Bench-Scale Testing Results For PROPAT® as Dredge Material Stabilizing Agent Claremont Channel Deepening Project Jersey City, New Jersey

Prepared for
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AS DREDGED MATERIAL STABILIZING AGENT
CLAREMONT CHANNEL DEEPENING PROJECT
JERSEY CITY, NEW JERSEY

1.0 EXECUTIVE SUMMARY

The Bench-Scale Testing program was a phased testing program developed to find a PROPAT®/dredged material/additive mix meeting geotechnical and environmental criteria for use as bulk fill at non-residential sites. PROPAT®, which is produced by Hugo Neu Schnitzer East (HNSE), is recycled, shredded non-metallic interior materials of automobiles combined with a proprietary mixture to prevent leaching. Earlier testing (Hart Crowser, 1998a) showed that PROPAT® improved the physical properties of dredged sediments.

The Bench-Scale Testing work was performed in this order:

- Sediment with non-PROPAT® additives was evaluated for strength and leachability;
- Preliminary geotechnical testing of sediment with PROPAT® and additives was undertaken to establish whether the material behaved as a soil or grout (flowable versus non-flowable) mix;
- Geotechnical and chemical properties of a variety of PROPAT®-amended mixes were evaluated; and
- An optimum mix was developed and tested for use in a pilot program and ultimately, a demonstration project at a site being developed by Liberty National Development Corporation (LNDC).

The optimum mix developed for final testing consisted of sediment from the Claremont Channel amended with:

- 30% PROPAT® (30% of wet weight of sediment);
- 15% coal fly ash (15% of wet weight of sediment and PROPAT® combined);
- 20% KS40 (20% of wet weight of sediment and PROPAT® combined); and
- 5% alkaline activator (5% of wet weight of sediment and PROPAT® combined).

The results from the phased testing approach showed that PROPAT®-amendment sediment can meet the LNDC criteria. They also demonstrate that, in addition to the optimum mix, there is a range of mixes that will provide suitably amended dredged material for use as bulk fill at non-residential sites.

1.1 Geotechnical Properties of Selected Optimum Mix

The selected optimum mix met the strength and density criteria for the amended sediment. After 28 days of curing at room temperature, the optimum mix had an average unconfined compressive strength of 98 pounds per square inch (psi). The wet density of the optimum mix was 93.3 pounds per cubic foot (pcf) with a water content of 14.2 percent.

1.2 Chemical Properties of Selected Optimum Mix

The modified multiple extraction procedure (MEP) leachate from the selected optimum mix met the New Jersey Groundwater Quality Standards (GWQS) for semivolatiles, pesticides, PCBs, and most metals. Concentrations of aluminum and sodium were above the GWQS; however, these levels will not pose unacceptable risks to the groundwater at sites being remediated. The bulk chemistry of the optimum mix met most of the chemical criteria established by the New Jersey Department of Environment (NJDEP) for non-residential soils. Arsenic and total PCBs were elevated; however, these levels will also not pose unacceptable risks levels for bulk fill materials capped with a growing layer of clean soil.

1.3 Benefit of PROPAT® to Amended Sediment

The addition of PROPAT® to the sediment markedly improved the strength of the sediment and reduced the leaching of metals from the mixture. Unconfined compressive strength tests performed on sediment with additives and sediment with additives and PROPAT® show that PROPAT® increased the strength of the sediment. It is likely that the fibrous nature of the PROPAT® caused the increased strength of the sediment. Bulk chemistry levels of the optimum mix are not significantly exacerbated when compared to sediment amended without PROPAT®. Leaching, as measured by the MEP, is reduced in the optimum mix when compared to sediment amended without PROPAT®

2.0 INTRODUCTION

This report presents the results of the Bench-Scale Testing of PROPAT® in combination with traditional additives as a dredged material stabilizing agent. This report is organized as follows:

- Purpose and Scope;
- Project Description and Understanding;
- Bench-Scale Testing Results; and
- Recommendations for Pilot Program.

Bench-Scale Testing was performed in accordance with our "Bench Testing, Pilot Program and Field Monitoring for PROPAT® as Dredged Material Stabilizing Agent, Claremont Channel Deepening Project, Jersey City, New Jersey" (Hart Crowser, 1999a) and the "Changes to PROPAT® Bench Testing Memorandum" (Hart Crowser, 1999b).

3.0 PURPOSE AND SCOPE

The purpose of the work is to determine if the addition of PROPAT® and additives to the clayey silt sediments of the Claremont Channel can transform the sediment into a fill material that can be handled with standard earth moving equipment, that has the project specific required strengths, and that meets established environmental criteria.

The Phase 1 scope of work for this project included:

- Task 1 - Initial testing of sediment and PROPAT®;
- Task 2 - Mixture preparation and testing; and
- Task 3 - Reporting (Hart Crowser, 1998a).

The Phase 2 scope of work, the results of which are presented in this report, included:

- Task 4 - Initial leachability and geotechnical testing of sediment amended without and with PROPAT®;
- Task 5 - Optimization of strength and leachability characteristics; and
- Task 6 - Reporting.

Future work includes:

- The PROPAT® pilot program and reporting;
- Construction of the PROPAT® demonstration fill; and
- Long term monitoring and reporting.

4.0 PROJECT DESCRIPTION AND UNDERSTANDING

4.1 History of Project

Hugo Neu Schnitzer East, in conjunction with the New Jersey Department of Transportation, Maritime Resources, is planning to dredge the state-owned Claremont Channel to provide access for deeper-draft vessels. Based on a design by the Port Authority of New York and New Jersey, approximately 1.25 million cubic yards of sediment must be dredged to provide the desired navigational depth of 34 feet below mean low water. Chemical analysis of the Claremont Channel sediment indicates the dredged material is unsuitable for ocean disposal and will require alternative placement locations (Hart Crowser, 1999c). As a result of the large volume of sediment to be dredged, a number of options for placement of the material are required.

One option is to place approximately 600,000 cubic yards of dredged material at nearby Port Liberté, a remediation site that contains contaminated soil. The Port Liberté Remedial Action Work Plan (Enviro-Sciences, 1999) includes placing non-structural bulk fill at the site. A golf course will be built on top of the fill, restoring a currently under utilized area of the New Jersey coast. New Jersey Maritime Resources has suggested combining the Claremont Channel deepening project with the Port Libertié restoration project by using the dredged sediment as non-structural bulk fill at the Port Libertié site. LNDC and the design team that is developing the remedial design for Port Liberté plan to place the amended sediment on the site and cover it with 2 to 4 feet of turf-supporting soil. The upper 2 feet of the amended sediment may be required to have a reduced permeability. The dredged material would undergo conditioning and stabilization to minimize the potential for leaching of contaminants from the sediment, to increase the strength of the sediment, and to lower hydraulic conductivity.

Stabilization materials such as cement kiln dust, lime kiln dust, coal fly ash, and cement were proposed for the Bench-Scale Testing program (Hart Crowser, 1999a). These additives have been used successfully in other contaminated sediment/soil stabilization projects. HNSE suggested a refinement to this approach with the use of PROPAT® as a conditioning and stabilizing additive.

PROPAT® is a trademarked product of HNSE. It is recycled from processing the non-metallic interior materials of automobile shredded residue and combining it with a proprietary mix to prevent leaching. PROPAT® has been approved as interim daily landfill cover in several states and was approved in New Jersey for "cushion" material above a liner at the Pennsauken, New Jersey, landfill.

The Bench-Scale Testing program mixed sediment from the Claremont Channel with varying percentages of PROPAT®, coal fly ash, cement kiln dust, alkaline activator, lime kiln dust, and Portland cement. The resulting amended sediment samples were submitted for geotechnical and chemical analyses to select an optimum mix or range of mixes for amended sediment. The optimum mix is based on environmental and geotechnical criteria below.

4.2 Performance Goals of Amended Dredged Material

The objective of the Bench-Scale Testing was to determine the types and amounts of additives required to transform the dredged sediment of the Claremont Channel into a usable, non-structural fill material that can be handled with standard earth-moving equipment and is protective of the environment. Dredged material amended with PROPAT® and more traditional additives was developed to meet the following performance goals.

4.2.1 Geotechnical Criteria

The geotechnical criteria for the amended sediment are:

- Workable and manageable by standard earth-moving equipment; and
- Sufficient strength and elasticity to be suitable as backfill.

The LNDC provided the following preliminary specifications for the bulk fill material:

- Unconfined compressive strength greater than 30 psi; and
- Unit weight greater than 85 pcf.

We assumed the unit weight requirement was the wet unit weight of the amended sediment. The strength and weight criteria listed above are the minimum criteria for this project. The material to be used as non-structural bulk fill will have no permeability requirements. Hydraulic conductivity of the upper 2 feet of amended dredged material is under evaluation by LNDC and their design team. A hydraulic conductivity of 1×10^{-6} cm/sec is being considered.

4.2.2 *Environmental Criteria*

Amended sediment were evaluated against the following environmental standards:

- Amended sediment bulk chemistry with the New Jersey Non-Residential Soil Cleanup Criteria (NRSCC) (NJDEP, 1997); and
- Leachate chemistry with the New Jersey Groundwater Quality Standards (GWQS) (NJDEP, 1997).

When analytes are lower than the criteria or standards, no further evaluation is required. If an analyte exceeds a criteria or standard, the specific use of the amended material is considered to determine if the degree of exceedence is unacceptable.

4.2.3 *Performance Criteria*

Amended sediment should meet the geotechnical and environmental criteria consistently as demonstrated statistically during the pilot program. During the pilot program, a sufficient number of samples will be collected to establish the performance and operational limits for full-scale application. Bench-Scale Testing will provide data on the variability of each criteria and guidance on the sample frequency required to develop statistically rigorous results.

5.0 CLAREMONT CHANNEL SEDIMENTS

Sediment used during Bench-Scale Testing was collected from Claremont Channel in February 1999. The logs of the 39 cores are presented in the New Jersey Waterfront Development Permit Application (WDPA, 1999). Bulk chemistry of the unamended sediment is also provided with that permit application. The locations of the cores were distributed uniformly in the area of the Claremont Channel to be dredged as shown in the Sampling and Analysis Plan (SAP) (Hart Crowser, 1998b). The cores were taken by EA Laboratories on February 15 through 26, 1999.

Subsurface soil conditions interpreted from cores taken at the site and sediment properties inferred from the field and laboratory tests formed the basis for selection of materials to use for Task 4 and Task 5. The nature and extent of variations between the cores may not become evident until full-scale dredging. If significant variations appear, it may be necessary to modify the optimum mixes recommended in this report.

The sediment used for this program generally consists of a black, slightly clayey to clayey, slightly sandy to very sandy silt. Appendix A presents grain size distribution results and Atterberg limits for the materials used in this testing program. Natural water content of the sediment ranged from 78 to 98 percent. (Water content throughout this report is dry basis - weight of water / dry weight of soil).

6.0 BENCH-SCALE TESTING RESULTS

This section describes the steps taken during the Bench-Scale Testing to select the optimum mix. The steps of the Bench-Scale Testing are described in chronological order:

- **Collection and Storage of Sediment and Additives.** Sediment from Claremont Channel was sampled and shipped to laboratories for testing.
- **Amended Sediment without PROPAT® Testing.** This task was performed to support an Acceptable Use Determination (AUD) by NJDEP for amending dredged material from the Claremont Channel with more traditional additives (no PROPAT®) and placing the stabilized material at appropriate upland locations. Data from this task also provided a basis for comparison with PROPAT®-amended dredged material. A summary of the results is presented in this report for the purposes of performance comparison.
- **Bench Top Testing.** Based on the results of stabilization without PROPAT®, this task of preliminary geotechnical testing was added to the original work plan to clarify the geotechnical behavior of the PROPAT®-amended sediment prior to large-scale Task 4 testing.
- **Initial Leachability and Geotechnical Testing (Task 4).** This task corresponds generally to the scope of work presented in the work plan. It involves testing and screening 11 mixes to evaluate geotechnical and chemical characteristics.
- **Optimization of Strength, Permeability, and Leachability (Task 5).** Based on results from Initial Testing (Task 4), two refined mixes were developed and tested.

Task 4 and 5 tests are referenced in Hart Crowser, 1999a.

6.1 Collection and Storage of Sediment and Additives

The sediment samples were collected from the Claremont Channel in Jersey City, New Jersey, in February 1999. Sampling was accomplished in accordance with the NJDEP approved SAP. Sediment samples were collected by vibracore

and composited in EA Laboratories in Maryland. The composite sediment samples were then shipped to Hart Crowser in Seattle in plastic zip tied bags (each bag contained about 22 pounds of sediment), where they were kept frozen until use. Sample CC-Q-J was used for the process of selecting the optimum mix with PROPAT®. Samples from composites CC-Q-C through CC-Q-J were used for testing of sediment amended without PROPAT®.

Coal fly ash, lime kiln dust (LKD), KS40, and alkaline activator were received from Consolidated Technologies, Inc. (CTI) for use as additives to the sediment. CTI owns and operates the Claremont Dredged Material Processing Facility (Claremont DMPF) located adjacent to the Claremont Channel at the HNSE facility. CTI has been contracted by HNSE to dredge, process and beneficially reuse the sediment from the Claremont Channel.

KS40 is a proprietary mixture developed by CTI for amending dredged materials and has pozzolanic properties similar to cements and fly ashes. These additives were shipped in 5-gallon plastic buckets to Hart Crowser in Seattle. The sealed buckets were kept in the Hart Crowser storage area until use. The PROPAT® was shipped by HNSE to Hart Crowser in Seattle in 55-gallon steel drums. The Portland cement (Type I and II) was purchased in Seattle. The sealed drums and cement packages were kept in the Hart Crowser storage area until use.

6.2 *Amended Sediment without PROPAT®*

Testing of amended sediment without PROPAT® was performed as part of the Waterfront Development Permit and Acceptable Use Determination (AUD) application to the NJDEP. Some portion of the dredged sediment that will be placed at Port Liberté may not be amended with PROPAT®, depending on the quantities of PROPAT® available at the time of dredging, the final configuration and quantity of bulk fill at Port Liberté and ultimate design decisions regarding hydraulic conductivity in the upper 2 feet of material. Some portions may also need to go to another approved upland beneficial use site such as the OENJ Cherokee- Bayonne site. Eight composite sediment samples (CC-Q-C through CC-Q-J) that were collected from the length of the channel were amended and tested. In addition to meeting permit and AUD needs, these results also provided a basis for comparison with the PROPAT®-amended samples.

6.2.1 *Tests Performed*

Sediment from the Claremont Channel was mixed with 15% coal fly ash, 10% KS40, and 5% alkaline activator (lime). These additives and proportions were selected based on recommendations of CTI. Their recommendation was based on the processing equipment to be used, processing economics and

geotechnical and environmental testing results for other sediment amended with the same admixtures.

Eight amended sediment samples (CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-K, CC-Q-I and CC-Q-J were cured for seven days at 120°F and submitted for the following geotechnical tests:

- Unconfined compression (ASTM D 2166);
- Hydraulic conductivity (ASTM D 5084)
- Water content (ASTM D 2216).

Descriptions of the geotechnical tests are presented in Appendix A. Seven day curing at elevated temperature was used to simulate curing in the field over time (28 days or longer) while allowing an expedited initial testing schedule.

The eight amended sediment samples were also submitted for bulk chemistry analysis and the modified multiple extraction procedure (MEP) testing (EPA Method 1320, as modified by NJDEP). The amended sediment and leachate samples were submitted for the following analyses:

- Total suspended solids (TSS) (EPA Method 160.2);
- Total organic carbon (Walkley-Black);
- Total metals (EPA Method 200 series for leachate; EPA Method 6000/7000 series for amended sediment);
- Pesticides/PCBs (EPA Method 8081/8082);
- Semivolatile organics (EPA Method 8270);
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans) (EPA Method 8290); and
- Cyanide (EPA Method 9012A).

The data validation report for these analyses is presented in Appendix B.

6.2.2 ***Geotechnical Results***

Table 1 presents the results of the geotechnical testing. Unconfined compression tests for four of the eight amended sediment samples gave strengths above the 30 psi criteria (31.7 to 53.9 psi). The other four samples had lower strengths (16.2 to 28.7 psi) and the average was 33.2 psi. Water contents of the amended sediment samples after curing ranged from 46 to 67 percent. No correlation between the water content and the strength was observed during this testing. Wet density averaged 96.4 pcf.

Hydraulic conductivity for two of the samples tested averaged 2.4×10^{-6}. The third test was considered suspect due to cracking observed in the cured sample.

All samples were treated as flowable mix, meaning that the mixes were poured into the test containers. Due to the fluidity of the mixture, tapping of the cylinders was used to remove air voids, not tamping or mechanical compaction.

6.2.3 *Chemical Results*

Amended Sediment Samples. Appendix C presents complete analytical results for the eight composite samples. Selected results of the bulk chemistry analysis of the amended sediment for composite CC-Q-J are presented in Tables 2 and 3. Composite CC-Q-J was used for all Task 4 and Task 5 work.

For the amended sediment sample CC-Q-J, semi-volatile organics and pesticides were all below the non-Residential Soil Cleanup Criteria (NRSCC). Arsenic was the only metal detected above the NRSCC with an ER (enrichment ratio - concentration of sample divided by concentration of screening criteria) of 1.3. Three PCB Aroclors were detected in the amended sediment sample (Aroclor 1248, 1254, and 1260). Total PCB concentrations were above the NRSCC in the amended sediment sample (ER = 2.2). Most dioxin congeners and related isotopes analyzed for were detected in the amended sediment sample. Total TCDD equivalent (using the concentration of detected compounds and half the concentration of non-detected compounds) was 353 pg/g.

Similar bulk chemistry results were seen for the other amended composites (see Appendix C). ER's were above 1 for some metals (arsenic, beryllium and thallium) in the other six composites. PCBs were below the NRSCC in four, but exceeded it in two. Semivolatile organics and pesticides were consistently below the NRSCCs.

The unamended sediment exhibited similar bulk chemistry. Some metals were elevated with arsenic exceeding the NRSCC in several samples. PCB's also exceeded the NRSCC in some of the 39 samples. Pesticides, volatile organics and semivolatile organics are below the NRSCC in each of the 39 samples.

MEP Leachate Samples. Selected results of the analysis of the MEP leachate for composite CC-Q-J are presented in Tables 4 and 5. Complete results are presented in Appendix C.

Semivolatile organics, pesticides and PCBs were below the GWQS. Aluminum, copper, iron, nickel, and sodium were detected at concentrations above the GWQS in the leachates. The majority of these metals reached a maximum

concentration and only exceeded the GWQS in Leaches #1 and 2. However, aluminum concentrations reached a maximum in Leach #4 and exceeded the GWQS in all seven leachates. The peak aluminum concentration had an ER of 30.3. The majority of dioxin congeners and related isotopes analyzed for were not detected in the leachate samples. Total TCDD equivalent (using the concentration of the detected compounds and half the concentration of the non-detected compounds) was 3 pg/L. Similar leachate results were seen for the other composites.

