190106012			
MATRIX		SEDIMENT				SEDIMENT			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
beta-BHC-TCLP	mg/L	0.00025	U	0.000081	0.00025	1.6E-05	J PG	0.000016	0.00005
delta-BHC-TCLP	mg/L	0.0012		0.00008	0.00025	0.00032		0.000016	0.00005
gamma-BHC (Lindane)-TCLP	mg/L	0.0011		0.000073	0.00025	0.00017		0.000015	0.00005
Toxaphene-TCLP	mg/L	0.01	U	0.00036	0.01	0.002	U	0.000072	0.002
Chlordane (technical)-TCLP	mg/L	0.0025	U	0.00087	0.0025	0.0005	U	0.00017	0.0005
Aldrin-TCLP	mg/L	0.00025	U	0.00007	0.00025	0.00005	U	0.000014	0.00005
4,4'-DDD-TCLP	mg/L	0.0005	U	0.000079	0.0005	0.0001	U	0.000016	0.0001
4,4'-DDE-TCLP	mg/L	0.0005	U	0.000078	0.0005	0.0001	U	0.000016	0.0001
4,4'-DDT-TCLP	mg/L	0.0005	U	0.000073	0.0005	1.9E-05	J PG	0.000015	0.0001
TCLP Volatile Organics									
trans-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0047	0.05	0.05	U	0.0047	0.05
Ethylbenzene-TCLP	mg/L	0.05	U	0.006	0.05	0.05	U	0.006	0.05
Trichlorofluoromethane-TCLP	mg/L	0.1	U	0.012	0.1	0.1	U	0.012	0.1
Methylene chloride-TCLP	mg/L	0.05	U	0.013	0.05	0.05	U	0.013	0.05
Benzene-TCLP	mg/L	0.05	U	0.0057	0.05	0.05	U	0.0057	0.05
1,1,2,2-Tetrachloroethane-TCLP	mg/L	0.05	U	0.007	0.05	0.05	U	0.007	0.05
Tetrachloroethene-TCLP	mg/L	0.05	U	0.016	0.05	0.05	U	0.016	0.05
Toluene-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.0058	0.05
1,1,1-Trichloroethane-TCLP	mg/L	0.05	U	0.0067	0.05	0.05	U	0.0067	0.05
1,1,2-Trichloroethane-TCLP	mg/L	0.05	U	0.0059	0.05	0.05	U	0.0059	0.05
Trichloroethene-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.0058	0.05
Vinyl chloride-TCLP	mg/L	0.05	U	0.0074	0.05	0.05	U	0.0074	0.05
Bromodichloromethane-TCLP	mg/L	0.05	U	0.0046	0.05	0.05	U	0.0046	0.05
Bromoform-TCLP	mg/L	0.05	U	0.0042	0.05	0.05	U	0.0042	0.05
Bromomethane-TCLP	mg/L	0.05	U	0.009	0.05	0.05	U	0.009	0.05
Acrolein-TCLP	mg/L	1	U	0.41	1	1	U	0.41	1
Acrylonitrile-TCLP	mg/L	1	U	0.054	1	1	U	0.054	1
Carbon tetrachloride-TCLP	mg/L	0.05	U	0.0067	0.05	0.05	U	0.0067	0.05
Chlorobenzene-TCLP	mg/L	0.05	U	0.0056	0.05	0.05	U	0.0056	0.05
Dibromochloromethane-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.0058	0.05
Chloroethane-TCLP	mg/L	0.1	U	0.0072	0.1	0.1	U	0.0072	0.1
2-Chloroethyl vinyl ether-TCLP	mg/L	0.1	U	0.065	0.1	0.1	U	0.065	0.1
Chloroform-TCLP	mg/L	0.05	U	0.0062	0.05	0.05	U	0.0062	0.05
Chloromethane-TCLP	mg/L	0.1	U	0.0082	0.1	0.1	U	0.0082	0.1
Dichlorodifluoromethane-TCLP	mg/L	0.1	U	0.0092	0.1	0.1	U	0.0092	0.1
1,1-Dichloroethane-TCLP	mg/L	0.05	U	0.0064	0.05	0.05	U	0.0064	0.05
1,2-Dichloroethane-TCLP	mg/L	0.05	U	0.0054	0.05	0.05	U	0.0054	0.05
1,1-Dichloroethene-TCLP	mg/L	0.05	U	0.0088	0.05	0.05	U	0.0088	0.05
trans-1,2-Dichloroethene-TCLP	mg/L	0.05	U	0.0073	0.05	0.05	U	0.0073	0.05
1,2-Dichloropropane-TCLP	mg/L	0.05	U	0.0073	0.05	0.05	U	0.0073	0.05
cis-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0063	0.05	0.05	U	0.0063	0.05

SAMPLE ID		DAJ-080 PC-1(P01V,P02V,P03V)				DAJ-081 PC-2(P04V,P05V,P06V)			
LAB SAMPLE ID		C4K190106010				C4K190106012			
MATRIX		SEDIMENT				SEDIMENT			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
TCLP Semivolatile Organics									
Acenaphthene-TCLP	mg/L	0.0069	J	0.0013	0.05	0.0037	J	0.0013	0.05
Diethyl phthalate-TCLP	mg/L	0.05	U	0.00016	0.05	0.05	U	0.00016	0.05
2,4-Dimethylphenol-TCLP	mg/L	0.05	U	0.0043	0.05	0.05	U	0.0043	0.05
Dimethyl phthalate-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
Di-n-octyl phthalate-TCLP	mg/L	0.05	U	0.00015	0.05	0.05	U	0.00015	0.05
4,6-Dinitro-2-methylphenol-TCLP	mg/L	0.25	U	0.0025	0.25	0.25	U	0.0025	0.25
2,4-Dinitrophenol-TCLP	mg/L	0.25	U	0.00059	0.25	0.25	U	0.00059	0.25
2,4-Dinitrotoluene-TCLP	mg/L	0.05	U	0.00092	0.05	0.05	U	0.00092	0.05
2,6-Dinitrotoluene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
Anthracene-TCLP	mg/L	0.05	U	0.00089	0.05	0.05	U	0.00089	0.05
Fluoranthene-TCLP	mg/L	0.05	U	0.00012	0.05	0.0011	J	0.00012	0.05
Fluorene-TCLP	mg/L	0.0055	J	0.00012	0.05	0.0022	J	0.00012	0.05
Hexachlorobenzene-TCLP	mg/L	0.05	U	0.0012	0.05	0.05	U	0.0012	0.05
Hexachlorobutadiene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
Hexachlorocyclopentadiene-TCLP	mg/L	0.25	U	0.05	0.25	0.25	U	0.05	0.25
Hexachloroethane-TCLP	mg/L	0.05	U	0.00016	0.05	0.05	U	0.00016	0.05
Indeno(1,2,3-cd)pyrene-TCLP	mg/L	0.05	U	0.00069	0.05	0.05	U	0.00069	0.05
Isophorone-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.00012	0.05
Kepone-TCLP	mg/L	0.2	U	0.0031	0.2	0.2	U	0.0031	0.2
Naphthalene-TCLP	mg/L	0.045	J	0.00015	0.05	0.025	J	0.00015	0.05
Nitrobenzene-TCLP	mg/L	0.05	U	0.00017	0.05	0.05	U	0.00017	0.05
Benzidine-TCLP	mg/L	0.5	U	0.002	0.5	0.5	U	0.002	0.5
2-Nitrophenol-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
4-Nitrophenol-TCLP	mg/L	0.25	U	0.0023	0.25	0.25	U	0.0023	0.25
N-Nitrosodimethylamine-TCLP	mg/L	0.05	U	0.0012	0.05	0.05	U	0.0012	0.05
Benzo(a)anthracene-TCLP	mg/L	0.05	U	0.00078	0.05	0.05	U	0.00078	0.05
N-Nitrosodi-n-propylamine-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.00012	0.05
N-Nitrosodiphenylamine-TCLP	mg/L	0.05	U	0.0016	0.05	0.05	U	0.0016	0.05
Benzo(b)fluoranthene-TCLP	mg/L	0.05	U	0.0027	0.05	0.05	U	0.0027	0.05
Benzo(k)fluoranthene-TCLP	mg/L	0.05	U	0.00068	0.05	0.05	U	0.00068	0.05
Benzo(ghi)perylene-TCLP	mg/L	0.05	U	0.0016	0.05	0.05	U	0.0016	0.05
Benzo(a)pyrene-TCLP	mg/L	0.05	U	0.00071	0.05	0.05	U	0.00071	0.05
Pentachlorophenol-TCLP	mg/L	0.25	U	0.00079	0.25	0.25	U	0.00079	0.25
Phenanthrene-TCLP	mg/L	0.0064	J	0.001	0.05	0.003	J	0.001	0.05
Phenol-TCLP	mg/L	0.0032	J	0.00015	0.05	0.0075	J	0.00015	0.05
Pyrene-TCLP	mg/L	0.05	U	0.00011	0.05	0.05	U	0.00011	0.05
1,2,4-Trichlorobenzene-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.00012	0.05
2,4,6-Trichlorophenol-TCLP	mg/L	0.05	U	0.0019	0.05	0.05	U	0.0019	0.05
bis(2-Chloroethoxy)methane-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
bis(2-Chloroethyl) ether-TCLP	mg/L	0.05	U	0.00017	0.05	0.05	U	0.00017	0.05
1,2-Diphenylhydrazine (as Azobenze	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
bis(2-Ethylhexyl) phthalate-TCLP	mg/L	0.05	U	0.0038	0.05	0.05	U	0.0038	0.05
4-Bromophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
2,2'-oxybis(1-Chloropropane)-TCLP	mg/L	0.05	U	0.0008	0.05	0.05	U	0.0008	0.05
Butyl benzyl phthalate-TCLP	mg/L	0.05	U	0.00018	0.05	0.05	U	0.00018	0.05
Acenaphthylene-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
4-Chloro-3-methylphenol-TCLP	mg/L	0.05	U	0.0011	0.05	0.05	U	0.0011	0.05
2-Chloronaphthalene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
2-Chlorophenol-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
4-Chlorophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
Chrysene-TCLP	mg/L	0.05	U	0.00067	0.05	0.05	U	0.00067	0.05
Dibenz(a,h)anthracene-TCLP	mg/L	0.05	U	0.00063	0.05	0.05	U	0.00063	0.05
Di-n-butyl phthalate-TCLP	mg/L	0.05	U	0.00061	0.05	0.05	U	0.00061	0.05
1,2-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00014	0.05	0.05	U	0.00014	0.05
1,3-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05

SAMPLE ID		DAJ-080 PC-1(P01V,P02V,P03V)				DAJ-081 PC-2(P04V,P05V,P06V)			
LAB SAMPLE ID		C4K190106010				C4K190106012			
MATRIX		SEDIMENT				SEDIMENT			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
1,4-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.00012	0.05
3,3'-Dichlorobenzidine-TCLP	mg/L	0.25	U	0.0048	0.25	0.25	U	0.0048	0.25
2,4-Dichlorophenol-TCLP	mg/L	0.05	U	0.0017	0.05	0.05	U	0.0017	0.05
TCLP Metals **									
Mercury-TCLP	mg/L	0.0002	U	0.000071	0.0002	0.0002	U	0.000071	0.0002
Sodium	mg/L	181	J	0.16	5	188	J	0.16	5
Antimony-TCLP	mg/L	0.06	U	0.013	0.06	0.06	U	0.013	0.06
Arsenic-TCLP	mg/L	0.16	B	0.019	0.5	0.18	B	0.019	0.5
Iron-TCLP	mg/L	1.5	J	0.0074	0.1	123	J	0.0074	0.1
Lead-TCLP	mg/L	0.013	B	0.013	0.5	0.014	B	0.013	0.5
Magnesium-TCLP	mg/L	42.8	J	0.0076	5	88.6	J	0.0076	5
Manganese-TCLP	mg/L	1	J	0.00018	0.015	2.3	J	0.00018	0.015
Molybdenum-TCLP	mg/L	0.0048	B	0.0041	0.04	0.0059	B	0.0041	0.04
Barium-TCLP	mg/L	0.18	B J	0.00036	10	0.19	B J	0.00036	10
Nickel-TCLP	mg/L	0.039	B	0.0037	0.04	0.017	B	0.0037	0.04
Beryllium-TCLP	mg/L	0.00064	B	0.00033	0.005	0.005	U	0.00033	0.005
Selenium-TCLP	mg/L	0.25	U	0.027	0.25	0.25	U	0.027	0.25
Silver-TCLP	mg/L	0.5	U	0.0026	0.5	0.0035	B	0.0026	0.5
Thallium-TCLP	mg/L	0.03	B	0.018	2	0.15	B	0.018	2
Tin-TCLP	mg/L	0.0093	B	0.009	0.1	0.1	U	0.009	0.1
Titanium-TCLP	mg/L	0.05	U	0.00066	0.05	0.05	U	0.00066	0.05
Zinc-TCLP	mg/L	0.091		0.0024	0.02	0.055		0.0024	0.02
Chromium-TCLP	mg/L	0.5	U	0.0014	0.5	0.5	U	0.0014	0.5
Boron-TCLP	mg/L	0.36	J	0.0041	0.2	0.64	J	0.0041	0.2
Cadmium-TCLP	mg/L	0.1	U	0.00086	0.1	0.1	U	0.00086	0.1
Cobalt-TCLP	mg/L	0.016	B	0.0017	0.05	0.02	B	0.0017	0.05
Copper-TCLP	mg/L	0.025	U	0.0017	0.025	0.0061	B	0.0017	0.025
Aluminum-TCLP	mg/L	0.025	B J	0.015	0.2	0.2	U	0.015	0.2
TCLP - 2,3,7,8 TCDD									
2,3,7,8-TCDD	pg/L	0.89	U	0	0.89	0.81	U	0	0.81
Radiochemistry									
Tritium	pCi/L	-7	U			-80	U		
Gross Alpha	pCi/L	-6	U			8	U		
Gross Beta	pCi/L	40	U			26	U		
Strontium 90	pCi/L	-0.45	U			0.33	U		
Total Radium	pCi/L	0.84	J			0.87	J		
Total Radium 226	pCi/L	0.5	J			0.302	J		
Butyltins									
Tetrabutyltin	ug/L	0.048	U			0.048	U		
Tributyltin	ug/L	0.043	U			0.043	U		
Dibutyltin	ug/L	0.037	U			0.037	U		
Monobutyltin	ug/L	0.03	U			0.03	U		

Qualifiers
U= Analyte not detected. Reporting Limit reported
J= Analyte detected at a concentration less than the Reporting Limit
B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
PG = The percent difference between the original and confirmation analysis is greater than 40%

**Qualifiers for Metals Only

SAMPLE ID		DAJ-082 PC-3(P07V,P08V,P09V)				DAJ-083 PC-4(P10V,P11V,P12V)			
LAB SAMPLE ID		C4K190106013				C4K190106014			
MATRIX		SEDIMENT				SEDIMENT			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Additional Sediment Parameters									
Percent Solids	%	36.5		0		54.3		0	
Total Volatile Solids (TVS)	%	7.5		0.5	0.5	3.7		0.5	0.5
Carbonate Alkalinity	mg/kg	459		274	137	981		184	92.1
Total Kjeldahl Nitrogen	mg/kg	2300	J	132	412	1280	J	88.4	276
Nitrite as N	mg/kg	0.18	B	0.14	2.7	0.11	B	0.092	1.8
Nitrate	mg/kg	2.7	U	0.75	2.7	1.8	U	0.5	1.8
Total phosphorus	mg/kg	796		63.1	137	608		42.4	92.1
Ammonia Nitrogen	mg/kg	135		6.7	13.7	119		4.5	9.2
ASTM (DI water) Leachable Parameters									
DI Leachable Chloride	mg/L	472		0.88	5	318		0.88	5
DI Leachable Fluoride	mg/L	0.26		0.022	0.05	0.32		0.022	0.05
TOC	mg/L	2		0.31	1	2		0.31	1
Hexavalent Chromium	mg/L	0.01	U	0.0035	0.01	0.01	U	0.0035	0.01
Total Recoverable Phenolics	mg/L	0.1	U	0.0065	0.1	0.1	U	0.0065	0.1
Bromide	mg/L	1.6		0.054	0.2	1		0.054	0.2
TPH (SGT-HEM)-TCLP	mg/L	4.8	U	0.51	4.8	4.9	U	0.52	4.9
pH	No Units	9				9			
Hardness	mg/L	111			33	85.9			33
Total Sulfide	mg/L	1	U	0.1	1	1	U	0.1	1
DI Leachable Sulfate	mg/L	66.6		5.4	25	27.6		5.4	25
DI Leachable Cyanide	mg/L	0.01	U	0.0043	0.01	0.01	U	0.0043	0.01
TCLP Herbicides & Pesticides									
Malathion-TCLP	ug/L	1	U	0.24	1	1	U	0.24	1
Parathion-TCLP	ug/L	1	U	0.24	1	1	U	0.24	1
Guthion (Azinphos-methyl)-TCLP	ug/L	1	U	0.27	1	1	U	0.27	1
Chlorpyrifos-TCLP	ug/L	1	U	0.23	1	1	U	0.23	1
Demeton (total)-TCLP	ug/L	1	U	0.74	1	1	U	0.74	1
2,4,5-TP (Silvex)-TCLP	mg/L	0.00075	J PG	0.00034	0.01	0.01	U	0.00034	0.01
2,4-D-TCLP	mg/L	0.04	U	0.0014	0.04	0.04	U	0.0014	0.04
TCLP PCBs									
Aroclor 1016-TCLP	ug/L	1	U	0.49	1	1	U	0.49	1
Aroclor 1221-TCLP	ug/L	1	U	0.45	1	1	U	0.45	1
Aroclor 1232-TCLP	ug/L	1	U	0.53	1	1	U	0.53	1
Aroclor 1242-TCLP	ug/L	1	U	0.25	1	1	U	0.25	1
Aroclor 1248-TCLP	ug/L	1	U	0.34	1	1	U	0.34	1
Aroclor 1254-TCLP	ug/L	1	U	0.35	1	1	U	0.35	1
Aroclor 1260-TCLP	ug/L	1	U	0.58	1	1	U	0.58	1
PCBs (total)-TCLP	ug/L	5	U	0.58	5	5	U	0.58	5
TCLP Chlorinated Pesticides									
Dieldrin-TCLP	mg/L	0.0001	U	0.000016	0.0001	0.0001	U	0.000016	0.0001
Endosulfan I-TCLP	mg/L	0.00005	U	0.000015	0.00005	0.00005	U	0.000015	0.00005
Endosulfan II-TCLP	mg/L	0.0001	U	0.000028	0.0001	0.00011	PG	0.000028	0.0001
Endosulfan sulfate-TCLP	mg/L	0.0001	U	0.000017	0.0001	0.0001	U	0.000017	0.0001
Endrin-TCLP	mg/L	0.00005	U	0.000015	0.00005	0.00005	U	0.000015	0.00005
Endrin aldehyde-TCLP	mg/L	0.0001	U	0.000016	0.0001	0.0001	U	0.000016	0.0001
Heptachlor-TCLP	mg/L	0.00005	U	0.000014	0.00005	0.00005	U	0.000014	0.00005
Heptachlor epoxide-TCLP	mg/L	0.00005	U	0.000015	0.00005	0.00005	U	0.000015	0.00005
Methoxychlor-TCLP	mg/L	0.00005	U	0.000031	0.00005	0.00005	U	0.000031	0.00005
Mirex-TCLP	mg/L	0.0001	U	0.000017	0.0001	0.0001	U	0.000017	0.0001
alpha-BHC-TCLP	mg/L	0.000071		0.000014	0.00005	0.00021		0.000014	0.00005

SAMPLE ID		DAJ-082 PC-3(P07V,P08V,P09V)				DAJ-083 PC-4(P10V,P11V,P12V)			
LAB SAMPLE ID		C4K190106013				C4K190106014			
MATRIX		SEDIMENT				SEDIMENT			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
beta-BHC-TCLP	mg/L	0.00005	U	0.000016	0.00005	0.000044	J	0.000016	0.00005
delta-BHC-TCLP	mg/L	0.00039		0.000016	0.00005	0.00039		0.000016	0.00005
gamma-BHC (Lindane)-TCLP	mg/L	0.00017		0.000015	0.00005	0.0002		0.000015	0.00005
Toxaphene-TCLP	mg/L	0.002	U	0.000072	0.002	0.002	U	0.000072	0.002
Chlordane (technical)-TCLP	mg/L	0.0005	U	0.00017	0.0005	0.0005	U	0.00017	0.0005
Aldrin-TCLP	mg/L	0.00005	U	0.000014	0.00005	0.00005	U	0.000014	0.00005
4,4'-DDD-TCLP	mg/L	0.0001	U	0.000016	0.0001	0.000073	J PG	0.000016	0.0001
4,4'-DDE-TCLP	mg/L	0.0001	U	0.000016	0.0001	0.0001	U	0.000016	0.0001
4,4'-DDT-TCLP	mg/L	0.000028	J	0.000015	0.0001	0.00017		0.000015	0.0001
TCLP Volatile Organics									
trans-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0047	0.05	0.05	U	0.0047	0.05
Ethylbenzene-TCLP	mg/L	0.05	U	0.006	0.05	0.05	U	0.006	0.05
Trichlorofluoromethane-TCLP	mg/L	0.1	U	0.012	0.1	0.1	U	0.012	0.1
Methylene chloride-TCLP	mg/L	0.05	U	0.013	0.05	0.05	U	0.013	0.05
Benzene-TCLP	mg/L	0.05	U	0.0057	0.05	0.05	U	0.0057	0.05
1,1,2,2-Tetrachloroethane-TCLP	mg/L	0.05	U	0.007	0.05	0.05	U	0.007	0.05
Tetrachloroethene-TCLP	mg/L	0.05	U	0.016	0.05	0.05	U	0.016	0.05
Toluene-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.0058	0.05
1,1,1-Trichloroethane-TCLP	mg/L	0.05	U	0.0067	0.05	0.05	U	0.0067	0.05
1,1,2-Trichloroethane-TCLP	mg/L	0.05	U	0.0059	0.05	0.05	U	0.0059	0.05
Trichloroethene-TCLP	mg/L	0.043	J	0.0058	0.05	0.05	U	0.0058	0.05
Vinyl chloride-TCLP	mg/L	0.05	U	0.0074	0.05	0.05	U	0.0074	0.05
Bromodichloromethane-TCLP	mg/L	0.05	U	0.0046	0.05	0.05	U	0.0046	0.05
Bromoform-TCLP	mg/L	0.05	U	0.0042	0.05	0.05	U	0.0042	0.05
Bromomethane-TCLP	mg/L	0.05	U	0.009	0.05	0.05	U	0.009	0.05
Acrolein-TCLP	mg/L	1	U	0.41	1	1	U	0.41	1
Acrylonitrile-TCLP	mg/L	1	U	0.054	1	1	U	0.054	1
Carbon tetrachloride-TCLP	mg/L	0.05	U	0.0067	0.05	0.05	U	0.0067	0.05
Chlorobenzene-TCLP	mg/L	0.05	U	0.0056	0.05	0.05	U	0.0056	0.05
Dibromochloromethane-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.0058	0.05
Chloroethane-TCLP	mg/L	0.1	U	0.0072	0.1	0.1	U	0.0072	0.1
2-Chloroethyl vinyl ether-TCLP	mg/L	0.1	U	0.065	0.1	0.1	U	0.065	0.1
Chloroform-TCLP	mg/L	0.05	U	0.0062	0.05	0.05	U	0.0062	0.05
Chloromethane-TCLP	mg/L	0.1	U	0.0082	0.1	0.1	U	0.0082	0.1
Dichlorodifluoromethane-TCLP	mg/L	0.1	U	0.0092	0.1	0.1	U	0.0092	0.1
1,1-Dichloroethane-TCLP	mg/L	0.05	U	0.0064	0.05	0.05	U	0.0064	0.05
1,2-Dichloroethane-TCLP	mg/L	0.05	U	0.0054	0.05	0.05	U	0.0054	0.05
1,1-Dichloroethene-TCLP	mg/L	0.05	U	0.0088	0.05	0.05	U	0.0088	0.05
trans-1,2-Dichloroethene-TCLP	mg/L	0.05	U	0.0073	0.05	0.05	U	0.0073	0.05
1,2-Dichloropropane-TCLP	mg/L	0.05	U	0.0073	0.05	0.05	U	0.0073	0.05
cis-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0063	0.05	0.05	U	0.0063	0.05