6.2.4 *Amended Sediment without PROPAT® Conclusions*

Results of the analytical testing of the amended sediment were submitted to the NJDEP as part of the Waterfront Development Permit and Acceptable Use Determination applications (WDPA, 1999). On January 31, 2000, a permit was granted that included an AUD for placing the amended material at several of the proposed placement sites, including the OENJ Cherokee-Bayonne upland site. Placement at Port Libertié remains contingent on the completion of the Remedial Action Work Plan (RAWP) by the property owners and the approval of the RAWP by the NJDEP. However, based on the approval for placement at the other upland site, it appears the amended sediment will satisfy the NJDEP environmental criteria for placement at Port Libertié.

Geotechnical results for several of the eight samples evaluated by Hart Crowser did not meet the preliminary strength criteria put forward by LNDC. Additional strength testing undertaken showed that thorough mixing and tamping (compacting) the test specimens improved strength, but still did not consistently give strengths above 30 psi. Consequently, LNDC may re-evaluate their strength criteria or a higher percentage of additives may be needed in any sediment amended without PROPAT® that is placed at Port Libertié.

CTI reports that results of several full-scale field projects show that compressive strengths will consistently exceed 30 psi utilizing similar sediments, admixtures and processing techniques. However, because of these strength concerns and some of the leaching results, a larger percentage of admixtures were used in the initial bench top testing with PROPAT®. KS40 was increased from 10% to 15%.

6.3 *Bench Top Testing*

Prior to Task 4 testing, a number of geotechnical tests were run on sediment amended with PROPAT® and other additives. The objective of the bench top testing was to determine if PROPAT®-amended sediment was a flowable or non-flowable mix. A flowable mix of materials including pozzolanic containing admixtures, similar to Portland cement concrete, requires little or no compaction

to attain maximum strength. A non-flowable mix of materials with or without pozzolanic containing admixtures, similar to conventional earth fill, must be compacted for maximum strength. Due to the high water content in the unamended sediment, it was not obvious that it would be non-flowable. The behavior of the PROPAT® amended sediment would determine how it would be handled in Tasks 4 and 5 and in the field.

6.3.1 *Tests Performed*

Three different ratios of sediment to PROPAT® (by weight), with additives, were tested:

- 1:1 ratio of sediment to PROPAT® (100%);
- 1:0.3 ratio of sediment to PROPAT® (30%); and
- 1:0.1 ratio of sediment to PROPAT® (10%).

The following quantity of additives (by weight of the sediment and PROPAT® mix) were used for the bench top testing:

- 15% coal fly ash;
- 15% KS40; and
- 5% alkaline activator.

Twelve PROPAT®-amended samples at the ratios given about were created and cured at approximately 120°F in the oven for seven days. The amended sediment samples with PROPAT® were submitted for the following geotechnical tests:

- Unconfined compression (ASTM D 2166)
- One point modified Proctor compaction Test (ASTM D 157)
- Water content (ASTM D 2216)

Descriptions of the geotechnical tests are presented in Appendix A.

To conduct unconfined compression testing to determine the strength of the flowable mix, amended sediment samples were placed into test cylinders by scooping the amended sediment into the cylinder and tapping the cylinder on the bench top to remove air voids. This procedure was derived from ASTM procedures specified for testing the strength of Portland cement concrete samples

To conduct unconfined compression testing to determine the strength of the non-flowable mix, amended sediment samples were packed into cylinders by

scooping the amended sediment into the cylinder and compacting the mixture with a tamper to a density as close as possible to the density measured in the one point modified Procter compaction test. This was done at the natural water content of the sediment. The flowable and non-flowable cylinders were submitted for compression testing after curing.

6.3.2 Geotechnical Results

The results of the compressive strength testing are presented in Table 6. The non-flowable mixes had higher compressive strengths than the flowable mixes. The compacted samples, regardless of the concentration of PROPAT® in the sample, had compressive strengths above the criteria. However, a number of the flowable mixes had compressive strengths below the compressive strength criteria.

6.3.3 Bench Top Conclusions

The compressive strength results presented in Table 6 indicate that compaction is an important factor in increasing the strength of the PROPAT®-amended sediment. This is especially evident at the higher concentrations of PROPAT®. Consequently, the samples were compacted for the compressive strength cylinders for Tasks 4 and 5.

After curing, the PROPAT®-amended sediment was similar in consistency to a dried soil. This observation indicates that in, the field, the PROPAT®-amended sediment can be rolled out and managed with standard earth moving equipment. Compaction of the PROPAT®-amended sediment after placement in the field should be specified to increase the in-place compressive strength of the material, particularly if the higher percentages of PROPAT® are used.

6.4 Initial Leachability and Geotechnical Testing (Task 4) Results

The goal of Task 4 was to test a range of sediment to PROPAT® ratios, with varying percentages of additives, to better define an optimum mix range. Task 4 testing was only performed using sediment sample CC-Q-J. This composite is representative of the sediment that is expected to be used in the PROPAT® full-scale demonstration project. Mixing procedures are presented in Appendix D.

6.4.1 *Tests Performed*

Three different ratios of sediment to PROPAT® (by weight), with varying percentages of additives, were tested:

- 1:1 ratio of sediment to PROPAT® (100%);
- 1:0.3 ratio of sediment to PROPAT® (30%); and
- 1:0.1 ratio of sediment to PROPAT® (10%).

Three groups of additives were used:

- CTI mix (approximately 15% coal fly ash, 15% KS40, and 5% alkaline activator);
- Portland cement (approximately 10%); and
- Lime kiln dust (LKD) (10 to 20%).

All additive quantities were by weight as a percent of the sediment-PROPAT® mix weight.

Eleven amended samples (CAP-J1, CAP-J2, CAP-J3, CAP-J4, CAP-J5, CAP-J6, CAP-J7, CAP-J8, CAP-J9, CAP-J10, CAP-J11) were created and cured at approximately 120° F in the oven for seven days. The amended sediment samples were submitted for the following geotechnical tests:

- One point modified Proctor compaction test (ASTM D 1557);
- Unconfined compression (ASTM D 2166);
- Specific gravity (ASTM D 854);
- Water content (ASTM D 2216); and
- Hydraulic conductivity (only select samples) (ASTM D 5084).

Descriptions of the geotechnical tests are presented in Appendix A.

The amended sediment samples were also submitted for Synthetic Precipitation Leaching Procedure (SPLP) testing (EPA Method 1312). SPLP was used as a proxy for the MEP. The SPLP is a one-day leachate extraction; the MEP is a seven-day multiple leachate extraction. The SPLP is comparable to the Day 1 leachate produced in the modified MEP. Although SPLP results do not satisfy

permitting requirements, they allowed screening of the mix designs prior to Task 5. SPLP is a faster and more cost-effective test than the modified MEP required for permitting. The resulting leachate was analyzed for the following chemical analyses:

- Total suspended solids (TSS) (EPA Method 160.2);
- Total organic carbon (Walkley-Black);
- Total metals (EPA Method 200 series);
- Pesticides/PCBs (EPA Method 8081/8082);
- Semivolatile organics (EPA Method 8270);
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans) (EPA Method 8290); and
- Cyanide (EPA Method 9012A).

The data quality review for these analyses is presented in Appendix B.

The additives used during the amending procedure (PROPAT®, coal fly ash, KS40, alkaline activator, Portland cement, and LKD) were submitted for the following bulk chemical analyses:

- Percent solids (Plumb, 1981);
- Total organic carbon (Walkley-Black);
- Total metals (EPA Method 6000/7000);
- Pesticides/PCBs (EPA Method 8081/8082);
- Semivolatile organics (EPA Method 8270);
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans) (EPA Method 8290); and
- Cyanide (EPA Method 9012A).

The data quality review for these analyses is presented in Appendix B.

6.4.2 Geotechnical Results

Geotechnical results are presented in Table 7. These results appear more influenced by the quantity of additives than by the type of additives, as discussed below. The mixtures were non-flowable, looking like wet soil after mixing. The following observations were made:

- **Water Content.** Water content ranged from 29 to 75 percent before cure, increasing as the total weight of additives decreased, as shown on Figure 1. Preliminary testing in 1998 (Hart Crowser, 1998a) found that in a mixture with 100 percent PROPAT® and 20 percent kiln dust, optimum moisture was 25 percent (see Table 8). While the unique optimum moisture of each

Task 4 mix was not determined, these earlier results suggest we are generally working in a range of moisture content wet of optimum.

Water content and compressive strength appear to be negatively correlated. As water content of a sample increased, it's strength tended to decrease.

- **Wet Densities.** The amended sediment samples had wet densities above the required criteria, ranging from 88.2 to 110.6 pcf. Samples with a larger proportion of additives generally had higher densities. This result was to be expected since a higher fraction of additives reduces moisture content. Reducing moisture content in wet mixtures favors higher density following compaction. This relationship is illustrated on Figure 2.

- **Compressive Strength.** The amended sediment samples passed the strength criteria with a range of 39.5 to 134.4 psi. Results appeared quite variable. However compressive strength was generally higher in samples with a higher fraction of additives and the associated higher density. A positive correlation of increasing strength with a higher percentage of additives exist. A significant positive correlation is also seen between strength and percent of PROPAT® added. The addition of a minimum of 10 percent PROPAT® clearly increased compressive strength compared to amended sediments without PROPAT®.

  The relationship between the amount of PROPAT® above 10 percent and the compressive strength of the mix is less conclusive (Figure 3). There is a large amount of variability in the data, which likely reflects the variability of the PROPAT® material composition. The variability may also result from the fact that the samples submitted for compressive strength testing were not necessarily successfully compacted to the maximum density as measured during the compaction tests.

- **Hydraulic Conductivity.** Hydraulic conductivity results were variable, exhibiting no clear trend with either increasing strength or increasing percentage of PROPAT®. This likely reflects the variability of the PROPAT® material composition. The thoroughness of mixing as well as the testing apparatus may introduce additional variability. The hydraulic conductivity ranged from 7.7×10^{-6} cm/sec to 5.3×10^{-4} cm/sec.

These results show that reducing moisture content is the key to improving strength and increasing wet density. The addition of at least 10 percent PROPAT® significantly increase the strength of the amended sediment.

The impact of different types of additives could not be evaluated in this round of tests. This may be because the mix designs tested did not produce comparable moisture content in the amended sediments. Since moisture content appears to significantly control geotechnical performance, the performance of individual additives could not be determined.

6.4.3 *Chemical Results*

The chemical characterization performed in Task 4 included the following:

- Analysis of the leachate of PROPAT®-amended sediment samples to evaluate the effectiveness of contaminant stabilization in the various mix designs;
- Bulk chemistry analysis of the additives; and
- Analysis of the leachate of raw sediment and PROPAT® to evaluate their potential contribution to leachate loading.

Amended Sediment Leachate Results

Selected results of the analysis of the SPLP leachate from the amended sediment are presented in Tables 9 and 10. Complete results are in Appendix C. Results of the data quality review are presented in Appendix B.

Pesticides and PCBs were below GWQS in the leachate of all samples. Semivolatile organics were also below GWQS in all samples except CAP-J7 where pentachlorophenol was detected above the standard.

Metals were detected in each leachate regardless of the PROPAT® percentage or the amending agents and their percentages. Aluminum, copper, nickel, and sodium were detected above the GWQS in samples with the CTI additives (CAP-J1 through CAP-J6). The maximum ERs were 12.5 for aluminum, 1.1 for copper, 1.6 for nickel, and 4.9 for sodium. Aluminum, copper, nickel, and sodium were detected above the GWQS in samples with Portland cement as additive (CAP-J7, CAP-J10, and CAP-J1). The maximum ERs were 2.4 for aluminum, 1.6 for copper, 1.8 for nickel, and 5.3 for sodium. Aluminum, copper, nickel, and sodium were detected above the GWQS in samples with LKD as additive (CAP-J8 and CAP-J9). The maximum ERs were 7 for aluminum, 1.8 for copper, 2 for nickel, and 3.4 for sodium. Similar results for metals were also seen for sediment amended without PROPAT® as discussed earlier in this report (Section 6.2.3).

Of the twenty-five dioxins analyzed for, none were detected in the eleven leachate samples. Total TCDD equivalent (using the concentration of the detected and half the detection level of the non-detected compounds) ranged from 2.30 to 5.62 pg/L.

Leachate Data Discussion

The compounds of concern include aluminum, copper, and nickel. Sodium was also detected above the GWQS but was expected due to the estuarine origin of the sediments and is not considered to be a potential threat to human health or the environment.

- Copper and nickel appear to behave similarly. The concentrations in leachate tend to decrease with increasing amounts of non- PROPAT® and PROPAT® additives, as shown on Figures 4 and 5. Copper and nickel solubilities decrease at pH above 7, as shown on Figure 6. Since the non-PROPAT® additives used are alkaline, they tend to raise the pH of the mixture and stabilize copper and nickel. The PROPAT® stabilizing mechanism is unclear, but the proprietary mixture may also tend to increase pH.

- Aluminum does not follow the trend of copper and nickel. Aluminum solubility increases with pH above neutral due to the formation of the ion AlO_2^-. Therefore the addition of more alkaline additives likely contributes to a higher aluminum solubility. Aluminum leachate concentrations appear quite variable in the CTI mix designs but are generally low in samples containing Portland cement, as shown in Figure 7. This is likely due to the lower quantity of additives, keeping the pH lower, but also keeping the bulk concentration of aluminum in the mixture lower. Portland cement, KS40, and fly ash contain aluminum concentrations significantly higher than the sediment. The addition of PROPAT also appears to increase aluminum leachability (see Figure 5), possibly because it too increases mixture pH.

Additives Chemistry

Results of the analysis of the additives are presented in Tables 11 and 12. The non-PROPAT® additives contain few compounds at concentrations above the NRSCC. Arsenic, beryllium, and thallium were present in additives at concentrations above the NRSCC with ER's generally lower than 2. No aluminum NRSCC has been established. However, since aluminum is a compound of concern in the amended sediment leachate, it is interesting to note that fly ash, Portland cement, and KS40 contain higher aluminum concentrations two to two and a half times greater than the sediment itself (CC-Q-J contained 9,660 mg/kg aluminum). No leaching test was performed on the non-PROPAT® additives.

PROPAT® contained lead, thallium and zinc at concentrations above the NRSCC. It also contained PCBs and bis(2-ethylhexyl) phthalate at concentrations above the NRSCC. However these compounds were not detected in the SPLP leachate from pure PROPAT® (Section 6.5.3).

6.4.4 *Task 4 Conclusions*

Based on the results of Task 4, two mixes were selected for further testing. We elected to proceed with mix designs containing 30 percent PROPAT®, for the following reasons:

- 100 percent PROPAT® was difficult to work with in the laboratory. It was difficult to homogenize the sediment as the PROPAT® continually caused the mixer to stall even with various attempts. In the field, 100 percent PROPAT® may also prove difficult to work with and may not allow thorough mixing of additives. CTI had expressed concern over their ability to process a mixture with this much PROPAT® through their equipment. Thorough mixing has been demonstrated to be key in developing acceptable mixes. Therefore, 100 percent PROPAT® was eliminated because of these concerns regarding workability and manageability by standard mixing equipment;
- The quantity of PROPAT® available for the Claremont Channel demonstration will allow up to 30 percent addition to the sediment, and PROPAT® is considered a cost-effective additive; and
- 30 percent PROPAT® may reduce the leachability of copper and nickel in CTI mixes although it may increase the leachability of aluminum. In mixes based on Portland cement, the fraction of PROPAT® does not appear to impact leachability significantly.
- Hydraulic conductivity is generally higher in the task 4 samples than in the sediment amended without PROPAT®. While there is no clear trend of increasing hydraulic conductivity with increasing percent of PROPAT®, the fibrous nature of the PROPAT® may be partly responsible. Replicate testing of the pilot program mix will establish the amount of variability that could be expected in a full scale project.

It also appears that a mix design with 10 percent PROPAT® would be viable, providing similar compressive strength and slightly lower aluminum leaching but slightly higher copper and nickel leaching in CTI mixes. PROPAT® addition in the range of 10% to 30% or slightly more appears to provide the optimum benefits to the stabilization of the dredged material.

6.5 *Optimization of Geotechnical and Leachability Characteristics (Task 5) Results*

The goal of Task 5 was to select and test an optimum mix for non-structural bulk fill. Based on the Task 4 results, Task 5 begin with test two mixes, one mix with CTI additives and another mix with Portland cement and LKD. The amount of non-PROPAT® additives in the CTI mix was increased (15% coal fly ash, 20% KS40, and 5% alkaline activator) to determine if the leachability of the amended sediment would decrease. Portland cement (10%) and LKD (20%) were combined in the second mix to bring the total amount of additives closer to the total amount of additives in the CTI mix. It was expected that combining Portland cement and LKD would decrease the leachability and increase the compressive strength. Task 4 testing showed a higher percentage of additives decreased moisture content, increased strength and generally decreased leachability. In general, the CTI mixes reduce copper and nickel leaching better than Portland cement based mixtures. The opposite is true with aluminum.

Both mixes contained 30% PROPAT®. Task 5 testing was only performed with sediment sample CC-Q-J. This composite sample is representative of the sediment that is expected to be used in the PROPAT® full-scale project. Mixing procedures are described in Appendix D.

6.5.1 *Tests Performed*

Two amended sediment mixes, both containing 30% PROPAT®, were tested in Task 5. The CTI mix (J1-CTI-7 and J2-CTI-28) contains 15% fly ash, 20% KS40, and 5% alkaline activator. The LKD/Portland mix (J3-PORT-7 and J4-PORT-28) contains 20% LKD and 10% Portland cement. The number '7' at the end of the sample identification indicates the sample was cured for 7 days at 120° F and the '28' indicates the sample was cured for 28 days at room temperature.

The samples were submitted for the following geotechnical tests (unless otherwise indicated, only samples cured for seven days were analyzed):

- Modified Proctor compaction test (ASTM D 1557);
- Unconfined compression (7- and 28 day cured samples) (ASTM D 2166);
- Specific gravity (ASTM D 854); and
- Water content (7- and 28- day cured samples) (ASTM D 2216); and
- Resilient modulus (CTI mix only)

Descriptions of the geotechnical tests are presented in Appendix A.

The samples that were cured for seven days were submitted for SPLP testing. Also submitted for SPLP testing were sediment sample CC-Q-J and PROPAT®, to

better define what may be leaching from the sediment and the PROPAT®. The resulting leachate and amended sediment were submitted for the chemical analyses listed below. Sample J2-CTI-28 was submitted for modified MEP testing. The resulting leachate was submitted for the following chemical analysis.

- Total suspended solids (TSS) (EPA Method 160.2);
- Total organic carbon (Walkley-Black);
- Total metals (EPA Method 200 series for leachate; EPA Method 6000/7000 series for amended sediment);
- Pesticides/PCBs (EPA Method 8081/8082);
- Semivolatile organics (EPA Method 8270);
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans) (EPA Method 8290); and
- Cyanide (EPA Method 9012A).

The data quality review are presented in Appendix B.

6.5.2 *Geotechnical Results*

The geotechnical testing in this task focused on the sensitivity of the mix designs to variable moisture contents, to establish an operating range for the Pilot Program. The results are presented in Table 13.

Density. Maximum wet densities were 92.8 pcf for J1-CTI-7 and 99.9 for J3-PORT-7. Corresponding water contents were 13.4 (J1-CTI-7) and 20.7 percent (J3-PORT-7).

Compressive Strength. Compressive strengths in samples J1-CTI-7 and J2-CTI-28 ranged from 29.9 to 115.9 psi, for a range of water contents. The compressive strengths' of the CTI mix samples were generally above the required strength. Samples with the lowest water content had lower strength suggesting there may have been incomplete reaction of the non-PROPAT® additives with the mix. These samples were prepared by mixing sediment and PROPAT®, drying them in the oven overnight, and adding the non-PROPAT® additives the next day. Then water was added to reach the appropriate water content. Since the sediment PROPAT® mix was very dry, there may have been insufficient interaction of the non-PROPAT® additives with the mix or insufficient water to complete the pozzolanic reaction.
Compressive strengths in samples J3-PORT-7 and J4-PORT-28 were above the required strength and ranged from 63.3 to 113.6 psi, for a range of moisture contents.

Water Content. There was not a clear correlation between water content and compressive strength, as shown on Figure 8. However, Portland cement mixes appear to be less sensitive to variations in water content. Additional testing, outside the scope of this project, would be necessary to establish a clear correlation between water content and strength.

Resilient Modulus. The test was performed on a sample with 30% PROPAT®, 15% coal fly ash, 20% KS40 and 5% alkaline activator. The sample was mixed and molded and then cured for 7 days at 120°F prior to testing. Resilient modulus testing was performed in accordance with AASHTO TP-46-94. Based on the results, the material exhibits a modest bearing capacity sufficient for a bulk fill material. The report of the resilient modulus test is included in Appendix A.

6.5.3 *Chemical Results*

Amended Sediment Samples. The bulk chemistry of J1-CTI-7 and J3-PORT-7 was analyzed. Results of the data validation report are presented in Appendix B. Selected analytical results are presented in Table 14 and 15. Complete analytical results are presented in Appendix C.

Semivolatile organics and pesticides were not detected above the NRSCC in either sample. The majority of dioxin congeners and isotopes analyzed for were detected in the amended sediment samples. Total TCDD equivalents (using the concentration of the detects and half the detection limit of the non-detects) were 165 and 207 pg/g for the CTI and LKD/Portland mixes respectively.

Arsenic in the CTI mix was detected above the NRSCC at an ER of 1.2. Total PCB concentration of the CTI mix also exceeded the NRSCC (ER = 3.5).

Copper, lead, and zinc were detected above the NRSCC in the LKD/Portland mix (J3-PORT-7). The ERs were 2.4 for copper, 1.7 for lead, and 1.1 for zinc. Concentrations of total PCBs were also above the NRSCC (ER = 3.2).

SPLP Leachate Samples. Selected results of the analysis of the amended sediment are presented in Tables 16 and 17. Complete results are presented in Appendix C. Results of the data quality review are presented in Appendix B.

For all samples including the pure PROPAT®, semivolatile organics and pesticides were not detected above the GWQS. Total PCBs were also below the GWQS. Of the twenty-five dioxin congeners and isotopes analyzed for, none were detected in the leachate samples.

Aluminum (ER = 4.5) and sodium (ER = 3.7) were detected above the GWQS in the CTI amended sediment sample J1-CTI-7. Metals SPLP results for this sample do not differ appreciably from the Task 4 SPLP results for the 30% PROPAT® CTI mixes even though the percentage of additives has been maximized.

In the LKD/Portland mix, concentrations of arsenic, lead, nickel, and sodium were above the GWQS. The ERs were 1 for arsenic, 12 for lead, 2.2 for nickel, and 3.8 for sodium. Increasing the percent additives did not results in a significant change or improvement in the SPLP results.

Aluminum, iron, lead, manganese, and sodium were detected above the GWQS in the unamended sediment sample CC-Q-J. The ERs were 8.5 for aluminum, 6 for iron, 1.1 for lead, 32 for manganese, and 3.9 for sodium.

Aluminum, antimony, iron, lead, and sodium were detected above the GWQS in the raw PROPAT® sample. The ERs were 1.6 for aluminum, 1.2 for antimony, 3 for iron, 22 for lead, and 3.1 for sodium.

Based on these data, the raw sediment appears to be a major contributor of aluminum, while PROPAT® is potentially a major contributor of lead to the mix. However, the stabilized mixes exhibit significantly improved leachate quality compared to the raw ingredients. These results confirm the effectiveness of the additives and the stabilization process in improving the environmental suitability of the material.

MEP Samples. Sample J2-CTI-28 was submitted for modified MEP analysis. This analysis conservatively simulates leaching that might be expected over time after this material is placed in the environment. This leaching procedure is required as part of the NJDEP evaluation process and is one of the factors considered to determine if an AUD should be issued. Results of the data validation report are presented in Appendix B. Selected results of the analysis of the amended sediment are presented in Tables 18 and 19. Complete results are presented in Appendix C.

Results of the MEP testing are similar to the SPLP results for J1-CTI-7. No semivolatile organics, pesticides, or PCB's leach at levels exceeding the GWQS. Sodium was leached at levels above the GWQS in the first leach. Levels in subsequent leaches were much lower and exhibited a decreasing trend. Aluminum remained above the GWQS in all leaches, stabilizing at an ER of about 10 in the final 5 leaches. All other metals, including these above the NRSCC levels in the bulk chemistry analyses of the sediment, PROPAT® and other additives, remained below the GWQS in all leaches.

6.5.4 Task 5 Conclusions

The CTI mix (15% coal fly ash, 20% KS40, and 5% alkaline activator) and 30% PROPAT® was selected as the optimum mix. The CTI mix leachate had fewer GWQS exceedences than the LKD/Portland cement mix leachate. The average compressive strength of the CTI mix (73 psi) was slightly less than the strength of the LKD/Portland cement mix (85 psi). However, the strengths of both mixes are well above the required strength. For the Claremont Channel project, the CTI mix is less expensive than the LKD/Portland cement mix. Based on the fewer exceedences of the leachate and the lower cost of the CTI mix, the CTI mix was selected as the optimum mix.

6.6 Bench-Scale Testing Conclusions

Results of the Bench-Scale Testing program demonstrate that the addition of PROPAT® to dredged sediment improves the geotechnical and environmental properties of the sediment. Sediment amended with PROPAT® and various pozzolanic materials has significantly higher strengths than does sediment amended with pozzolanic material alone. Other geotechnical properties, such as density and moisture content, are also improved, making the amended sediment more workable with standard earth moving equipment. PROPAT® may inhibit lower hydraulic conductivities in the amended sediment. This will not be detrimental for material placed as bulk fill; however, other additives may be required if PROPAT®-amended sediment is to be used as a lower permeability layer.

PROPAT®-amended sediment, as well as the un-amended Claremont Channel sediment and sediment amended with pozzolanic materials only, has bulk chemistry levels for some compounds that exceed the NRSCC. PROPAT® does not significantly exacerbate these exceedences, and the PROPAT®-amended sediment should be suitable for placement at any site accepting sediment amended with pozzolanic materials only.

The PROPAT®-amended sediment exhibits less of a tendency to leach metals at levels above the GWQS than does sediment amended with pozzolanic materials alone. In both cases, the few metals that exceed the GWQS do not exceed them by excessive amounts. The PROPAT®-amended sediment is as suitable as sediment amended with pozzolanic materials only and may be better suited for placement at more sensitive sites.

An objective of the Bench-Scale Testing was to identify the optimum mix to carry forward to the pilot program and the full-scale field demonstration. While an optimum mix was developed, the testing showed that a relatively broad range of mixes with PROPAT® will perform in a satisfactory manner, meeting the site-specific criteria developed by LNDC. These site-specific criteria are relatively general and could also apply to a number of other sites requiring bulk fill for closures.

Demonstrating that a range of mixes with PROPAT® will perform well is an important conclusion from this phase of the testing. Sediment characteristics, mixing equipment, additive availability, additive economics, site-specific requirements and other project specific factors may dictate different mixes on future projects. Results from this Bench-Scale Testing indicate mix modifications can be made with a degree of assurance that geotechnical environmental criteria will still be satisfied.

7.0 RECOMMENDATIONS FOR PILOT PROGRAM

The optimum mix (30% PROPAT® by wet weight of sediment ^{plus} 15% coal fly ash, 20% KS40, and 5% alkaline activator by wet weight of sediment and PROPAT®) appeared to be a workable mix for standard earth moving equipment. We recommend that the optimum mix or one similar to it be used for the pilot program. As discussed above, other mixes met the geotechnical requirements specified for the LNDC site and may also be used for the pilot program. The other mixes also produced similar environmental results.

We recommend that the moisture content of the sediment be monitored during the pilot program. Since the pilot program includes dredging, the moisture content of the sediment for the pilot program may differ significantly from the moisture content in the sediment from cores. If that is the case, modifications to the proportions of additives may be required.

LIMITATIONS

Work for this project was performed, and this report prepared, in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar localities, at the time the work was performed. It is intended for the exclusive use of Hugo Neu Schnitzer East for the specific application to the reference property. This report is not meant to present a legal opinion. *No other warranty, express or implied, is made.*

Please do not hesitate to call us if you have any questions or comments concerning this report. We look forward to continue working with you on this project.

Sincerely,

HART CROWSER, INC.

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Table 1 - Geotechnical Results for Amended Sediment without PROPAT®

Sample ID	Wet Density in pcf	Compressive Strength in psi	Water Content in percent	Hydraulic Conductivity in cm/sec
AC-C-4	95.5	36.3	55	
AC-D-4	94.4	46.2	67	
AC-E-4	98.4	53.9	62	1.9×10^{-3}
AC-F-4	95.4	31.7	46	
AC-G-4	96.6	16.2	53	9.1×10^{-7}
AC-H-4	95.3	24.2	55	3.9×10^{-6}
AC-I-4	97.8	28.7	50	
AC-J-4	97.7	28.7	53	

Notes:
Samples mixed with 15% coal fly ash, 10% KS40 and 5% alkaline activator and cured for 7 days at 120° F.

Table 2 - Selected Bulk Chemistry Results for Amended Sediment without PROPAT®

Lab ID		C9E070135009
Sample ID	NRSCC	CC-Q-J
Sampling Date		5/06/99
Conventionals		
Percent Solids		65.1
Total Organic Carbon in mg/kg		31900
Metals in mg/kg		
Aluminum		14200
Antimony	340	1.3 J
Arsenic	20	26.9
Barium	47000	138
Beryllium	1	0.97 U
Cadmium	100	8 J
Calcium		49300
Chromium		239
Cobalt		10.6
Copper	600	192 J
Iron		22400 J
Lead	600	218 J
Magnesium		6410 J
Manganese		279 J
Mercury	270	3.7
Nickel	2400	43.1
Potassium		9010 J
Selenium	3100	3.8
Silver	4100	7.4
Sodium		5940
Thallium	2	1.8
Vanadium	7100	46.5 J
Zinc	1500	463
PCBs in µg/kg		
Total PCBs	2000	4300
Semivolatiles in µg/kg		
bis(2-Ethylhexyl) phthalate	210000	6900 J
Pentachlorophenol	24000	4900 UJ

U Not detected at indicated detection limit.
J Estimated value.
Value exceeds screening criteria.
Detection limits that exceed the screening criteria are italicized.
NRSCC - NJDEP Non-Residential Soil Cleanup Criteria.
Complete data results shown in Table C-1.

Table 3 - Dioxin Results for Amended Sediment without PROPAT®

Lab ID	Toxicity	C9E070135009	
Sample ID	Equivalency	CC-Q-J	TCDD
Sampling Date	*Factor*	*5/06/99*	*Equivalent*
Dioxins in pg/g			
1,2,3,4,6,7,8-HpCD	0.01	1400	14
1,2,3,4,6,7,8-HpCD	0.01	230	2.3
1,2,3,4,7,8,9-HpCD	0.01	11	0.11
1,2,3,4,7,8-HxCDD	0.1	41	4.1
1,2,3,6,7,8-HxCDD	0.1	88	8.8
1,2,3,7,8,9-HxCDD	0.1	59	5.9
1,2,3,4,7,8-HxCDF	0.1	40	4
1,2,3,6,7,8-HxCDF	0.1	15	1.5
1,2,3,7,8,9-HxCDF	0.1	1.7 U	0.17
2,3,4,6,7,8-HxCDF	0.1	10	1
1,2,3,7,8-PeCDD	0.5	11	5.5
1,2,3,7,8-PeCDF	0.05	18	0.9
2,3,4,7,8-PeCDF	0.5	28	14
2,3,7,8-TCDD	1	270	270
2,3,7,8-TCDF	0.1	53	5.3
OCDD	0.001	15000 J	15
OCDF	0.001	270	0.27
Total HpCDD		4500	
Total HpCDF		480	
Total HxCDD		1200	
Total HxCDF		270	
Total PeCDD		97	
Total PeCDF		790	
Total TCDD		340	
Total TCDF		1900	
Total TCDD Equivalent (detects only)			352.68
Total TCDD Equivalent (detects + 1/2 NDs)			352.77

U Not detected at indicated detection limit.

J Estimated value.

Table 4 - Selected Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220008	C9E100115008	C9E100116008	C9E110207008
Sample ID	GWQS	CC-Q-J LEACH #1	CC-Q-J LEACH #2	CC-Q-J LEACH #3	CC-Q-J LEACH #4
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99
Conventionals					
Total Organic Carbon in mg/L		50.6	7	3.7	3.7
Metals in µg/L					
Aluminum	200	281	3040	4560	6050
Antimony	20	3.0 J	4.4 J	6.0 J	5.6 J
Arsenic	8	7.7 J	2.5 J	4.2 J	3.4 J
Barium	2000	58.1 J	14 J	9.5 J	7.6 J
Beryllium	20	0.05 U	0.05 U	0.05 U	0.05 U
Cadmium	4	0.25 U	0.25 U	0.25 U	0.25 U
Calcium		162000	75000	68700	66100
Chromium	100	26.8	38.6	43.2	40.3
Cobalt		6.3 J	1.4 U	1.9 UJ	1.4 U
Copper	1000	1090	133	66	51.7
Iron	300	9 J	17.6 J	11.3 UJ	12.6 J
Lead	10	1.1 U	1.1 U	1.1 U	1.1 U
Magnesium		196 J	95.9 J	42 J	38.6 J
Manganese	50	1.1 U	1.1 U	1.1 U	1.1 U
Mercury	2	0.1 U	0.1 U	0.1 U	0.11 J
Nickel	100	223	20.4 J	8.1 U	8.1 U
Potassium		196000	29100	11000	6280
Selenium	50	13.2	6.9	6.5	8.3
Silver		0.7 U	0.7 U	0.7 U	0.7 U
Sodium	50000	193000	26100	12500	5790
Thallium	10	3.5 U	3.5 U	3.5 U	3.5 U
Vanadium		35.4 J	29.3 J	28 J	26.9 J
Zinc	5000	6.1 U	6.1 U	6.1 U	6.1 U
PCBs in µg/L					
Total PCBs	0.5	*1.1 U*	*1 U*	*1 U*	*1 U*
Semivolatiles in mg/L					
bis(2-Ethylhexyl) phthalate	0.03	0.01 U	0.01 U	0.01 U	0.01 U
Pentachlorophenol	0.001	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*

Table 4 - Selected Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E120109008	C9E130222008	C9E140223008
Sample ID	GWQS	CC-Q-J LEACH #5	CC-Q-J LEACH #6	CC-Q-J LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99
Conventionals				
Total Organic Carbon in mg/L		3	2.8	2
Metals in µg/L				
Aluminum	200	5260	4610	4490
Antimony	20	5.6 J	4.0 J	5.0 J
Arsenic	8	4.4 J	4.4 J	5.4 J
Barium	2000	7.5 J	5.4 J	9.1 J
Beryllium	20	0.13 UJ	0.18 UJ	0.16 UJ
Cadmium	4	0.25 U	0.25 U	0.32 J
Calcium		59400	46400	42600
Chromium	100	40.7	31.1	30.3
Cobalt		1.4 U	1.4 U	1.4 U
Copper	1000	45.5	39	41.9
Iron	300	75 J	88.1 J	384
Lead	10	1.4 J	1.1 J	3.6
Magnesium		91.2 J	104 J	215 J
Manganese	50	1.4 J	1.6 J	4.6 J
Mercury	2	0.11 J	0.12 J	0.1 U
Nickel	100	11.2 J	8.1 U	9 J
Potassium		1650 J	1880 J	1530 J
Selenium	50	8.2 UJ	8.3 U	8
Silver		0.7 U	0.7 U	0.7 U
Sodium	50000	26800	12600	11500
Thallium	10	3.5 U	3.5 U	3.5 U
Vanadium		26.7 J	26.7 J	25.6 J
Zinc	5000	6.1 U	6.1 U	16.3 J
PCBs in µg/L				
Total PCBs	0.5	*1 U*	*1 U*	*1 U*
Semivolatiles in mg/L				
bis(2-Ethylhexyl) phthalate	0.03	0.0034 J	0.01 U	0.011 U
Pentachlorophenol	0.001	*0.05 U*	*0.05 U*	*0.05 U*

U Not detected at indicated detection limit.

J Estimated value.

Value exceeds the screening criteria.

Detection limits that exceed the screening criteria are italicized.

GWQS - NJDEP Ground Water Quality Standards.

Complete data results shown in Table C-2.

Table 5 - Dioxin MEP Leachate Results for Amended Sediment without PROPAT®

Lab ID	Toxicity	C9E070220008		C9E140223008	
Sample ID	Equivalency	CC-Q-J LEACH #1		CC-Q-J LEACH #7	
Sampling Date	Factor	5/06/99	TCDD Equivalent	5/06/99	TCDD Equivalent
Dioxins in pg/L					
1,2,3,4,6,7,8-HpCDD	0.01	31 J	0.31	9.1 U	0.091
1,2,3,4,6,7,8-HpCDF	0.01	2.8 U	0.028	3.2 U	0.032
1,2,3,4,7,8,9-HpCDF	0.01	1.9 U	0.019	1.1 U	0.011
1,2,3,4,7,8-HxCDD	0.1	4.4 U	0.44	2.4 U	0.24
1,2,3,6,7,8-HxCDD	0.1	3.8 U	0.38	2.1 U	0.21
1,2,3,7,8,9-HxCDD	0.1	4 U	0.4	2.2 U	0.22
1,2,3,4,7,8-HxCDF	0.1	1.5 U	0.15	2.1 U	0.21
1,2,3,6,7,8-HxCDF	0.1	1.3 U	0.13	1.9 U	0.19
1,2,3,7,8,9-HxCDF	0.1	1.8 U	0.18	2.5 U	0.25
2,3,4,6,7,8-HxCDF	0.1	1.5 U	0.15	2.2 U	0.22
1,2,3,7,8-PeCDD	0.5	1.8 U	0.9	1.1 U	0.55
1,2,3,7,8-PeCDF	0.05	2.2 U	0.11	2.6 U	0.13
2,3,4,7,8-PeCDF	0.5	2.4 U	1.2	2.8 U	1.4
2,3,7,8-TCDD	1	1.1 U	1.1	2.5 U	2.5
2,3,7,8-TCDF	0.1	1.7 U	0.17	1.7 U	0.17
OCDD	0.001	200 U	0.2	76 UJ	0.076
OCDF	0.001	9 U	0.009	16 U	0.016
Total HpCDD		110 J		23 U	
Total HpCDF		7.2 U		3.2 U	
Total HxCDD		19 U		2.9	
Total HxCDF		1.8 U		6.9	
Total PeCDD		3 U		1.1 U	
Total PeCDF		2.4 U		2.8 U	
Total TCDD		1.9 U		2.5 U	
Total TCDF		1.7 U		33	
Total TCDD Equivalent (detects only)			0.31		0.08
Total TCDD Equivalent (detects + 1/2 NDs)			3.09		3.30

U Not detected at indicated detection limit.
J Estimated value.