SAMPLE ID		DAJ-082 PC-3(P07V,P08V,P09V)				DAJ-083 PC-4(P10V,P11V,P12V)			
LAB SAMPLE ID		C4K190106013				C4K190106014			
MATRIX		SEDIMENT				SEDIMENT			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
TCLP Semivolatile Organics									
Acenaphthene-TCLP	mg/L	0.05	U	0.0013	0.05	0.0078	J	0.0013	0.05
Diethyl phthalate-TCLP	mg/L	0.05	U	0.00016	0.05	0.05	U	0.00016	0.05
2,4-Dimethylphenol-TCLP	mg/L	0.05	U	0.0043	0.05	0.05	U	0.0043	0.05
Dimethyl phthalate-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
Di-n-octyl phthalate-TCLP	mg/L	0.05	U	0.00015	0.05	0.05	U	0.00015	0.05
4,6-Dinitro-2-methylphenol-TCLP	mg/L	0.25	U	0.0025	0.25	0.25	U	0.0025	0.25
2,4-Dinitrophenol-TCLP	mg/L	0.25	U	0.00059	0.25	0.25	U	0.00059	0.25
2,4-Dinitrotoluene-TCLP	mg/L	0.05	U	0.00092	0.05	0.05	U	0.00092	0.05
2,6-Dinitrotoluene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
Anthracene-TCLP	mg/L	0.05	U	0.00089	0.05	0.05	U	0.00089	0.05
Fluoranthene-TCLP	mg/L	0.05	U	0.00012	0.05	0.0016	J	0.00012	0.05
Fluorene-TCLP	mg/L	0.0013	J	0.00012	0.05	0.0046	J	0.00012	0.05
Hexachlorobenzene-TCLP	mg/L	0.05	U	0.0012	0.05	0.05	U	0.0012	0.05
Hexachlorobutadiene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
Hexachlorocyclopentadiene-TCLP	mg/L	0.25	U	0.05	0.25	0.25	U	0.05	0.25
Hexachloroethane-TCLP	mg/L	0.05	U	0.00016	0.05	0.05	U	0.00016	0.05
Indeno(1,2,3-cd)pyrene-TCLP	mg/L	0.05	U	0.00069	0.05	0.05	U	0.00069	0.05
Isophorone-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.00012	0.05
Kepone-TCLP	mg/L	0.2	U	0.0031	0.2	0.2	U	0.0031	0.2
Naphthalene-TCLP	mg/L	0.015	J	0.00015	0.05	0.045	J	0.00015	0.05
Nitrobenzene-TCLP	mg/L	0.05	U	0.00017	0.05	0.05	U	0.00017	0.05
Benzidine-TCLP	mg/L	0.5	U	0.002	0.5	0.5	U	0.002	0.5
2-Nitrophenol-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
4-Nitrophenol-TCLP	mg/L	0.25	U	0.0023	0.25	0.25	U	0.0023	0.25
N-Nitrosodimethylamine-TCLP	mg/L	0.05	U	0.0012	0.05	0.05	U	0.0012	0.05
Benzo(a)anthracene-TCLP	mg/L	0.05	U	0.00078	0.05	0.05	U	0.00078	0.05
N-Nitrosodi-n-propylamine-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.00012	0.05
N-Nitrosodiphenylamine-TCLP	mg/L	0.05	U	0.0016	0.05	0.05	U	0.0016	0.05
Benzo(b)fluoranthene-TCLP	mg/L	0.05	U	0.0027	0.05	0.05	U	0.0027	0.05
Benzo(k)fluoranthene-TCLP	mg/L	0.05	U	0.00068	0.05	0.05	U	0.00068	0.05
Benzo(ghi)perylene-TCLP	mg/L	0.05	U	0.0016	0.05	0.05	U	0.0016	0.05
Benzo(a)pyrene-TCLP	mg/L	0.05	U	0.00071	0.05	0.05	U	0.00071	0.05
Pentachlorophenol-TCLP	mg/L	0.25	U	0.00079	0.25	0.25	U	0.00079	0.25
Phenanthrene-TCLP	mg/L	0.05	U	0.001	0.05	0.0045	J	0.001	0.05
Phenol-TCLP	mg/L	0.0041	J	0.00015	0.05	0.0032	J	0.00015	0.05
Pyrene-TCLP	mg/L	0.05	U	0.00011	0.05	0.05	U	0.00011	0.05
1,2,4-Trichlorobenzene-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.00012	0.05
2,4,6-Trichlorophenol-TCLP	mg/L	0.05	U	0.0019	0.05	0.05	U	0.0019	0.05
bis(2-Chloroethoxy)methane-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
bis(2-Chloroethyl) ether-TCLP	mg/L	0.05	U	0.00017	0.05	0.05	U	0.00017	0.05
1,2-Diphenylhydrazine (as Azobenze	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
bis(2-Ethylhexyl) phthalate-TCLP	mg/L	0.05	U	0.0038	0.05	0.0072	J	0.0038	0.05
4-Bromophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
2,2'-oxybis(1-Chloropropane)-TCLP	mg/L	0.05	U	0.0008	0.05	0.05	U	0.0008	0.05
Butyl benzyl phthalate-TCLP	mg/L	0.05	U	0.00018	0.05	0.05	U	0.00018	0.05
Acenaphthylene-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
4-Chloro-3-methylphenol-TCLP	mg/L	0.05	U	0.0011	0.05	0.05	U	0.0011	0.05
2-Chloronaphthalene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
2-Chlorophenol-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05
4-Chlorophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
Chrysene-TCLP	mg/L	0.05	U	0.00067	0.05	0.05	U	0.00067	0.05
Dibenz(a,h)anthracene-TCLP	mg/L	0.05	U	0.00063	0.05	0.05	U	0.00063	0.05
Di-n-butyl phthalate-TCLP	mg/L	0.05	U	0.00061	0.05	0.05	U	0.00061	0.05
1,2-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00014	0.05	0.05	U	0.00014	0.05
1,3-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.00013	0.05

SAMPLE ID		DAJ-082 PC-3(P07V,P08V,P09V)				DAJ-083 PC-4(P10V,P11V,P12V)			
LAB SAMPLE ID		C4K190106013				C4K190106014			
MATRIX		SEDIMENT				SEDIMENT			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
1,4-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.00012	0.05
3,3'-Dichlorobenzidine-TCLP	mg/L	0.25	U	0.0048	0.25	0.25	U	0.0048	0.25
2,4-Dichlorophenol-TCLP	mg/L	0.05	U	0.0017	0.05	0.05	U	0.0017	0.05
TCLP Metals **									
Mercury-TCLP	mg/L	0.0002	U	0.000071	0.0002	0.0002	U	0.000071	0.0002
Sodium	mg/L	240	J	0.16	5	168	J	0.16	5
Antimony-TCLP	mg/L	0.06	U	0.013	0.06	0.06	U	0.013	0.06
Arsenic-TCLP	mg/L	0.16	B	0.019	0.5	0.15	B	0.019	0.5
Iron-TCLP	mg/L	22.7	J	0.0074	0.1	1.3	J	0.0074	0.1
Lead-TCLP	mg/L	0.015	B	0.013	0.5	0.024	B	0.013	0.5
Magnesium-TCLP	mg/L	103	J	0.0076	5	156	J	0.0076	5
Manganese-TCLP	mg/L	1.4	J	0.00018	0.015	1	J	0.00018	0.015
Molybdenum-TCLP	mg/L	0.04	U	0.0041	0.04	0.0073	B	0.0041	0.04
Barium-TCLP	mg/L	0.13	B J	0.00036	10	0.21	B J	0.00036	10
Nickel-TCLP	mg/L	0.015	B	0.0037	0.04	0.025	B	0.0037	0.04
Beryllium-TCLP	mg/L	0.00051	B	0.00033	0.005	0.005	U	0.00033	0.005
Selenium-TCLP	mg/L	0.25	U	0.027	0.25	0.25	U	0.027	0.25
Silver-TCLP	mg/L	0.5	U	0.0026	0.5	0.5	U	0.0026	0.5
Thallium-TCLP	mg/L	0.038	B	0.018	2	2	U	0.018	2
Tin-TCLP	mg/L	0.1	U	0.009	0.1	0.1	U	0.009	0.1
Titanium-TCLP	mg/L	0.05	U	0.00066	0.05	0.05	U	0.00066	0.05
Zinc-TCLP	mg/L	0.012	B	0.0024	0.02	0.019	B	0.0024	0.02
Chromium-TCLP	mg/L	0.5	U	0.0014	0.5	0.5	U	0.0014	0.5
Boron-TCLP	mg/L	0.73	J	0.0041	0.2	1.2	J	0.0041	0.2
Cadmium-TCLP	mg/L	0.1	U	0.00086	0.1	0.1	U	0.00086	0.1
Cobalt-TCLP	mg/L	0.0099	B	0.0017	0.05	0.0028	B	0.0017	0.05
Copper-TCLP	mg/L	0.025	U	0.0017	0.025	0.0027	B	0.0017	0.025
Aluminum-TCLP	mg/L	0.2	U	0.015	0.2	0.2	U	0.015	0.2
TCLP - 2,3,7,8 TCDD									
2,3,7,8-TCDD	pg/L	1.1	U	0	1.1	0.95	U	0	0.95
Radiochemistry									
Tritium	pCi/L	-6	U			-80	U		
Gross Alpha	pCi/L	-19	U			-10	U		
Gross Beta	pCi/L	14	U			-8	U		
Strontium 90	pCi/L	0.86	U			0.33	U		
Total Radium	pCi/L	0.41	J			0.59	J		
Total Radium 226	pCi/L	0.241	J			0.32	J		
Butyltins									
Tetrabutyltin	ug/L	0.048	U			0.051	U		
Tributyltin	ug/L	0.043	U			0.045	U		
Dibutyltin	ug/L	0.037	U			0.039	U		
Monobutyltin	ug/L	0.03	U			0.031	U		

Qualifiers
U= Analyte not detected. Reporting Limit reported
J= Analyte detected at a concentration less than tl
B = Method blank contamination. The associated
PG = The percent difference between the original

**Qualifiers for Metals Only

SAMPLE ID	DAJ-084 PC-5(P13V,P14V,P15V)
LAB SAMPLE ID	C4K190106015
MATRIX	SEDIMENT

PARAMETER	UNITS	RESULT	Q	MDL	RL
Additional Sediment Parameters					
Percent Solids	%	59.4		0	
Total Volatile Solids (TVS)	%	6.2		0.5	0.5
Carbonate Alkalinity	mg/kg	84.2	U	168	84.2
Total Kjeldahl Nitrogen	mg/kg	1370	J	80.8	253
Nitrite as N	mg/kg	0.091	B	0.084	1.7
Nitrate	mg/kg	1.7	U	0.46	1.7
Total phosphorus	mg/kg	153		7.7	16.8
Ammonia Nitrogen	mg/kg	127		4.1	8.4
ASTM (DI water) Leachable Parameters					
DI Leachable Chloride	mg/L	354		0.88	5
DI Leachable Fluoride	mg/L	0.2		0.022	0.05
TOC	mg/L	1.8		0.31	1
Hexavalent Chromium	mg/L	0.01	U	0.0035	0.01
Total Recoverable Phenolics	mg/L	0.024	B	0.0065	0.1
Bromide	mg/L	1.3		0.054	0.2
TPH (SGT-HEM)-TCLP	mg/L	4.8	U	0.51	4.8
pH	No Units	9.8			
Hardness	mg/L	144			33
Total Sulfide	mg/L	1	U	0.1	1
DI Leachable Sulfate	mg/L	110		5.4	25
DI Leachable Cyanide	mg/L	0.01	U	0.0043	0.01
TCLP Herbicides & Pesticides					
Malathion-TCLP	ug/L	1	U	0.24	1
Parathion-TCLP	ug/L	1	U	0.24	1
Guthion (Azinphos-methyl)-TCLP	ug/L	1	U	0.27	1
Chlorpyrifos-TCLP	ug/L	1	U	0.23	1
Demeton (total)-TCLP	ug/L	1	U	0.74	1
2,4,5-TP (Silvex)-TCLP	mg/L	0.01	U	0.00034	0.01
2,4-D-TCLP	mg/L	0.04	U	0.0014	0.04
TCLP PCBs					
Aroclor 1016-TCLP	ug/L	1	U	0.49	1
Aroclor 1221-TCLP	ug/L	1	U	0.45	1
Aroclor 1232-TCLP	ug/L	1	U	0.53	1
Aroclor 1242-TCLP	ug/L	1	U	0.25	1
Aroclor 1248-TCLP	ug/L	1	U	0.34	1
Aroclor 1254-TCLP	ug/L	1	U	0.35	1
Aroclor 1260-TCLP	ug/L	1	U	0.58	1
PCBs (total)-TCLP	ug/L	5	U	0.58	5
TCLP Chlorinated Pesticides					
Dieldrin-TCLP	mg/L	0.0001	U	0.000016	0.0001
Endosulfan I-TCLP	mg/L	0.00005	U	0.000015	0.00005
Endosulfan II-TCLP	mg/L	0.0001	U	0.000028	0.0001
Endosulfan sulfate-TCLP	mg/L	0.0001	U	0.000017	0.0001
Endrin-TCLP	mg/L	0.00005	U	0.000015	0.00005
Endrin aldehyde-TCLP	mg/L	0.0001	U	0.000016	0.0001
Heptachlor-TCLP	mg/L	0.00005	U	0.000014	0.00005
Heptachlor epoxide-TCLP	mg/L	0.00005	U	0.000015	0.00005
Methoxychlor-TCLP	mg/L	0.00005	U	0.000031	0.00005
Mirex-TCLP	mg/L	0.0001	U	0.000017	0.0001
alpha-BHC-TCLP	mg/L	0.00005	PG	0.000014	0.00005

SAMPLE ID	DAJ-084 PC-5(P13V,P14V,P15V)
LAB SAMPLE ID	C4K190106015
MATRIX	SEDIMENT

PARAMETER	UNITS	RESULT	Q	MDL	RL
beta-BHC-TCLP	mg/L	0.00005	U	0.000016	0.00005
delta-BHC-TCLP	mg/L	0.00021		0.000016	0.00005
gamma-BHC (Lindane)-TCLP	mg/L	0.000085		0.000015	0.00005
Toxaphene-TCLP	mg/L	0.002	U	0.000072	0.002
Chlordane (technical)-TCLP	mg/L	0.0005	U	0.00017	0.0005
Aldrin-TCLP	mg/L	0.00005	U	0.000014	0.00005
4,4'-DDD-TCLP	mg/L	0.0001	U	0.000016	0.0001
4,4'-DDE-TCLP	mg/L	0.0001	U	0.000016	0.0001
4,4'-DDT-TCLP	mg/L	0.0001	U	0.000015	0.0001
TCLP Volatile Organics					
trans-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0047	0.05
Ethylbenzene-TCLP	mg/L	0.05	U	0.006	0.05
Trichlorofluoromethane-TCLP	mg/L	0.1	U	0.012	0.1
Methylene chloride-TCLP	mg/L	0.05	U	0.013	0.05
Benzene-TCLP	mg/L	0.05	U	0.0057	0.05
1,1,2,2-Tetrachloroethane-TCLP	mg/L	0.05	U	0.007	0.05
Tetrachloroethene-TCLP	mg/L	0.05	U	0.016	0.05
Toluene-TCLP	mg/L	0.05	U	0.0058	0.05
1,1,1-Trichloroethane-TCLP	mg/L	0.05	U	0.0067	0.05
1,1,2-Trichloroethane-TCLP	mg/L	0.05	U	0.0059	0.05
Trichloroethene-TCLP	mg/L	0.05	U	0.0058	0.05
Vinyl chloride-TCLP	mg/L	0.05	U	0.0074	0.05
Bromodichloromethane-TCLP	mg/L	0.05	U	0.0046	0.05
Bromoform-TCLP	mg/L	0.05	U	0.0042	0.05
Bromomethane-TCLP	mg/L	0.05	U	0.009	0.05
Acrolein-TCLP	mg/L	1	U	0.41	1
Acrylonitrile-TCLP	mg/L	1	U	0.054	1
Carbon tetrachloride-TCLP	mg/L	0.05	U	0.0067	0.05
Chlorobenzene-TCLP	mg/L	0.05	U	0.0056	0.05
Dibromochloromethane-TCLP	mg/L	0.05	U	0.0058	0.05
Chloroethane-TCLP	mg/L	0.1	U	0.0072	0.1
2-Chloroethyl vinyl ether-TCLP	mg/L	0.1	U	0.065	0.1
Chloroform-TCLP	mg/L	0.05	U	0.0062	0.05
Chloromethane-TCLP	mg/L	0.1	U	0.0082	0.1
Dichlorodifluoromethane-TCLP	mg/L	0.1	U	0.0092	0.1
1,1-Dichloroethane-TCLP	mg/L	0.05	U	0.0064	0.05
1,2-Dichloroethane-TCLP	mg/L	0.05	U	0.0054	0.05
1,1-Dichloroethene-TCLP	mg/L	0.05	U	0.0088	0.05
trans-1,2-Dichloroethene-TCLP	mg/L	0.05	U	0.0073	0.05
1,2-Dichloropropane-TCLP	mg/L	0.05	U	0.0073	0.05
cis-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0063	0.05

SAMPLE ID	DAJ-084 PC-5(P13V,P14V,P15V)
LAB SAMPLE ID	C4K190106015
MATRIX	SEDIMENT

PARAMETER	UNITS	RESULT	Q	MDL	RL
TCLP Semivolatile Organics					
Acenaphthene-TCLP	mg/L	0.0052	J	0.0013	0.05
Diethyl phthalate-TCLP	mg/L	0.05	U	0.00016	0.05
2,4-Dimethylphenol-TCLP	mg/L	0.05	U	0.0043	0.05
Dimethyl phthalate-TCLP	mg/L	0.05	U	0.00013	0.05
Di-n-octyl phthalate-TCLP	mg/L	0.05	U	0.00015	0.05
4,6-Dinitro-2-methylphenol-TCLP	mg/L	0.25	U	0.0025	0.25
2,4-Dinitrophenol-TCLP	mg/L	0.25	U	0.00059	0.25
2,4-Dinitrotoluene-TCLP	mg/L	0.05	U	0.00092	0.05
2,6-Dinitrotoluene-TCLP	mg/L	0.05	U	0.00013	0.05
Anthracene-TCLP	mg/L	0.05	U	0.00089	0.05
Fluoranthene-TCLP	mg/L	0.05	U	0.00012	0.05
Fluorene-TCLP	mg/L	0.0031	J	0.00012	0.05
Hexachlorobenzene-TCLP	mg/L	0.05	U	0.0012	0.05
Hexachlorobutadiene-TCLP	mg/L	0.05	U	0.00013	0.05
Hexachlorocyclopentadiene-TCLP	mg/L	0.25	U	0.05	0.25
Hexachloroethane-TCLP	mg/L	0.05	U	0.00016	0.05
Indeno(1,2,3-cd)pyrene-TCLP	mg/L	0.05	U	0.00069	0.05
Isophorone-TCLP	mg/L	0.05	U	0.00012	0.05
Kepone-TCLP	mg/L	0.2	U	0.0031	0.2
Naphthalene-TCLP	mg/L	0.019	J	0.00015	0.05
Nitrobenzene-TCLP	mg/L	0.05	U	0.00017	0.05
Benzidine-TCLP	mg/L	0.5	U	0.002	0.5
2-Nitrophenol-TCLP	mg/L	0.05	U	0.00013	0.05
4-Nitrophenol-TCLP	mg/L	0.25	U	0.0023	0.25
N-Nitrosodimethylamine-TCLP	mg/L	0.05	U	0.0012	0.05
Benzo(a)anthracene-TCLP	mg/L	0.05	U	0.00078	0.05
N-Nitrosodi-n-propylamine-TCLP	mg/L	0.05	U	0.00012	0.05
N-Nitrosodiphenylamine-TCLP	mg/L	0.05	U	0.0016	0.05
Benzo(b)fluoranthene-TCLP	mg/L	0.05	U	0.0027	0.05
Benzo(k)fluoranthene-TCLP	mg/L	0.05	U	0.00068	0.05
Benzo(ghi)perylene-TCLP	mg/L	0.05	U	0.0016	0.05
Benzo(a)pyrene-TCLP	mg/L	0.05	U	0.00071	0.05
Pentachlorophenol-TCLP	mg/L	0.25	U	0.00079	0.25
Phenanthrene-TCLP	mg/L	0.0032	J	0.001	0.05
Phenol-TCLP	mg/L	0.0029	J	0.00015	0.05
Pyrene-TCLP	mg/L	0.05	U	0.00011	0.05
1,2,4-Trichlorobenzene-TCLP	mg/L	0.05	U	0.00012	0.05
2,4,6-Trichlorophenol-TCLP	mg/L	0.05	U	0.0019	0.05
bis(2-Chloroethoxy)methane-TCLP	mg/L	0.05	U	0.00013	0.05
bis(2-Chloroethyl) ether-TCLP	mg/L	0.05	U	0.00017	0.05
1,2-Diphenylhydrazine (as Azobenze	mg/L	0.05	U	0.0013	0.05
bis(2-Ethylhexyl) phthalate-TCLP	mg/L	0.05	U	0.0038	0.05
4-Bromophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0013	0.05
2,2'-oxybis(1-Chloropropane)-TCLP	mg/L	0.05	U	0.0008	0.05
Butyl benzyl phthalate-TCLP	mg/L	0.05	U	0.00018	0.05
Acenaphthylene-TCLP	mg/L	0.05	U	0.0013	0.05
4-Chloro-3-methylphenol-TCLP	mg/L	0.05	U	0.0011	0.05
2-Chloronaphthalene-TCLP	mg/L	0.05	U	0.00013	0.05
2-Chlorophenol-TCLP	mg/L	0.05	U	0.00013	0.05
4-Chlorophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0001	0.05
Chrysene-TCLP	mg/L	0.05	U	0.00067	0.05
Dibenz(a,h)anthracene-TCLP	mg/L	0.05	U	0.00063	0.05
Di-n-butyl phthalate-TCLP	mg/L	0.05	U	0.00061	0.05
1,2-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00014	0.05
1,3-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00013	0.05

SAMPLE ID	DAJ-084 PC-5(P13V,P14V,P15V)
LAB SAMPLE ID	C4K190106015
MATRIX	SEDIMENT

PARAMETER	UNITS	RESULT	Q	MDL	RL
1,4-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00012	0.05
3,3'-Dichlorobenzidine-TCLP	mg/L	0.25	U	0.0048	0.25
2,4-Dichlorophenol-TCLP	mg/L	0.05	U	0.0017	0.05
TCLP Metals **					
Mercury-TCLP	mg/L	0.0002	U	0.000071	0.0002
Sodium	mg/L	194	J	0.16	5
Antimony-TCLP	mg/L	0.06	U	0.013	0.06
Arsenic-TCLP	mg/L	0.17	B	0.019	0.5
Iron-TCLP	mg/L	41.5	J	0.0074	0.1
Lead-TCLP	mg/L	0.014	B	0.013	0.5
Magnesium-TCLP	mg/L	75.4	J	0.0076	5
Manganese-TCLP	mg/L	1.5	J	0.00018	0.015
Molybdenum-TCLP	mg/L	0.0083	B	0.0041	0.04
Barium-TCLP	mg/L	0.11	B J	0.00036	10
Nickel-TCLP	mg/L	0.016	B	0.0037	0.04
Beryllium-TCLP	mg/L	0.00038	B	0.00033	0.005
Selenium-TCLP	mg/L	0.25	U	0.027	0.25
Silver-TCLP	mg/L	0.5	U	0.0026	0.5
Thallium-TCLP	mg/L	0.058	B	0.018	2
Tin-TCLP	mg/L	0.1	U	0.009	0.1
Titanium-TCLP	mg/L	0.05	U	0.00066	0.05
Zinc-TCLP	mg/L	0.023		0.0024	0.02
Chromium-TCLP	mg/L	0.5	U	0.0014	0.5
Boron-TCLP	mg/L	0.51	J	0.0041	0.2
Cadmium-TCLP	mg/L	0.1	U	0.00086	0.1
Cobalt-TCLP	mg/L	0.013	B	0.0017	0.05
Copper-TCLP	mg/L	0.025	U	0.0017	0.025
Aluminum-TCLP	mg/L	0.2	U	0.015	0.2
TCLP - 2,3,7,8 TCDD					
2,3,7,8-TCDD	pg/L	1.9	U	0	1.9
Radiochemistry					
Tritium	pCi/L	-60	U		
Gross Alpha	pCi/L	-6	U		
Gross Beta	pCi/L	12	U		
Strontium 90	pCi/L	0.05	U		
Total Radium	pCi/L	0.5	J		
Total Radium 226	pCi/L	0.32	U		
Butyltins					
Tetrabutyltin	ug/L	0.049	U		
Tributyltin	ug/L	0.043	U		
Dibutyltin	ug/L	0.037	U		
Monobutyltin	ug/L	0.03	U		

Qualifiers
U= Analyte not detected. Reporting Limit reported
J= Analyte detected at a concentration less than tl
B = Method blank contamination. The associated
PG = The percent difference between the original

**Qualifiers for Metals Only

LAB SAMPLE ID		C4K190106001				C4K190106002			
CLIENT ID		DAJ-050 BA-C-1 (1,2,3)				DAJ-051 BA-C-2 (4,5,6)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Additional Sediment Parameters									
Percent Solids	%	57.3		0		37.1		0	
Total Volatile Solids (TVS)	%	3		0.5	0.5	7.9		0.5	0.5
Carbonate Alkalinity	mg/kg	980		175	87.3	3060		269	135
Total Kjeldahl Nitrogen	mg/kg	2070		83.8	262	3980		129	404
Nitrite as N	mg/kg	1.7	U	0.087	1.7	2.7	U	0.13	2.7
Nitrate	mg/kg	1.7	U	0.47	1.7	2.7	U	0.73	2.7
Total phosphorus	mg/kg	445		40.2	87.3	1540		124	269
Ammonia Nitrogen	mg/kg	130		4.2	8.7	862		6.5	13.5
DI Leachable Parameters									
DI Leachable Chloride	mg/L	381		0.88	5	500		0.88	5
DI Leachable Fluoride	mg/L	0.14		0.022	0.05	0.17		0.022	0.05
TOC	mg/L	5.3		0.31	1	6.2		0.31	1
Hexavalent Chromium	mg/L	0.01	U	0.0035	0.01	0.01	U	0.0035	0.01
Total Recoverable Phenolics	mg/L	0.017	B	0.0065	0.1	0.1	U	0.0065	0.1
Bromide	mg/L	1.2		0.054	0.2	2		0.054	0.2
TPH (SGT-HEM)-TCLP	mg/L	4.9	U	0.52	4.9	4.8	U	0.51	4.8
pH	No Units	8.5				7.8			
Hardness	mg/L	61.5			33	101			33
Total Sulfide	mg/L	1	U	0.1	1	1	U	0.1	1
DI Leachable Sulfate	mg/L	10.2		1.1	5	7.5		1.1	5
DI Leachable Cyanide	mg/L	0.01	U	0.0043	0.01	0.01	U	0.0043	0.01
TCLP Herbicides & Pesticides									
Malathion-TCLP	ug/L	1	U	0.24	1	1	U	0.24	1
Parathion-TCLP	ug/L	1	U	0.24	1	1	U	0.24	1
Guthion (Azinphos-methyl)-TCLP	ug/L	1	U	0.27	1	1	U	0.27	1
Chlorpyrifos-TCLP	ug/L	1	U	0.23	1	1	U	0.23	1
Demeton (total)-TCLP	ug/L	1	U	0.74	1	1	U	0.74	1
2,4,5-TP (Silvex)-TCLP	mg/L	0.0007	J	0.0003	0.01	0.00066	J	0.00034	0.01
2,4-D-TCLP	mg/L	0.04	U	0.0014	0.04	0.04	U	0.0014	0.04
TCLP PCBs									
Aroclor 1016-TCLP	ug/L	1	U	0.49	1	1	U	0.49	1
Aroclor 1221-TCLP	ug/L	1	U	0.45	1	1	U	0.45	1
Aroclor 1232-TCLP	ug/L	1	U	0.53	1	1	U	0.53	1
Aroclor 1242-TCLP	ug/L	1	U	0.25	1	1	U	0.25	1
Aroclor 1248-TCLP	ug/L	1	U	0.34	1	1	U	0.34	1
Aroclor 1254-TCLP	ug/L	1	U	0.35	1	1	U	0.35	1
Aroclor 1260-TCLP	ug/L	1	U	0.58	1	1	U	0.58	1
PCBs (total)-TCLP	ug/L	5	U	0.58	5	5	U	0.58	5
TCLP Chlorinated Pesticides									
Dieldrin-TCLP	mg/L	0.0002	U	3E-05	0	0.0005	U	0.00008	5E-04
Endosulfan I-TCLP	mg/L	0.0001	U	3E-05	0	0.00025	U	0.000077	3E-04
Endosulfan II-TCLP	mg/L	0.0002	U	6E-05	0	0.0005	U	0.00014	5E-04
Endosulfan sulfate-TCLP	mg/L	0.0002	U	3E-05	0	0.0005	U	0.000085	5E-04
Endrin-TCLP	mg/L	0.0001	U	3E-05	0	0.00025	U	0.000074	3E-04
Endrin aldehyde-TCLP	mg/L	0.0002	U	3E-05	0	0.0005	U	0.00008	5E-04
Heptachlor-TCLP	mg/L	0.0001	U	3E-05	0	0.00025	U	0.000069	3E-04
Heptachlor epoxide-TCLP	mg/L	0.0001	U	3E-05	0	0.00025	U	0.000077	3E-04
Methoxychlor-TCLP	mg/L	0.0001	U	6E-05	0	0.00025	U	0.00016	3E-04
Mirex-TCLP	mg/L	0.0002	U	2E-05	0	0.0005	U	0.000017	5E-04
alpha-BHC-TCLP	mg/L	0.0003		3E-05	0	0.00053		0.000069	3E-04
beta-BHC-TCLP	mg/L	0.00024		3E-05	0	0.00025	U	0.000081	3E-04
delta-BHC-TCLP	mg/L	0.00082		3E-05	0	0.0013		0.00008	3E-04
gamma-BHC (Lindane)-TCLP	mg/L	0.00042		3E-05	0	0.00083		0.000073	3E-04
Toxaphene-TCLP	mg/L	0.004	U	0.0001	0	0.01	U	0.00036	0.01