Table 6 - Bench Top Testing Geotechnical Results for Amended Sediment with PROPAT®

Sample ID[1]	PROPAT® in percent[2]	Wet Density in pcf	Compressive Strength in psi	Water Content in percent	Specific Gravity
AC-E1 10% F	10	100.1	297.7	29	2.64
AC-E2 10% F	10	101.9	291.3	29	
AC-E1 10% C	10	100.9	291.0	30	
AC-E2 10% C	10	101.1	335.2	29	
AC-G1 25% F	30	73.4	32.5	29	2.51
AC-G2 25% F	30	73.6	25.8	26	
AC-G1 25% C	30	88.1	84.0	30	
AC-G2 25% C	30	89.8	86.6	29	
AC-E1 50% F	100	61.5	20.8	20	2.32
AC-E2 50% F	100	61.6	25.8	17	
AC-E1 50% C	100	80.7	62.6	24	
AC-E2 50% C	100	82.6	60.6	24	

Notes:
F indicates flowable cylinder.
C indicates compacted cylinder.
1) Sample had 15% coal fly ash, 15% KS40 and 5% alkaline activator.
2) By wet weight of sediment.

Table 7 - Task 4 Geotechnical Results for Amended Sediment

Sample ID	PROPAT® in percent[1]	Additives in percent[2]	Wet Density in pcf[3]	Compressive Strength in psi	Water Content in percent	Wet Density in pcf[4]	Specific Gravity	Hydraulic Conductivity in cm/sec
CAP-J1	100	15 fly ash, 15 KS40, 5 lime	94.61 95.71	122.1 108.4	22 21	100	2.21	
CAP-J2	30	10 fly ash, 15 KS40, 5 lime	86.08 92.27	66.2 113	28 28	104.5	2.21	
CAP-J3	30	15 fly ash, 15 KS40, 5 lime	93.37 94.06	134.1 134.4	20 18	106.4	2.48	
CAP-J4	30	15 fly ash, 20 KS40, 5 lime	91.17 89.11	76.6 90.6	21 22	110.6	2.42	5.3×10^{-4}
CAP-J5	10	15 fly ash, 15 KS40, 5 lime	87.18 89.93	55.5 54.5	35 36	100.9	2.47	6.3×10^{-5}
CAP-J6	10	10 fly ash, 15 KS40, 5 lime	92.27 90.07	102.3 109.7	36 37	97.6	2.60	
CAP-J7	100	10 Portland cement	87.46 89.38	98 110.7	23 19	91.5	2.32	5.2×10^{-4}
CAP-J8	30	10 LKD	99.01 97.77	39.5 44.5	33 29	92.4	2.37	1.5×10^{-6}
CAP-J9	30	20 LKD	97.49 97.36	41.5 49.2	NA 30	97	2.33	
CAP-J10	30	10 Portland cement	89.93 88.28	50.8 48.2	28 24	91.2	2.54	7.7×10^{-6}
CAP-J11	10	10 Portland cement	90.34 88.14	46.8 42.1	55 47	88.2	2.51	

Notes:

1) By wet weight of sediment.
2) By weight of sediment and PROPAT®.
3) Calculated wet density from weight and volume of cylinder.
4) Measured wet density from one point Proctor test.

Table 8 - 1998 Preliminary Results of Mixture Design Testing

Mixture Design		Mixture Moisture Content in Percent[3]	Maximum Dry Density in pcf (Uncorrected)	Optimum Moisture Content in Percent (Uncorrected)	Compressive Strength in psi	Moisture Content in Percent of Strength Test Sample[4]	Atterberg Limits[5]		
PROPAT® in Percent[1]	Kiln Dust in percent[2]						Liquid Limit	Plasticity Limit	Plasticity Index
200	0	44.4	83	12.1	36.7	24.6	53	38	15
100	10	54.4	81	19.8	24.1	34.7	62	44	0
100	20	44.4	90	25.5	38.8	34.9	57	41	16

Notes:
Moisture content are based on dry weight.
1) By wet weight of sediment.
2) By weight of sediment and PROPAT®.
3) Moisture content of amended sediment.
4) Moisture content of compressive strength sample.
5) Atterberg limits of amended sediment.

Table 9 - Selected Task 4 Analytical Results for SPLP Leachate Samples

Lab ID:	GWQS	D3R19	D3QAQ	D3QAR	D3QAW
Sample ID:		CAP-J1	CAP-J2	CAP-J3	CAP-J4
Sample Date:		10/15/99	10/14/99	10/14/99	10/14/99
Percent PROPAT®		100	30	30	30
Additives		CTI	CTI	CTI	CTI
Conventionals					
Total Suspended Solids in mg/L		4 U	4 U	4 U	4 U
Total Organic Carbon in mg/L		55.8	92.8	53.3	39.7
Metals in µg/L					
Aluminum	200	2400	880	2500	1900
Antimony	20	12 J	10 U	6.2 J	5.6 J
Arsenic	8	2 J	3.2 J	2.7 J	2 J
Barium	2000	31 J	61 J	36 J	31 J
Beryllium	20	0.13 UJ	5 U	5 U	0.1 UJ
Cadmium	4	2 U	2 U	2 U	2 U
Calcium		89900	158000	72400	101000
Chromium	100	22 J	46 J	38 J	24 J
Cobalt		6.3 UJ	13 UJ	14 UJ	8.5 UJ
Copper	1000	510	710	520	410 J
Iron	300	16 UJ	12 UJ	18 UJ	61 UJ
Lead	10	3 U	3 U	3 U	3 U
Magnesium		55 J	91 J	58 UJ	65 UJ
Manganese	50	15 U	15 U	15 U	1.7 J
Mercury	2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	50	110	91	70
Potassium		106000	358000	248000	121000
Selenium	50	6 J	13 J	9.6 J	7.6 J
Silver		5 U	5 U	5 U	5 U
Sodium	50000	128000	212000	163000	143000
Thallium	10	10 U	3.9 J	10 U	10 U
Vanadium		22 J	20 J	24 J	23 J
Zinc	5000	13 UJ	6.2 UJ	6.9 UJ	20 U
PCBs in µg/L					
Total PCBs	0.5	*1.5 U*	*1.5 U*	*1.4 U*	*1.4 U*
Semivolatiles in µg/L					
bis(2-Ethylhexyl) phthalate	30	11 U	10 U	10 U	10 U
Pentachlorophenol	1	*53 U*	*52 U*	*52 U*	*52 U*

Table 9 - Selected Task 4 Analytical Results for SPLP Leachate Samples

Lab ID:	D3QAX	D3QC0	D3R1C	D3R1G
Sample ID:	CAP-J5	CAP-J6	CAP-J7	CAP-J8
Sample Date:	10/14/99	10/14/99	10/15/99	10/15/99
Percent PROPAT®	10	10	100	30
Additives	CTI	CTI	Portland	LKD
Conventionals				
Total Suspended Solids in mg/L	4 U	4 U	4 U	4 U
Total Organic Carbon in mg/L	77.5	72.8	73.2	92.8
Metals in µg/L				
Aluminum	710	620	420 J	1400
Antimony	3 J	2.2 J	5.3 J	6.1 J
Arsenic	5.3 J	4.4 J	10 U	4.8 J
Barium	56 J	65 J	61 J	14 J
Beryllium	5 U	0.14 UJ	0.12 UJ	5 U
Cadmium	2 U	2 U	2 U	2 U
Calcium	125000	144000	235000	163000
Chromium	41 J	32 J	30 J	10 J
Cobalt	17 J	17 J	7.4 UJ	11 J
Copper	1100	970	1100	1800
Iron	12 UJ	15 UJ	11 UJ	200
Lead	3 U	3 U	4.2 J	1.3 J
Magnesium	55 UJ	67 UJ	22 J	25 J
Manganese	1.3 J	15 U	15 U	1.3 J
Mercury	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	150	160	110	200
Potassium	331000	366000	33700	21700
Selenium	11 J	9.3 J	1.6 J	3.5 J
Silver	5 U	5 U	5 U	5 U
Sodium	223000	244000	138000	169000
Thallium	10 U	10 U	10 U	10 U
Vanadium	35 J	29 J	6.4 J	25 J
Zinc	20 U	10 UJ	20 U	15 UJ
PCBs in µg/L				
Total PCBs	*1.4 U*	*1.5 U*	*1.5 U*	*1.4 U*
Semivolatiles in µg/L				
bis(2-Ethylhexyl) phthalate	10 U	11 U	11 U	11 U
Pentachlorophenol	*51 U*	*54 U*	1.9 J	*53 U*

Table 9 - Selected Task 4 Analytical Results for SPLP Leachate Samples

Lab ID:	D3R1H	D3R1J	D3R1M
Sample ID:	CAP-J9	CAP-J10	CAP-J11
Sample Date:	10/15/99	10/15/99	10/15/99
Percent PROPAT®	30	30	10
Additives	LKD	Portland	Portland
Conventionals			
Total Suspended Solids in mg/L	4 U	4 U	4 U
Total Organic Carbon in mg/L	83.7	75.5	253
Metals in µg/L			
Aluminum	33 UJ	480 J	390 J
Antimony	10 U	10 U	10 U
Arsenic	3 J	3.4 J	4.6 J
Barium	30 J	55 J	61 J
Beryllium	0.14 UJ	0.11 UJ	0.11 UJ
Cadmium	2 U	2 U	2 U
Calcium	691000	225000	221000
Chromium	6.5 J	24 J	24 J
Cobalt	12 J	10 J	13 J
Copper	1500	1600	1100
Iron	11 UJ	13 UJ	17 UJ
Lead	180 J	1.6 J	3 U
Magnesium	26 J	31 J	17 J
Manganese	15 U	15 U	1.1 J
Mercury	0.2 U	0.2 U	0.2 U
Nickel	180	160	180
Potassium	18700	27300	27000
Selenium	1.7 J	5 U	2.5 J
Silver	5 U	5 U	5 U
Sodium	139000	178000	264000
Thallium	10 U	10 U	10 U
Vanadium	6.3 J	9.7 J	10 J
Zinc	230	20 U	20 U
PCBs in µg/L			
Total PCBs	*1.4 U*	*1.4 U*	*1.4 U*
Semivolatiles in µg/L			
bis(2-Ethylhexyl) phthalate	10 U	11 U	10 U
Pentachlorophenol	*51 U*	*54 U*	*52 U*

Percent PROPAT® based on wet weight of sediment.
CTI - Coal Fly Ash, KS40, & Alkaline Activator.
Portland - Portland cement.
LKD - Lime kiln dust.
U Not detected at indicated detection limit.
J Estimated value.
[ ] Value exceeds the screening criteria.
Detection limits that exceed the screening criteria are italicized.
GWQS - NJDEP Ground Water Quality Standards.
Complete data results shown in Table C-3.

Table 10 - Task 4 Dioxin Analytical Results for SPLP Leachate Samples

Lab ID:	Toxicity	D3R19		D3QAQ		D3QAR		D3QAW	
Sample ID:	Equivalency	CAP-J1		CAP-J2		CAP-J3		CAP-J4	
Sample Date:	Factor	10/15/99		10/14/99		10/14/99		10/14/99	
Percent PROPAT®		100		30		30		30	
Additives		CTI	TCDD Equivalent	CTI	TCDD Equivalent	CTI	TCDD Equivalent	CTI	TCDD Equivalent
Dioxins in pg/L									
1,2,3,4,6,7,8-HpCDD	0.01	3.5 U	0.035	3.9 U	0.039	3.9 U	0.039	3 U	0.03
1,2,3,4,6,7,8-HpCDF	0.01	1.1 U	0.011	1.1 U	0.011	1.2 U	0.012	1.1 U	0.011
1,2,3,4,7,8,9-HpCDF	0.01	1.4 U	0.014	1.4 U	0.014	1.5 U	0.015	1.5 U	0.015
1,2,3,4,7,8-HxCDD	0.1	3 U	0.3	1.9 U	0.19	2.7 U	0.27	2.1 U	0.21
1,2,3,6,7,8-HxCDD	0.1	3.3 U	0.33	2 U	0.2	2.9 U	0.29	2.3 U	0.23
1,2,3,7,8,9-HxCDD	0.1	2.9 U	0.29	1.8 U	0.18	2.6 U	0.26	2 U	0.2
1,2,3,4,7,8-HxCDF	0.1	2.3 U	0.23	1.1 U	0.11	1.2 U	0.12	1.8 U	0.18
1,2,3,6,7,8-HxCDF	0.1	2.3 U	0.23	1.1 U	0.11	1.2 U	0.12	1.8 U	0.18
1,2,3,7,8,9-HxCDF	0.1	2.5 U	0.25	1.2 U	0.12	1.3 U	0.13	2 U	0.2
2,3,4,6,7,8-HxCDF	0.1	2.4 U	0.24	1.1 U	0.11	1.2 U	0.12	1.8 U	0.18
1,2,3,7,8-PeCDD	0.5	2.4 U	1.2	3.2 U	1.6	5.4 U	2.7	2.8 U	1.4
1,2,3,7,8-PeCDF	0.05	0.91 U	0.0455	0.98 U	0.049	11 U	0.55	1.9 U	0.095
2,3,4,7,8-PeCDF	0.5	0.91 U	0.455	0.99 U	0.495	11 U	5.5	1.9 U	0.95
2,3,7,8-TCDD	1	1.3 U	1.3	2.1 U	2.1	0.92 U	0.92	1.7 U	1.7
2,3,7,8-TCDF	0.1	0.99 U	0.099	2.2 U	0.22	1.9 U	0.19	0.85 U	0.085
OCDD	0.001	2.7 U	0.0027	7.3 U	0.0073	8 U	0.008	5 U	0.005
OCDF	0.001	2 U	0.002	2.5 U	0.0025	2.5 U	0.0025	2.1 U	0.0021
Total HpCDD		3.5 U		3.9 U		3.9 U		3 U	
Total HpCDF		1.4 U		1.4 U		1.5 U		1.5 U	
Total HxCDD		3.3 U		2 U		2.9 U		2.3 U	
Total HxCDF		2.5 U		1.2 U		1.3 U		2 U	
Total PeCDD		2.4 U		3.2 U		5.4 U		2.8 U	
Total PeCDF		0.91 U		1.3 U		11 U		1.9 U	
Total TCDD		1.3 U		2.1 U		1.9 U		1.7 U	
Total TCDF		1.9 U		2.2 U		1.9 U		1.4 U	
Total TCDD Equivalent (1/2 NDs)		2.52		2.78		5.62		2.84	

Table 10 - Task 4 Dioxin Analytical Results for SPLP Leachate Samples

Lab ID:	Toxicity	D3QAX		D3QC0		D3R1H		D3R1J	
Sample ID:	Equivalency	CAP-J5		CAP-J6		CAP-J9		CAP-J10	
Sample Date:	Factor	10/14/99		10/14/99		10/15/99		10/15/99	
Percent PROPAT®		10		10		30		30	
Additives		CTI	TCDD Equivalent	CTI	TCDD Equivalent	LKD	TCDD Equivalent	Portland	TCDD Equivalent
Dioxins in pg/L									
1,2,3,4,6,7,8-HpCDD	0.01	3.6 U	0.036	2.8 U	0.028	4.2 U	0.042	5.9 U	0.059
1,2,3,4,6,7,8-HpCDF	0.01	1.4 U	0.014	0.94 U	0.0094	1.6 U	0.016	1.2 U	0.012
1,2,3,4,7,8,9-HpCDF	0.01	1.7 U	0.017	1.2 U	0.012	2.1 U	0.021	1.5 U	0.015
1,2,3,4,7,8-HxCDD	0.1	3.3 U	0.33	2.1 U	0.21	1.9 U	0.19	4.5 U	0.45
1,2,3,6,7,8-HxCDD	0.1	3.6 U	0.36	2.3 U	0.23	2 U	0.2	4.9 U	0.49
1,2,3,7,8,9-HxCDD	0.1	3.2 U	0.32	2.1 U	0.21	1.8 U	0.18	4.4 U	0.44
1,2,3,4,7,8-HxCDF	0.1	1.4 U	0.14	0.97 U	0.097	1.6 U	0.16	0.95 U	0.095
1,2,3,6,7,8-HxCDF	0.1	1.4 U	0.14	0.98 U	0.098	1.6 U	0.16	0.96 U	0.096
1,2,3,7,8,9-HxCDF	0.1	1.6 U	0.16	1.1 U	0.11	1.8 U	0.18	1 U	0.1
2,3,4,6,7,8-HxCDF	0.1	1.4 U	0.14	1 U	0.1	1.7 U	0.17	0.98 U	0.098
1,2,3,7,8-PeCDD	0.5	4.1 U	2.05	3.3 U	1.65	4.8 U	2.4	4.4 U	2.2
1,2,3,7,8-PeCDF	0.05	2.2 U	0.11	0.9 U	0.045	1.6 U	0.08	1.1 U	0.055
2,3,4,7,8-PeCDF	0.5	2.2 U	1.1	0.9 U	0.45	1.6 U	0.8	1.1 U	0.55
2,3,7,8-TCDD	1	1.5 U	1.5	1.2 U	1.2	1.9 U	1.9	2 U	2
2,3,7,8-TCDF	0.1	1.5 U	0.15	1.4 U	0.14	1.8 U	0.18	1.8 U	0.18
OCDD	0.001	10 U	0.01	9.9 U	0.0099	17 U	0.017	2.2 U	0.0022
OCDF	0.001	2.6 U	0.0026	2.8 U	0.0028	2.3 U	0.0023	2.3 U	0.0023
Total HpCDD		3.6 U		2.8 U		4.2 U		5.9 U	
Total HpCDF		1.7 U		1.2 U		2.1 U		1.5 U	
Total HxCDD		3.6 U		2.3 U		2 U		4.9 U	
Total HxCDF		1.6 U		1.1 U		1.8 U		1 U	
Total PeCDD		4.1 U		3.3 U		4.8 U		4.4 U	
Total PeCDF		2.2 U		0.9 U		1.6 U		1.1 U	
Total TCDD		1.5 U		1.4 U		1.9 U		2 U	
Total TCDF		1.5 U		1.4 U		3.1 U		2.7 U	
Total TCDD Equivalent (1/2 NDs)		3.29		2.30		3.35		3.42	

Table 10 - Task 4 Dioxin Analytical Results for SPLP Leachate Samples

Lab ID:	Toxicity	D3R1M		D3R1C		D3R1G	
Sample ID:	Equivalency	CAP-J11		CAP-J7		CAP-J8	
Sample Date:	Factor	10/15/99		10/15/99		10/15/99	
Percent PROPAT®		10		100		30	
Additives		*Portland*	*TCDD Equivalent*	*Portland*	*TCDD Equivalent*	*LKD*	*TCDD Equivalent*
Dioxins in pg/L							
1,2,3,4,6,7,8-HpCDD	0.01	7.7 U	0.077	3.3 U	0.033	4.6 U	0.046
1,2,3,4,6,7,8-HpCDF	0.01	2.4 U	0.024	1.1 U	0.011	1.3 U	0.013
1,2,3,4,7,8,9-HpCDF	0.01	3.1 U	0.031	1.4 U	0.014	1.7 U	0.017
1,2,3,4,7,8-HxCDD	0.1	2.5 U	0.25	2.5 U	0.25	3.2 U	0.32
1,2,3,6,7,8-HxCDD	0.1	2.7 U	0.27	2.7 U	0.27	3.5 U	0.35
1,2,3,7,8,9-HxCDD	0.1	2.4 U	0.24	2.4 U	0.24	3.1 U	0.31
1,2,3,4,7,8-HxCDF	0.1	1.3 U	0.13	4.4 U	0.44	1.6 U	0.16
1,2,3,6,7,8-HxCDF	0.1	1.3 U	0.13	4.4 U	0.44	1.6 U	0.16
1,2,3,7,8,9-HxCDF	0.1	1.4 U	0.14	4.9 U	0.49	1.8 U	0.18
2,3,4,6,7,8-HxCDF	0.1	1.3 U	0.13	4.5 U	0.45	1.7 U	0.17
1,2,3,7,8-PeCDD	0.5	4.2 U	2.1	4.2 U	2.1	3.4 U	1.7
1,2,3,7,8-PeCDF	0.05	0.82 U	0.041	2.4 U	0.12	2.6 U	0.13
2,3,4,7,8-PeCDF	0.5	0.82 U	0.41	2.4 U	1.2	2.6 U	1.3
2,3,7,8-TCDD	1	1.8 U	1.8	1.8 U	1.8	1.6 U	1.6
2,3,7,8-TCDF	0.1	1.2 U	0.12	2.1 U	0.21	0.72 U	0.072
OCDD	0.001	4 U	0.004	2.6 U	0.0026	5 U	0.005
OCDF	0.001	2 U	0.002	3.2 U	0.0032	2.4 U	0.0024
Total HpCDD		7.7 U		3.3 U		4.6 U	
Total HpCDF		3.1 U		1.4 U		1.7 U	
Total HxCDD		2.7 U		2.7 U		3.5 U	
Total HxCDF		1.4 U		4.9 U		1.8 U	
Total PeCDD		4.2 U		4.2 U		3.4 U	
Total PeCDF		0.82 U		2.4 U		2.6 U	
Total TCDD		1.8 U		1.8 U		1.6 U	
Total TCDF		2 U		2.1 U		1.9 U	
Total TCDD Equivalent (1/2 NDs)		2.95		4.04		3.27	

Percent PROPAT® based on wet weight of sediment.
CTI - Coal Fly Ash, KS40, & Alkaline Activator.
Portland - Portland cement.
LKD - Lime Kkln dust.
U Not detected at indicated detection level.

Table 11 - Task 4 Selected Analytical Results for Sediment and Additives

Lab ID:		D3R27	D3R24	D3R25	D3R26
Sample ID:	NRSCC	PROPAT®	LIME	FLY ASH#4	LKD
Sample Date:		10/15/99	10/15/99	10/15/99	10/15/99
Conventionals in %					
Percent Solids		76.1	99.4	81.9	99.8
Total Organic Carbon	21000	8.9	0.005 U	0.787	0.005 U
Metals in mg/kg					
Aluminum		6550	9660	19200	345
Antimony	340	20.2 J	0.66 J	0.82 J	6 UJ
Arsenic	20	6.5	34	48.1	1.4
Barium	47000	502	118	152	4.2 J
Beryllium	1	0.31 UJ	2.4	*1.1 U*	0.031 UJ
Cadmium	100	20.6	0.14 J	0.21 J	0.039 J
Calcium		36300	3150	45800	479000
Chromium		121	27.4	25.3	0.38 J
Cobalt		10.5	9	7.4	5 U
Copper	600	356	32.5	38.4	0.75 UJ
Iron		36000 J	7840 J	16500 J	685 J
Lead	600	1780	11.2	27.7	2.3
Magnesium		4130 J	578 J	4840 J	4100 J
Manganese		405 J	67.3 J	125 J	25.8 J
Mercury	270	2.1	0.12	0.64	0.017 U
Nickel	2400	148	16.8	14.3	3.3 J
Potassium		3770	1180	3450	238 J
Selenium	3100	1.5	8.5	16.1	0.5 U
Silver	4100	1.7	1 U	1.2 U	1 U
Sodium		5350	218 J	961	37.4 J
Thallium	2	2.7	2.4	1.6	1 U
Vanadium	7100	19.7	61.2	52	7.1
Zinc	1500	4830 J	23.8 J	23.6 J	7.3 J
PCBs in µg/kg					
Total PCBs	2000	18000 J	66 U	81 U	66 U
Semivolatiles in µg/kg					
bis(2-Ethylhexyl) phthalate	210000	320000 J	660 U	810 U	320 J
Pentachlorophenol	24000	21000 U	3200 U	3900 U	3200 UJ

Table 11 - Task 4 Selected Analytical Results for Sediment and Additives

Lab ID:	D3R28	D3R22	D3R23	
Sample ID:	PORTLAND	FLY ASH	KS40	NJ Composite J
Sample Date:	10/15/99	10/15/99	10/15/99	3/3/1999
Conventionals in %				
Percent Solids	99.1	81.4	99.2	52.7
Total Organic Carbon	0.005 U	0.707	0.005 U	5.6 J
Metals in mg/kg				
Aluminum	23900	22700	16600	9660 J
Antimony	1.3 J	0.74 J	2.6 J	1.3 UJ
Arsenic	12.1	51.5	5.9	12.6
Barium	203	172	86.5	67.6
Beryllium	0.35 UJ	1.3 U	0.59 U	0.48 UJ
Cadmium	0.27 J	0.24 J	4.1	1.7 J
Calcium	458000	51700	353000	6070
Chromium	63.1	29.1	27.7	130
Cobalt	9.6	8.4	5.6	9.6 U
Copper	297	44.2	24.1	153
Iron	18900 J	19100 J	10500 J	29700 J
Lead	8.4	29.7	43.2	170 J
Magnesium	4970 J	5850 J	10100 J	6000 J
Manganese	325 J	111 J	506 J	500
Mercury	0.017 U	0.67	0.24	1.7
Nickel	30.9	17.5	13.8	30.5 U
Potassium	1850	4050	14500	2260 J
Selenium	1 U	18.3	1.4	1.6 J
Silver	0.1 J	1.2 U	2.1	6.2
Sodium	1900	1100	2500	13400
Thallium	3.3	2.1	3.2	0.27 J
Vanadium	51.8	58.6	15.1	31.8
Zinc	272 J	27.6 J	103 J	285 J
PCBs in µg/kg				
Total PCBs	67 U	81 U	67 U	80
Semivolatiles in µg/kg				
bis(2-Ethylhexyl) phthalate	670 U	810 U	670 U	1100
Pentachlorophenol	3200 U	3900 U	3200 U	3300 U

U Not detected at indicated detection limit.
J Estimated value.
Value exceeds screening criteria.
Detection limits that exceed the screening criteria are italicized.
NRSCC - NJDEP Non-Residential Soil Cleanup Criteria.

Table 12 - Task 4 Dioxin Analytical Results for Additives

Lab ID:	Toxicity	D3R27		D3R23		D3R22		D3R24		
Sample ID:	Equivalency	PROPAT		KS40		FLY ASH		LIME		
Sample Date:	Factor	10/15/99	TCDD Equivalent	10/15/99	TCDD Equivalent	10/15/99	TCDD Equivalent	10/15/99	TCDD Equivalent
Dioxins in pg/g									
1,2,3,4,6,7,8-HpCDD	0.01	800	8	3.6 U	0.036	4.8 U	0.048	3.9 U	0.039
1,2,3,4,6,7,8-HpCDF	0.01	48 J	0.48	1.2 U	0.012	1.8 U	0.018	1.6 U	0.016
1,2,3,4,7,8,9-HpCDF	0.01	7.8 U	0.078	1.9 U	0.019	2.9 U	0.029	2.6 U	0.026
1,2,3,4,7,8-HxCDD	0.1	2.5 U	0.25	4 U	0.4	6.9 U	0.69	4.4 U	0.44
1,2,3,6,7,8-HxCDD	0.1	22 J	2.2	4 U	0.4	7 U	0.7	4.5 U	0.45
1,2,3,7,8,9-HxCDD	0.1	9.9 U	0.99	3.9 U	0.39	6.7 U	0.67	4.3 U	0.43
1,2,3,4,7,8-HxCDF	0.1	17 J	1.7	2 U	0.2	2.4 U	0.24	1.5 U	0.15
1,2,3,6,7,8-HxCDF	0.1	7.4 U	0.74	1.7 U	0.17	2.1 U	0.21	1.3 U	0.13
1,2,3,7,8,9-HxCDF	0.1	2.6 U	0.26	2.1 U	0.21	2.6 U	0.26	1.6 U	0.16
2,3,4,6,7,8-HxCDF	0.1	5.9 U	0.59	2.1 U	0.21	2.5 U	0.25	1.6 U	0.16
1,2,3,7,8-PeCDD	0.5	8.6 U	4.3	5.6 U	2.8	7.5 U	3.75	7.1 U	3.55
1,2,3,7,8-PeCDF	0.05	6.1 U	0.305	5.5 U	0.275	7.4 U	0.37	6.7 U	0.335
2,3,4,7,8-PeCDF	0.5	7.9 U	3.95	5.7 U	2.85	7.7 U	3.85	6.9 U	3.45
2,3,7,8-TCDD	1	2.1 U	2.1	2 U	2	2.9 U	2.9	1.6 U	1.6
2,3,7,8-TCDF	0.1	5.7 J	0.57	2 U	0.2	3.1 U	0.31	2.3 U	0.23
OCDD	0.001	6800	6.8	13 U	0.013	9.5 U	0.0095	9.4 U	0.0094
OCDF	0.001	140	0.14	10 U	0.01	16 U	0.016	11 U	0.011
Total HpCDD		1500		3.6 U		4.8 U		3.9 U	
Total HpCDF		140		1.9 U		2.9 U		2.6 U	
Total HxCDD		140		4 U		7 U		4.5 U	
Total HxCDF		56		2.1 U		2.6 U		1.6 U	
Total PeCDD		13 U		5.6 U		7.5 U		7.1 U	
Total PeCDF		50		5.7 U		7.7 U		6.9 U	
Total TCDD		14		2 U		2.9 U		1.6 U	
Total TCDF		180		2 U		3.1 U		2.3 U	
Total TCDD Equivalent (1/2 NDs)		19.73		5.10		7.16		5.59	

Table 12 - Task 4 Dioxin Analytical Results for Additives

Lab ID:	Toxicity	D3R25		D3R26		D3R28	
Sample ID:	Equivalency	FLY ASH#4		LKD		PORTLAND	
Sample Date:	Factor	10/15/99	TCDD Equivalent	10/15/99	TCDD Equivalent	10/15/99	TCDD Equivalent
Dioxins in pg/g							
1,2,3,4,6,7,8-HpCDD	0.01	5.1 U	0.051	6.3 U	0.063	3.2 U	0.032
1,2,3,4,6,7,8-HpCDF	0.01	1.5 U	0.015	1.9 U	0.019	0.75 U	0.0075
1,2,3,4,7,8,9-HpCDF	0.01	2.5 U	0.025	3.1 U	0.031	1.2 U	0.012
1,2,3,4,7,8-HxCDD	0.1	4.2 U	0.42	5.7 U	0.57	3 U	0.3
1,2,3,6,7,8-HxCDD	0.1	4.3 U	0.43	5.8 U	0.58	3 U	0.3
1,2,3,7,8,9-HxCDD	0.1	4.1 U	0.41	5.5 U	0.55	2.9 U	0.29
1,2,3,4,7,8-HxCDF	0.1	2 U	0.2	2.3 U	0.23	2.1 U	0.21
1,2,3,6,7,8-HxCDF	0.1	1.7 U	0.17	2 U	0.2	1.8 U	0.18
1,2,3,7,8,9-HxCDF	0.1	2.2 U	0.22	2.5 U	0.25	2.3 U	0.23
2,3,4,6,7,8-HxCDF	0.1	2.1 U	0.21	2.4 U	0.24	2.2 U	0.22
1,2,3,7,8-PeCDD	0.5	7.1 U	3.55	6.4 U	3.2	4.7 U	2.35
1,2,3,7,8-PeCDF	0.05	6.8 U	0.34	6.5 U	0.325	3.9 U	0.195
2,3,4,7,8-PeCDF	0.5	7.1 U	3.55	6.7 U	3.35	4.1 U	2.05
2,3,7,8-TCDD	1	2.4 U	2.4	1.9 U	1.9	1.5 U	1.5
2,3,7,8-TCDF	0.1	3.2 U	0.32	2.4 U	0.24	1.6 U	0.16
OCDD	0.001	10 U	0.01	35 J	0.035	9 U	0.009
OCDF	0.001	15 U	0.015	17 U	0.017	9 U	0.009
Total HpCDD		5.1 U		6.3 U		3.2 U	
Total HpCDF		2.5 U		3.1 U		1.2 U	
Total HxCDD		4.3 U		5.8 U		3 U	
Total HxCDF		2.2 U		2.5 U		2.3 U	
Total PeCDD		7.1 U		6.4 U		4.7 U	
Total PeCDF		7.1 U		6.7 U		4.1 U	
Total TCDD		2.4 U		1.9 U		1.5 U	
Total TCDF		3.2 U		2.4 U		1.6 U	
Total TCDD Equivalent (1/2 NDs)		6.17		5.92		4.03	

U Not detected at indicated detection limit.
J Estimated value.

Table 13 - Task 5 Geotechnical Results for Amended Sediment

Sample ID	Expected Water Content in percent from natural	Wet Density in pcf	Compressive Strength in psi	Water Content in percent	Maximum Wet Density in pcf	Water Content in percent	Specific Gravity
J1-CTI-7	5%	84.6	47.1	36			
	natural	83.1	115.9	19			
	natural	88.0	89.8	24			
	-5%	73.4	33.1	14			
	-5%	72.4	29.9	14			
					93.3	14.2	2.49
J2-CTI-28	natural	99.0	107.4	34			
	natural	96.7	88.4	34			
J3-PORT-7	5%	85.6	78	9			
	5%	88.0	113.6	11			
	natural	92.0	92.6	26			
	natural	92.2	80.5	29			
	-5%	88.2	78.9	19			
	-5%	81.7	63.3	16			
					99.9	20.7	2.47
J4-PORT-28	natural	102.1	88.5	32			
	natural	99.9	88	31			

Table 14 - Task 5 Selected Analytical Results for Amended Sediment Bulk Chemistry

Sample ID:	NRSCC	J1-CTI-7	J3-PORT-7
Sample Date:		11/29/1999	11/29/1999
Percent Solids		97.8	96.3
Conventionals in mg/kg			
Total Organic Carbon		31500	28800
Metals in mg/kg			
Aluminum		13800 J	9890 J
Antimony	340	4 J	149 J
Arsenic	20	24.8	17.3
Barium	47000	273 J	267 J
Beryllium	1	0.84 U	0.43 U
Cadmium	100	7 J	17.9 J
Calcium		92100	170000
Chromium		635	194
Cobalt		13.2 UJ	9.4 UJ
Copper	600	173 J	1460 J
Iron		22900	24900
Lead	600	404 J	665 J
Magnesium		6470	6210
Manganese		302	268
Mercury	*270*	*4.7* J	*3.2* J
Nickel	2400	259	62.4
Potassium		5590 J	2090 UJ
Selenium	3100	5.7	2.2
Silver	4100	5.2	7.1
Sodium		6690	4460
Thallium	2	1	1 U
Vanadium	7100	39	33.7
Zinc	1500	957 J	1620 J
PCBs in µg/kg			
Total PCBs	2000	6900	6400
Semivolatiles in µg/kg			
bis(2-Ethylhexyl) phthalate	210000	190000	67000 U
Pentachlorophenol	24000	16000 U	17000 U

U Not detected at indicated detection limit.
J Estimated value.
Value exceeds screening criteria.
Detection limits that exceed the screening criteria are italicized.
NRSCC - NJDEP Non-Residential Soil Cleanup Criteria.
Complete data shown in Table C-5.

Table 15 - Task 5 *SPLP* Dioxin Analytical Results for Amended Sediment

Lab ID:	Toxicity	D5KRP		D5KT1	
Sample ID:	Equivalency	J1-CTI-7		J3-PORT-7	
Sample Date:	Factor	11/29/99	TCDD Equivalent	11/29/99	TCDD Equivalent
Dioxins in pg/g					
1,2,3,4,6,7,8-HpCDD	0.01	1200	12	1400	14
1,2,3,4,6,7,8-HpCDF	0.01	190	1.9	230	2.3
1,2,3,4,7,8,9-HpCDF	0.01	12	0.12	12	0.12
1,2,3,4,7,8-HxCDD	0.1	5.8 J	0.58	7.1	0.71
1,2,3,6,7,8-HxCDD	0.1	56	5.6	73	7.3
1,2,3,7,8,9-HxCDD	0.1	31	3.1	36	3.6
1,2,3,4,7,8-HxCDF	0.1	25	2.5	36	3.6
1,2,3,6,7,8-HxCDF	0.1	11	1.1	12	1.2
1,2,3,7,8,9-HxCDF	0.1	1.1 U	0.11	1.3 U	0.13
2,3,4,6,7,8-HxCDF	0.1	7.7 J	0.77	8.8	0.88
1,2,3,7,8-PeCDD	0.5	7 J	3.5	7.4	3.7
1,2,3,7,8-PeCDF	0.05	8.7 J	0.435	10	0.5
2,3,4,7,8-PeCDF	0.5	16	8	21	10.5
2,3,7,8-TCDD	1	110	110	140	140
2,3,7,8-TCDF	0.1	30	3	34	3.4
OCDD	0.001	12000 J	12	15000 J	15
OCDF	0.001	360	0.36	460	0.46
Total HpCDD		5500		5500	
Total HpCDF		460		570	
Total HxCDD		840		920	
Total HxCDF		210		260	
Total PeCDD		49		63	
Total PeCDF		680		820	
Total TCDD		170		190	
Total TCDF		1500		1700	
Total TCDD Equivalent (1/2 NDs)		165.02		207.34	

U Not detected at indicated detection limit.
J Estimated value.