LAB SAMPLE ID		C4K190106001				C4K190106002			
CLIENT ID		DAJ-050 BA-C-1 (1,2,3)				DAJ-051 BA-C-2 (4,5,6)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Chlordane (technical)-TCLP	mg/L	0.001	U	0.0004	0	0.0025	U	0.00087	0.003
Aldrin-TCLP	mg/L	0.0001	U	3E-05	0	0.00025	U	0.00007	3E-04
4,4'-DDD-TCLP	mg/L	0.000033	J PG	3E-05	0	0.0005	U	0.000079	5E-04
4,4'-DDE-TCLP	mg/L	0.0002	U	3E-05	0	0.0005	U	0.000078	5E-04
4,4'-DDT-TCLP	mg/L	0.000066	J	3E-05	0	0.0005	U	0.000073	5E-04
TCLP Volatile Organics									
trans-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0047	0.05	0.05	U	0.0047	0.05
Ethylbenzene-TCLP	mg/L	0.05	U	0.006	0.05	0.05	U	0.006	0.05
Trichlorofluoromethane-TCLP	mg/L	0.1	U	0.012	0.1	0.1	U	0.012	0.1
Methylene chloride-TCLP	mg/L	0.05	U	0.013	0.05	0.05	U	0.013	0.05
Benzene-TCLP	mg/L	0.05	U	0.0057	0.05	0.012	J	0.0057	0.05
1,1,2,2-Tetrachloroethane-TCLP	mg/L	0.05	U	0.007	0.05	0.05	U	0.007	0.05
Tetrachloroethene-TCLP	mg/L	0.05	U	0.016	0.05	0.05	U	0.016	0.05
Toluene-TCLP	mg/L	0.05	U	0.0058	0.05	0.011	J	0.0058	0.05
1,1,1-Trichloroethane-TCLP	mg/L	0.05	U	0.0067	0.05	0.05	U	0.0067	0.05
1,1,2-Trichloroethane-TCLP	mg/L	0.05	U	0.0059	0.05	0.05	U	0.0059	0.05
Trichloroethene-TCLP	mg/L	0.05	U	0.0058	0.05	0.0093	J	0.0058	0.05
Vinyl chloride-TCLP	mg/L	0.05	U	0.0074	0.05	0.05	U	0.0074	0.05
Bromodichloromethane-TCLP	mg/L	0.05	U	0.0046	0.05	0.05	U	0.0046	0.05
Bromoform-TCLP	mg/L	0.05	U	0.0042	0.05	0.05	U	0.0042	0.05
Bromomethane-TCLP	mg/L	0.05	U	0.009	0.05	0.017	J	0.009	0.05
Acrolein-TCLP	mg/L	1	U	0.41	1	1	U	0.41	1
Acrylonitrile-TCLP	mg/L	1	U	0.054	1	1	U	0.054	1
Carbon tetrachloride-TCLP	mg/L	0.05	U	0.0067	0.05	0.05	U	0.0067	0.05
Chlorobenzene-TCLP	mg/L	0.05	U	0.0056	0.05	0.011	J	0.0056	0.05
Dibromochloromethane-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.0058	0.05
Chloroethane-TCLP	mg/L	0.1	U	0.0072	0.1	0.1	U	0.0072	0.1
2-Chloroethyl vinyl ether-TCLP	mg/L	0.1	U	0.065	0.1	0.1	U	0.065	0.1
Chloroform-TCLP	mg/L	0.05	U	0.0062	0.05	0.05	U	0.0062	0.05
Chloromethane-TCLP	mg/L	0.1	U	0.0082	0.1	0.1	U	0.0082	0.1
Dichlorodifluoromethane-TCLP	mg/L	0.1	U	0.0092	0.1	0.1	U	0.0092	0.1
1,1-Dichloroethane-TCLP	mg/L	0.05	U	0.0064	0.05	0.05	U	0.0064	0.05
1,2-Dichloroethane-TCLP	mg/L	0.05	U	0.0054	0.05	0.05	U	0.0054	0.05
1,1-Dichloroethene-TCLP	mg/L	0.05	U	0.0088	0.05	0.015	J	0.0088	0.05
trans-1,2-Dichloroethene-TCLP	mg/L	0.05	U	0.0073	0.05	0.05	U	0.0073	0.05
1,2-Dichloropropane-TCLP	mg/L	0.05	U	0.0073	0.05	0.05	U	0.0073	0.05
cis-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0063	0.05	0.05	U	0.0063	0.05
TCLP Semivolatile Organics									
Acenaphthene-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
Diethyl phthalate-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.00016	0.05
2,4-Dimethylphenol-TCLP	mg/L	0.05	U	0.0043	0.05	0.05	U	0.0043	0.05
Dimethyl phthalate-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00013	0.05
Di-n-octyl phthalate-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.00015	0.05
4,6-Dinitro-2-methylphenol-TCLP	mg/L	0.25	U	0.0025	0.25	0.25	U	0.0025	0.25
2,4-Dinitrophenol-TCLP	mg/L	0.25	U	0.0006	0.25	0.25	U	0.00059	0.25
2,4-Dinitrotoluene-TCLP	mg/L	0.05	U	0.0009	0.05	0.05	U	0.00092	0.05
2,6-Dinitrotoluene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00013	0.05
Anthracene-TCLP	mg/L	0.05	U	0.0009	0.05	0.05	U	0.00089	0.05
Fluoranthene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00012	0.05
Fluorene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00012	0.05
Hexachlorobenzene-TCLP	mg/L	0.05	U	0.0012	0.05	0.05	U	0.0012	0.05
Hexachlorobutadiene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00013	0.05
Hexachlorocyclopentadiene-TCLP	mg/L	0.25	U	0.05	0.25	0.25	U	0.05	0.25
Hexachloroethane-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.00016	0.05
Indeno(1,2,3-cd)pyrene-TCLP	mg/L	0.05	U	0.0007	0.05	0.05	U	0.00069	0.05
Isophorone-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00012	0.05
Kepone-TCLP	mg/L	0.2	U	0.0031	0.2	0.2	U	0.0031	0.2
Naphthalene-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.00015	0.05

LAB SAMPLE ID		C4K190106001				C4K190106002			
CLIENT ID		DAJ-050 BA-C-1 (1,2,3)				DAJ-051 BA-C-2 (4,5,6)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Nitrobenzene-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.00017	0.05
Benzidine-TCLP	mg/L	0.5	U	0.002	0.5	0.5	U	0.002	0.5
2-Nitrophenol-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00013	0.05
4-Nitrophenol-TCLP	mg/L	0.25	U	0.0023	0.25	0.25	U	0.0023	0.25
N-Nitrosodimethylamine-TCLP	mg/L	0.05	U	0.0012	0.05	0.05	U	0.0012	0.05
Benzo(a)anthracene-TCLP	mg/L	0.05	U	0.0008	0.05	0.05	U	0.00078	0.05
N-Nitrosodi-n-propylamine-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00012	0.05
N-Nitrosodiphenylamine-TCLP	mg/L	0.05	U	0.0016	0.05	0.05	U	0.0016	0.05
Benzo(b)fluoranthene-TCLP	mg/L	0.05	U	0.0027	0.05	0.05	U	0.0027	0.05
Benzo(k)fluoranthene-TCLP	mg/L	0.05	U	0.0007	0.05	0.05	U	0.00068	0.05
Benzo(ghi)perylene-TCLP	mg/L	0.05	U	0.0016	0.05	0.05	U	0.0016	0.05
Benzo(a)pyrene-TCLP	mg/L	0.05	U	0.0007	0.05	0.05	U	0.00071	0.05
Pentachlorophenol-TCLP	mg/L	0.25	U	0.0008	0.25	0.25	U	0.00079	0.25
Phenanthrene-TCLP	mg/L	0.05	U	0.001	0.05	0.05	U	0.001	0.05
Phenol-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.00015	0.05
Pyrene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00011	0.05
1,2,4-Trichlorobenzene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00012	0.05
2,4,6-Trichlorophenol-TCLP	mg/L	0.05	U	0.0019	0.05	0.05	U	0.0019	0.05
bis(2-Chloroethoxy)methane-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00013	0.05
bis(2-Chloroethyl) ether-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.00017	0.05
1,2-Diphenylhydrazine (as Azobenz	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
bis(2-Ethylhexyl) phthalate-TCLP	mg/L	0.05	U	0.0038	0.05	0.05	U	0.0038	0.05
4-Bromophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
2,2'-oxybis(1-Chloropropane)-TCLP	mg/L	0.05	U	0.0008	0.05	0.05	U	0.0008	0.05
Butyl benzyl phthalate-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.00018	0.05
Acenaphthylene-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
4-Chloro-3-methylphenol-TCLP	mg/L	0.05	U	0.0011	0.05	0.05	U	0.0011	0.05
2-Chloronaphthalene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00013	0.05
2-Chlorophenol-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00013	0.05
4-Chlorophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
Chrysene-TCLP	mg/L	0.05	U	0.0007	0.05	0.05	U	0.00067	0.05
Dibenz(a,h)anthracene-TCLP	mg/L	0.05	U	0.0006	0.05	0.05	U	0.00063	0.05
Di-n-butyl phthalate-TCLP	mg/L	0.05	U	0.0006	0.05	0.05	U	0.00061	0.05
1,2-Dichlorobenzene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00014	0.05
1,3-Dichlorobenzene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00013	0.05
1,4-Dichlorobenzene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.00012	0.05
3,3'-Dichlorobenzidine-TCLP	mg/L	0.25	U	0.0048	0.25	0.25	U	0.0048	0.25
2,4-Dichlorophenol-TCLP	mg/L	0.05	U	0.0017	0.05	0.05	U	0.0017	0.05
TCLP Metals									
Mercury-TCLP	mg/L	0.0002	U	7E-05	0	0.0002	U	0.000071	2E-04
Sodium	mg/L	209	J	0.16	5	260	J	0.16	5
Antimony-TCLP	mg/L	0.06	U	0.013	0.06	0.014	B	0.013	0.06
Arsenic-TCLP	mg/L	0.17	B	0.019	0.5	0.22	B	0.019	0.5
Iron-TCLP	mg/L	0.22	J	0.0074	0.1	53	J	0.0074	0.1
Lead-TCLP	mg/L	0.024	B	0.013	0.5	0.06	B	0.013	0.5
Magnesium-TCLP	mg/L	39.7	J	0.0076	5	41.9	J	0.0076	5
Manganese-TCLP	mg/L	0.97	J	0.0002	0.02	2.5	J	0.00018	0.015
Molybdenum-TCLP	mg/L	0.0046	B	0.0041	0.04	0.04	U	0.0041	0.04
Barium-TCLP	mg/L	0.092	B J	0.0004	10	0.12	B J	0.00036	10
Nickel-TCLP	mg/L	0.017	B	0.0037	0.04	0.074		0.0037	0.04
Beryllium-TCLP	mg/L	0.0005	B	0.0003	0.01	0.00037	B	0.00033	0.005
Selenium-TCLP	mg/L	0.25	U	0.027	0.25	0.25	U	0.027	0.25
Silver-TCLP	mg/L	0.5	U	0.0026	0.5	0.5	U	0.0026	0.5
Thallium-TCLP	mg/L	2	U	0.018	2	0.042	B	0.018	2
Tin-TCLP	mg/L	0.1	U	0.009	0.1	0.01	B	0.009	0.1
Titanium-TCLP	mg/L	0.05	U	0.0007	0.05	0.05	U	0.00066	0.05
Zinc-TCLP	mg/L	0.32		0.0024	0.02	1.6		0.0024	0.02
Chromium-TCLP	mg/L	0.5	U	0.0014	0.5	0.0041	B J	0.0014	0.5
Boron-TCLP	mg/L	0.35	J	0.0041	0.2	0.4	J	0.0041	0.2

LAB SAMPLE ID		C4K190106001				C4K190106002			
CLIENT ID		DAJ-050 BA-C-1 (1,2,3)				DAJ-051 BA-C-2 (4,5,6)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Cadmium-TCLP	mg/L	0.1	U	0.0009	0.1	0.0031	B	0.00086	0.1
Cobalt-TCLP	mg/L	0.0029	B	0.0017	0.05	0.011	B	0.0017	0.05
Copper-TCLP	mg/L	0.0022	B	0.0017	0.03	0.0058	B	0.0017	0.025
Aluminum-TCLP	mg/L	0.023	B J	0.015	0.2	0.071	B J	0.015	0.2
TCLP - 2,3,7,8 TCDD									
2,3,7,8-TCDD	pg/L	0.52	U	0	0.52	4.3	U	0	4.3
Radiochemistry									
Tritium	pCi/L	-90	U			8	U		
Gross Alpha	pCi/L	28	U			8	U		
Gross Beta	pCi/L	14	U			30	U		
Strontium 90	pCi/L	0.13	U			0.41	U		
Total Radium	pCi/L	0.41	J			0.38	J		
Total Radium 226	pCi/L	0.215	J			0.13	J		
Butyltins									
Tetrabutyltin	ug/L	0.049	U			0.048	U		
Tributyltin	ug/L	0.043	U			0.043	U		
Dibutyltin	ug/L	0.037	U			0.037	U		
Monobutyltin	ug/L	0.3	U			0.03	U		

Qualifiers
U= Analyte not detected. Reporting Limit reported
J= Analyte detected at a concentration less than the Reporting Limit

LAB SAMPLE ID		C4K190106003				C4K190106004			
CLIENT ID		DAJ-052 BA-C-3 (7,8,9)				DAJ-053 BA-C-4 (10,11,12)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Additional Sediment Parameters									
Percent Solids	%	36.8		0		8.4		0	
Total Volatile Solids (TVS)	%	7.1		0.5	0.5	50.8		0.5	0.5
Carbonate Alkalinity	mg/kg	3980		272	136	12400		1190	596
Total Kjeldahl Nitrogen	mg/kg	5120		130	408	15500		572	1790
Nitrite as N	mg/kg	2.7	U	0.14	2.7	11.9	U	0.6	11.9
Nitrate	mg/kg	2.7	U	0.74	2.7	11.9	U	3.2	11.9
Total phosphorus	mg/kg	2030		125	272	6290		548	1190
Ammonia Nitrogen	mg/kg	875		6.6	13.6	2850		29	59.6
DI Leachable Parameters									
DI Leachable Chloride	mg/L	496		0.88	5	527		0.88	5
DI Leachable Fluoride	mg/L	0.18		0.022	0.05	0.16		0.022	0.05
TOC	mg/L	6.4		0.31	1	5.5		0.31	1
Hexavalent Chromium	mg/L	0.01	U	0.0035	0.01	0.01	U	0.0035	0.01
Total Recoverable Phenolics	mg/L	0.1	U	0.0065	0.1	0.1	U	0.0065	0.1
Bromide	mg/L	1.8		0.054	0.2	1.9		0.054	0.2
TPH (SGT-HEM)-TCLP	mg/L	4.8	U	0.52	4.8	4.8	U	0.52	4.8
pH	No Units	7.8				7.8			
Hardness	mg/L	103			33	110			33
Total Sulfide	mg/L	1	U	0.1	1	1	U	0.1	1
DI Leachable Sulfate	mg/L	5	U	1.1	5	16.1		1.1	5
DI Leachable Cyanide	mg/L	0.01	U	0.0043	0.01	0.01	U	0.0043	0.01
TCLP Herbicides & Pesticides									
Malathion-TCLP	ug/L	1	U	0.24	1	1	U	0.24	1
Parathion-TCLP	ug/L	1	U	0.24	1	1	U	0.24	1
Guthion (Azinphos-methyl)-TCLP	ug/L	1	U	0.27	1	1	U	0.27	1
Chlorpyrifos-TCLP	ug/L	1	U	0.23	1	1	U	0.23	1
Demeton (total)-TCLP	ug/L	1	U	0.74	1	1	U	0.74	1
2,4,5-TP (Silvex)-TCLP	mg/L	0.00059	J	0.00034	0.01	0.01	U	0.0003	0.01
2,4-D-TCLP	mg/L	0.04	U	0.0014	0.04	0.04	U	0.0014	0.04
TCLP PCBs									
Aroclor 1016-TCLP	ug/L	1	U	0.49	1	1	U	0.49	1
Aroclor 1221-TCLP	ug/L	1	U	0.45	1	1	U	0.45	1
Aroclor 1232-TCLP	ug/L	1	U	0.53	1	1	U	0.53	1
Aroclor 1242-TCLP	ug/L	1	U	0.25	1	1	U	0.25	1
Aroclor 1248-TCLP	ug/L	1	U	0.34	1	1	U	0.34	1
Aroclor 1254-TCLP	ug/L	1	U	0.35	1	1	U	0.35	1
Aroclor 1260-TCLP	ug/L	1	U	0.58	1	1	U	0.58	1
PCBs (total)-TCLP	ug/L	5	U	0.58	5	5	U	0.58	5
TCLP Chlorinated Pesticides									
Dieldrin-TCLP	mg/L	0.001	U	0.00016	0.001	0.0002	U	3E-05	0.0002
Endosulfan I-TCLP	mg/L	0.0005	U	0.00015	0.0005	0.0001	U	3E-05	0.0001
Endosulfan II-TCLP	mg/L	0.001	U	0.00028	0.001	0.0002	U	6E-05	0.0002
Endosulfan sulfate-TCLP	mg/L	0.001	U	0.00017	0.001	0.0002	U	3E-05	0.0002
Endrin-TCLP	mg/L	0.0005	U	0.00015	0.0005	0.0001	U	3E-05	0.0001
Endrin aldehyde-TCLP	mg/L	0.001	U	0.00016	0.001	0.0002	U	3E-05	0.0002
Heptachlor-TCLP	mg/L	0.0005	U	0.00014	0.0005	0.0001	U	3E-05	0.0001
Heptachlor epoxide-TCLP	mg/L	0.0005	U	0.00015	0.0005	0.0001	U	3E-05	0.0001
Methoxychlor-TCLP	mg/L	0.0005	U	0.00031	0.0005	0.0001	U	6E-05	0.0001
Mirex-TCLP	mg/L	0.001	U	0.000017	0.001	0.0002	U	2E-05	0.0002
alpha-BHC-TCLP	mg/L	0.00046	J PG	0.00014	0.0005	0.00015		3E-05	0.0001
beta-BHC-TCLP	mg/L	0.00031	J PG	0.00016	0.0005	0.0001	U	3E-05	0.0001
delta-BHC-TCLP	mg/L	0.0039		0.00016	0.0005	0.00069		3E-05	0.0001
gamma-BHC (Lindane)-TCLP	mg/L	0.0018		0.00015	0.0005	0.00038		3E-05	0.0001
Toxaphene-TCLP	mg/L	0.02	U	0.00072	0.02	0.004	U	0.0001	0.004

LAB SAMPLE ID		C4K190106003				C4K190106004			
CLIENT ID		DAJ-052 BA-C-3 (7,8,9)				DAJ-053 BA-C-4 (10,11,12)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Chlordane (technical)-TCLP	mg/L	0.005	U	0.0017	0.005	0.001	U	0.0004	0.001
Aldrin-TCLP	mg/L	0.0005	U	0.00014	0.0005	0.0001	U	3E-05	0.0001
4,4'-DDD-TCLP	mg/L	0.001	U	0.00016	0.001	0.0002	U	3E-05	0.0002
4,4'-DDE-TCLP	mg/L	0.001	U	0.00016	0.001	0.0002	U	3E-05	0.0002
4,4'-DDT-TCLP	mg/L	0.001	U	0.00015	0.001	0.0002	U	3E-05	0.0002
TCLP Volatile Organics									
trans-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0047	0.05	0.05	U	0.0047	0.05
Ethylbenzene-TCLP	mg/L	0.05	U	0.006	0.05	0.05	U	0.006	0.05
Trichlorofluoromethane-TCLP	mg/L	0.1	U	0.012	0.1	0.1	U	0.012	0.1
Methylene chloride-TCLP	mg/L	0.05	U	0.013	0.05	0.05	U	0.013	0.05
Benzene-TCLP	mg/L	0.05	U	0.0057	0.05	0.05	U	0.0057	0.05
1,1,2,2-Tetrachloroethane-TCLP	mg/L	0.072		0.007	0.05	0.05	U	0.007	0.05
Tetrachloroethene-TCLP	mg/L	0.05	U	0.016	0.05	0.05	U	0.016	0.05
Toluene-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.0058	0.05
1,1,1-Trichloroethane-TCLP	mg/L	0.05	U	0.0067	0.05	0.05	U	0.0067	0.05
1,1,2-Trichloroethane-TCLP	mg/L	0.05	U	0.0059	0.05	0.05	U	0.0059	0.05
Trichloroethene-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.0058	0.05
Vinyl chloride-TCLP	mg/L	0.05	U	0.0074	0.05	0.05	U	0.0074	0.05
Bromodichloromethane-TCLP	mg/L	0.05	U	0.0046	0.05	0.05	U	0.0046	0.05
Bromoform-TCLP	mg/L	0.013	J	0.0042	0.05	0.05	U	0.0042	0.05
Bromomethane-TCLP	mg/L	0.05	U	0.009	0.05	0.05	U	0.009	0.05
Acrolein-TCLP	mg/L	1	U	0.41	1	1	U	0.41	1
Acrylonitrile-TCLP	mg/L	1	U	0.054	1	1	U	0.054	1
Carbon tetrachloride-TCLP	mg/L	0.05	U	0.0067	0.05	0.05	U	0.0067	0.05
Chlorobenzene-TCLP	mg/L	0.05	U	0.0056	0.05	0.05	U	0.0056	0.05
Dibromochloromethane-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.0058	0.05
Chloroethane-TCLP	mg/L	0.1	U	0.0072	0.1	0.1	U	0.0072	0.1
2-Chloroethyl vinyl ether-TCLP	mg/L	0.1	U	0.065	0.1	0.1	U	0.065	0.1
Chloroform-TCLP	mg/L	0.05	U	0.0062	0.05	0.05	U	0.0062	0.05
Chloromethane-TCLP	mg/L	0.1	U	0.0082	0.1	0.1	U	0.0082	0.1
Dichlorodifluoromethane-TCLP	mg/L	0.1	U	0.0092	0.1	0.1	U	0.0092	0.1
1,1-Dichloroethane-TCLP	mg/L	0.05	U	0.0064	0.05	0.05	U	0.0064	0.05
1,2-Dichloroethane-TCLP	mg/L	0.05	U	0.0054	0.05	0.05	U	0.0054	0.05
1,1-Dichloroethene-TCLP	mg/L	0.05	U	0.0088	0.05	0.05	U	0.0088	0.05
trans-1,2-Dichloroethene-TCLP	mg/L	0.05	U	0.0073	0.05	0.05	U	0.0073	0.05
1,2-Dichloropropane-TCLP	mg/L	0.05	U	0.0073	0.05	0.05	U	0.0073	0.05
cis-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0063	0.05	0.05	U	0.0063	0.05
TCLP Semivolatile Organics									
Acenaphthene-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
Diethyl phthalate-TCLP	mg/L	0.05	U	0.00016	0.05	0.05	U	0.0002	0.05
2,4-Dimethylphenol-TCLP	mg/L	0.05	U	0.0043	0.05	0.05	U	0.0043	0.05
Dimethyl phthalate-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.0001	0.05
Di-n-octyl phthalate-TCLP	mg/L	0.05	U	0.00015	0.05	0.05	U	0.0002	0.05
4,6-Dinitro-2-methylphenol-TCLP	mg/L	0.25	U	0.0025	0.25	0.25	U	0.0025	0.25
2,4-Dinitrophenol-TCLP	mg/L	0.25	U	0.00059	0.25	0.25	U	0.0006	0.25
2,4-Dinitrotoluene-TCLP	mg/L	0.05	U	0.00092	0.05	0.05	U	0.0009	0.05
2,6-Dinitrotoluene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.0001	0.05
Anthracene-TCLP	mg/L	0.05	U	0.00089	0.05	0.05	U	0.0009	0.05
Fluoranthene-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.0001	0.05
Fluorene-TCLP	mg/L	0.00018	J	0.00012	0.05	0.05	U	0.0001	0.05
Hexachlorobenzene-TCLP	mg/L	0.05	U	0.0012	0.05	0.05	U	0.0012	0.05
Hexachlorobutadiene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.0001	0.05
Hexachlorocyclopentadiene-TCLP	mg/L	0.25	U	0.05	0.25	0.25	U	0.05	0.25
Hexachloroethane-TCLP	mg/L	0.05	U	0.00016	0.05	0.05	U	0.0002	0.05
Indeno(1,2,3-cd)pyrene-TCLP	mg/L	0.05	U	0.00069	0.05	0.05	U	0.0007	0.05
Isophorone-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.0001	0.05
Kepone-TCLP	mg/L	0.2	U	0.0031	0.2	0.2	U	0.0031	0.2
Naphthalene-TCLP	mg/L	0.05	U	0.00015	0.05	0.05	U	0.0002	0.05

LAB SAMPLE ID		C4K190106003				C4K190106004			
CLIENT ID		DAJ-052 BA-C-3 (7,8,9)				DAJ-053 BA-C-4 (10,11,12)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Nitrobenzene-TCLP	mg/L	0.05	U	0.00017	0.05	0.05	U	0.0002	0.05
Benzidine-TCLP	mg/L	0.5	U	0.002	0.5	0.5	U	0.002	0.5
2-Nitrophenol-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.0001	0.05
4-Nitrophenol-TCLP	mg/L	0.25	U	0.0023	0.25	0.25	U	0.0023	0.25
N-Nitrosodimethylamine-TCLP	mg/L	0.05	U	0.0012	0.05	0.05	U	0.0012	0.05
Benzo(a)anthracene-TCLP	mg/L	0.05	U	0.00078	0.05	0.05	U	0.0008	0.05
N-Nitrosodi-n-propylamine-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.0001	0.05
N-Nitrosodiphenylamine-TCLP	mg/L	0.05	U	0.0016	0.05	0.05	U	0.0016	0.05
Benzo(b)fluoranthene-TCLP	mg/L	0.05	U	0.0027	0.05	0.05	U	0.0027	0.05
Benzo(k)fluoranthene-TCLP	mg/L	0.05	U	0.00068	0.05	0.05	U	0.0007	0.05
Benzo(ghi)perylene-TCLP	mg/L	0.05	U	0.0016	0.05	0.05	U	0.0016	0.05
Benzo(a)pyrene-TCLP	mg/L	0.05	U	0.00071	0.05	0.05	U	0.0007	0.05
Pentachlorophenol-TCLP	mg/L	0.25	U	0.00079	0.25	0.25	U	0.0008	0.25
Phenanthrene-TCLP	mg/L	0.05	U	0.001	0.05	0.05	U	0.001	0.05
Phenol-TCLP	mg/L	0.0043	J	0.00015	0.05	0.0039	J	0.0002	0.05
Pyrene-TCLP	mg/L	0.05	U	0.00011	0.05	0.05	U	0.0001	0.05
1,2,4-Trichlorobenzene-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.0001	0.05
2,4,6-Trichlorophenol-TCLP	mg/L	0.05	U	0.0019	0.05	0.05	U	0.0019	0.05
bis(2-Chloroethoxy)methane-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.0001	0.05
bis(2-Chloroethyl) ether-TCLP	mg/L	0.05	U	0.00017	0.05	0.05	U	0.0002	0.05
1,2-Diphenylhydrazine (as Azobenz	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
bis(2-Ethylhexyl) phthalate-TCLP	mg/L	0.05	U	0.0038	0.05	0.05	U	0.0038	0.05
4-Bromophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
2,2'-oxybis(1-Chloropropane)-TCLP	mg/L	0.05	U	0.0008	0.05	0.05	U	0.0008	0.05
Butyl benzyl phthalate-TCLP	mg/L	0.05	U	0.00018	0.05	0.05	U	0.0002	0.05
Acenaphthylene-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
4-Chloro-3-methylphenol-TCLP	mg/L	0.05	U	0.0011	0.05	0.05	U	0.0011	0.05
2-Chloronaphthalene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.0001	0.05
2-Chlorophenol-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.0001	0.05
4-Chlorophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
Chrysene-TCLP	mg/L	0.05	U	0.00067	0.05	0.05	U	0.0007	0.05
Dibenz(a,h)anthracene-TCLP	mg/L	0.05	U	0.00063	0.05	0.05	U	0.0006	0.05
Di-n-butyl phthalate-TCLP	mg/L	0.05	U	0.00061	0.05	0.05	U	0.0006	0.05
1,2-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00014	0.05	0.05	U	0.0001	0.05
1,3-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	0.0001	0.05
1,4-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	0.0001	0.05
3,3'-Dichlorobenzidine-TCLP	mg/L	0.25	U	0.0048	0.25	0.25	U	0.0048	0.25
2,4-Dichlorophenol-TCLP	mg/L	0.05	U	0.0017	0.05	0.05	U	0.0017	0.05
TCLP Metals									
Mercury-TCLP	mg/L	0.0002	U	0.000071	0.0002	0.0002	U	7E-05	0.0002
Sodium	mg/L	268	J	0.16	5	276	J	0.16	5
Antimony-TCLP	mg/L	0.06	U	0.013	0.06	0.06	U	0.013	0.06
Arsenic-TCLP	mg/L	0.22	B	0.019	0.5	0.22	B	0.019	0.5
Iron-TCLP	mg/L	55.2	J	0.0074	0.1	52.2	J	0.0074	0.1
Lead-TCLP	mg/L	0.053	B	0.013	0.5	0.046	B	0.013	0.5
Magnesium-TCLP	mg/L	41.5	J	0.0076	5	45.3	J	0.0076	5
Manganese-TCLP	mg/L	2.5	J	0.00018	0.015	2.4	J	0.0002	0.015
Molybdenum-TCLP	mg/L	0.04	U	0.0041	0.04	0.04	U	0.0041	0.04
Barium-TCLP	mg/L	0.11	B J	0.00036	10	0.11	B J	0.0004	10
Nickel-TCLP	mg/L	0.067		0.0037	0.04	0.044		0.0037	0.04
Beryllium-TCLP	mg/L	0.00063	B	0.00033	0.005	0.00064	B	0.0003	0.005
Selenium-TCLP	mg/L	0.033	B	0.027	0.25	0.25	U	0.027	0.25
Silver-TCLP	mg/L	0.5	U	0.0026	0.5	0.5	U	0.0026	0.5
Thallium-TCLP	mg/L	0.035	B	0.018	2	0.055	B	0.018	2
Tin-TCLP	mg/L	0.1	U	0.009	0.1	0.1	U	0.009	0.1
Titanium-TCLP	mg/L	0.05	U	0.00066	0.05	0.05	U	0.0007	0.05
Zinc-TCLP	mg/L	1.4		0.0024	0.02	1.1		0.0024	0.02
Chromium-TCLP	mg/L	0.0029	B J	0.0014	0.5	0.0023	B J	0.0014	0.5
Boron-TCLP	mg/L	0.37	J	0.0041	0.2	0.38	J	0.0041	0.2

LAB SAMPLE ID		C4K190106003				C4K190106004			
CLIENT ID		DAJ-052 BA-C-3 (7,8,9)				DAJ-053 BA-C-4 (10,11,12)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Cadmium-TCLP	mg/L	0.0019	B	0.00086	0.1	0.1	U	0.0009	0.1
Cobalt-TCLP	mg/L	0.01	B	0.0017	0.05	0.0092	B	0.0017	0.05
Copper-TCLP	mg/L	0.0053	B	0.0017	0.025	0.0041	B	0.0017	0.025
Aluminum-TCLP	mg/L	0.076	B J	0.015	0.2	0.061	B J	0.015	0.2
TCLP - 2,3,7,8 TCDD									
2,3,7,8-TCDD	pg/L	2.3	U	0	2.3	1.5	U	0	1.5
Radiochemistry									
Tritium	pCi/L	-20	U			40	U		
Gross Alpha	pCi/L	-9	U			-9	U		
Gross Beta	pCi/L	8	U			48			
Strontium 90	pCi/L	0.4	U			0.17	U		
Total Radium	pCi/L	0.16	U			0.44	J		
Total Radium 226	pCi/L	0.127	J			0.153	J		
Butyltins									
Tetrabutyltin	ug/L	0.048	U			0.048	U		
Tributyltin	ug/L	0.043	U			0.043	U		
Dibutyltin	ug/L	0.037	U			0.037	U		
Monobutyltin	ug/L	0.03	U			0.03	U		

Qualifiers
U= Analyte not detected. Reporting Limit report
J= Analyte detected at a concentration less thar

LAB SAMPLE ID		C4K190106005				C4K190106006			
CLIENT ID		DAJ-054 BA-C-5 (13,14,15)				DAJ-055 BA-C-6 (16,17,18)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Additional Sediment Parameters									
Percent Solids	%	36.6		0		41.3		0	
Total Volatile Solids (TVS)	%	7.6		0.5	0.5	8.2		0.5	0.5
Carbonate Alkalinity	mg/kg	3320		273	137	2820		242	121
Total Kjeldahl Nitrogen	mg/kg	3800	J	131	410	3020		116	363
Nitrite as N	mg/kg	2.7	U	0.14	2.7	2.4	U	0.12	2.4
Nitrate	mg/kg	2.7	U	0.74	2.7	2.4	U	0.66	2.4
Total phosphorus	mg/kg	1840		126	273	1750		111	242
Ammonia Nitrogen	mg/kg	637		6.6	13.7	539		5.9	12.1
DI Leachable Parameters									
DI Leachable Chloride	mg/L	493		0.88	5	493		0.88	5
DI Leachable Fluoride	mg/L	0.17		0.022	0.05	0.18		0.022	0.05
TOC	mg/L	5.9		0.31	1	5.8		0.31	1
Hexavalent Chromium	mg/L	0.01	U	0.0035	0.01	0.01	U	0.004	0.01
Total Recoverable Phenolics	mg/L	0.014	B	0.0065	0.1	0.1	U	0.007	0.1
Bromide	mg/L	1.7		0.054	0.2	1.8		0.054	0.2
TPH (SGT-HEM)-TCLP	mg/L	4.8	U	0.51	4.8	4.8	U	0.52	4.8
pH	No Units	8				7.9			
Hardness	mg/L	99.7			33	101			33
Total Sulfide	mg/L	1	U	0.1	1	1	U	0.1	1
DI Leachable Sulfate	mg/L	10.6		1.1	5	5	U	1.1	5
DI Leachable Cyanide	mg/L	0.01	U	0.0043	0.01	0.01	U	0.004	0.01
TCLP Herbicides & Pesticides									
Malathion-TCLP	ug/L	1	U	0.24	1	1	U	0.24	1
Parathion-TCLP	ug/L	1	U	0.24	1	1	U	0.24	1
Guthion (Azinphos-methyl)-TCLP	ug/L	1	U	0.27	1	1	U	0.27	1
Chlorpyrifos-TCLP	ug/L	1	U	0.23	1	1	U	0.23	1
Demeton (total)-TCLP	ug/L	1	U	0.74	1	1	U	0.74	1
2,4,5-TP (Silvex)-TCLP	mg/L	0.01	U	0.00034	0.01	0.0011	J	3E-04	0.01
2,4-D-TCLP	mg/L	0.04	U	0.0014	0.04	0.04	U	0.001	0.04
TCLP PCBs									
Aroclor 1016-TCLP	ug/L	1	U	0.49	1	1	U	0.49	1
Aroclor 1221-TCLP	ug/L	1	U	0.45	1	1	U	0.45	1
Aroclor 1232-TCLP	ug/L	1	U	0.53	1	1	U	0.53	1
Aroclor 1242-TCLP	ug/L	1	U	0.25	1	1	U	0.25	1
Aroclor 1248-TCLP	ug/L	1	U	0.34	1	1	U	0.34	1
Aroclor 1254-TCLP	ug/L	1	U	0.35	1	1	U	0.35	1
Aroclor 1260-TCLP	ug/L	1	U	0.58	1	1	U	0.58	1
PCBs (total)-TCLP	ug/L	5	U	0.58	5	5	U	0.58	5
TCLP Chlorinated Pesticides									
Dieldrin-TCLP	mg/L	0.0001	U	1.6E-05	1E-04	0.0001	U	2E-05	0.0001
Endosulfan I-TCLP	mg/L	0.00005	U	1.5E-05	5E-05	0.00005	U	2E-05	0.00005
Endosulfan II-TCLP	mg/L	0.0001	U	2.8E-05	1E-04	0.0001	U	3E-05	0.0001
Endosulfan sulfate-TCLP	mg/L	0.0001	U	1.7E-05	1E-04	0.0001	U	2E-05	0.0001
Endrin-TCLP	mg/L	0.00005	U	1.5E-05	5E-05	0.00005	U	2E-05	0.00005
Endrin aldehyde-TCLP	mg/L	0.0001	U	1.6E-05	1E-04	0.0001	U	2E-05	0.0001
Heptachlor-TCLP	mg/L	0.00005	U	1.4E-05	5E-05	0.00005	U	1E-05	0.00005
Heptachlor epoxide-TCLP	mg/L	0.00005	U	1.5E-05	5E-05	0.00005	U	2E-05	0.00005
Methoxychlor-TCLP	mg/L	0.00005	U	3.1E-05	5E-05	0.00005	U	3E-05	0.00005
Mirex-TCLP	mg/L	0.0001	U	1.7E-05	1E-04	0.0001	U	2E-05	0.0001
alpha-BHC-TCLP	mg/L	0.00005	U	1.4E-05	5E-05	0.000018	J PC	1E-05	0.00005
beta-BHC-TCLP	mg/L	0.00005	U	1.6E-05	5E-05	0.00005	U	2E-05	0.00005
delta-BHC-TCLP	mg/L	0.000018	J PG	1.6E-05	5E-05	0.000032	J	2E-05	0.00005
gamma-BHC (Lindane)-TCLP	mg/L	0.00005	U	1.5E-05	5E-05	0.00005	U	2E-05	0.00005
Toxaphene-TCLP	mg/L	0.002	U	7.2E-05	0.002	0.002	U	7E-05	0.002

LAB SAMPLE ID		C4K190106005				C4K190106006			
CLIENT ID		DAJ-054 BA-C-5 (13,14,15)				DAJ-055 BA-C-6 (16,17,18)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Chlordane (technical)-TCLP	mg/L	0.0005	U	0.00017	5E-04	0.0005	U	2E-04	0.0005
Aldrin-TCLP	mg/L	0.00005	U	1.4E-05	5E-05	0.00005	U	1E-05	0.00005
4,4'-DDD-TCLP	mg/L	0.000027	J	1.6E-05	1E-04	0.0001	U	2E-05	0.0001
4,4'-DDE-TCLP	mg/L	0.0001	U	1.6E-05	1E-04	0.0001	U	2E-05	0.0001
4,4'-DDT-TCLP	mg/L	0.000043	J PG	1.5E-05	1E-04	0.0001	U	2E-05	0.0001
TCLP Volatile Organics									
trans-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0047	0.05	0.05	U	0.005	0.05
Ethylbenzene-TCLP	mg/L	0.05	U	0.006	0.05	0.05	U	0.006	0.05
Trichlorofluoromethane-TCLP	mg/L	0.1	U	0.012	0.1	0.1	U	0.012	0.1
Methylene chloride-TCLP	mg/L	0.05	U	0.013	0.05	0.05	U	0.013	0.05
Benzene-TCLP	mg/L	0.05	U	0.0057	0.05	0.05	U	0.006	0.05
1,1,2,2-Tetrachloroethane-TCLP	mg/L	0.05	U	0.007	0.05	0.05	U	0.007	0.05
Tetrachloroethene-TCLP	mg/L	0.05	U	0.016	0.05	0.04	J	0.016	0.05
Toluene-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.006	0.05
1,1,1-Trichloroethane-TCLP	mg/L	0.05	U	0.0067	0.05	0.05	U	0.007	0.05
1,1,2-Trichloroethane-TCLP	mg/L	0.05	U	0.0059	0.05	0.05	U	0.006	0.05
Trichloroethene-TCLP	mg/L	0.019	J	0.0058	0.05	0.05	U	0.006	0.05
Vinyl chloride-TCLP	mg/L	0.05	U	0.0074	0.05	0.05	U	0.007	0.05
Bromodichloromethane-TCLP	mg/L	0.05	U	0.0046	0.05	0.05	U	0.005	0.05
Bromoform-TCLP	mg/L	0.05	U	0.0042	0.05	0.05	U	0.004	0.05
Bromomethane-TCLP	mg/L	0.05	U	0.009	0.05	0.05	U	0.009	0.05
Acrolein-TCLP	mg/L	1	U	0.41	1	1	U	0.41	1
Acrylonitrile-TCLP	mg/L	1	U	0.054	1	1	U	0.054	1
Carbon tetrachloride-TCLP	mg/L	0.05	U	0.0067	0.05	0.05	U	0.007	0.05
Chlorobenzene-TCLP	mg/L	0.05	U	0.0056	0.05	0.05	U	0.006	0.05
Dibromochloromethane-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.006	0.05
Chloroethane-TCLP	mg/L	0.1	U	0.0072	0.1	0.1	U	0.007	0.1
2-Chloroethyl vinyl ether-TCLP	mg/L	0.1	U	0.065	0.1	0.1	U	0.065	0.1
Chloroform-TCLP	mg/L	0.05	U	0.0062	0.05	0.05	U	0.006	0.05
Chloromethane-TCLP	mg/L	0.1	U	0.0082	0.1	0.1	U	0.008	0.1
Dichlorodifluoromethane-TCLP	mg/L	0.1	U	0.0092	0.1	0.1	U	0.009	0.1
1,1-Dichloroethane-TCLP	mg/L	0.05	U	0.0064	0.05	0.05	U	0.006	0.05
1,2-Dichloroethane-TCLP	mg/L	0.05	U	0.0054	0.05	0.05	U	0.005	0.05
1,1-Dichloroethene-TCLP	mg/L	0.05	U	0.0088	0.05	0.05	U	0.009	0.05
trans-1,2-Dichloroethene-TCLP	mg/L	0.05	U	0.0073	0.05	0.05	U	0.007	0.05
1,2-Dichloropropane-TCLP	mg/L	0.05	U	0.0073	0.05	0.05	U	0.007	0.05
cis-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0063	0.05	0.05	U	0.006	0.05
TCLP Semivolatile Organics									
Acenaphthene-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.001	0.05
Diethyl phthalate-TCLP	mg/L	0.05	U	0.00016	0.05	0.05	U	2E-04	0.05
2,4-Dimethylphenol-TCLP	mg/L	0.05	U	0.0043	0.05	0.05	U	0.004	0.05
Dimethyl phthalate-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	1E-04	0.05
Di-n-octyl phthalate-TCLP	mg/L	0.05	U	0.00015	0.05	0.05	U	2E-04	0.05
4,6-Dinitro-2-methylphenol-TCLP	mg/L	0.25	U	0.0025	0.25	0.25	U	0.003	0.25
2,4-Dinitrophenol-TCLP	mg/L	0.25	U	0.00059	0.25	0.25	U	6E-04	0.25
2,4-Dinitrotoluene-TCLP	mg/L	0.05	U	0.00092	0.05	0.05	U	9E-04	0.05
2,6-Dinitrotoluene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	1E-04	0.05
Anthracene-TCLP	mg/L	0.05	U	0.00089	0.05	0.05	U	9E-04	0.05
Fluoranthene-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	1E-04	0.05
Fluorene-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	1E-04	0.05
Hexachlorobenzene-TCLP	mg/L	0.05	U	0.0012	0.05	0.05	U	0.001	0.05
Hexachlorobutadiene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	1E-04	0.05
Hexachlorocyclopentadiene-TCLP	mg/L	0.25	U	0.05	0.25	0.25	U	0.05	0.25
Hexachloroethane-TCLP	mg/L	0.05	U	0.00016	0.05	0.05	U	2E-04	0.05
Indeno(1,2,3-cd)pyrene-TCLP	mg/L	0.05	U	0.00069	0.05	0.05	U	7E-04	0.05
Isophorone-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	1E-04	0.05
Kepone-TCLP	mg/L	0.2	U	0.0031	0.2	0.2	U	0.003	0.2
Naphthalene-TCLP	mg/L	0.05	U	0.00015	0.05	0.05	U	2E-04	0.05

LAB SAMPLE ID		C4K190106005				C4K190106006			
CLIENT ID		DAJ-054 BA-C-5 (13,14,15)				DAJ-055 BA-C-6 (16,17,18)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Nitrobenzene-TCLP	mg/L	0.05	U	0.00017	0.05	0.05	U	2E-04	0.05
Benzidine-TCLP	mg/L	0.5	U	0.002	0.5	0.5	U	0.002	0.5
2-Nitrophenol-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	1E-04	0.05
4-Nitrophenol-TCLP	mg/L	0.25	U	0.0023	0.25	0.25	U	0.002	0.25
N-Nitrosodimethylamine-TCLP	mg/L	0.05	U	0.0012	0.05	0.05	U	0.001	0.05
Benzo(a)anthracene-TCLP	mg/L	0.05	U	0.00078	0.05	0.05	U	8E-04	0.05
N-Nitrosodi-n-propylamine-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	1E-04	0.05
N-Nitrosodiphenylamine-TCLP	mg/L	0.05	U	0.0016	0.05	0.05	U	0.002	0.05
Benzo(b)fluoranthene-TCLP	mg/L	0.05	U	0.0027	0.05	0.05	U	0.003	0.05
Benzo(k)fluoranthene-TCLP	mg/L	0.05	U	0.00068	0.05	0.05	U	7E-04	0.05
Benzo(ghi)perylene-TCLP	mg/L	0.05	U	0.0016	0.05	0.05	U	0.002	0.05
Benzo(a)pyrene-TCLP	mg/L	0.05	U	0.00071	0.05	0.05	U	7E-04	0.05
Pentachlorophenol-TCLP	mg/L	0.25	U	0.00079	0.25	0.25	U	8E-04	0.25
Phenanthrene-TCLP	mg/L	0.05	U	0.001	0.05	0.05	U	0.001	0.05
Phenol-TCLP	mg/L	0.05	U	0.00015	0.05	0.0029	J	2E-04	0.05
Pyrene-TCLP	mg/L	0.05	U	0.00011	0.05	0.05	U	1E-04	0.05
1,2,4-Trichlorobenzene-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	1E-04	0.05
2,4,6-Trichlorophenol-TCLP	mg/L	0.05	U	0.0019	0.05	0.05	U	0.002	0.05
bis(2-Chloroethoxy)methane-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	1E-04	0.05
bis(2-Chloroethyl) ether-TCLP	mg/L	0.05	U	0.00017	0.05	0.05	U	2E-04	0.05
1,2-Diphenylhydrazine (as Azobenz	mg/L	0.05	U	0.0013	0.05	0.05	U	0.001	0.05
bis(2-Ethylhexyl) phthalate-TCLP	mg/L	0.05	U	0.0038	0.05	0.05	U	0.004	0.05
4-Bromophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.001	0.05
2,2'-oxybis(1-Chloropropane)-TCLP	mg/L	0.05	U	0.0008	0.05	0.05	U	8E-04	0.05
Butyl benzyl phthalate-TCLP	mg/L	0.05	U	0.00018	0.05	0.05	U	2E-04	0.05
Acenaphthylene-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.001	0.05
4-Chloro-3-methylphenol-TCLP	mg/L	0.05	U	0.0011	0.05	0.05	U	0.001	0.05
2-Chloronaphthalene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	1E-04	0.05
2-Chlorophenol-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	1E-04	0.05
4-Chlorophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	1E-04	0.05
Chrysene-TCLP	mg/L	0.05	U	0.00067	0.05	0.05	U	7E-04	0.05
Dibenz(a,h)anthracene-TCLP	mg/L	0.05	U	0.00063	0.05	0.05	U	6E-04	0.05
Di-n-butyl phthalate-TCLP	mg/L	0.05	U	0.00061	0.05	0.05	U	6E-04	0.05
1,2-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00014	0.05	0.05	U	1E-04	0.05
1,3-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00013	0.05	0.05	U	1E-04	0.05
1,4-Dichlorobenzene-TCLP	mg/L	0.05	U	0.00012	0.05	0.05	U	1E-04	0.05
3,3'-Dichlorobenzidine-TCLP	mg/L	0.25	U	0.0048	0.25	0.25	U	0.005	0.25
2,4-Dichlorophenol-TCLP	mg/L	0.05	U	0.0017	0.05	0.05	U	0.002	0.05
TCLP Metals									
Mercury-TCLP	mg/L	0.0002	U	7.1E-05	2E-04	0.0002	U	7E-05	0.0002
Sodium	mg/L	277	J	0.16	5	282	J	0.16	5
Antimony-TCLP	mg/L	0.014	B	0.013	0.06	0.06	U	0.013	0.06
Arsenic-TCLP	mg/L	0.19	B	0.019	0.5	0.18	B	0.019	0.5
Iron-TCLP	mg/L	38.4	J	0.0074	0.1	50.2	J	0.007	0.1
Lead-TCLP	mg/L	0.051	B	0.013	0.5	0.05	B	0.013	0.5
Magnesium-TCLP	mg/L	41.9	J	0.0076	5	42.4	J	0.008	5
Manganese-TCLP	mg/L	2.7	J	0.00018	0.015	2.5	J	2E-04	0.015
Molybdenum-TCLP	mg/L	0.04	U	0.0041	0.04	0.04	U	0.004	0.04
Barium-TCLP	mg/L	0.11	B J	0.00036	10	0.13	B J	4E-04	10
Nickel-TCLP	mg/L	0.051		0.0037	0.04	0.053		0.004	0.04
Beryllium-TCLP	mg/L	0.00064	B	0.00033	0.005	0.00051	B	3E-04	0.005
Selenium-TCLP	mg/L	0.25	U	0.027	0.25	0.25	U	0.027	0.25
Silver-TCLP	mg/L	0.5	U	0.0026	0.5	0.5	U	0.003	0.5
Thallium-TCLP	mg/L	0.049	B	0.018	2	0.034	B	0.018	2
Tin-TCLP	mg/L	0.012	B	0.009	0.1	0.1	U	0.009	0.1
Titanium-TCLP	mg/L	0.05	U	0.00066	0.05	0.05	U	7E-04	0.05
Zinc-TCLP	mg/L	1.3		0.0024	0.02	1.3		0.002	0.02
Chromium-TCLP	mg/L	0.0026	B J	0.0014	0.5	0.0025	B J	0.001	0.5
Boron-TCLP	mg/L	0.38	J	0.0041	0.2	0.37	J	0.004	0.2

LAB SAMPLE ID		C4K190106005				C4K190106006			
CLIENT ID		DAJ-054 BA-C-5 (13,14,15)				DAJ-055 BA-C-6 (16,17,18)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Cadmium-TCLP	mg/L	0.0021	B	0.00086	0.1	0.1	U	9E-04	0.1
Cobalt-TCLP	mg/L	0.01	B	0.0017	0.05	0.0094	B	0.002	0.05
Copper-TCLP	mg/L	0.0054	B	0.0017	0.025	0.0047	B	0.002	0.025
Aluminum-TCLP	mg/L	0.08	B J	0.015	0.2	0.061	B J	0.015	0.2
TCLP - 2,3,7,8 TCDD									
2,3,7,8-TCDD	pg/L	2.7	Q J	0	1.4	1.7	U	0	1.7
Radiochemistry									
Tritium	pCi/L	-40	U			-30	U		
Gross Alpha	pCi/L	13	U			-14	U		
Gross Beta	pCi/L	15	U			7	U		
Strontium 90	pCi/L	-0.08	U			0.02	U		
Total Radium	pCi/L	0.38	J			0.5	J		
Total Radium 226	pCi/L	0.082	J			0.138	J		
Butyltins									
Tetrabutyltin	ug/L	0.048	U			0.048	U		
Tributyltin	ug/L	0.043	U			0.043	U		
Dibutyltin	ug/L	0.037	U			0.037	U		
Monobutyltin	ug/L	0.03	U			0.048	U		