Table 16 - Task 5 Selected Analytical Results for SPLP Leachate of Amended Sediment

Sample ID:	GWQS	J1-CTI-7	J3-PORT-7	CCQ-J	PROPAT
Sample Date:		11/29/1999	11/29/1999	11/29/1999	11/29/1999
Conventionals in mg/L					
Total Organic Carbon		52.9	81	9	33.4
Total Suspended Solids		4 U	4	4 U	4
Metals in µg/L					
Aluminum	200	900 J	19 UJ	1700 J	320 J
Antimony	20	2.5 J	10 U	10 U	24 J
Arsenic	8	8 J	8.3 J	2.5 J	3.3 J
Barium	2000	48 J	89 J	22 J	27 J
Beryllium	20	5 U	5 U	5 U	5 U
Cadmium	4	0.57 UJ	1.3 UJ	3.4 UJ	2.5 U
Calcium		221000	990000	51000	66700
Chromium	100	30	35	13	5
Cobalt		2.7 UJ	6 UJ	7.1 UJ	50 U
Copper	1000	630	980	15 J	94
Iron	300	13 UJ	17 UJ	1800	900
Lead	10	3 U	120	11	220
Magnesium		38 UJ	5000 U	34100	6700
Manganese	50	15 U	15 U	1600	46
Mercury	2	0.2 U	0.2 U	0.2 U	0.48
Nickel	100	100	220	29 J	24 J
Potassium		129000	23700	17400	45600
Selenium	50	16	2.4 J	5 U	5 U
Silver		5 U	5 U	0.98 J	5 U
Sodium	50000	187000	189000	193000	153000
Thallium	10	10 U	10 U	10 U	7.2 J
Vanadium		23 J	50 U	50 U	50 U
Zinc	5000	20 U	80	130	470
PCBs in µg/L					
Total PCBs	0.5	*1 U*	*1 U*	*1 U*	*1 U*
Semivolatiles in µg/L					
bis(2-Ethylhexyl) phthalate	30	10 U	20 U	10 U	10 U
Pentachlorophenol	1	*51 U*	*100 U*	*50 U*	*50 U*

U Not detected at indicated detection limit.
J Estimated value.
Value exceeds the screening criteria.
Detection limits that exceed the screening criteria are italicized.
GWQS - NJDEP Ground Water Quality Standards.
Complete data results shown in Table C-6.

Table 17 - Task 5 Dioxin Analytical Results for SPLP Leachate of Amended Sediment

Lab ID:	Toxicity	D5KTF		D5KTL		D5KTN		D5KTR	
Sample ID:	Equivalency	J1-CTI-7		J1-PORT-7		CCQ-J		PROPAT	
Sample Date:	Factor	11/29/99	TCDD Equivalent	11/29/99	TCDD Equivalent	11/29/99	TCDD Equivalent	11/29/99	TCDD Equivalent
Dioxins in pg/L									
1,2,3,4,6,7,8-HpCDD	0.01	2.1 U	0.021	0.7 U	0.007	5.4 U	0.054	3.7 U	0.037
1,2,3,4,6,7,8-HpCDF	0.01	1.9 U	0.019	0.47 U	0.0047	2.6 U	0.026	1.9 U	0.019
1,2,3,4,7,8,9-HpCDF	0.01	1.3 U	0.013	0.44 U	0.0044	0.65 U	0.0065	1.6 U	0.016
1,2,3,4,7,8-HxCDD	0.1	1.2 U	0.12	0.33 U	0.033	1.4 U	0.14	0.65 U	0.065
1,2,3,6,7,8-HxCDD	0.1	1.1 U	0.11	0.33 U	0.033	1.4 U	0.14	0.73 U	0.073
1,2,3,7,8,9-HxCDD	0.1	1.1 U	0.11	0.31 U	0.031	1.3 U	0.13	1.1 U	0.11
1,2,3,4,7,8-HxCDF	0.1	1.7 U	0.17	0.52 U	0.052	1.6 U	0.16	1.3 U	0.13
1,2,3,6,7,8-HxCDF	0.1	1.7 U	0.17	0.35 U	0.035	0.76 U	0.076	0.97 U	0.097
1,2,3,7,8,9-HxCDF	0.1	0.57 U	0.057	0.42 U	0.042	0.46 U	0.046	1.1 U	0.11
2,3,4,6,7,8-HxCDF	0.1	0.54 U	0.054	0.38 U	0.038	0.47 U	0.047	0.87 U	0.087
1,2,3,7,8-PeCDD	0.5	1.2 U	0.6	0.82 U	0.41	0.97 U	0.485	0.96 U	0.48
1,2,3,7,8-PeCDF	0.05	1.3 U	0.065	0.47 U	0.0235	0.74 U	0.037	0.73 U	0.0365
2,3,4,7,8-PeCDF	0.5	1.3 U	0.65	0.46 U	0.23	0.91 U	0.455	1.1 U	0.55
2,3,7,8-TCDD	1	0.63 U	0.63	0.58 U	0.58	0.82 U	0.82	0.79 U	0.79
2,3,7,8-TCDF	0.1	2 U	0.2	1.6 U	0.16	1.5 U	0.15	0.52 U	0.052
OCDD	0.001	12 U	0.012	4.8 U	0.0048	38 U	0.038	26 U	0.026
OCDF	0.001	3.7 U	0.0037	0.68 U	0.00068	4.7 U	0.0047	3.5 U	0.0035
Total HpCDD		2.1 U		0.7 U		5.4 U		3.7 U	
Total HpCDF		1.9 U		0.47 U		2.6 U		1.9 U	
Total HxCDD		1.2 U		0.92 U		1.4 U		1.1 U	
Total HxCDF		2.5 U		0.52 U		1.6 U		1.3 U	
Total PeCDD		1.2 U		0.82 U		0.97 U		1.4 U	
Total PeCDF		3.7 U		0.54 U		0.91 U		1.1 U	
Total TCDD		0.63 U		0.58 U		0.82 U		0.79 U	
Total TCDF		2 U		1.6 U		1.5 U		0.52 U	
Total TCDD Equivalent (1/2 NDs)		1.50		0.84		1.41		1.34	

U Not detected at indicated detection limit.

J Estimated value.

Table18 - Task 5 Selected Analytical Results for MEP Leachate Optimum Mix Sample

Lab ID:	GWQS	D7CEG	D7DVX	D7G0C	D7H1H	D7JJ3	D7KPF	D7MC2
Sample ID:		J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28
Sample Date:		1/10/00	1/10/00	1/10/00	1/10/00	1/10/00	1/10/00	1/10/00
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Conventionals								
Total Organic Carbon in mg/L		36.9	8.4	3.5	3.2	3.4	2.9	2.4
Total Suspended Solids in mg/L		4 U	4 U	4 U	4 U	4 U	4 U	4 U
Metals in µg/L								
Aluminum	200	289	1560	2470	2070	2280	2400	2390
Antimony	20	14.2	11.8	9 J	9.9 J	11	10.1	10.3
Arsenic	8	5.8 J	3.1 J	*10 U*	3 UJ	4.5 J	3.3 J	2.3 J
Barium	2000	20.6 J	4.5 J	4 J	2.7 J	3 J	2.5 J	2 J
Beryllium	20	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cadmium	4	*5 U*	*5 U*	*5 U*	*5 U*	*5 U*	*5 U*	*5 U*
Calcium		244000	72700	62100	47500	43200	40700	37400
Chromium	100	13.7	9 J	6.6 J	8.6 J	10.6	9.7 J	7.6 J
Cobalt		6.7 B	3.4 J	50 U	2 UJ	1.7 UJ	50 U	2 J
Copper	1000	455	126	46.2	38.9	38.9	32.6	23.7 J
Iron	300	22 UJ	12.5 UJ	7.3 UJ	17.3 UJ	20.4 UJ	18.5 UJ	19.1 UJ
Lead	10	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Magnesium		1810 J	130 J	59.8 J	110 J	101 J	88.3 J	91 J
Manganese	50	2 J	15 U	15 U	15 U	15 U	15 U	15 U
Mercury	2	0.072 J	0.06 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	38.3 J	11.9 J	40 U	40 U	40 U	40 U	40 U
Potassium		130000	22900	6010	3470 J	2840 J	2280 J	1620 J
Selenium	50	19.9	9.6	6.3	7.4	5.5	6.1	7.3
Silver		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Sodium	50000	204000	22800	17500	14600	15500	12400	10100
Thallium	10	10 U	4.8 J	10 U	10 U	10 U	10 U	10 U
Vanadium		57	51.5	29.4 J	30.2 J	30.5 J	26 J	25.3 J
Zinc	5000	20 U	20 U	20 U	20 U	20 U	20 U	20 U
PCBs in µg/L								
Total PCBs	0.5	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*
Semivolatiles in µg/L								
bis(2-Ethylhexyl) phthalate	30	10 U	10 U	10 U	10 U	10 U	10 U	7.9 J
Pentachlorophenol	1	*50 U*	*50 U*	*50 U*	*50 U*	*50 U*	*50 U*	*50 U*

U Not detected at indicated detection limit.

J Estimated value.

Value exceeds the screening criteria.

Detection limits that exceed the screening criteria are italicized.

GWQS - NJDEP Ground Water Quality Standards.

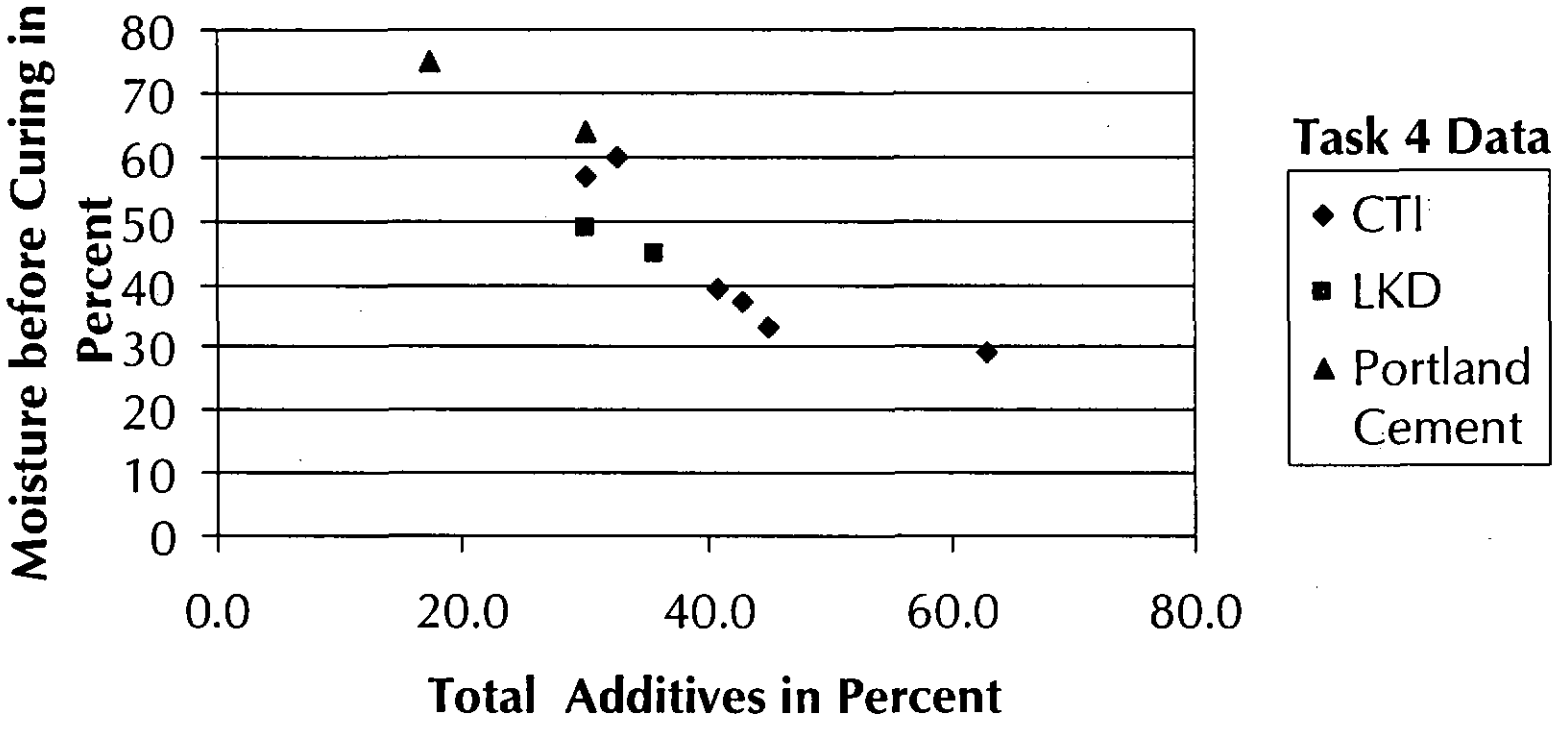
Complete data results shown in Table C-7.

Table 19 - Task 5 Dioxin Analytical Results for MEP Leachate Optimum Mix Sample

Lab ID:	Toxicity	D7CEG	
Sample ID:	Equivalency	J2-CTI-28	
Sample Date:	Factor	1/10/00	TCDD Equivalent
Dioxins in pg/L			
1,2,3,4,6,7,8-HpCDD	0.01	1.7 U	0.017
1,2,3,4,6,7,8-HpCDF	0.01	1 U	0.01
1,2,3,4,7,8,9-HpCDF	0.01	0.93 U	0.0093
1,2,3,4,7,8-HxCDD	0.1	4.9 U	0.49
1,2,3,6,7,8-HxCDD	0.1	4.8 U	0.48
1,2,3,7,8,9-HxCDD	0.1	4.8 U	0.48
1,2,3,4,7,8-HxCDF	0.1	4 U	0.4
1,2,3,6,7,8-HxCDF	0.1	3.7 U	0.37
1,2,3,7,8,9-HxCDF	0.1	5.8 U	0.58
2,3,4,6,7,8-HxCDF	0.1	4.6 U	0.46
1,2,3,7,8-PeCDD	0.5	1.4 U	0.7
1,2,3,7,8-PeCDF	0.05	0.88 U	0.044
2,3,4,7,8-PeCDF	0.5	0.84 U	0.42
2,3,7,8-TCDD	1	0.54 U	0.54
2,3,7,8-TCDF	0.1	1.2 U	0.12
OCDD	0.001	9.4 U	0.0094
OCDF	0.001	3.1 U	0.0031
Total HpCDD		1.7 U	
Total HpCDF		1 U	
Total HxCDD		4.9 U	
Total HxCDF		5.8 U	
Total PeCDD		1.4 U	
Total PeCDF		0.88 U	
Total TCDD		0.54 U	
Total TCDF		1.2 U	
Total TCDD Equivalent (1/2 NDs)		2.57	

U Not detected at indicated detection limit.