Qualifiers
U= Analyte not detected. Reporting Limit report
J= Analyte detected at a concentration less thar

LAB SAMPLE ID		C4K190106007				C4K190106009			
CLIENT ID		DAJ-057 BA-C-7 (19,20,21)				DAJ-058 BA-C-8 (22,23,24)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Additional Sediment Parameters									
Percent Solids	%	49.1		0		36.6		0	
Total Volatile Solids (TVS)	%	26.3		0.5	0.5	8.9		0.5	0.5
Carbonate Alkalinity	mg/kg	2560		204	102	3210		273	136
Total Kjeldahl Nitrogen	mg/kg	3070	J	97.7	305	4740	J	131	409
Nitrite as N	mg/kg	2	U	0.1	2	0.15	B	0.14	2.7
Nitrate	mg/kg	2	U	0.55	2	2.7	U	0.74	2.7
Total phosphorus	mg/kg	1550		187	407	236		12.6	27.3
Ammonia Nitrogen	mg/kg	581		4.9	10.2	845		6.6	13.6
DI Leachable Parameters									
DI Leachable Chloride	mg/L	493		0.88	5	513		0.88	5
DI Leachable Fluoride	mg/L	0.18		0.022	0.05	0.18		0.022	0.05
TOC	mg/L	6.5		0.31	1	7.6		0.31	1
Hexavalent Chromium	mg/L	0.01	U	0.0035	0.01	0.01	U	0.0035	0.01
Total Recoverable Phenolics	mg/L	0.035	B	0.0065	0.1	0.028	B	0.0065	0.1
Bromide	mg/L	1.8		0.054	0.2	2		0.054	0.2
TPH (SGT-HEM)-TCLP	mg/L	4.8	U	0.51	4.8	4.9	U	0.52	4.9
pH	No Units	7.9				7.8			
Hardness	mg/L	97.7			33	107			33
Total Sulfide	mg/L	1	U	0.1	1	1	U	0.1	1
DI Leachable Sulfate	mg/L	5	U	1.1	5	6.6		1.1	5
DI Leachable Cyanide	mg/L	0.01	U	0.0043	0.01	0.01	U	0.0043	0.01
TCLP Herbicides & Pesticides									
Malathion-TCLP	ug/L	1	U	0.24	1	1	U	0.24	1
Parathion-TCLP	ug/L	1	U	0.24	1	1	U	0.24	1
Guthion (Azinphos-methyl)-TCLP	ug/L	1	U	0.27	1	1	U	0.27	1
Chlorpyrifos-TCLP	ug/L	1	U	0.23	1	1	U	0.23	1
Demeton (total)-TCLP	ug/L	1	U	0.74	1	1	U	0.74	1
2,4,5-TP (Silvex)-TCLP	mg/L	0.01	U	0.0003	0.01	0.0007	J	0.0003	0.01
2,4-D-TCLP	mg/L	0.04	U	0.0014	0.04	0.04	U	0.0014	0.04
TCLP PCBs									
Aroclor 1016-TCLP	ug/L	1	U	0.49	1	1	U	0.49	1
Aroclor 1221-TCLP	ug/L	1	U	0.45	1	1	U	0.45	1
Aroclor 1232-TCLP	ug/L	1	U	0.53	1	1	U	0.53	1
Aroclor 1242-TCLP	ug/L	1	U	0.25	1	1	U	0.25	1
Aroclor 1248-TCLP	ug/L	1	U	0.34	1	1	U	0.34	1
Aroclor 1254-TCLP	ug/L	1	U	0.35	1	1	U	0.35	1
Aroclor 1260-TCLP	ug/L	1	U	0.58	1	1	U	0.58	1
PCBs (total)-TCLP	ug/L	5	U	0.58	5	5	U	0.58	5
TCLP Chlorinated Pesticides									
Dieldrin-TCLP	mg/L	0.0001	U	2E-05	0.0001	0.0005	U	8E-05	0.0005
Endosulfan I-TCLP	mg/L	0.00005	U	2E-05	5E-05	0.00025	U	8E-05	0.00025
Endosulfan II-TCLP	mg/L	0.0001	U	3E-05	0.0001	0.0005	U	0.0001	0.0005
Endosulfan sulfate-TCLP	mg/L	0.0001	U	2E-05	0.0001	0.0005	U	9E-05	0.0005
Endrin-TCLP	mg/L	0.00005	U	2E-05	5E-05	0.00025	U	7E-05	0.00025
Endrin aldehyde-TCLP	mg/L	0.000041	J PG	2E-05	0.0001	0.0005	U	8E-05	0.0005
Heptachlor-TCLP	mg/L	0.00005	U	1E-05	5E-05	0.00025	U	7E-05	0.00025
Heptachlor epoxide-TCLP	mg/L	0.00005	U	2E-05	5E-05	0.00025	U	8E-05	0.00025
Methoxychlor-TCLP	mg/L	0.00005	U	3E-05	5E-05	0.00025	U	0.0002	0.00025
Mirex-TCLP	mg/L	0.0001	U	2E-05	0.0001	0.0005	U	2E-05	0.0005
alpha-BHC-TCLP	mg/L	0.00005	U	1E-05	5E-05	0.00027		7E-05	0.00025
beta-BHC-TCLP	mg/L	0.00005	U	2E-05	5E-05	0.00025	U	8E-05	0.00025
delta-BHC-TCLP	mg/L	0.000022	J PG	2E-05	5E-05	0.0011		8E-05	0.00025
gamma-BHC (Lindane)-TCLP	mg/L	0.00005	U	2E-05	5E-05	0.0011		7E-05	0.00025
Toxaphene-TCLP	mg/L	0.002	U	7E-05	0.002	0.01	U	0.0004	0.01

LAB SAMPLE ID		C4K190106007				C4K190106009			
CLIENT ID		DAJ-057 BA-C-7 (19,20,21)				DAJ-058 BA-C-8 (22,23,24)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Chlordane (technical)-TCLP	mg/L	0.0005	U	0.0002	0.0005	0.0025	U	0.0009	0.0025
Aldrin-TCLP	mg/L	0.00005	U	1E-05	5E-05	0.00025	U	7E-05	0.00025
4,4'-DDD-TCLP	mg/L	0.000031	J	2E-05	0.0001	0.0005	U	8E-05	0.0005
4,4'-DDE-TCLP	mg/L	0.0001	U	2E-05	0.0001	0.0005	U	8E-05	0.0005
4,4'-DDT-TCLP	mg/L	0.0001	U	2E-05	0.0001	0.0005	U	7E-05	0.0005
TCLP Volatile Organics									
trans-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0047	0.05	0.05	U	0.0047	0.05
Ethylbenzene-TCLP	mg/L	0.049	J	0.006	0.05	0.05	U	0.006	0.05
Trichlorofluoromethane-TCLP	mg/L	0.1	U	0.012	0.1	0.1	U	0.012	0.1
Methylene chloride-TCLP	mg/L	0.05	U	0.013	0.05	0.05	U	0.013	0.05
Benzene-TCLP	mg/L	0.05	U	0.0057	0.05	0.05	U	0.0057	0.05
1,1,2,2-Tetrachloroethane-TCLP	mg/L	0.05	U	0.007	0.05	0.05	U	0.007	0.05
Tetrachloroethene-TCLP	mg/L	0.05	U	0.016	0.05	0.05	U	0.016	0.05
Toluene-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.0058	0.05
1,1,1-Trichloroethane-TCLP	mg/L	0.05	U	0.0067	0.05	0.05	U	0.0067	0.05
1,1,2-Trichloroethane-TCLP	mg/L	0.05	U	0.0059	0.05	0.05	U	0.0059	0.05
Trichloroethene-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.0058	0.05
Vinyl chloride-TCLP	mg/L	0.05	U	0.0074	0.05	0.05	U	0.0074	0.05
Bromodichloromethane-TCLP	mg/L	0.05	U	0.0046	0.05	0.05	U	0.0046	0.05
Bromoform-TCLP	mg/L	0.05	U	0.0042	0.05	0.05	U	0.0042	0.05
Bromomethane-TCLP	mg/L	0.05	U	0.009	0.05	0.05	U	0.009	0.05
Acrolein-TCLP	mg/L	1	U	0.41	1	1	U	0.41	1
Acrylonitrile-TCLP	mg/L	1	U	0.054	1	1	U	0.054	1
Carbon tetrachloride-TCLP	mg/L	0.05	U	0.0067	0.05	0.05	U	0.0067	0.05
Chlorobenzene-TCLP	mg/L	0.05	U	0.0056	0.05	0.05	U	0.0056	0.05
Dibromochloromethane-TCLP	mg/L	0.05	U	0.0058	0.05	0.05	U	0.0058	0.05
Chloroethane-TCLP	mg/L	0.1	U	0.0072	0.1	0.1	U	0.0072	0.1
2-Chloroethyl vinyl ether-TCLP	mg/L	0.1	U	0.065	0.1	0.1	U	0.065	0.1
Chloroform-TCLP	mg/L	0.05	U	0.0062	0.05	0.05	U	0.0062	0.05
Chloromethane-TCLP	mg/L	0.1	U	0.0082	0.1	0.1	U	0.0082	0.1
Dichlorodifluoromethane-TCLP	mg/L	0.1	U	0.0092	0.1	0.1	U	0.0092	0.1
1,1-Dichloroethane-TCLP	mg/L	0.05	U	0.0064	0.05	0.05	U	0.0064	0.05
1,2-Dichloroethane-TCLP	mg/L	0.05	U	0.0054	0.05	0.05	U	0.0054	0.05
1,1-Dichloroethene-TCLP	mg/L	0.05	U	0.0088	0.05	0.05	U	0.0088	0.05
trans-1,2-Dichloroethene-TCLP	mg/L	0.05	U	0.0073	0.05	0.05	U	0.0073	0.05
1,2-Dichloropropane-TCLP	mg/L	0.05	U	0.0073	0.05	0.05	U	0.0073	0.05
cis-1,3-Dichloropropene-TCLP	mg/L	0.05	U	0.0063	0.05	0.05	U	0.0063	0.05
TCLP Semivolatile Organics									
Acenaphthene-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
Diethyl phthalate-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.0002	0.05
2,4-Dimethylphenol-TCLP	mg/L	0.05	U	0.0043	0.05	0.05	U	0.0043	0.05
Dimethyl phthalate-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
Di-n-octyl phthalate-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.0002	0.05
4,6-Dinitro-2-methylphenol-TCLP	mg/L	0.25	U	0.0025	0.25	0.25	U	0.0025	0.25
2,4-Dinitrophenol-TCLP	mg/L	0.25	U	0.0006	0.25	0.25	U	0.0006	0.25
2,4-Dinitrotoluene-TCLP	mg/L	0.05	U	0.0009	0.05	0.05	U	0.0009	0.05
2,6-Dinitrotoluene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
Anthracene-TCLP	mg/L	0.05	U	0.0009	0.05	0.05	U	0.0009	0.05
Fluoranthene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
Fluorene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
Hexachlorobenzene-TCLP	mg/L	0.05	U	0.0012	0.05	0.05	U	0.0012	0.05
Hexachlorobutadiene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
Hexachlorocyclopentadiene-TCLP	mg/L	0.25	U	0.05	0.25	0.25	U	0.05	0.25
Hexachloroethane-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.0002	0.05
Indeno(1,2,3-cd)pyrene-TCLP	mg/L	0.05	U	0.0007	0.05	0.05	U	0.0007	0.05
Isophorone-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
Kepone-TCLP	mg/L	0.2	U	0.0031	0.2	0.2	U	0.0031	0.2
Naphthalene-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.0002	0.05

LAB SAMPLE ID		C4K190106007				C4K190106009			
CLIENT ID		DAJ-057 BA-C-7 (19,20,21)				DAJ-058 BA-C-8 (22,23,24)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Nitrobenzene-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.0002	0.05
Benzidine-TCLP	mg/L	0.5	U	0.002	0.5	0.5	U	0.002	0.5
2-Nitrophenol-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
4-Nitrophenol-TCLP	mg/L	0.25	U	0.0023	0.25	0.25	U	0.0023	0.25
N-Nitrosodimethylamine-TCLP	mg/L	0.05	U	0.0012	0.05	0.05	U	0.0012	0.05
Benzo(a)anthracene-TCLP	mg/L	0.05	U	0.0008	0.05	0.05	U	0.0008	0.05
N-Nitrosodi-n-propylamine-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
N-Nitrosodiphenylamine-TCLP	mg/L	0.05	U	0.0016	0.05	0.05	U	0.0016	0.05
Benzo(b)fluoranthene-TCLP	mg/L	0.05	U	0.0027	0.05	0.05	U	0.0027	0.05
Benzo(k)fluoranthene-TCLP	mg/L	0.05	U	0.0007	0.05	0.05	U	0.0007	0.05
Benzo(ghi)perylene-TCLP	mg/L	0.05	U	0.0016	0.05	0.05	U	0.0016	0.05
Benzo(a)pyrene-TCLP	mg/L	0.05	U	0.0007	0.05	0.05	U	0.0007	0.05
Pentachlorophenol-TCLP	mg/L	0.25	U	0.0008	0.25	0.25	U	0.0008	0.25
Phenanthrene-TCLP	mg/L	0.05	U	0.001	0.05	0.05	U	0.001	0.05
Phenol-TCLP	mg/L	0.05	U	0.0002	0.05	0.003	J	0.0002	0.05
Pyrene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
1,2,4-Trichlorobenzene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
2,4,6-Trichlorophenol-TCLP	mg/L	0.05	U	0.0019	0.05	0.05	U	0.0019	0.05
bis(2-Chloroethoxy)methane-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
bis(2-Chloroethyl) ether-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.0002	0.05
1,2-Diphenylhydrazine (as Azobenz	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
bis(2-Ethylhexyl) phthalate-TCLP	mg/L	0.05	U	0.0038	0.05	0.05	U	0.0038	0.05
4-Bromophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
2,2'-oxybis(1-Chloropropane)-TCLP	mg/L	0.05	U	0.0008	0.05	0.05	U	0.0008	0.05
Butyl benzyl phthalate-TCLP	mg/L	0.05	U	0.0002	0.05	0.05	U	0.0002	0.05
Acenaphthylene-TCLP	mg/L	0.05	U	0.0013	0.05	0.05	U	0.0013	0.05
4-Chloro-3-methylphenol-TCLP	mg/L	0.05	U	0.0011	0.05	0.05	U	0.0011	0.05
2-Chloronaphthalene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
2-Chlorophenol-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
4-Chlorophenyl phenyl ether-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
Chrysene-TCLP	mg/L	0.05	U	0.0007	0.05	0.05	U	0.0007	0.05
Dibenz(a,h)anthracene-TCLP	mg/L	0.05	U	0.0006	0.05	0.05	U	0.0006	0.05
Di-n-butyl phthalate-TCLP	mg/L	0.05	U	0.0006	0.05	0.05	U	0.0006	0.05
1,2-Dichlorobenzene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
1,3-Dichlorobenzene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
1,4-Dichlorobenzene-TCLP	mg/L	0.05	U	0.0001	0.05	0.05	U	0.0001	0.05
3,3'-Dichlorobenzidine-TCLP	mg/L	0.25	U	0.0048	0.25	0.25	U	0.0048	0.25
2,4-Dichlorophenol-TCLP	mg/L	0.05	U	0.0017	0.05	0.05	U	0.0017	0.05
TCLP Metals									
Mercury-TCLP	mg/L	0.0002	U	7E-05	0.0002	0.0002	U	7E-05	0.0002
Sodium	mg/L	287	J	0.16	5	273	J	0.16	5
Antimony-TCLP	mg/L	0.06	U	0.013	0.06	0.06	U	0.013	0.06
Arsenic-TCLP	mg/L	0.19	B	0.019	0.5	0.19	B	0.019	0.5
Iron-TCLP	mg/L	48.7	J	0.0074	0.1	45.1	J	0.0074	0.1
Lead-TCLP	mg/L	0.049	B	0.013	0.5	0.046	B	0.013	0.5
Magnesium-TCLP	mg/L	44.7	J	0.0076	5	46.4	J	0.0076	5
Manganese-TCLP	mg/L	2.6	J	0.0002	0.015	2.7	J	0.0002	0.015
Molybdenum-TCLP	mg/L	0.04	U	0.0041	0.04	0.04	U	0.0041	0.04
Barium-TCLP	mg/L	0.16	B J	0.0004	10	0.13	B J	0.0004	10
Nickel-TCLP	mg/L	0.081		0.0037	0.04	0.057		0.0037	0.04
Beryllium-TCLP	mg/L	0.00038	B	0.0003	0.005	0.00051	B	0.0003	0.005
Selenium-TCLP	mg/L	0.032	B	0.027	0.25	0.25	U	0.027	0.25
Silver-TCLP	mg/L	0.5	U	0.0026	0.5	0.5	U	0.0026	0.5
Thallium-TCLP	mg/L	2	U	0.018	2	0.055	B	0.018	2
Tin-TCLP	mg/L	0.016	B	0.009	0.1	0.1	U	0.009	0.1
Titanium-TCLP	mg/L	0.05	U	0.0007	0.05	0.05	U	0.0007	0.05
Zinc-TCLP	mg/L	1.5		0.0024	0.02	1.2		0.0024	0.02
Chromium-TCLP	mg/L	0.003	B J	0.0014	0.5	0.0018	B J	0.0014	0.5
Boron-TCLP	mg/L	0.43	J	0.0041	0.2	0.41	J	0.0041	0.2

LAB SAMPLE ID		C4K190106007				C4K190106009			
CLIENT ID		DAJ-057 BA-C-7 (19,20,21)				DAJ-058 BA-C-8 (22,23,24)			
MATRIX		SOIL				SOIL			
PARAMETER	UNITS	RESULT	Q	MDL	RL	RESULT	Q	MDL	RL
Cadmium-TCLP	mg/L	0.0019	B	0.0009	0.1	0.1	U	0.0009	0.1
Cobalt-TCLP	mg/L	0.01	B	0.0017	0.05	0.0092	B	0.0017	0.05
Copper-TCLP	mg/L	0.0096	B	0.0017	0.025	0.0041	B	0.0017	0.025
Aluminum-TCLP	mg/L	0.074	B J	0.015	0.2	0.055	B J	0.015	0.2
TCLP - 2,3,7,8 TCDD									
2,3,7,8-TCDD	pg/L	1.5	U	0	1.5	1.7	U	0	1.7
Radiochemistry									
Tritium	pCi/L	120	U			-20	U		
Gross Alpha	pCi/L	-7	U			20	U		
Gross Beta	pCi/L	13	U			18	U		
Strontium 90	pCi/L	-0.13	U			0.2	U		
Total Radium	pCi/L	0.25	U			0.29	U		
Total Radium 226	pCi/L	0.117	J			0.118	J		
Butyltins									
Tetrabutyltin	ug/L	0.05	U			0.05	U		
Tributyltin	ug/L	0.044	U			0.044	U		
Dibutyltin	ug/L	0.038	U			0.038	U		
Monobutyltin	ug/L	0.031	U			0.031	U		

Qualifiers
U= Analyte not detected. Reporting Limit report
J= Analyte detected at a concentration less thar

Summary of Forms of Sulfur and Calcium Carbonate Equivalency

GEOCHEMICAL TESTING
a division of Energy Center, Inc.

2005 N Center Ave
Somerset PA 15501

814/443-1671
814/445-6666
FAX: 814/445-6729

OVERBURDEN ANALYSIS REPORT
Severn Trent Labs - Pittsburgh
Overburden

Sample Number	Interval From	- To	Ft.	Description	Soil pH 2-1	Total Sulfur %	Sulfate plus Sulfide Sulfur %	Maximum Potential Acidity (1)	Fizz Rating (3)	Neutralization Potential (1)	Deficiency or Excess (1,2)
036924	###.#	- ###.#	##.#	DAJ-050 BA-C-1 (1	##.#	0.89	0.86	26.88	2	77.73	50.85
036925	###.#	- ###.#	##.#	DAJ-051 BA-C-2 (4	##.#	1.05	0.97	30.31	1	326.11	295.80
036926	###.#	- ###.#	##.#	DAJ-052 BA-C-3 (7	##.#	1.02	0.97	30.31	1	358.77	328.46
036927	###.#	- ###.#	##.#	DAJ-053 BA-C-4 (10	##.#	1.08	1.03	32.19	1	382.56	350.37
036928	###.#	- ###.#	##.#	DAJ-054 BA-C-5 (13	##.#	1.00	0.95	29.69	1	418.72	389.03
036929	###.#	- ###.#	##.#	DAJ-055 BA-C-6 (16	##.#	1.06	1.03	32.19	1	955.00	922.81
036930	###.#	- ###.#	##.#	DAJ-057 BA-C-7 (19	##.#	1.12	1.04	32.50	1	86.31	53.81
036931	###.#	- ###.#	##.#	DAJ-058 BA-C-8 (22	##.#	1.16	1.13	35.31	2	64.71	29.40
036932	###.#	- ###.#	##.#	DAJ-080 PC-1(P01V	##.#	0.75	0.55	17.19	2	84.82	67.63
933	###.#	- ###.#	##.#	DAJ-081 PC-2(P04V	##.#	0.99	0.85	26.56	3	142.04	115.48
,934	###.#	- ###.#	##.#	DAJ-082 PC-3(P07V	##.#	0.95	0.69	21.56	3	241.80	220.24
036935	###.#	- ###.#	##.#	DAJ-083 PC-4(P10V	##.#	0.72	0.69	21.56	3	196.55	174.99
036936	###.#	- ###.#	##.#	DAJ-084 PC-5(P13V	##.#	0.82	0.80	25.00	3	250.41	225.41
036937	###.#	- ###.#	##.#	DAJ-057 BA-C-7 (19	##.#	1.13	1.06	33.13	1	402.15	369.02

NOTES- (1) Tons $CaCO_3$/1000 tons overburden.
(2) Negative number indicates deficiency.
(3) Legend 0=none 1=slight 2=moderate 3=strong

SAMPLE PREPARATION AND TESTING TECHNIQUES-

All samples are top sized at 1/2". The gross samples are divided by riffling. One portion is pulverized to -60 mesh for all acid-base account testing and the other portion is saved for any further testing or examination. All preparation and testing procedures are performed according to the " Overburden Sampling and Testing Manual " as prepared for the Pennsylvania Department of Environmental Resources by Energy Center, Inc., T.Bergstresser, D. Noll, J.Woodcock.

The maximum potential acidity is calculated from the sulfate plus sulfide sulfurs. Whenever the forms of sulfur are not determined, the total sulfur value is used to calculate the maximum potential acidity.

MEMBER ACIL

GEOCHEMICAL TESTING
a division of Energy Center, Inc.

2005 N Center Ave
Somerset PA 15501

814/443-167
814/445-6666
FAX: 814/445-6729

OVERBURDEN ANALYSIS REPORT

Client- Severn Trent Labs - Pittsburgh

Sampled by- Client

Analysis completed- 12-02-04

Description- Overburden

FORMS OF SULFUR

Sample Number	Total Sulfur	=	Sulfide Sulfur	+	Sulfate Sulfur	+	Organic Sulfur
036924	0.89		0.78		0.08		0.03
036925	1.05		0.86		0.11		0.08
036926	1.02		0.89		0.08		0.05
036927	1.08		0.93		0.10		0.05
036928	1.00		0.86		0.09		0.05
036929	1.06		0.96		0.07		0.03
036930	1.12		0.97		0.07		0.08
036931	1.16		1.03		0.10		0.03
036932	0.75		0.47		0.08		0.20
036933	0.99		0.67		0.18		0.14
036934	0.95		0.47		0.22		0.26
036935	0.72		0.55		0.14		0.03
036936	0.82		0.54		0.26		0.02
036937	1.13		0.97		0.09		0.07

MEMBER ACIL

Appendix H
Equipment Blank

Navy Earle - Metals Equipment Blanks

Sample ID	DAJ-095-096					DAJ-098-099				
Lab Sample ID	C4K230101002					C4K230101003				
MATRIX	WATER					WATER				
PARAMETER	**UNITS**	**RESULT**	**Q**	**MDL**	**REPORTING LIMIT**	**RESULT**	**Q**	**MDL**	**REPORTING LIMIT**	
TCLP Metals										
Mercury	ug/L	0.2	U	0.071	0.2	0.2	U	0.071		0.2
Antimony	ug/L	10	U	3.2	10	10	U	3.2		10
Arsenic	ug/L	10	U	3.3	10	10	U	3.3		10
Iron	ug/L	107		18	100	183		18		100
Lead	ug/L	3	U	1.6	3	3	U	1.6		3
Magnesium	ug/L	1930	B	10.2	5000	78.8	B	10.2		5000
Manganese	ug/L	1.9	B	0.11	15	2.8	B	0.11		15
Barium	ug/L	200	U	1	200	1	B	1		200
Nickel	ug/L	1.4	B	1.2	40	4.5	B	1.2		40
Potassium	ug/L	409	B	75	5000	5000	U	75		5000
Beryllium	ug/L	1.7	B J	0.42	4	1.7	B J	0.42		4
Selenium	ug/L	5	U	2.6	5	2.8	B	2.6		5
Silver	ug/L	0.67	B J	0.3	5	0.9	B J	0.3		5
Sodium	ug/L	15900		157	5000	5000	U	157		5000
Thallium	ug/L	10	U	4.6	10	10	U	4.6		10
Vanadium	ug/L	50	U	1	50	50	U	1		50
Zinc	ug/L	29		1.7	20	55.7		1.7		20
Chromium	ug/L	1.6	B	0.93	5	6.3		0.93		5
Cadmium	ug/L	5	U	0.7	5	5	U	0.7		5
Calcium	ug/L	657	B	39.5	5000	186	B	39.5		5000
Cobalt	ug/L	50	U	0.53	50	50	U	0.53		50
Copper	ug/L	25	U	1.2	25	25	U	1.2		25
Aluminum	ug/L	64.4	B J	8	200	73.4	B J	8		200
Cyanide, Total	ug/L	10	U	4.3	10	10	U	4.3		10

Qualifiers for Metals Only
U= Analyte not detected. Reporting Limit reported
B= Estimated result. Result is less than the Reporting Limit
J= Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Sample ID	DAJ-100-111
Lab Sample ID	C4K230101001
MATRIX	WATER

PARAMETER	UNITS	RESULT	Q	MDL	REPORTING LIMIT
Dioxin					
2,3,7,8-TCDF	pg/L	1.7	U	0	1.7
1,2,3,7,8-PeCDF	pg/L	0.74	U	0	0.74
2,3,4,7,8-PeCDF	pg/L	0.59	U	0	0.59
1,2,3,4,7,8-HxCDF	pg/L	0.55	U	0	0.55
2,3,4,6,7,8-HxCDF	pg/L	0.58	U	0	0.58
1,2,3,7,8,9-HxCDF	pg/L	0.72	U	0	0.72
1,2,3,4,6,7,8-HpCDF	pg/L	0.63	U	0	0.63
OCDF	pg/L	0.78	Q B J	0	0.84
2,3,7,8-TCDD	pg/L	2	U	0	2
1,2,3,7,8-PeCDD	pg/L	0.84	U	0	0.84
1,2,3,7,8,9-HxCDD	pg/L	0.89	U	0	0.89
1,2,3,4,6,7,8-HpCDD	pg/L	0.98	U	0	0.98
OCDD	pg/L	0.78	U	0	0.78
1,2,3,6,7,8-HxCDF	pg/L	0.53	U	0	0.53
1,2,3,4,7,8,9-HpCDF	pg/L	0.78	U	0	0.78
1,2,3,4,7,8-HxCDD	pg/L	0.9	U	0	0.9
1,2,3,6,7,8-HxCDD	pg/L	0.97	U	0	0.97
PCBs					
Aroclor 1016	ug/L	0.99	U	0.49	0.99
Aroclor 1221	ug/L	0.99	U	0.45	0.99
Aroclor 1232	ug/L	0.99	U	0.53	0.99
Aroclor 1242	ug/L	0.99	U	0.25	0.99
Aroclor 1248	ug/L	0.99	U	0.34	0.99
Aroclor 1254	ug/L	0.99	U	0.35	0.99
Aroclor 1260	ug/L	0.99	U	0.58	0.99
Chlorinated Pesticides					
Dieldrin	ug/L	0.05	U	0.022	0.05
Endosulfan I	ug/L	0.05	U	0.016	0.05
Endosulfan II	ug/L	0.05	U	0.022	0.05
Endosulfan sulfate	ug/L	0.05	U	0.025	0.05
Endrin	ug/L	0.05	U	0.018	0.05
Endrin aldehyde	ug/L	0.05	U	0.016	0.05
Endrin ketone	ug/L	0.05	U	0.017	0.05
Heptachlor	ug/L	0.05	U	0.015	0.05
Heptachlor epoxide	ug/L	0.05	U	0.023	0.05
Methoxychlor	ug/L	0.099	U	0.03	0.099
alpha-BHC	ug/L	0.05	U	0.016	0.05
beta-BHC	ug/L	0.05	U	0.016	0.05
delta-BHC	ug/L	0.05	U	0.017	0.05
gamma-BHC (Lindane)	ug/L	0.05	U	0.014	0.05
Toxaphene	ug/L	2	U	0.37	2
alpha-Chlordane	ug/L	0.05	U	0.024	0.05
gamma-Chlordane	ug/L	0.05	U	0.023	0.05
Aldrin	ug/L	0.05	U	0.019	0.05
4,4'-DDD	ug/L	0.05	U	0.019	0.05
4,4'-DDE	ug/L	0.05	U	0.015	0.05
4,4'-DDT	ug/L	0.05	U	0.017	0.05

Sample ID	DAJ-100-111
Lab Sample ID	C4K230101001
MATRIX	WATER

PARAMETER	UNITS	RESULT	Q	MDL	REPORTING LIMIT
Semivolatile Organics					
Acenaphthene	ug/L	9.6	U	1.2	9.6
Diethyl phthalate	ug/L	9.6	U	0.16	9.6
2,4-Dimethylphenol	ug/L	9.6	U	4.1	9.6
Dimethyl phthalate	ug/L	9.6	U	0.12	9.6
Di-n-octyl phthalate	ug/L	9.6	U	0.15	9.6
4,6-Dinitro-2-methylphenol	ug/L	48	U	2.4	48
2,4-Dinitrophenol	ug/L	48	U	0.56	48
2,4-Dinitrotoluene	ug/L	9.6	U	0.89	9.6
2,6-Dinitrotoluene	ug/L	9.6	U	0.13	9.6
Anthracene	ug/L	9.6	U	0.86	9.6
Fluoranthene	ug/L	9.6	U	0.12	9.6
Fluorene	ug/L	9.6	U	0.11	9.6
Hexachlorobenzene	ug/L	9.6	U	1.1	9.6
Hexachlorobutadiene	ug/L	9.6	U	0.13	9.6
Hexachlorocyclopentadiene	ug/L	48	U	48	48
Hexachloroethane	ug/L	9.6	U	0.15	9.6
Indeno(1,2,3-cd)pyrene	ug/L	9.6	U	0.66	9.6
Isophorone	ug/L	9.6	U	0.12	9.6
2-Methylnaphthalene	ug/L	9.6	U	0.15	9.6
2-Methylphenol	ug/L	9.6	U	0.92	9.6
4-Methylphenol	ug/L	9.6	U	1.3	9.6
Naphthalene	ug/L	9.6	U	0.14	9.6
2-Nitroaniline	ug/L	48	U	0.098	48
3-Nitroaniline	ug/L	48	U	1.3	48
4-Nitroaniline	ug/L	48	U	1.4	48
Nitrobenzene	ug/L	9.6	U	0.17	9.6
2-Nitrophenol	ug/L	9.6	U	0.13	9.6
4-Nitrophenol	ug/L	48	U	2.2	48
Benzo(a)anthracene	ug/L	9.6	U	0.75	9.6
N-Nitrosodi-n-propylamine	ug/L	9.6	U	0.12	9.6
N-Nitrosodiphenylamine	ug/L	9.6	U	1.6	9.6
Benzo(b)fluoranthene	ug/L	9.6	U	2.6	9.6
Benzo(k)fluoranthene	ug/L	9.6	U	0.66	9.6
Benzo(ghi)perylene	ug/L	9.6	U	1.5	9.6
Benzo(a)pyrene	ug/L	9.6	U	0.68	9.6
Pentachlorophenol	ug/L	48	U	0.75	48
Phenanthrene	ug/L	9.6	U	0.99	9.6
Phenol	ug/L	9.6	U	0.15	9.6
Pyrene	ug/L	9.6	U	0.11	9.6
1,2,4-Trichlorobenzene	ug/L	9.6	U	0.12	9.6
2,4,5-Trichlorophenol	ug/L	9.6	U	1.5	9.6
2,4,6-Trichlorophenol	ug/L	9.6	U	1.8	9.6
Carbazole	ug/L	9.6	U	0.13	9.6
bis(2-Chloroethoxy)methane	ug/L	9.6	U	0.12	9.6
bis(2-Chloroethyl) ether	ug/L	9.6	U	0.17	9.6
bis(2-Ethylhexyl) phthalate	ug/L	9.6	U	3.7	9.6
4-Bromophenyl phenyl ether	ug/L	9.6	U	1.3	9.6
2,2'-oxybis(1-Chloropropane)	ug/L	9.6	U	0.77	9.6
Butyl benzyl phthalate	ug/L	9.6	U	0.17	9.6
Acenaphthylene	ug/L	9.6	U	1.2	9.6
4-Chloroaniline	ug/L	9.6	U	2.4	9.6
4-Chloro-3-methylphenol	ug/L	9.6	U	1	9.6
2-Chloronaphthalene	ug/L	9.6	U	0.12	9.6
2-Chlorophenol	ug/L	9.6	U	0.13	9.6
4-Chlorophenyl phenyl ether	ug/L	9.6	U	0.099	9.6
Chrysene	ug/L	9.6	U	0.65	9.6
Dibenz(a,h)anthracene	ug/L	9.6	U	0.6	9.6
Dibenzofuran	ug/L	9.6	U	0.11	9.6
Di-n-butyl phthalate	ug/L	9.6	U	0.59	9.6
1,2-Dichlorobenzene	ug/L	9.6	U	0.13	9.6
1,3-Dichlorobenzene	ug/L	9.6	U	0.12	9.6
1,4-Dichlorobenzene	ug/L	9.6	U	0.12	9.6
3,3'-Dichlorobenzidine	ug/L	48	U	4.6	48
2,4-Dichlorophenol	ug/L	9.6	U	1.6	9.6

Sample ID	DAJ-100-111
Lab Sample ID	C4K230101001
MATRIX	WATER

PARAMETER	UNITS	RESULT	Q	MDL	REPORTING LIMIT

Qualifiers
U= Analyte not detected. Reporting Limit reported
J= Analyte detected at a concentration less than the Reporting Limit
B = Method blank contamination. The associated method blank contains the target analyte at a reportable level.
Q = Estimated maximum possible concentration

APPENDIX I

Sediment and Leaching Data Screening Summary Tables

ble I-1
Comparison of Bulk Sediment Concentrations to Relevent Criteria

PARAMETER	CRITERIA			DAJ-050 BA-C-1(1,2,3) C4K190132001			DAJ-051 BA-C-2(4,5,6) C4K190132002			DAJ-052 BA-C-3(7,8,9) C4K190132003			DAJ-053 BA-C-4(10,11,12) C4K190132004R2		
	NJDEP (1997) Residential Criteria (NJ)	EPA REGION 3 RBCS (EPA, 2004)[1]													
		Soil Industrial (EI)	Soil Residential (ER)	Result[2]	Q[3]	Criteria Exceeded[4]	Result[2]	Q[3]	Criteria Exceeded[4]	Result[2]	Q[3]	Criteria Exceeded[4]	Result[2]	Q[3]	Criteria Exceeded[4]
Dioxin and Furans (ng/kg)															
2,3,7,8-TCDF	NA	NA	NA	4.7	Q		24	Q		16	Q		14	S	
1,2,3,7,8-PeCDF	NA	NA	NA	1.9	J		8			6.1	J		5.3	J	
2,3,4,7,8-PeCDF	NA	NA	NA	2	J		8.7	Q		7.2			6.1	J	
1,2,3,4,7,8-HxCDF	NA	NA	NA	4.5	B J		22			18	B		14		
2,3,4,6,7,8-HxCDF	NA	NA	NA	1.4	B J		6.8			5.1	B J		4.7	J	
1,2,3,7,8,9-HxCDF	NA	NA	NA	0.24	J		0.81	Q J		0.5	Q J		0	U	
1,2,3,4,6,7,8-HpCDF	NA	NA	NA	28	B		100			73	B		71		
OCDF	NA	NA	NA	31	B		120	Q		130	B Q		88	Q	
2,3,7,8-TCDD	NA	19.0	4.3	2.5			13	Q	ER	11		ER	8.4		ER
1,2,3,7,8-PeCDD	NA	NA	NA	1.1	J		5.3	J		3.4	J		2.6	J	
1,2,3,7,8,9-HxCDD	NA	NA	NA	5.5	B		29			19	B		14		
1,2,3,4,6,7,8-HpCDD	NA	NA	NA	69	B		360			210	B		220		
OCDD	NA	NA	NA	1100	B		3600	B		2200	B		2200	B	
1,2,3,6,7,8-HxCDF	NA	NA	NA	1.8	B J		9.2			6.1	B J		5.7	J	
1,2,3,4,7,8,9-HpCDF	NA	NA	NA	1.3	B J		7.1			4.8	B J		4.5	J	
1,2,3,4,7,8-HxCDD	NA	NA	NA	1.1	J		4.7	J		2.9	J		2.4	J	
1,2,3,6,7,8-HxCDD	NA	NA	NA	6.2			43			31			20		
PCB (ug/kg)															
Aroclor 1016	NA	41000	5500	12.5	U		18	U		17	U		17.5	U	
Aroclor 1221	NA	1400	320	6	U		8.5	U		8	U		8.5	U	
Aroclor 1232	NA	1400	320	7.5	U		10.5	U		10	U		10.5	U	
Aroclor 1242	NA	1400	320	31			7.5	U		7	U		7.5	U	
Aroclor 1248	NA	1400	320	180			260			350		ER	150		
Aroclor 1254	NA	1400	320	2.05	U		2.95	U		2.85	U		2.95	U	
Aroclor 1260	NA	1400	320	75			91			130			65		
Total Aroclor[5]	490	1400	320	314			398		ER	525		ER, NJ	262		
Pesticides (ug/kg)															
Dieldrin	42	180	40	1.5	J PG		2.7	J PG		2.9	J PG		1.6	J PG	
Endosulfan I	NA	6100000	470000	0.38	U		0.55	U		1.8	J PG		0.55	U	
Endosulfan II	NA	6100000	470000	2.8	J PG		0.85	U		4.6	J PG		2.4	J PG	
Endosulfan sulfate	NA	NA	NA	0.55	U		0.75	U		0.75	U		0.75	U	
Endrin	17000	310000	23000	6.6	J		7.8	J		8.9	J		6.3	J	
Endrin aldehyde	NA	NA	NA	0.85	U		1.2	U		1.15	U		1.2	U	
Endrin ketone	NA	NA	NA	0.5	U		0.75	U		0.7	U		0.75	U	
Heptachlor	150	640	140	0.375	U		0.55	U		0.5	U		0.55	U	
Heptachlor epoxide	NA	310	70	2.2	J		2.9	J		3.9	J		2	J	
Methoxychlor	280000	5100000	390000	0.85	U		1.25	U		1.2	U		1.25	U	
alpha-BHC	NA	450	100	0.33	U		0.48	U		0.46	U		0.48	U	
beta-BHC	NA	1600	350	0.5	U		0.75	U		0.7	U		0.75	U	
delta-BHC	NA	NA	NA	2.4	J		1.3	J PG		4.5	J		1.5	J PG	

..ole I-1
Comparison of Bulk Sediment Concentrations to Relevent Criteria

PARAMETER	CRITERIA			DAJ-050 BA-C-1(1,2,3) C4K190132001			DAJ-051 BA-C-2(4,5,6) C4K190132002			DAJ-052 BA-C-3(7,8,9) C4K190132003			DAJ-053 BA-C-4(10,11,12) C4K190132004R2		
	NJDEP (1997) Residential Criteria (NJ)	EPA REGION 3 RBCS (EPA, 2004)[1]													
		Soil Industrial (EI)	Soil Residential (ER)	Result[2]	Q[3]	Criteria Exceeded[4]	Result[2]	Q[3]	Criteria Exceeded[4]	Result[2]	Q[3]	Criteria Exceeded[4]	Result[2]	Q[3]	Criteria Exceeded[4]
gamma-BHC (Lindane)	520	2200	490	0.325	U		0.475	U		0.455	U		0.47	U	
Toxaphene	100	2600	580	26	U		37.5	U		36	U		37	U	
alpha-Chlordane	500	8200	1800	3.6	J		5	J		5.8	J		3	J	
gamma-Chlordane	NA	8200	1800	1.2	J PG		1.5	J PG		1.7	J PG		0.7	U	
Aldrin	40	170	38	2.2	J PG		2.5	J PG		0.7	U		0.7	U	
4,4'-DDD	381000	12000	2700	3.3	J PG		5	J PG		5.4	J PG		3.1	J PG	
4,4'-DDE	2000	8400	1900	7.8	J		9.1	J		13			6.4	J	
4,4'-DDT	2000	8400	1900	0.42	U		0.6	U		0.6	U		17		
Semivolatiles (ug/kg)															
Acenaphthene	3400000	61000000	4700000	28	J		170	J		220	J		220	J	
Diethyl phthalate	10000000	820000000	63000000	6	U		9	U		8.5	U		9	U	
2,4-Dimethylphenol	1100000	20000000	1600000	5	U		7	U		7	U		7	U	
Dimethyl phthalate	10000000	10000000000	780000000	6.5	U		9.5	U		9	U		9.5	U	
Di-n-octyl phthalate	1100000	41000000	3100000	7	U		10.5	U		10	U		10.5	U	
4,6-Dinitro-2-methylphenol	NA	100000	7800	750	U		1100	U		1050	U		1100	U	
2,4-Dinitrophenol	110000	2000000	160000	750	U		1100	U		1050	U		1100	U	
2,4-Dinitrotoluene	1000	2000000	160000	3.25	U		4.7	U		4.5	U		4.65	U	
2,6-Dinitrotoluene	1000	1000000	78000	4.4	U		6.5	U		6	U		6.5	U	
Anthracene	10000000	310000000	23000000	130	J		240	J		260	J		190	J	
Fluoranthene	2300000	41000000	3100000	750			1400			1500			1500		
Fluorene	2300000	41000000	3100000	7.5	U		150	J		190	J		120	J	
Hexachlorobenzene	660	1800	400	6	U		9	U		8.5	U		9	U	
Hexachlorobutadiene	1000	37000	8200	6	U		9	U		8.5	U		8.5	U	
Hexachlorocyclopentadiene	400000	6100000	470000	25	U		36	U		34.5	U		35.5	U	
Hexachloroethane	6000	200000	46000	6	U		8.5	U		8	U		8.5	U	
Indeno(1,2,3-cd)pyrene	900	3900	870	83	J		180	J		160	J		140	J	
Isophorone	1100000	3000000	670000	6	U		8.5	U		8	U		8.5	U	
2-Methylnaphthalene	NA	4100000	310000	16	J		80	J		82	J		60	J	
2-Methylphenol	2800000	51000000	3900000	7	U		10	U		9.5	U		10	U	
4-Methylphenol	2800000	5100000	390000	7	U		10	U		40	J		10	U	
Naphthalene	230000	20000000	1600000	56	J		170	J		140	J		140	J	
2-Nitroaniline	NA	NA	NA	3.85	U		5.5	U		5.5	U		5.5	U	
3-Nitroaniline	NA	NA	NA	155	U		225	U		215	U		225	U	
4-Nitroaniline	NA	NA	NA	4.3	U		6.5	U		6	U		6	U	
Nitrobenzene	28000	510000	39000	10	U		14.5	U		14	U		14.5	U	
2-Nitrophenol	NA	NA	NA	5.5	U		8	U		7.5	U		8	U	
4-Nitrophenol	NA	NA	NA	4.15	U		6	U		5.5	U		6	U	
Benzo(a)anthracene	900	3900	870	290	J		510	J		480	J		420	J	
N-Nitrosodi-n-propylamine	660	410	91	6.5	U		9	U		8.5	U		9	U	
N-Nitrosodiphenylamine	140000	580000	130000	65	U		95	U		90	U		95	U	

..ble I-1
Comparison of Bulk Sediment Concentrations to Relevent Criteria

PARAMETER	CRITERIA			DAJ-050 BA-C-1(1,2,3) C4K190132001			DAJ-051 BA-C-2(4,5,6) C4K190132002			DAJ-052 BA-C-3(7,8,9) C4K190132003			DAJ-053 BA-C-4(10,11,12) C4K190132004R2		
	NJDEP (1997) Residential Criteria (NJ)	EPA REGION 3 RBCS (EPA, 2004)[1]													
		Soil Industrial (EI)	Soil Residential (ER)	Result[2]	Q[3]	Criteria Exceeded[4]	Result[2]	Q[3]	Criteria Exceeded[4]	Result[2]	Q[3]	Criteria Exceeded[4]	Result[2]	Q[3]	Criteria Exceeded[4]
Benzo(b)fluoranthene	900	3900	870	210	J		520	J		490	J		49	J	
Benzo(k)fluoranthene	900	39000	8700	91	J		9	U		8.5	U		8.5	U	
Benzo(ghi)perylene	NA	NA	NA	110	J		200	J		190	J		150	J	
Benzo(a)pyrene	660	390	87	170	J	ER	320	J	ER	300	J	ER	120	J	ER
Pentachlorophenol	6000	24000	5300	425	U		600	U		600	U		600	U	
Phenanthrene	NA	NA	NA	100	J		420	J		660	J		380	J	
Phenol	10000000	310000000	47000000	6.5	U		9	U		9	U		9	U	
Pyrene	1700000	31000000	2300000	820			1000			1100			1200		
1,2,4-Trichlorobenzene	68000	10000000	780000	6.5	U		9	U		8.5	U		9	U	
2,4,5-Trichlorophenol	5600000	100000000	7800000	17.5	U		25.5	U		24.5	U		25.5	U	
2,4,6-Trichlorophenol	62000	260000	58000	5.5	U		7.5	U		7.5	U		7.5	U	
Carbazole	NA	140000	32000	7	U		48	J		58	J		31	J	
bis(2-Chloroethoxy)methane	NA	NA	NA	7	U		10	U		9.5	U		10	U	
bis(2-Chloroethyl) ether	660	2600	580	6	U		8.5	U		8.5	U		8.5	U	
bis(2-Ethylhexyl) phthalate	49000	200000	46000	250	J		10000	D		7200	D		3400		
4-Bromophenyl phenyl ether	NA	NA	NA	15.5	U		22.5	U		21.5	U		22.5	U	
2,2'-oxybis(1-Chloropropane)	2300000	NA	NA	4.5	U		6.5	U		6	U		6.5	U	
Butyl benzyl phthalate	1100000	200000000	16000000	7	U		45	J		9.5	U		10	U	
Acenaphthylene	NA	NA	NA	33	J		120	J		100	J		93	J	
4-Chloroaniline	230000	4100000	310000	15.5	U		22.5	U		21.5	U		22.5	U	
4-Chloro-3-methylphenol	10000000	NA	NA	6.5	U		9.5	U		9.5	U		9.5	U	
2-Chloronaphthalene	NA	NA	NA	6.5	U		9.5	U		9	U		9.5	U	
2-Chlorophenol	280000	5100000	390000	4.9	U		7	U		7	U		7	U	
4-Chlorophenyl phenyl ether	NA	NA	NA	6.5	U		9	U		9	U		9	U	
Chrysene	9000	390000	87000	300	J		570	J		510	J		410	J	
Dibenz(a,h)anthracene	660	390	87	5	U		7.5	U		7	U		7.5	U	
Dibenzofuran	NA	2000000	160000	7	U		74	J		100	J		70	J	
Di-n-butyl phthalate	5700000	100000000	7800000	37.5	U		55	U		50	U		55	U	
1,2-Dichlorobenzene	5100000	92000000	7000000	6.5	U		9.5	U		9	U		9.5	U	
1,3-Dichlorobenzene	5100000	3100000	230000	5.5	U		8	U		7.5	U		7.5	U	
1,4-Dichlorobenzene	570000	120000	27000	14	J		38	J		30	J		19	J	
3,3'-Dichlorobenzidine	2000	6400	1400	7.5	U		11	U		10.5	U		11	U	
2,4-Dichlorophenol	170000	3100000	230000	6	U		8.5	U		8	U		8.5	U	
Metals (mg/kg)															
Aluminum	NA	1000000	78000	8990			14000			13300			12400		
Antimony	14	410	31	0.15	NU		0.215	NU		0.205	NU		0.215	NU	
Arsenic	20	1.9	0.43	11.8	N	EI, ER	26.9	N	EI, ER, NJ	26.9	N	EI, ER, NJ	20.5	N	EI, ER, NJ
Barium	700	72000	5500	27.8	N		73.6	N		70.2	N		58.8	N	
Beryllium	2.0	2000	160	0.84	N		1.3	N		1.2	N		1.2	N	
Cadmium	39.0	1000	78	0.89	N		2.9	N		2.7	N		2.1	N	

Table I-1
Comparison of Bulk Sediment Concentrations to Relevent Criteria

PARAMETER	CRITERIA: NJDEP (1997) Residential Criteria (NJ)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Industrial (EI)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Residential (ER)	DAJ-050 BA-C-1(1,2,3) C4K190132001 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-051 BA-C-2(4,5,6) C4K190132002 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-052 BA-C-3(7,8,9) C4K190132003 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-053 BA-C-4(10,11,12) C4K190132004R2 Result[2]	Q[3]	Criteria Exceeded[4]
Calcium	NA	NA	NA	11700	N*		12600	N*		12700	N*		16000	N*	
Chromium	NA	3100	230	37.1	N		132	N		123	N		97	N	
Cobalt	NA	20000	1600	6.4	N		11.7	N		10.9	N		10.1	N	
Copper	600	41000	3100	34.4	N		170	N		158	N		119	N	
Iron	NA	310000	23000	22900			37600		ER	34900		ER	32500		ER
Lead	400	NA	NA	37.1	N		163	N		151	N		120	N	
Magnesium	NA	NA	NA	5170	N		7980	N		7660	N		7280	N	
Manganese	NA	140000	11000	221			594			538			488		
Mercury	14	100	7.8	0.49			2.7			2.7			1.9		
Nickel	250	20000	1600	17.2	N		35	N		33.7	N		29.3	N	
Potassium	NA	NA	NA	2750			3770			3640			3620		
Selenium	63	5100	390	1.1	N		2.6	N		2.6	N		2	N	
Silver	110	5100	390	0.75			4.9			4.5			3.6		
Sodium	NA	NA	NA	7290	N		14700	N		14400	N		14400	N	
Thallium	2.0	72	5.5	0.21	NU		0.305	NU		0.295	NU		0.305	NU	
Vanadium	370	1000	78	30.6	N		61.9	N		58.3	N		50.9	N	
Zinc	1500	310000	23000	94.8	E		327	E		312	E		249	E	
Cyanide, Total	1100	20000	1600	0.2	U		0.29	U		0.28	U		0.29	U	

NA= Indicates that criteria are available.

1. EPA Region 3 RBCs listed for chromium are for chromium VI, manganese and cadmium values are for food exposures, and mercury values are for methylmercury.
2. One-half the MDL assumed for chemicals reported as non-detect.
3. Q = Qualifiers
   - U= Analyte not detected. Reporting Limit reported
   - J= Organics: Analyte detected at a concentration less than the Reporting Limit.
     Metals: The associated method blank contains the target analyte at a reportable level.
   - B = Organics: Method blank contamination.: the associated method blank contains the target analyte at a reportable level.
     Metals: Result is between the MDL and RL
   - PG = The percent difference between the original and confirmation analysis is greater than 40%
   - Q=Estimated maximum possible concenuration
   - D= Dilution data reported
   - S= Ion suppresion
   - E= Serial dilution pereent differenee not within limits
   - N= matrix spike and/or matrix spike recover failed
   - * Duplicate RPD was not within limits.
4. Criteria defined as: EI = EPA Region 3 Industrial Soil RBC; ER = EPA Region 3 Residential Soil RBC; NJ = New Jersey Soil Action Levels
5. Total Aroclor concentrations reported as sum of seven individual aroclors. One half the MDL assumed for chemicals reported as not detected.