Moisture Versus Fraction of Additives



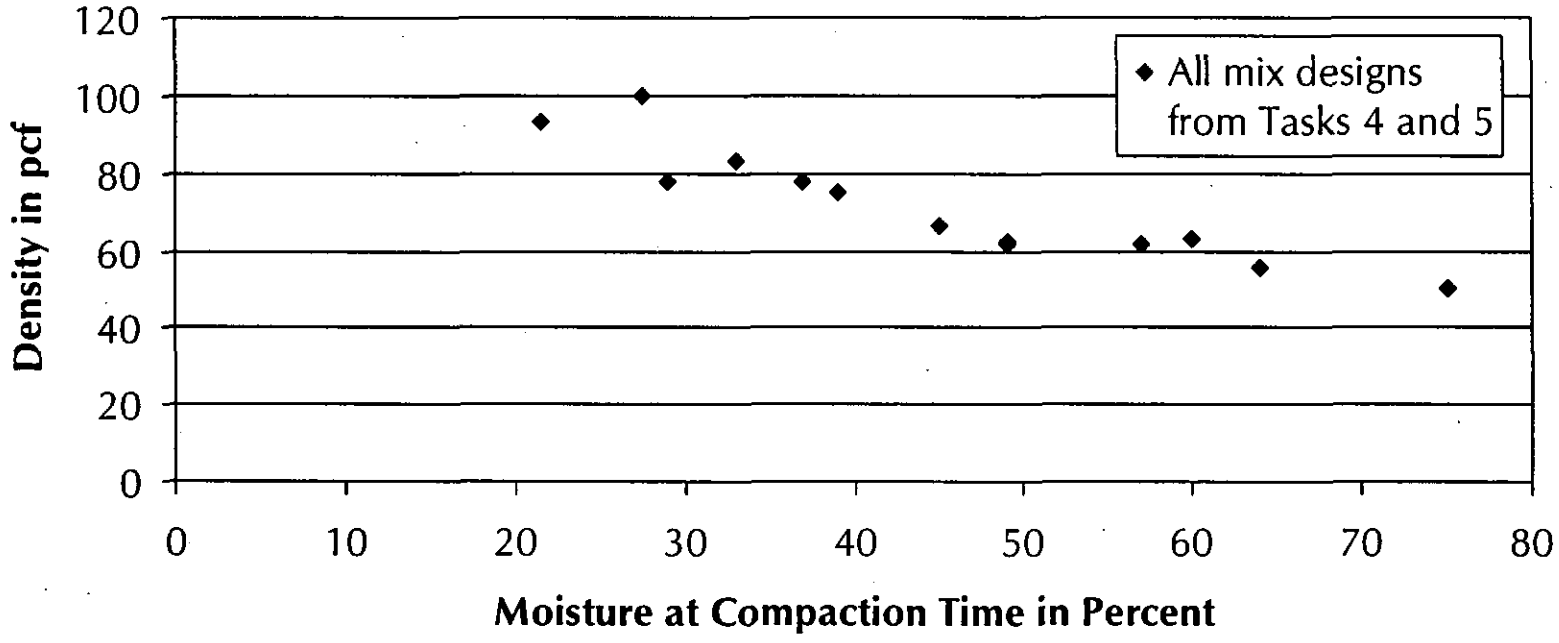
HARTCROWSER

J-4924-16 6/00

Figure 1

CVD 6/20/00 492416C.CDR

Dry Density versus Moisture before Curing



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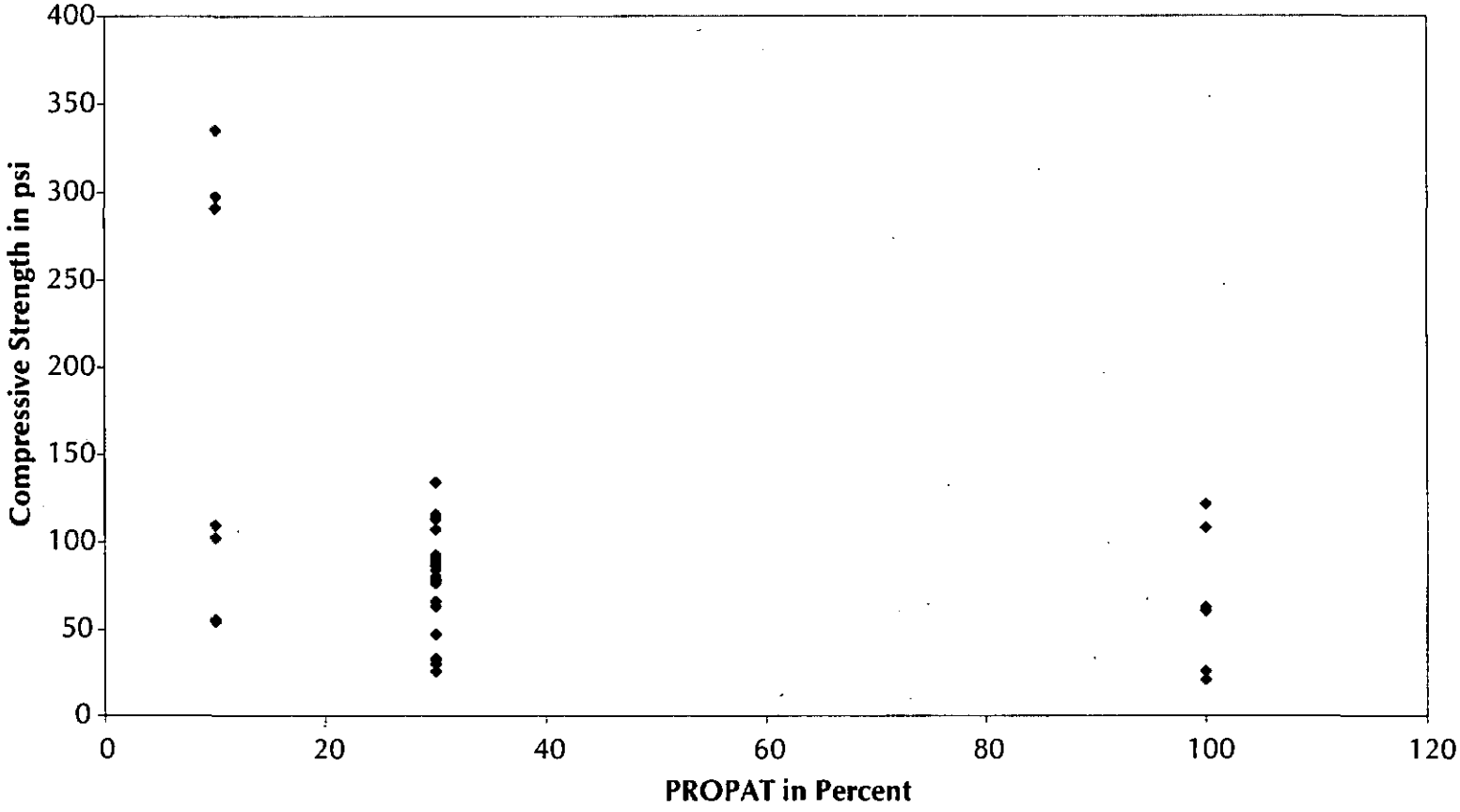
J-4924-16 6/00
Figure 2

CVD 6/20/00 492416D.CDR

Compressive Strength versus Percent PROPAT in CTI Mixes



HARTCROWSER

J-4924-16 6/00
Figure 3

CVD 6/20/00 492416I.CDR

Copper Leachate Concentration versus Non-PROPAT Additive Quantity

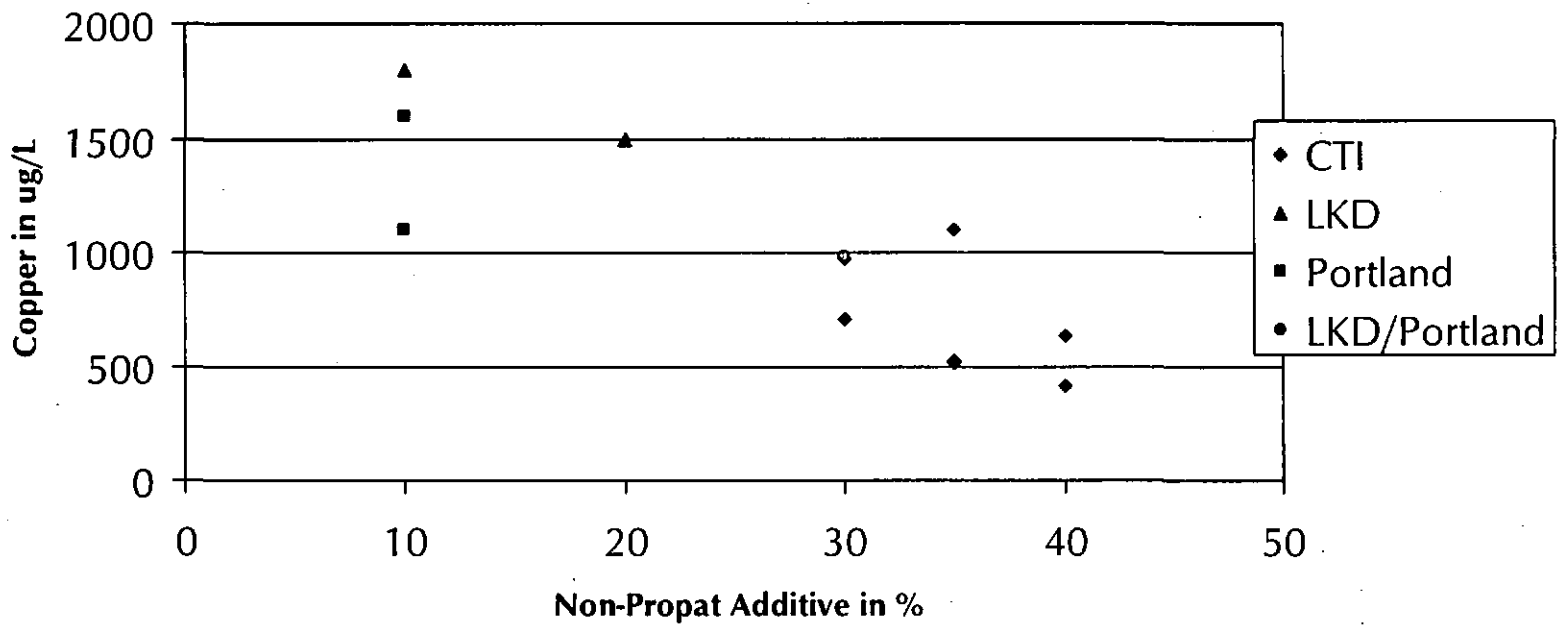


Figure based on SPLP data from Tasks 4 and 5

HARTCROWSER

J-4924-16 6/00
Figure 4

CVD 6/20/00 492416G.CDR

Leaching Data versus PROPAT Fraction

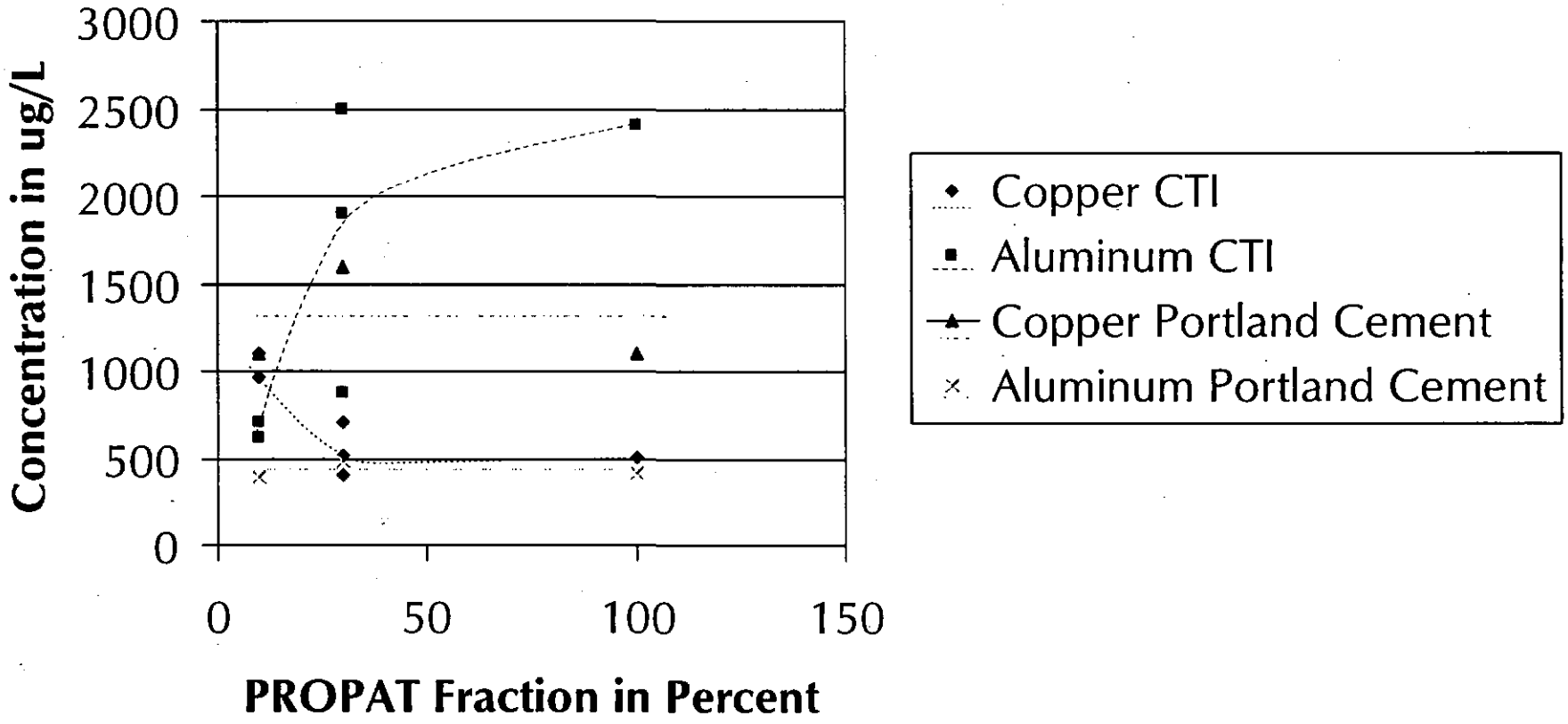
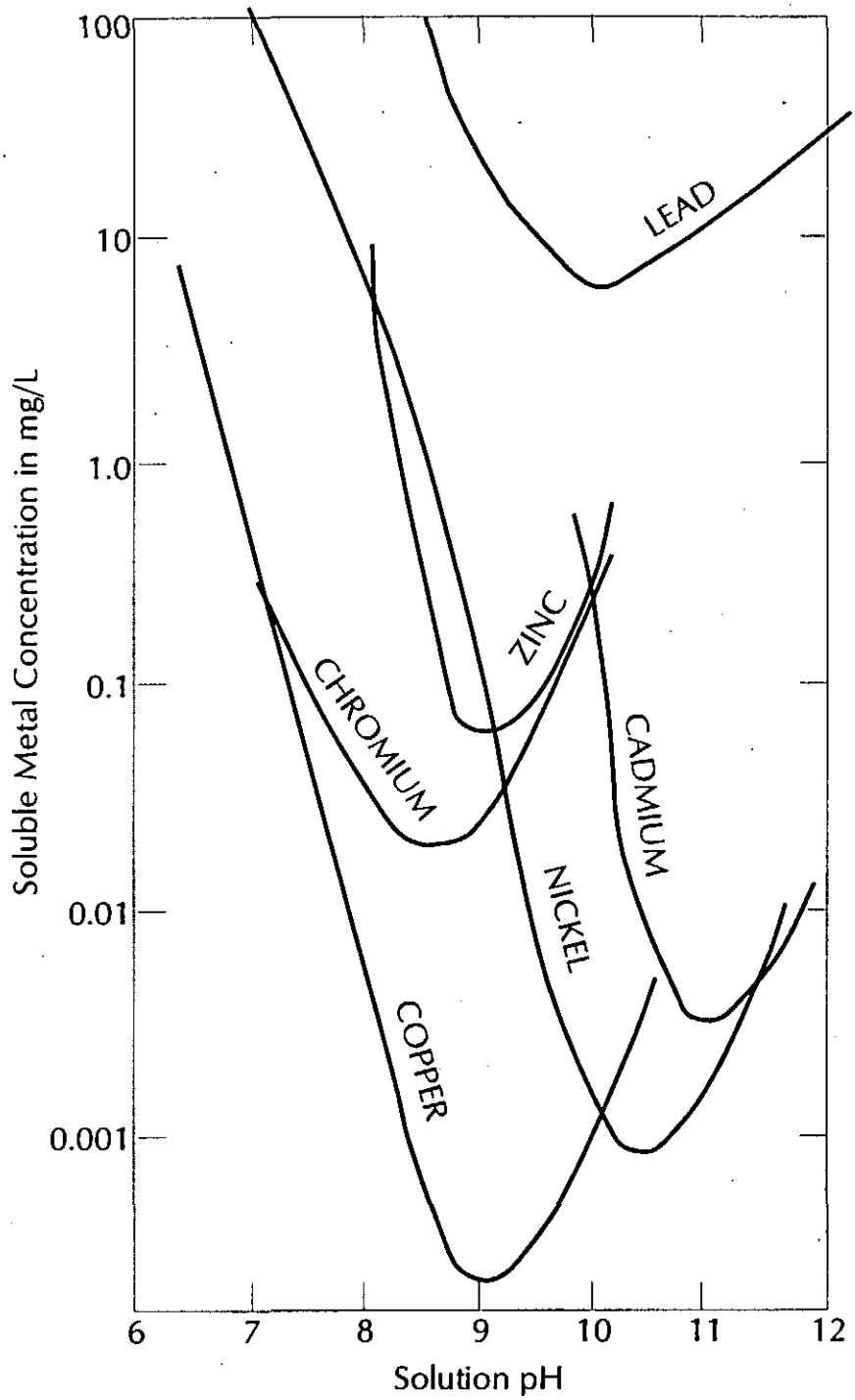