Table I-1
Comparison of Bulk Sediment Concentrations to Relevent Criteria

PARAMETER	CRITERIA: NJDEP (1997) Residential Criteria (NJ)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Industrial (EI)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Residential (ER)	DAJ-054 BA-C-5(13,14,15) C4K190132005R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-055 BA-C-6(16,17,18) C4K190132006 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-057 BA-C-7(19,20,21) C4K190132007R2 Result[2]	Q[3]	Criteria Exceeded[4]	RESULT	DAJ-058 BA-C-8(22,23,24) C4K190132009 Result[2]	Q[3]	Criteria Exceeded[4]
Dioxin and Furans (ng/kg)																
2,3,7,8-TCDF	NA	NA	NA	14	S		7.2	Q		13			12	12	Q	
1,2,3,7,8-PeCDF	NA	NA	NA	5	J		2.7	J		4.1	Q J		5.3	5.3	J	
2,3,4,7,8-PeCDF	NA	NA	NA	6.4	Q J		2.8	Q J		6.1	Q		5.5	5.5	J	
1,2,3,4,7,8-HxCDF	NA	NA	NA	17			6.9	B		13			14	14	B	
2,3,4,6,7,8-HxCDF	NA	NA	NA	4.5	Q J		2.1	B J		3.6	Q J		3.9	3.9	B J	
1,2,3,7,8,9-HxCDF	NA	NA	NA	0.37	Q J		0	U		0.46	J		0.42	0.42	J	
1,2,3,4,6,7,8-HpCDF	NA	NA	NA	69			28	B		64			55	55	B	
OCDF	NA	NA	NA	120	Q		53	Q B		71	Q		96	96	Q B	
2,3,7,8-TCDD	NA	19.0	4.3	6.8		ER	3.9			6		ER	6.1	6.1	Q	ER
1,2,3,7,8-PeCDD	NA	NA	NA	2.5	J		1.4	J		2.3	J		2.5	2.5	J	
1,2,3,7,8,9-HxCDD	NA	NA	NA	15			6.4	B		13			12	12	B	
1,2,3,4,6,7,8-HpCDD	NA	NA	NA	210			87	B		160			170	170	B	
OCDD	NA	NA	NA	2300	B		990	B		1600	B		1900	1900	B	
1,2,3,6,7,8-HxCDF	NA	NA	NA	5.8	J		2.5	B J		5.3	J		5	5	B J	
1,2,3,4,7,8,9-HpCDF	NA	NA	NA	4.7	J		2.3	B J		4.3	J		4.2	4.2	B J	
1,2,3,4,7,8-HxCDD	NA	NA	NA	2.7	Q J		1.1	Q J		2.6	J		2.7	2.7	J	
1,2,3,6,7,8-HxCDD	NA	NA	NA	22			9.2			21			17	17		
PCB (ug/kg)																
Aroclor 1016	NA	41000	5500	17.5	U		16.5	U		16	U		44	17.5	U	
Aroclor 1221	NA	1400	320	8.5	U		8	U		8	U		44	8.5	U	
Aroclor 1232	NA	1400	320	10.5	U		9.5	U		9.5	U		44	10.5	U	
Aroclor 1242	NA	1400	320	7.5	U		7	U		6.5	U		44	7.5	U	
Aroclor 1248	NA	1400	320	110			230			240			180	180		
Aroclor 1254	NA	1400	320	2.9	U		2.7	U		2.7	U		44	2.9	U	
Aroclor 1260	NA	1400	320	44			100			110			84	84		
Total Aroclor[5]	490	1400	320	201			374		ER	393		ER		311		
Pesticides (ug/kg)																
Dieldrin	42	180	40	0.55	U		2.3	J PG		4.7	J PG		2.3	2.3	J PG	
Endosulfan I	NA	6100000	470000	0.55	U		0.5	U		0.495	U		11	0.55	U	
Endosulfan II	NA	6100000	470000	2	J		4.3	J		6.9	J PG		3.1	3.1	J PG	
Endosulfan sulfate	NA	NA	NA	0.75	U		0.7	U		0.7	U		11	0.75	U	
Endrin	17000	310000	23000	3.3	J		2.9	J PG		11			3.1	3.1	J PG	
Endrin aldehyde	NA	NA	NA	1.2	U		1.1	U		1.1	U		11	1.2	U	
Endrin ketone	NA	NA	NA	0.7	U		0.65	U		0.65	U		11	0.7	U	
Heptachlor	150	640	140	0.55	U		0.495	U		0.49	U		11	0.55	U	
Heptachlor epoxide	NA	310	70	0.65	U		3.6	J		4.7	J		2.7	2.7	J	
Methoxychlor	280000	5100000	390000	1.2	U		1.15	U		1.1	U		22	1.2	U	
alpha-BHC	NA	450	100	0.47	U		0.44	U		0.435	U		11	0.475	U	
beta-BHC	NA	1600	350	0.75	U		0.7	U		0.65	U		11	0.75	U	
delta-BHC	NA	NA	NA	0.6	U		3.8	J		3.4	J PG		3.4	3.4	J	

Table I-1
Comparison of Bulk Sediment Concentrations to Relevent Criteria

PARAMETER	CRITERIA: NJDEP (1997) Residential Criteria (NJ)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Industrial (EI)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Residential (ER)	DAJ-054 BA-C-5(13,14,15) C4K190132005R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-055 BA-C-6(16,17,18) C4K190132006 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-057 BA-C-7(19,20,21) C4K190132007R2 Result[2]	Q[3]	Criteria Exceeded[4]	RESULT	DAJ-058 BA-C-8(22,23,24) C4K190132009 Result[2]	Q[3]	Criteria Exceeded[4]
gamma-BHC (Lindane)	520	2200	490	0.46	U		0.435	U		0.43	U		11	0.465	U	
Toxaphene	100	2600	580	36.5	U		34	U		34	U		440	36.5	U	
alpha-Chlordane	500	8200	1800	1.7	J		4.2	J		3.8	J PG		3.9	3.9	J	
gamma-Chlordane	NA	8200	1800	0.7	U		0.65	U		2.1	J PG		1.5	1.5	J PG	
Aldrin	40	170	38	0.7	U		0.65	U		0.65	U		11	0.7	U	
4,4'-DDD	381000	12000	2700	1.6	J PG		6	J		17			3.3	3.3	J PG	
4,4'-DDE	2000	8400	1900	3.8	J		10			13			8.5	8.5	J	
4,4'-DDT	2000	8400	1900	0.6	U		0.55	U		0.55	U		11	0.6	U	
Semivolatiles (ug/kg)																
Acenaphthene	3400000	61000000	4700000	33	J		220	J		110	J		300	300	J	
Diethyl phthalate	10000000	820000000	63000000	9	U		16.5	U		8	U		870	9	U	
2,4-Dimethylphenol	1100000	20000000	1600000	7	U		13	U		6.5	U		870	7	U	
Dimethyl phthalate	100000000	10000000000	780000000	9	U		17	U		8.5	U		870	9	U	
Di-n-octyl phthalate	1100000	41000000	3100000	10	U		19	U		9.5	U		870	10	U	
4,6-Dinitro-2-methylphenol	NA	100000	7800	1100	U		2050	U		1000	U		4200	1100	U	
2,4-Dinitrophenol	110000	2000000	160000	1100	U		2050	U		1000	U		4200	1100	U	
2,4-Dinitrotoluene	1000	2000000	160000	4.55	U		8.5	U		4.25	U		870	4.6	U	
2,6-Dinitrotoluene	1000	1000000	78000	6	U		11.5	U		6	U		870	6.5	U	
Anthracene	10000000	310000000	23000000	110	J		240	J		160	J		350	350	J	
Fluoranthene	2300000	41000000	3100000	500	J		1100	J		800			1600	1600		
Fluorene	2300000	41000000	3100000	43	J		150	J		93	J		240	240	J	
Hexachlorobenzene	660	1800	400	9	U		16.5	U		8	U		870	9	U	
Hexachlorobutadiene	1000	37000	8200	8.5	U		16	U		8	U		870	8.5	U	
Hexachlorocyclopentadiene	400000	6100000	470000	35	U		65	U		32.5	U		4200	35	U	
Hexachloroethane	6000	200000	46000	8.5	U		15.5	U		8	U		870	8.5	U	
Indeno(1,2,3-cd)pyrene	900	3900	870	110	J		180	J		99	J		130	130	J	
Isophorone	1100000	3000000	670000	8.5	U		15.5	U		7.5	U		870	8.5	U	
2-Methylnaphthalene	NA	4100000	310000	47	J		81	J		66	J		100	100	J	
2-Methylphenol	2800000	51000000	3900000	9.5	U		18.5	U		9	U		870	10	U	
4-Methylphenol	2800000	5100000	390000	10	U		45	J		9	U		870	10	U	
Naphthalene	230000	20000000	1600000	76	J		140	J		83	J		220	220	J	
2-Nitroaniline	NA	NA	NA	5.5	U		10	U		5	U		4200	5.5	U	
3-Nitroaniline	NA	NA	NA	220	U		415	U		205	U		4200	220	U	
4-Nitroaniline	NA	NA	NA	6	U		11.5	U		5.5	U		4200	6	U	
Nitrobenzene	28000	510000	39000	14	U		26.5	U		13	U		870	14	U	
2-Nitrophenol	NA	NA	NA	8	U		14.5	U		7.5	U		870	8	U	
4-Nitrophenol	NA	NA	NA	6	U		11	U		5.5	U		4200	6	U	
Benzo(a)anthracene	900	3900	870	300	J		460	J		380	J		580	580	J	
N-Nitrosodi-n-propylamine	660	410	91	9	U		16.5	U		8	U		870	9	U	
N-Nitrosodiphenylamine	140000	580000	130000	90	U		170	U		85	U		870	90	U	

Table I-1
Comparison of Bulk Sediment Concentrations to Relevent Criteria

PARAMETER	CRITERIA: NJDEP (1997) Residential Criteria (NJ)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Industrial (EI)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Residential (ER)	DAJ-054 BA-C-5(13,14,15) C4K190132005R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-055 BA-C-6(16,17,18) C4K190132006 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-057 BA-C-7(19,20,21) C4K190132007R2 Result[2]	Q[3]	Criteria Exceeded[4]	RESULT	DAJ-058 BA-C-8(22,23,24) C4K190132009 Result[2]	Q[3]	Criteria Exceeded[4]
Benzo(b)fluoranthene	900	3900	870	250	J		370	J		270	J		480	480	J	
Benzo(k)fluoranthene	900	39000	8700	88	J		150	J		140	J		230	230	J	
Benzo(ghi)perylene	NA	NA	NA	130	J		230	J		110	J		130	130	J	
Benzo(a)pyrene	660	390	87	230	J	ER	310	J	ER	270	J	ER	380	380	J	ER
Pentachlorophenol	6000	24000	5300	600	U		1100	U		550	U		4200	600	U	
Phenanthrene	NA	NA	NA	150	J		440	J		260	J		690	690	J	
Phenol	10000000	310000000	47000000	9	U		46	J B		8.5	U		870	9	U	
Pyrene	1700000	31000000	2300000	490	J		1000	J		690	J		1200	1200		
1,2,4-Trichlorobenzene	68000	10000000	780000	9	U		16.5	U		8	U		870	9	U	
2,4,5-Trichlorophenol	5600000	100000000	7800000	25	U		46.5	U		23	U		870	25	U	
2,4,6-Trichlorophenol	62000	260000	58000	7.5	U		14	U		7	U		870	7.5	U	
Carbazole	NA	140000	32000	10	U		19	U		25	J		63	63	J	
bis(2-Chloroethoxy)methane	NA	NA	NA	10	U		18.5	U		9	U		870	10	U	
bis(2-Chloroethyl) ether	660	2600	580	8.5	U		16	U		8	U		870	8.5	U	
bis(2-Ethylhexyl) phthalate	49000	200000	46000	5900			3400			6100			5500	5500		
4-Bromophenyl phenyl ether	NA	NA	NA	22	U		41	U		20	U		870	22	U	
2,2'-oxybis(1-Chloropropane)	2300000	NA	NA	6.5	U		12	U		6	U		870	6.5	U	
Butyl benzyl phthalate	1100000	200000000	16000000	9.5	U		18	U		24	J		870	9.5	U	
Acenaphthylene	NA	NA	NA	78	J		110	J		85	J		130	130	J	
4-Chloroaniline	230000	4100000	310000	22	U		41	U		20	U		870	22	U	
4-Chloro-3-methylphenol	10000000	NA	NA	9.5	U		18	U		9	U		870	9.5	U	
2-Chloronaphthalene	NA	NA	NA	9.5	U		17.5	U		8.5	U		870	9.5	U	
2-Chlorophenol	280000	5100000	390000	7	U		13	U		6.5	U		870	7	U	
4-Chlorophenyl phenyl ether	NA	NA	NA	9	U		17	U		8.5	U		870	9	U	
Chrysene	9000	390000	87000	300	J		470	J		380	J		770	770	J	
Dibenz(a,h)anthracene	660	390	87	7	U		48	J		19	J		870	7	U	
Dibenzofuran	NA	2000000	160000	27	J		71	J		58	J		110	110	J	
Di-n-butyl phthalate	5700000	100000000	7800000	55	U		100	U		49.5	U		870	55	U	
1,2-Dichlorobenzene	5100000	92000000	7000000	9	U		17	U		8.5	U		870	9	U	
1,3-Dichlorobenzene	5100000	3100000	230000	7.5	U		14	U		7	U		870	7.5	U	
1,4-Dichlorobenzene	570000	120000	27000	20	J		17	U		18	J		23	23	J	
3,3'-Dichlorobenzidine	2000	6400	1400	11	U		20	U		10	U		4200	11	U	
2,4-Dichlorophenol	170000	3100000	230000	8	U		15.5	U		7.5	U		870	8.5	U	
Metals (mg/kg)																
Aluminum	NA	1000000	78000	13100			11900			11300			12300	12300		
Antimony	14	410	31	0.21	NU		0.195	NU		0.195	NU		1.3	0.21	NU	
Arsenic	20	1.9	0.43	22.7	N	EI, ER, NJ	20.4	N	EI, ER, NJ	20	N	EI, ER, NJ	21.6	21.6	N	EI, ER, NJ
Barium	700	72000	5500	65.1	N		56.9	N		53.9	N		62.8	62.8	N	
Beryllium	2.0	2000	160	1.2	N		1.1	N		1.1	N		1.2	1.2	N	
Cadmium	39.0	1000	78	2.4	N		2.2	N		2.1	N		2.4	2.4	N	

Table I-1
Comparison of Bulk Sediment Concentrations to Relevent Criteria

PARAMETER	CRITERIA: NJDEP (1997) Residential Criteria (NJ)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Industrial (EI)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Residential (ER)	DAJ-054 BA-C-5(13,14,15) C4K190132005R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-055 BA-C-6(16,17,18) C4K190132006 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-057 BA-C-7(19,20,21) C4K190132007R2 Result[2]	Q[3]	Criteria Exceeded[4]	RESULT	DAJ-058 BA-C-8(22,23,24) C4K190132009 Result[2]	Q[3]	Criteria Exceeded[4]
Calcium	NA	NA	NA	26200	N*		12200	N*		11600	N*		14600	14600	N*	
Chromium	NA	3100	230	106	N		96.6	N		92.7	N		104	104	N	
Cobalt	NA	20000	1600	10.6	N		9.8	N		9.4	N		10	10	N	
Copper	600	41000	3100	136	N		123	N		117	N		137	137	N	
Iron	NA	310000	23000	34000		ER	31500		ER	30000		ER	32200	32200		ER
Lead	400	NA	NA	131	N		121	N		116	N		134	134	N	
Magnesium	NA	NA	NA	7680	N		6930	N		6750	N		7130	7130	N	
Manganese	NA	140000	11000	574			483			465			471	471		
Mercury	14	100	7.8	2			1.8			1.9			2.1	2.1		
Nickel	250	20000	1600	31.2	N		28.1	N		26.7	N		29.3	29.3	N	
Potassium	NA	NA	NA	3780			3410			3260			3490	3490		
Selenium	63	5100	390	2.1	N		1.9	N		2.1	N		2.1	2.1	N	
Silver	110	5100	390	3.8			3.6			3.4			4.2	4.2		
Sodium	NA	NA	NA	14100	N		13000	N		13200	N		13900	13900	N	
Thallium	2.0	72	5.5	0.3	NU		0.28	NU		0.275	NU		1.3	0.3	NU	
Vanadium	370	1000	78	55.2	N		50	N		48.1	N		51.2	51.2	N	
Zinc	1500	310000	23000	261	E		254	E		244	E		282	282	E	
Cyanide, Total	1100	20000	1600	0.285	U		0.265	U		0.265	U		1.3	0.285	U	

NA= Indicates that criteria are available.

1. EPA Region 3 RBCs listed for chromium are for chromium VI, manganese and cadmium values are for food exposures, and mercury values are for methylmercury.
2. One-half the MDL assumed for chemicals reported as non-detect.
3. Q = Qualifiers
   - U= Analyte not detected. Reporting Limit reported
   - J= Organics: Analyte detected at a concentration less than the Reporting Limit.
     Metals: The associated method blank contains the target analyte at a reportable level.
   - B = Organics: Method blank contamination.: the associated method blank contains the target analyte at a reportable level.
     Metals: Result is between the MDL and RL
   - PG = The percent difference between the original and confirmation analysis is greater than 40%
   - Q=Estimated maximum possible concentration
   - D= Dilution data reported
   - S= Ion suppresion
   - E= Serial dilution percent difference not within limits
   - N= matrix spike and/or matrix spike recover failed
   - * Duplicate RPD was not within limits.
4. Criteria defined as: EI = EPA Region 3 Industrial Soil RBC; ER = EPA Region 3 Residential Soil RBC; NJ = New Jersey Soil Action Levels
5. Total Aroclor concentrations reported as sum of seven individual aroclors. One half the MDL assumed for chemicals reported as not detected.

Table I-1
Comparison of Bulk Sediment Concentrations to Relevent Criteria

PARAMETER	CRITERIA: NJDEP (1997) Residential Criteria (NJ)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Industrial (EI)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Residential (ER)	DAJ-080 PC-1 (P01V,P02V,P03V) C4K190132010R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-081 PC-2 (P04V,P05V,P06V) C4K190132012R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-082 PC-3 (P07V,P08V,P09V) C4K190132013R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-083 PC-4 (P10V,P11V,P12V) C4K190132014R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-084 PC-5 (P13V,P14V,P15V) C4K190132015R2 Result[2]	Q[3]	Criteria Exceeded[4]
Dioxin and Furans (ug/kg)																		
2,3,7,8-TCDF	NA	NA	NA	5.5	Q		4.5	Q		0	U		0	U		7.4	Q	
1,2,3,7,8-PeCDF	NA	NA	NA	1.5	J		0.99	Q J		3.5	Q J		1.2	J		1.7	Q J	
2,3,4,7,8-PeCDF	NA	NA	NA	2.1	Q J		1.6	J		0	U		0	U		2.3	Q J	
1,2,3,4,7,8-HxCDF	NA	NA	NA	5.8			2.7	Q J		6.4	Q		2.8	Q J		6.3		
2,3,4,6,7,8-HxCDF	NA	NA	NA	1.7	J		0.98	J		1.8	Q J		1.1	Q J		1.4	J	
1,2,3,7,8,9-HxCDF	NA	NA	NA	0	U		0	U		0	U		0	U		0	U	
1,2,3,4,6,7,8-HpCDF	NA	NA	NA	37			15			34			22			43		
OCDF	NA	NA	NA	36			21			45			23			33		
2,3,7,8-TCDD	NA	19.0	4.3	2.6			2.2			6.7		ER	0	U		6.6		ER
1,2,3,7,8-PeCDD	NA	NA	NA	1.3	J		0.61	Q J		0	U		0	U		1	Q J	
1,2,3,7,8,9-HxCDD	NA	NA	NA	4.5			1.9	Q J		12			2.7	J		4.5	J	
1,2,3,4,6,7,8-HpCDD	NA	NA	NA	58			34			91			39			66		
OCDD	NA	NA	NA	800	B		450	B		1100	B		570	B		730	B	
1,2,3,6,7,8-HxCDF	NA	NA	NA	2.4	J		1.1	Q J		2.7	Q J		1.4	J		2.2	Q J	
1,2,3,4,7,8,9-HpCDF	NA	NA	NA	1.7	J		0.7	Q J		2	Q J		1	J		2.1	J	
1,2,3,4,7,8-HxCDD	NA	NA	NA	0.88	Q J		0.66	J		1.9	Q J		0.91	J		0.83	Q J	
1,2,3,6,7,8-HxCDD	NA	NA	NA	5.8			3.4	J		10			3.7	J		5.9		
PCB (ug/kg)																		
Aroclor 1016	NA	41000	5500	12.5	U		12.5	U		12.5	U		13	U		13	U	
Aroclor 1221	NA	1400	320	6	U		6	U		6	U		6.5	U		6.5	U	
Aroclor 1232	NA	1400	320	7.5	U		7.5	U		7.5	U		8	U		7.5	U	
Aroclor 1242	NA	1400	320	5	U		5	U		5	U		5.5	U		5.5	U	
Aroclor 1248	NA	1400	320	71			110			78			42			89		
Aroclor 1254	NA	1400	320	2.05	U		2.05	U		2.1	U		2.2	U		2.15	U	
Aroclor 1260	NA	1400	320	51			61			37			32	J		49		
Total Aroclor[5]	490	1400	320	155			204			148			109			173		
Pesticides (ug/kg)																		
Dieldrin	42	180	40	3.1	J PG		0.375	U		0.38	U		1.5	J PG		3.9	J	
Endosulfan I	NA	6100000	470000	0.385	U		0.38	U		0.385	U		1.3	J PG		1.2	J PG	
Endosulfan II	NA	6100000	470000	0.6	U		0.6	U		1.2	J PG		0.65	U		2.6	J	
Endosulfan sulfate	NA	NA	NA	0.55	U		0.55	U		0.55	U		0.55	U		0.55	U	
Endrin	17000	310000	23000	1.8	J PG		0.385	U		2	J PG		0.415	U		2	J PG	
Endrin aldehyde	NA	NA	NA	0.85	U		0.85	U		0.85	U		0.9	U		0.9	U	
Endrin ketone	NA	NA	NA	0.5	U		0.5	U		0.5	U		0.55	U		0.55	U	
Heptachlor	150	640	140	0.38	U		0.375	U		0.38	U		0.405	U		0.395	U	
Heptachlor epoxide	NA	310	70	2.1	J		1.7	J PG		1.2	J PG		0.5	U		1.3	J	
Methoxychlor	280000	5100000	390000	0.85	U		0.85	U		0.85	U		0.9	U		0.9	U	
alpha-BHC	NA	450	100	0.335	U		0.33	U		0.335	U		0.36	U		0.35	U	
beta-BHC	NA	1600	350	0.5	U		0.5	U		0.5	U		0.55	U		0.55	U	
delta-BHC	NA	NA	NA	2.5	J PG		2.9	J PG		1.8	J PG		2.1	J PG		2.1	J	

Table I-1
Comparison of Bulk Sediment Concentrations to Relevent Criteria

PARAMETER	CRITERIA: NJDEP (1997) Residential Criteria (NJ)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Industrial (EI)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Residential (ER)	DAJ-080 PC-1 (P01V,P02V,P03V) C4K190132010R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-081 PC-2 (P04V,P05V,P06V) C4K190132012R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-082 PC-3 (P07V,P08V,P09V) C4K190132013R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-083 PC-4 (P10V,P11V,P12V) C4K190132014R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-084 PC-5 (P13V,P14V,P15V) C4K190132015R2 Result[2]	Q[3]	Criteria Exceeded[4]
gamma-BHC (Lindane)	520	2200	490	0.33	U		0.325	U		0.33	U		0.355	U		0.345	U	
Toxaphene	100	2600	580	26	U		26	U		26	U		28	U		27.5	U	
alpha-Chlordane	500	8200	1800	0.5	U		1.6	J PG		1.8	J PG		0.55	U		1.3	J PG	
gamma-Chlordane	NA	8200	1800	0.495	U		0.49	U		0.495	U		0.55	U		1.1	J PG	
Aldrin	40	170	38	0.495	U		0.49	U		0.5	U		0.55	U		0.5	U	
4,4'-DDD	381000	12000	2700	9.8			6.6	J PG		3.2	J PG		3.9	J		7.1	J	
4,4'-DDE	2000	8400	1900	25			17			7.9	J		11			14		
4,4'-DDT	2000	8400	1900	0.425	U		0.42	U		0.425	U		0.455	U		0.445	U	
Semivolatiles (ug/kg)																		
Acenaphthene	3400000	61000000	4700000	790			1200			420	J		2800			1000		
Diethyl phthalate	10000000	820000000	63000000	6.5	U		6	U		6.5	U		6.5	U		6.5	U	
2,4-Dimethylphenol	1100000	20000000	1600000	16	J		4.95	U		5	U		5.5	U		5.5	U	
Dimethyl phthalate	10000000	100000000000	780000000	6.5	U		6.5	U		6.5	U		7	U		7	U	
Di-n-octyl phthalate	1100000	41000000	3100000	7	U		7	U		7	U		7.5	U		7.5	U	
4,6-Dinitro-2-methylphenol	NA	100000	7800	800	U		750	U		800	U		850	U		800	U	
2,4-Dinitrophenol	110000	2000000	160000	800	U		750	U		800	U		850	U		800	U	
2,4-Dinitrotoluene	1000	2000000	160000	3.25	U		3.25	U		3.3	U		3.5	U		3.45	U	
2,6-Dinitrotoluene	1000	1000000	78000	4.45	U		4.4	U		4.45	U		4.75	U		4.65	U	
Anthracene	10000000	310000000	23000000	470	J		1100			350	J		1300			430	J	
Fluoranthene	2300000	41000000	3100000	2300			5100	D		2200			4700	D		1900		
Fluorene	2300000	41000000	3100000	690			830			270	J		1500			530	J	
Hexachlorobenzene	660	1800	400	6.5	U		6	U		6.5	U		6.5	U		6.5	U	
Hexachlorobutadiene	1000	37000	8200	6	U		6	U		6	U		6.5	U		6.5	U	
Hexachlorocyclopentadiene	400000	6100000	470000	25	U		24.5	U		25	U		26.5	U		26	U	
Hexachloroethane	6000	200000	46000	6	U		6	U		6	U		6.5	U		6.5	U	
Indeno(1,2,3-cd)pyrene	900	3900	870	63	J		190	J		85	J		110	J		85	J	
Isophorone	1100000	3000000	670000	6	U		6	U		6	U		6.5	U		6.5	U	
2-Methylnaphthalene	NA	4100000	310000	410	J		280	J		180	J		930			130	J	
2-Methylphenol	2800000	51000000	3900000	7	U		7	U		7	U		7.5	U		7.5	U	
4-Methylphenol	2800000	5100000	390000	7	U		7	U		7	U		7.5	U		7.5	U	
Naphthalene	230000	20000000	1600000	2200			2100			980			4800	D		1100		
2-Nitroaniline	NA	NA	NA	3.9	U		3.85	U		3.9	U		4.15	U		4.05	U	
3-Nitroaniline	NA	NA	NA	155	U		155	U		160	U		170	U		165	U	
4-Nitroaniline	NA	NA	NA	4.35	U		4.3	U		4.4	U		4.65	U		4.6	U	
Nitrobenzene	28000	510000	39000	10	U		10	U		10	U		11	U		10.5	U	
2-Nitrophenol	NA	NA	NA	5.5	U		5.5	U		5.5	U		6	U		6	U	
4-Nitrophenol	NA	NA	NA	4.2	U		4.15	U		4.2	U		4.5	U		4.4	U	
Benzo(a)anthracene	900	3900	870	500	J		1700		ER, NJ	730			1300		ER, NJ	510	J	
N-Nitrosodi-n-propylamine	660	410	91	6.5	U		6.5	U		6.5	U		7	U		6.5	U	
N-Nitrosodiphenylamine	140000	580000	130000	65	U		65	U		65	U		70	U		70	U	

Table I-1
Comparison of Bulk Sediment Concentrations to Relevent Criteria

PARAMETER	CRITERIA: NJDEP (1997) Residential Criteria (NJ)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Industrial (EI)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Residential (ER)	DAJ-080 PC-1 (P01V,P02V,P03V) C4K190132010R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-081 PC-2 (P04V,P05V,P06V) C4K190132012R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-082 PC-3 (P07V,P08V,P09V) C4K190132013R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-083 PC-4 (P10V,P11V,P12V) C4K190132014R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-084 PC-5 (P13V,P14V,P15V) C4K190132015R2 Result[2]	Q[3]	Criteria Exceeded[4]
Benzo(b)fluoranthene	900	3900	870	330	J		1900		ER, NJ	580	J		1300		ER, NJ	300	J	
Benzo(k)fluoranthene	900	39000	8700	130	J		6	U		200	J		6.5	U		100	J	
Benzo(ghi)perylene	NA	NA	NA	63	J		170	J		77	J		100	J		88	J	
Benzo(a)pyrene	660	390	87	240	J	ER	930		EI, ER, NJ	390	J	EI, ER	600	J	EI, ER	230	J	ER
Pentachlorophenol	6000	24000	5300	430	U		425	U		430	U		455	U		450	U	
Phenanthrene	NA	NA	NA	2000	D		3600			790			4100			1500		
Phenol	10000000	310000000	47000000	6.5	U		42	J		24	J		19	J		54	J	
Pyrene	1700000	31000000	2300000	1400			3600			1200			3400			1300		
1,2,4-Trichlorobenzene	68000	10000000	780000	6.5	U		6	U		6.5	U		7	U		6.5	U	
2,4,5-Trichlorophenol	5600000	100000000	7800000	18	U		17.5	U		18	U		19	U		18.5	U	
2,4,6-Trichlorophenol	62000	260000	58000	5.5	U		5.5	U		5.5	U		5.5	U		5.5	U	
Carbazole	NA	140000	32000	240	J		280	J		74	J		590	J		220	J	
bis(2-Chloroethoxy)methane	NA	NA	NA	7	U		7	U		7	U		7.5	U		7.5	U	
bis(2-Chloroethyl) ether	660	2600	580	6	U		6	U		6	U		6.5	U		6.5	U	
bis(2-Ethylhexyl) phthalate	49000	200000	46000	110	J		510	J		290	J		170	J		230	J	
4-Bromophenyl phenyl ether	NA	NA	NA	15.5	U		15.5	U		15.5	U		16.5	U		16.5	U	
2,2'-oxybis(1-Chloropropane)	2300000	NA	NA	4.55	U		4.45	U		4.55	U		4.85	U		4.75	U	
Butyl benzyl phthalate	1100000	200000000	16000000	7	U		7	U		7	U		7.5	U		7.5	U	
Acenaphthylene	NA	NA	NA	49	J		160	J		82	J		140	J		87	J	
4-Chloroaniline	230000	4100000	310000	15.5	U		15.5	U		15.5	U		16.5	U		16.5	U	
4-Chloro-3-methylphenol	10000000	NA	NA	7	U		6.5	U		7	U		7.5	U		7	U	
2-Chloronaphthalene	NA	NA	NA	6.5	U		6.5	U		6.5	U		7	U		7	U	
2-Chlorophenol	280000	5100000	390000	4.95	U		4.85	U		4.95	U		5.5	U		5	U	
4-Chlorophenyl phenyl ether	NA	NA	NA	6.5	U		6.5	U		6.5	U		7	U		6.5	U	
Chrysene	9000	390000	87000	460	J		2100			810			1500			510	J	
Dibenz(a,h)anthracene	660	390	87	20	J		59	J		29	J		36	J		5.5	U	
Dibenzofuran	NA	2000000	160000	480	J		540	J		230	J		1200			500	J	
Di-n-butyl phthalate	5700000	100000000	7800000	38	U		37.5	U		38.5	U		40.5	U		40	U	
1,2-Dichlorobenzene	5100000	92000000	7000000	6.5	U		6.5	U		6.5	U		7	U		7	U	
1,3-Dichlorobenzene	5100000	3100000	230000	5.5	U		5.5	U		5.5	U		6	U		5.5	U	
1,4-Dichlorobenzene	570000	120000	27000	30	J		6.5	U		6.5	U		7	U		7	U	
3,3'-Dichlorobenzidine	2000	6400	1400	7.5	U		7.5	U		7.5	U		8	U		8	U	
2,4-Dichlorophenol	170000	3100000	230000	6	U		6	U		6	U		6.5	U		6	U	
Metals (mg/kg)																		
Aluminum	NA	1000000	78000	6440			8550			5000			8040			8080		
Antimony	14	410	31	0.15	NU		0.15	NU		0.57	BN		0.16	NU		0.155	NU	
Arsenic	20	1.9	0.43	12	N	EI, ER	20.1	N	EI, ER, NJ	11.2	N	EI, ER	15.4	N	EI, ER	12.7	N	EI, ER
Barium	700	72000	5500	33.8	N		42.2	N		25.1	N		35.1	N		40	N	
Beryllium	2.0	2000	160	0.63	N		0.91	N		0.46	N		0.58	N		0.54	N	
Cadmium	39.0	1000	78	1.3	N		1.2	N		1.3	N		1.3	N		1	N	

Table I-1
Comparison of Bulk Sediment Concentrations to Relevent Criteria

PARAMETER	CRITERIA: NJDEP (1997) Residential Criteria (NJ)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Industrial (EI)	CRITERIA: EPA REGION 3 RBCS (EPA, 2004)[1] Soil Residential (ER)	DAJ-080 PC-1 (P01V,P02V,P03V) C4K190132010R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-081 PC-2 (P04V,P05V,P06V) C4K190132012R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-082 PC-3 (P07V,P08V,P09V) C4K190132013R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-083 PC-4 (P10V,P11V,P12V) C4K190132014R2 Result[2]	Q[3]	Criteria Exceeded[4]	DAJ-084 PC-5 (P13V,P14V,P15V) C4K190132015R2 Result[2]	Q[3]	Criteria Exceeded[4]
Calcium	NA	NA	NA	80200	N*		87700	N*		21600	N*		54300	N*		82700	N*	
Chromium	NA	3100	230	53.5	N		57.6	N		38.5	N		44.8	N		36.9	N	
Cobalt	NA	20000	1600	5.3	N		6.8	N		4.4	BN		5.5	N		4.8	BN	
Copper	600	41000	3100	72.6			53.3			55.6	N		50.2	N		39.6		
Iron	NA	310000	23000	16800			23700		ER	29600		ER	29100		ER	20200		
Lead	400	NA	NA	72.3	N		57.9	N		45	N		40.8	N		40.8	N	
Magnesium	NA	NA	NA	4150	N		5190	N		12100	N		24500	N		24700	N	
Manganese	NA	140000	11000	308			230			229			278			276		
Mercury	14	100	7.8	0.68			0.76			0.44			0.54			0.66		
Nickel	250	20000	1600	16.5	N		19	N		14.6	N		20.6	N		14.6	N	
Potassium	NA	NA	NA	1910			2680			1140			1670			1410		
Selenium	63	5100	390	1	N		1.5	N		1.2	N		1.3	N		0.93	N	
Silver	110	5100	390	2.3			1.3			1			0.95			0.91		
Sodium	NA	NA	NA	8380	N		7630	N		5720	N		6950	N		6950	N	
Thallium	2.0	72	5.5	0.215	NU		0.21	NU		0.215	NU		0.23	NU		0.225	NU	
Vanadium	370	1000	78	27.7	N		38.8	N		21.2	N		26.8	N		22.9	N	
Zinc	1500	310000	23000	147	E		130	E		159	E		112	E		105	E	
Cyanide, Total	1100	20000	1600	0.17	U		0.53	B		0.66	B		0.195	U		0.215	U	

NA= Indicates that criteria are available.

1. EPA Region 3 RBCs listed for chromium are for chromium VI, manganese and cadmium values are for food exposures, and mercury values are for methylmercury.
2. One-half the MDL assumed for chemicals reported as non-detect.
3. Q = Qualifiers
   - U= Analyte not detected. Reporting Limit reported
   - J= Organics: Analyte detected at a concentration less than the Reporting Limit.
     Metals: The associated method blank contains the target analyte at a reportable level.
   - B = Organics: Method blank contamination.; the associated method blank contains the target analyte at a reportable level.
     Metals: Result is between the MDL and RL
   - PG = The percent difference between the original and confirmation analysis is greater than 40%
   - Q=Estimated maximum possible concentration
   - D= Dilution data reported
   - S= Ion suppresion
   - E= Serial dilution percent difference not within limits
   - N= matrix spike and/or matrix spike recover failed
   - * Duplicate RPD was not within limits.
4. Criteria defined as: EI = EPA Region 3 Industrial Soil RBC; ER = EPA Region 3 Residential Soil RBC; NJ = New Jersey Soil Action Levels
5. Total Aroclor concentrations reported as sum of seven individual aroclors. One half the MDL assumed for chemicals reported as not detected.

Table I-2
Comparison of TCLP Analyses to Relevant Criteria

PARAMETER	UNITS	TCLP Criteria (EPA, 2003)	DAJ-050 BA-C-1 (1,2,3) .C4K190106001			DAJ-051 BA-C-2 (4,5,6) C4K190106002			DAJ-052 BA-C-3 (7,8,9) C4K190106003			DAJ-053 BA-C-4 (10,11,12) C4K190106004			DAJ-054 BA-C-5 (13,14,15) C4K190106005		
			Result[1]	Q[2]	Criteria Exceeded	Result[1]	Q[2]	Criteria Exceeded	Result[1]	Q[2]	Criteria Exceeded	Result[1]	Q[2]	Criteria Exceeded	Result[1]	Q[2]	Criteria Exceeded
TCLP Herbicides & Pesticides																	
2,4,5-TP (Silvex)-TCLP	mg/L	1.0	0.0007	J		0.00066	J		0.00059	J		0.00017	U		0.00017	U	
2,4-D-TCLP	mg/L	10.0	0.0007	U		0.0007	U		0.0007	U		0.0007	U		0.0007	U	
TCLP Chlorinated Pesticides																	
Endrin-TCLP	mg/L	0.02	0.000015	U		0.000037	U		0.000075	U		0.000015	U		0.0000075	U	
Heptachlor-TCLP	mg/L	0.008	0.000014	U		0.0000345	U		0.00007	U		0.000014	U		0.000007	U	
Heptachlor epoxide-TCLP	mg/L	0.008	0.0000155	U		0.0000385	U		0.000075	U		0.0000155	U		0.0000075	U	
Methoxychlor-TCLP	mg/L	10.0	0.0000315	U		0.00008	U		0.000155	U		0.0000315	U		0.0000155	U	
gamma-BHC (Lindane)-TCLP	mg/L	0.4	0.00042			0.00083			0.0018			0.00038			0.0000075	U	
Toxaphene-TCLP	mg/L	0.5	0.00007	U		0.00018	U		0.00036	U		0.00007	U		0.000036	U	
Chlordane (technical)-TCLP	mg/L	0.03	0.000175	U		0.000435	U		0.00085	U		0.000175	U		0.000085	U	
TCLP Volatile Organics																	
Benzene-TCLP	mg/L	0.5	0.00285	U		0.012	J		0.00285	U		0.00285	U		0.00285	U	
Tetrachloroethene-TCLP	mg/L	0.7	0.008	U		0.008	U		0.008	U		0.008	U		0.008	U	
Trichloroethene-TCLP	mg/L	0.5	0.0029	U		0.0093	J		0.0029	U		0.0029	U		0.019	J	
Vinyl chloride-TCLP	mg/L	0.2	0.0037	U		0.0037	U		0.0037	U		0.0037	U		0.0037	U	
Carbon tetrachloride-TCLP	mg/L	0.5	0.00335	U		0.00335	U		0.00335	U		0.00335	U		0.00335	U	
Chlorobenzene-TCLP	mg/L	100.0	0.0028	U		0.011	J		0.0028	U		0.0028	U		0.0028	U	
Chloroform-TCLP	mg/L	6.0	0.0031	U		0.0031	U		0.0031	U		0.0031	U		0.0031	U	
1,2-Dichloroethane-TCLP	mg/L	0.5	0.0027	U		0.0027	U		0.0027	U		0.0027	U		0.0027	U	
1,1-Dichloroethene-TCLP	mg/L	0.7	0.0044	U		0.015	J		0.0044	U		0.0044	U		0.0044	U	
TCLP Semivolatile Organics																	
2,4-Dinitrotoluene-TCLP	mg/L	0.13	0.00046	U		0.00046	U		0.00046	U		0.00046	U		0.00046	U	
Hexachlorobenzene-TCLP	mg/L	0.13	0.0006	U		0.0006	U		0.0006	U		0.0006	U		0.0006	U	
Hexachlorobutadiene-TCLP	mg/L	0.5	0.000065	U		0.000065	U		0.000065	U		0.000065	U		0.000065	U	
Hexachloroethane-TCLP	mg/L	3.0	0.00008	U		0.00008	U		0.00008	U		0.00008	U		0.00008	U	
Nitrobenzene-TCLP	mg/L	2.0	0.000085	U		0.000085	U		0.000085	U		0.000085	U		0.000085	U	
Pentachlorophenol-TCLP	mg/L	100.0	0.000395	U		0.000395	U		0.000395	U		0.000395	U		0.000395	U	
2,4,6-Trichlorophenol-TCLP	mg/L	2.0	0.00095	U		0.00095	U		0.00095	U		0.00095	U		0.00095	U	
1,4-Dichlorobenzene-TCLP	mg/L	7.5	0.00006	U		0.00006	U		0.00006	U		0.00006	U		0.00006	U	
TCLP Metals																	
Mercury-TCLP	mg/L	0.2	0.0000355	U		0.0000355	U		0.0000355	U		0.0000355	U		0.0000355	U	
Arsenic-TCLP	mg/L	5.0	0.17	B		0.22	B		0.22	B		0.22	B		0.19	B	
Lead-TCLP	mg/L	5.0	0.024	B		0.06	B		0.053	B		0.046	B		0.051	B	
Barium-TCLP	mg/L	100.0	0.092	B J		0.12	B J		0.11	B J		0.11	B J		0.11	B J	
Selenium-TCLP	mg/L	1.0	0.0135	U		0.0135	U		0.033	B		0.0135	U		0.0135	U	
Silver-TCLP	mg/L	5.0	0.0013	U		0.0013	U		0.0013	U		0.0013	U		0.0013	U	
Chromium-TCLP	mg/L	5.0	0.0007	U		0.0041	B J		0.0029	B J		0.0023	B J		0.0026	B J	
Cadmium-TCLP	mg/L	1.0	0.00043	U		0.0031	B		0.0019	B		0.00043	U		0.0021	B	

1. One half the MDL assumed for chemicals reported as non-detect.

2. Q = Qualifiers

U= Analyte not detected. Reporting Limit reported

J= Organics: Analyte detected at a concentration less than the RL.

Metals: Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B = Organics: Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Metals: Estimated result. Result is less than the Reporting Limit

PG = The percent difference between the original and confirmation analysis is greater than 40%

Table I-2
Comparison of TCLP Analyses to Relevant Criteria

PARAMETER	UNITS	TCLP Criteria (EPA, 2003)	DAJ-055 BA-C-6 (16,17,18) C4K190106006			DAJ-057 BA-C-7 (19,20,21) C4K190106007			DAJ-058 BA-C-8 (22,23,24) C4K190106009			DAJ-080 PC-1 (P01V,P02V,P03V) C4K190106010			DAJ-081 PC-2 (P04V,P05V,P06V) C4K190106012		
			Result[1]	Q[2]	Criteria Exceeded	Result[1]	Q[2]	Criteria Exceeded	Result[1]	Q[2]	Criteria Exceeded	Result[1]	Q[2]	Criteria Exceeded	Result[1]	Q[2]	Criteria Exceeded
TCLP Herbicides & Pesticides																	
2,4,5-TP (Silvex)-TCLP	mg/L	1.0	0.0011	J		0.00017	U		0.0007	J		0.00017	U		0.01	U	
2,4-D-TCLP	mg/L	10.0	0.0007	U		0.0007	U		0.0007	U		0.0007	U		0.04	U	
TCLP Chlorinated Pesticides																	
Endrin-TCLP	mg/L	0.02	0.0000075	U		0.0000075	U		0.000037	U		0.000037	U		0.00005	U	
Heptachlor-TCLP	mg/L	0.008	0.000007	U		0.000007	U		0.0000345	U		0.0000345	U		0.00005	U	
Heptachlor epoxide-TCLP	mg/L	0.008	0.0000075	U		0.0000075	U		0.0000385	U		0.0000385	U		0.00005	U	
Methoxychlor-TCLP	mg/L	10.0	0.0000155	U		0.0000155	U		0.00008	U		0.00008	U		0.00005	U	
gamma-BHC (Lindane)-TCLP	mg/L	0.4	0.0000075	U		0.0000075	U		0.0011			0.0011			0.00017		
Toxaphene-TCLP	mg/L	0.5	0.000036	U		0.000036	U		0.00018	U		0.00018	U		0.002	U	
Chlordane (technical)-TCLP	mg/L	0.03	0.000085	U		0.000085	U		0.000435	U		0.000435	U		0.0005	U	
TCLP Volatile Organics																	
Benzene-TCLP	mg/L	0.5	0.00285	U		0.00285	U		0.00285	U		0.00285	U		0.05	U	
Tetrachloroethene-TCLP	mg/L	0.7	0.04	J		0.008	U		0.008	U		0.008	U		0.05	U	
Trichloroethene-TCLP	mg/L	0.5	0.0029	U		0.0029	U		0.0029	U		0.0029	U		0.05	U	
Vinyl chloride-TCLP	mg/L	0.2	0.0037	U		0.0037	U		0.0037	U		0.0037	U		0.05	U	
Carbon tetrachloride-TCLP	mg/L	0.5	0.00335	U		0.00335	U		0.00335	U		0.00335	U		0.05	U	
Chlorobenzene-TCLP	mg/L	100.0	0.0028	U		0.0028	U		0.0028	U		0.0028	U		0.05	U	
Chloroform-TCLP	mg/L	6.0	0.0031	U		0.0031	U		0.0031	U		0.0031	U		0.05	U	
1,2-Dichloroethane-TCLP	mg/L	0.5	0.0027	U		0.0027	U		0.0027	U		0.0027	U		0.05	U	
1,1-Dichloroethene-TCLP	mg/L	0.7	0.0044	U		0.0044	U		0.0044	U		0.0044	U		0.05	U	
TCLP Semivolatile Organics																	
2,4-Dinitrotoluene-TCLP	mg/L	0.13	0.00046	U		0.00046	U		0.00046	U		0.00046	U		0.05	U	
Hexachlorobenzene-TCLP	mg/L	0.13	0.0006	U		0.0006	U		0.0006	U		0.0006	U		0.05	U	
Hexachlorobutadiene-TCLP	mg/L	0.5	0.000065	U		0.000065	U		0.000065	U		0.000065	U		0.05	U	
Hexachloroethane-TCLP	mg/L	3.0	0.00008	U		0.00008	U		0.00008	U		0.00008	U		0.05	U	
Nitrobenzene-TCLP	mg/L	2.0	0.000085	U		0.000085	U		0.000085	U		0.000085	U		0.05	U	
Pentachlorophenol-TCLP	mg/L	100.0	0.000395	U		0.000395	U		0.000395	U		0.000395	U		0.25	U	
2,4,6-Trichlorophenol-TCLP	mg/L	2.0	0.00095	U		0.00095	U		0.00095	U		0.00095	U		0.05	U	
1,4-Dichlorobenzene-TCLP	mg/L	7.5	0.00006	U		0.00006	U		0.00006	U		0.00006	U		0.05	U	
TCLP Metals																	
Mercury-TCLP	mg/L	0.2	0.0000355	U		0.0000355	U		0.0000355	U		0.0000355	U		0.0002	U	
Arsenic-TCLP	mg/L	5.0	0.18	B		0.19	B		0.19	B		0.16	B		0.18	B	
Lead-TCLP	mg/L	5.0	0.05	B		0.049	B		0.046	B		0.013	B		0.014	B	
Barium-TCLP	mg/L	100.0	0.13	B J		0.16	B J		0.13	B J		0.18	B J		0.19	B J	
Selenium-TCLP	mg/L	1.0	0.0135	U		0.032	B		0.0135	U		0.0135	U		0.25	U	
Silver-TCLP	mg/L	5.0	0.0013	U		0.0013	U		0.0013	U		0.0013	U		0.0035	B	
Chromium-TCLP	mg/L	5.0	0.0025	B J		0.003	B J		0.0018	B J		0.0007	U		0.5	U	
Cadmium-TCLP	mg/L	1.0	0.00043	U		0.0019	B		0.00043	U		0.00043	U		0.1	U	

1. One half the MDL assumed for chemicals reported as non-detect.

2. Q = Qualifiers

U= Analyte not detected. Reporting Limit reported

J= Organics: Analyte detected at a concentration less than the RL.

Metals: Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B = Organics: Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Metals: Estimated result. Result is less than the Reporting Limit

PG = The percent difference between the original and confirmation analysis is greater than 40%

Table I-2
Comparison of TCLP Analyses to Relevant Criteria

PARAMETER	UNITS	TCLP Criteria (EPA, 2003)	DAJ-082 PC-3 (P07V,P08V,P09V) C4K190106013			DAJ-083 PC-4 (P10V,P11V,P12V) C4K190106014			DAJ-084 PC-5 (P13V,P14V,P15V) C4K190106015		
			Result[1]	Q[2]	Criteria Exceeded	Result[1]	Q[2]	Criteria Exceeded	Result[1]	Q[2]	Criteria Exceeded
TCLP Herbicides & Pesticides											
2,4,5-TP (Silvex)-TCLP	mg/L	1.0	0.00075	J PG		0.00017	U		0.00017	U	
2,4-D-TCLP	mg/L	10.0	0.0007	U		0.0007	U		0.0007	U	
TCLP Chlorinated Pesticides											
Endrin-TCLP	mg/L	0.02	0.0000075	U		0.0000075	U		0.0000075	U	
Heptachlor-TCLP	mg/L	0.008	0.000007	U		0.000007	U		0.000007	U	
Heptachlor epoxide-TCLP	mg/L	0.008	0.0000075	U		0.0000075	U		0.0000075	U	
Methoxychlor-TCLP	mg/L	10.0	0.0000155	U		0.0000155	U		0.0000155	U	
gamma-BHC (Lindane)-TCLP	mg/L	0.4	0.00017			0.0002			0.000085		
Toxaphene-TCLP	mg/L	0.5	0.000036	U		0.000036	U		0.000036	U	
Chlordane (technical)-TCLP	mg/L	0.03	0.000085	U		0.000085	U		0.000085	U	
TCLP Volatile Organics											
Benzene-TCLP	mg/L	0.5	0.00285	U		0.00285	U		0.00285	U	
Tetrachloroethene-TCLP	mg/L	0.7	0.008	U		0.008	U		0.008	U	
Trichloroethene-TCLP	mg/L	0.5	0.043	J		0.0029	U		0.0029	U	
Vinyl chloride-TCLP	mg/L	0.2	0.0037	U		0.0037	U		0.0037	U	
Carbon tetrachloride-TCLP	mg/L	0.5	0.00335	U		0.00335	U		0.00335	U	
Chlorobenzene-TCLP	mg/L	100.0	0.0028	U		0.0028	U		0.0028	U	
Chloroform-TCLP	mg/L	6.0	0.0031	U		0.0031	U		0.0031	U	
1,2-Dichloroethane-TCLP	mg/L	0.5	0.0027	U		0.0027	U		0.0027	U	
1,1-Dichloroethene-TCLP	mg/L	0.7	0.0044	U		0.0044	U		0.0044	U	
TCLP Semivolatile Organics											
2,4-Dinitrotoluene-TCLP	mg/L	0.13	0.00046	U		0.00046	U		0.00046	U	
Hexachlorobenzene-TCLP	mg/L	0.13	0.0006	U		0.0006	U		0.0006	U	
Hexachlorobutadiene-TCLP	mg/L	0.5	0.000065	U		0.000065	U		0.000065	U	
Hexachloroethane-TCLP	mg/L	3.0	0.00008	U		0.00008	U		0.00008	U	
Nitrobenzene-TCLP	mg/L	2.0	0.000085	U		0.000085	U		0.000085	U	
Pentachlorophenol-TCLP	mg/L	100.0	0.000395	U		0.000395	U		0.000395	U	
2,4,6-Trichlorophenol-TCLP	mg/L	2.0	0.00095	U		0.00095	U		0.00095	U	
1,4-Dichlorobenzene-TCLP	mg/L	7.5	0.00006	U		0.00006	U		0.00006	U	
TCLP Metals											
Mercury-TCLP	mg/L	0.2	0.0000355	U		0.0000355	U		0.0000355	U	
Arsenic-TCLP	mg/L	5.0	0.16	B		0.15	B		0.17	B	
Lead-TCLP	mg/L	5.0	0.015	B		0.024	B		0.014	B	
Barium-TCLP	mg/L	100.0	0.13	B J		0.21	B J		0.11	B J	
Selenium-TCLP	mg/L	1.0	0.0135	U		0.0135	U		0.0135	U	
Silver-TCLP	mg/L	5.0	0.0013	U		0.0013	U		0.0013	U	
Chromium-TCLP	mg/L	5.0	0.0007	U		0.0007	U		0.0007	U	
Cadmium-TCLP	mg/L	1.0	0.00043	U		0.00043	U		0.00043	U	

1. One half the MDL assumed for chemicals reported as non-detect.

2. Q = Qualifiers

U= Analyte not detected. Reporting Limit reported

J= Organics: Analyte detected at a concentration less than the RL.

Metals: Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B = Organics: Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Metals: Estimated result. Result is less than the Reporting Limit

PG = The percent difference between the original and confirmation analysis is greater than 40%

APPENDIX J

Laboratory Data Reports

(LABORATORY DATA REPORTS NOT FOUND)