Figure based on SPLP data from Task 4

HARTCROWSER
J-4924-16 6/00
Figure 5

CVD 6/20/00 492416A.CDR

Solubility of Metals



CVD 6/20/00 492416B.CDR

HARTCROWSER

J-4924-16 6/00

Figure 6

Aluminium Leachate Concentration versus Non-PROPAT Additive Quantity

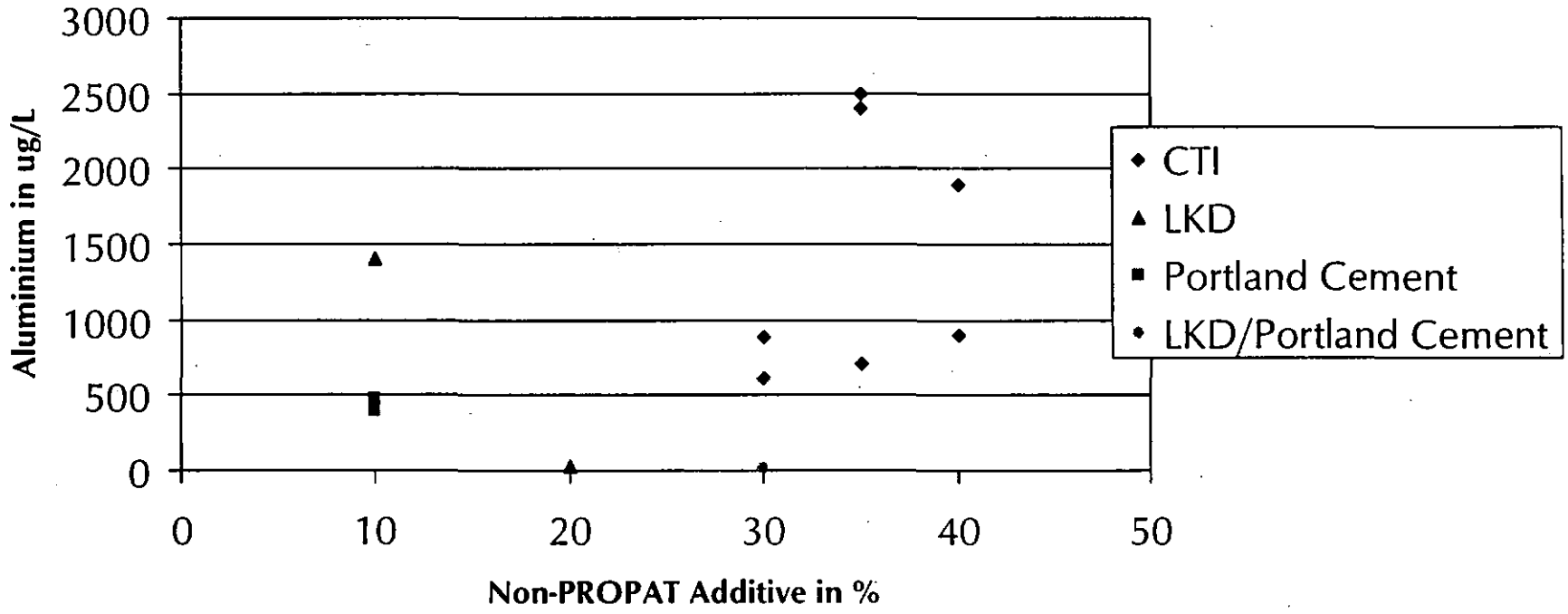


Figure based on SPLP data from Task 4 and 5

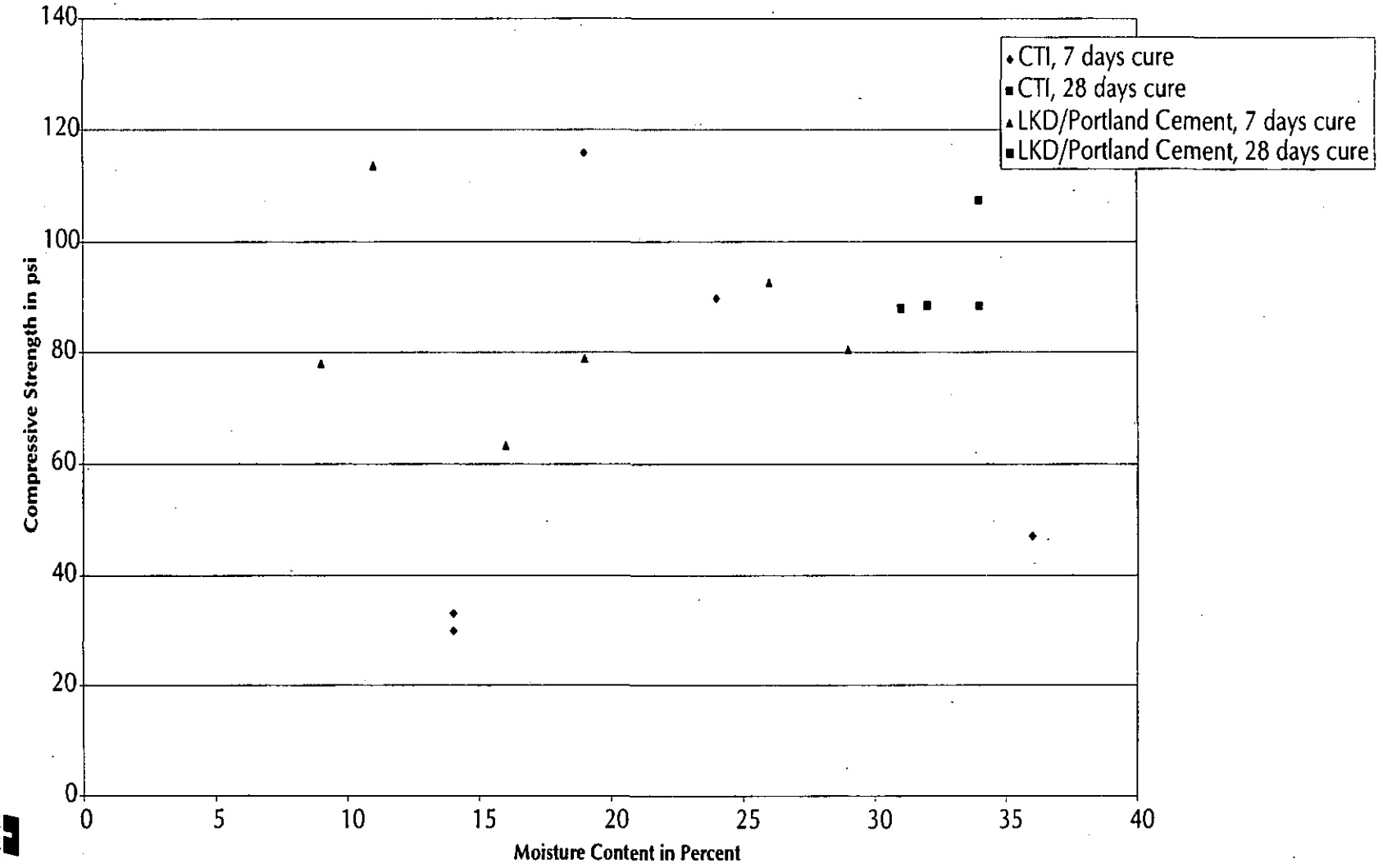
HARTCROWSER

J-4924-16 6/00

Figure 7

CVD 6/20/00 492416E.CDR

Compressive Strength Versus Moisture Content



HARTCROWSER

J-4924-16 6/00
Figure 8

CVD 6/20/00 492416F.CDR

APPENDIX A
GEOTECHNICAL TESTING AND RESULTS

APPENDIX A - GEOTECHNICAL TESTING AND RESULTS

A laboratory testing program was performed for this study to evaluate the basic index and geotechnical engineering properties of the sediment and the amended sediment. The tests performed and the procedures followed are outlined below.

Soil Classification

Sediment samples from the explorations were visually classified in the field by EA Laboratories and then taken to our laboratory where the classifications were verified in a relatively controlled laboratory environment. Field and laboratory observations include density/consistency, moisture condition, and grain size and plasticity estimates.

The classifications of selected samples were checked by laboratory tests such as Atterberg limits determinations and grain size analyses. Classifications were made in general accordance with the Unified Soil Classification (USC) System, ASTM D 2487. Figure A-1

Water Content Determinations

Water contents were determined for amended and non-amended samples in general accordance with ASTM D 2216. The results of these tests are shown in Table A-1. Water content as used throughout this report is defined as the weight of the water divided by the weight of the dry soil.

Atterberg Limits (AL)

We determined Atterberg limits for seven sediment samples collected from the Claremont Channel. The liquid limit and plastic limit were determined in general accordance with ASTM D 4318-84. The results of the Atterberg limits analyses and the plasticity characteristics are presented in the Liquid and Plastic Limits Test Report, Figures A-2 and A-3. These relate the plasticity index (liquid limit minus the plastic limit) to the liquid limit.

Grain Size Analysis (GS)

Grain size distribution was analyzed on samples in general accordance with ASTM D 422. Wet sieve analysis was used to determine the size distribution greater than the U.S. No. 200 mesh sieve. The size distribution for particles smaller than the No. 200 mesh sieve was determined by the hydrometer method. The results of the tests are presented in Table A-2.

Pocket Penetrometer (PP)

The pocket penetrometer provides quick approximate tests of the consistency (undrained shear strength) of a cohesive soil sample. The pocket penetrometer device consists of a calibrated spring mechanism, which measures penetration resistance of a 1/4-inch-diameter steel tip over a given distance. The penetration resistance is correlated to the unconfined compressive strength of the soil, which is typically twice the undrained shear strength of a saturated, cohesive soil. The results of the pocket penetrometer tests are shown in Table A-3.

Unconfined Compression Test (QU)

The unconfined compression test estimates the compressive strength of the soil under conditions of zero confining pressure and stress restricted to axial compression. The test was performed in general accordance with ASTM D 2166. We compressed the samples axially at a constant strain rate. Measurements made during sample loading included time, axial load (total stress), and sample deformation (axial strain). Tables in the main text present test results for the compressive strength test.

Moisture-Density Relationship (MD)

Moisture-density tests were performed in general accordance with ASTM D 1557 (Modified Proctor Test). The test results plotted in terms of dry density versus water content determined a maximum dry density and optimum moisture content. The results are shown on Figures A-4 and A-5.

The Resilient Modulus Test (RM)

The resilient modulus test evaluates the relative stress-strain characteristic of subgrade soils. The test was performed in general accordance with AASHTO TP-46-94. The report of the results of the tests is provided in this Appendix.

Specific Gravity (SG)

The specific gravity tests were performed in accordance with ASTM D 854. Tables in the main text present specific gravity results.

Hydraulic Conductivity (Permeability)

Hydraulic conductivity tests we performed in general accordance with ASTM D 5084. Falling head test were performed on saturated samples. The results of the tests are shown in Table A-4.

Table A-1 Water Contents

Sample ID	PROPAT® in percent[1]	Additives in percent[2]	Water Content in percent[3]
AC-C-4	0	15 fly ash, 10 KS40, 5 lime	55
AC-D-4	0	15 fly ash, 10 KS40, 5 lime	67
AC-E-4	0	15 fly ash, 10 KS40, 5 lime	62
AC-F-4	0	15 fly ash, 10 KS40, 5 lime	46
AC-G-4	0	15 fly ash, 10 KS40, 5 lime	53
AC-H-4	0	15 fly ash, 10 KS40, 5 lime	55
AC-I-4	0	15 fly ash, 10 KS40, 5 lime	50
AC-J-4	0	15 fly ash, 10 KS40, 5 lime	53
AC-E1 10% F	10	15 fly ash, 15 KS40, 5 lime	29
AC-E2 10% F	10	15 fly ash, 15 KS40, 5 lime	29
AC-E1 10% C	10	15 fly ash, 15 KS40, 5 lime	30
AC-E2 10% C	10	15 fly ash, 15 KS40, 5 lime	29
AC-G1 25% F	30	15 fly ash, 15 KS40, 5 lime	29
AC-G2 25% F	30	15 fly ash, 15 KS40, 5 lime	26
AC-G1 25% C	30	15 fly ash, 15 KS40, 5 lime	30
AC-G2 25% C	30	15 fly ash, 15 KS40, 5 lime	29
AC-E1 50% F	100	15 fly ash, 15 KS40, 5 lime	20
AC-E2 50% F	100	15 fly ash, 15 KS40, 5 lime	17
AC-E1 50% C	100	15 fly ash, 15 KS40, 5 lime	24
AC-E2 50% C	100	15 fly ash, 15 KS40, 5 lime	24
CAP-J1	100	15 fly ash, 15 KS40, 5 lime	22 21
CAP-J2	30	10 fly ash, 15 KS40, 5 lime	28 28
CAP-J3	30	15 fly ash, 15 KS40, 5 lime	20 18
CAP-J4	30	15 fly ash, 20 KS40, 5 lime	21 22
CAP-J5	10	15 fly ash, 15 KS40, 5 lime	35 36
CAP-J6	10	10 fly ash, 15 KS40, 5 lime	36 37
CAP-J7	100	10% Portland cement	23 19
CAP-J8	30	10% LKD	33 29
CAP-J9	30	20% LKD	NA 30
CAP-J10	30	10% Portland cement	28 24
CAP-J11	10	10% Portland cement	55 47

Table A-1 Water Contents

Sample ID	*PROPAT® in percent*[1]	*Additives in percent*[2]	*Water Content in percent*[3]
J1-CTI-7	30	15 fly ash, 20 KS40, 5 lime	36
			19
			24
			14
			14
J2-CTI-28	30	15 fly ash, 20 KS40, 5 lime	34
			34
J3-PORT-7	30	20 KS40, 10 Portland cement	9
			11
			26
			29
			19
			16
J4-PORT-28	30	20 KS40, 10 Portland cement	32
			31

Notes:

1) By weight of wet sediment.
2) By weight of sediment and PROPAT®
3) Weight of water/dry weight of solids

Table A-2 - Grain Size Results for Amended Sediment

	Grain Size in %			
Sample ID	Gravel	Sand	Silt	Clay
CC-Q-C	0	17.30	56.95	25.75
CC-Q-D	0	18.96	71.87	9.17
CC-Q-E	0	21.87	75.13	3.00
CC-Q-F	0	20.86	63.38	15.76
CC-Q-F Dup	0	17.59	60.79	21.62
CC-Q-G	0	18.72	79.56	1.72
CC-Q-H	0	17.05	81.26	1.68
CC-Q-I	0	14.42	64.11	21.47
CC-Q-J	0	23.49	59.71	16.80

Table A-3 - Pocket Penetrometer Results

Sample ID	Date	Penetrometer Resistance in psi
AC-E 10%	9/9/1999	62.5
	9/13/1999	>62.5
AC-E 30%	9/9/1999	0.0
	9/13/1999	0.0
AC-E 100%	9/9/1999	0.0
	9/13/1999	0.0
AC-E	8/4/1999	24.3
	8/6/1999	38.2
	8/9/1999	52.1
AC-F	8/4/1999	10.4
	8/6/1999	31.3
	8/9/1999	48.6
AC-H	8/4/1999	20.8
	8/6/1999	24.3
	8/9/1999	40.3
AC-D	8/4/1999	15.3
	8/6/1999	27.8
	8/9/1999	43.1
CA-C	4/28/1999	0.0
		0.0
		0.0
		3.5
	4/30/1999	34.7
		55.6
		59.7
		59.7
	5/1/1999	52.1
		56.9
		61.1
		61.1

Sample ID	Date	Penetrometer Resistance in psi
CA-D	4/28/1999	0.0
		0.0
		0.0
		0.0
	4/30/1999	59.7
		61.1
		45.1
		52.1
	5/1/1999	61.1
		61.1
		61.1
		59.7
	5/2/1999	61.1
		59.7
		59.7
		61.1
	5/3/1999	62.5
		62.5
		62.5
		61.1

Sample ID	Date	Penetrometer Resistance in psi
CD-E	4/28/1999	0.0
		0.0
		0.0
		0.0
		0.0
	4/30/1999	25.0
		56.9
		48.6
		38.2
		27.8
	5/1/1999	43.1
		52.1
		55.6
		59.7
		31.3
	5/2/1999	59.7
		59.7
		52.1
		48.6
		20.8
	5/3/1999	59.0
		62.5
		62.5
		56.9
		36.1

Table A-3 - Pocket Penetrometer Results

Sample ID	Date	Penetrometer Resistance in psi
CA-F	4/28/1999	0.0
		0.0
		3.5
		0.0
	4/30/1999	34.7
		43.1
		59.7
		52.8
	5/1/1999	33.3
		22.2
		59.7
		52.1
CD-F	5/2/1999	26.4
		41.7
		59.7
		43.1
	5/3/1999	61.1
		38.9
		62.5
		52.1

Sample ID	Date	Penetrometer Resistance in psi
CA-G	4/29/1999	0.0
		1.4
		0.0
		0.0
		0.0
	4/30/1999	20.8
		25.0
		12.5
		6.9
		20.8
	5/1/1999	25.0
		27.8
		8.3
		4.2
		6.9
	5/2/1999	36.1
		25.0
		13.9
		11.1
		6.9
	5/3/1999	22.2
		43.1
		22.2
		24.3
		13.9

Sample ID	Date	Penetrometer Resistance in psi
CA-H	4/29/1999	0.0
		0.0
		0.0
		1.4
		0.0
	4/30/1999	8.3
		6.9
		15.3
		15.3
		8.3
	5/1/1999	17.4
		17.4
		19.4
		20.8
		9.7
	5/2/1999	29.2
		17.4
		17.4
		34.7
		12.5
	5/3/1999	13.9
		17.4
		34.7
		25.0
		13.9

Table A-3 - Pocket Penetrometer Results

Sample ID	Date	Penetrometer Resistance in psi
CA-I	4/29/1999	0.0
		0.0
		0.0
		0.0
	4/30/1999	20.8
		6.9
		22.2
		19.4
	5/1/1999	30.6
		19.4
		24.3
		20.8
	5/2/1999	31.9
		22.2
		26.4
		22.2
	5/3/1999	37.5
		24.3
		45.1
		27.8

Sample ID	Date	Penetrometer Resistance in psi
CA-J	4/29/1999	0.0
		0.0
		0.0
		0.0
	4/30/1999	8.3
		10.4
		5.6
		19.4
	5/1/1999	20.8
		18.1
		16.7
		20.8
	5/2/1999	26.4
		18.1
		13.9
		19.4
	5/3/1999	25.0
		22.2
		17.4
		33.3

Sample ID	Date	Penetrometer Resistance in psi
CA-3	5/2/1999	61.1
		59.7
		59.7
		61.1
	5/3/1999	59.7
		61.1
		59.7
		61.1

Table A-4 - Claremont Channnel Hydraulic Conductivities for Amended Sediment

Sample ID	Hydraulic Conductivity in cm/sec
AC-E-4	1.9×10^{-3}
AC-G-4	9.1×10^{-7}
AC-H-4	3.9×10^{-6}
CAP J4	5.3×10^{-4}
CAP J5	6.3×10^{-5}
CAP J7	5.2×10^{-4}
CAP J8	1.5×10^{-6}
CAP J10	7.7×10^{-6}

Key to Exploration Logs

Sample Description

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:
Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENT, additional remarks.

Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance.
Soil density/consistency in test pits is estimated based on visual observation and is presented parenthetically on the test pit logs.

SAND or GRAVEL Density	Standard Penetration Resistance (N) in Blows/Foot	SILT or CLAY Consistency	Standard Penetration Resistance (N) in Blows/Foot	Approximate Shear Strength in TSF
Very loose	0 - 4	Very soft	0 - 2	<0.125
Loose	4 - 10	Soft	2 - 4	0.125 - 0.25
Medium dense	10 - 30	Medium stiff	4 - 8	0.25 - 0.5
Dense	30 - 50	Stiff	8 - 15	0.5 - 1.0
Very dense	>50	Very stiff	15 - 30	1.0 - 2.0
		Hard	>30	>2.0

Moisture

Dry	Little perceptable moisture
Damp	Some perceptable moisture, probably below optimum
Moist	Probably near optimum moisture content
Wet	Much perceptable moisture, probably above optimum

Minor Constituents

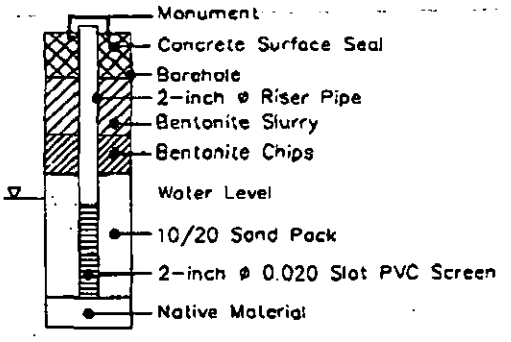
	Estimated Percentage
Not identified in description	0 - 5
Slightly (clayey, silty, etc.)	5 - 12
Clayey, silty, sandy, gravelly	12 - 30
Very (clayey, silty, etc.)	30 - 50

Legends

Sampling Test Symbols

BORING SAMPLES		TEST PIT SAMPLES	
⊠	Split Spoon	⊠	Grab (Jar)
⊘	Shelby Tube	⊘	Bag
▥	Cuttings	⊘	Shelby Tube
◫	Core Run	⊠	Bucket Sample
*	No Sample Recovery		
P	Tube Pushed, Not Driven		

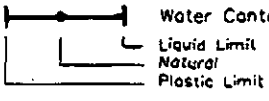
Groundwater Observations



407319\plots\KEY

Test Symbols

GS	Grain Size Classification
CN	Consolidation
TUU	Triaxial Unconsolidated Undrained
TCU	Triaxial Consolidated Undrained
TCD	Triaxial Consolidated Drained
QU	QU
DS	Direct Shear
K	Permeability
PP	Pocket Penetrometer Approximate Compressive Strength in TSF
TV	Torvane Approximate Shear Strength in TSF
CBR	California Bearing Ratio
MD	Moisture-Density Relationship
AL	Atterberg Limits



PID	Photoionization Reading
CA	Chemical Analysis

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Figure A-1 1/2

Key for Sediment Logs

Sample Description

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:
Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENT, additional remarks.

Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance.
Soil density/consistency in test pits is estimated based on visual observation and is presented parenthetically on the test pit logs.

SAND or GRAVEL Density	Standard Penetration Resistance (N) in Blows/Foot	SILT or CLAY Consistency	Standard Penetration Resistance (N) in Blows/Foot	Approximate Shear Strength in TSF
Very loose	0 - 4	Very soft	0 - 2	<0.125
Loose	4 - 10	Soft	2 - 4	0.125 - 0.25
Medium dense	10 - 30	Medium stiff	4 - 8	0.25 - 0.5
Dense	30 - 50	Stiff	8 - 15	0.5 - 1.0
Very dense	>50	Very stiff	15 - 30	1.0 - 2.0
		Hard	>30	>2.0

Moisture

Dry	Little perceptible moisture
Damp	Some perceptible moisture, probably below optimum
Moist	Probably near optimum moisture content
Wet	Much perceptible moisture, probably above optimum

Minor Constituents

	Estimated Percentage
Not identified in description	0 - 5
Slightly (clayey, silty, etc.)	5 - 12
Clayey, silty, sandy, gravelly	12 - 30
Very (clayey, silty, etc.)	30 - 50

Legends

Surface Sample Acceptability Criteria:

1. Overlying water is present
2. Water has low turbidity
3. Sampler is not overfilled
4. Surface is flat
5. Penetration depth is acceptable

Estimated Percentage of other Minor Constituents

(ie. shells, wood, organics, plastic, metal brick, refuse)

	Estimated Percentage
Dusting	Trace on Surface
Trace	0-5
Moderate	5-20
Substantial	20-50

407219\sedlogs\sed_key

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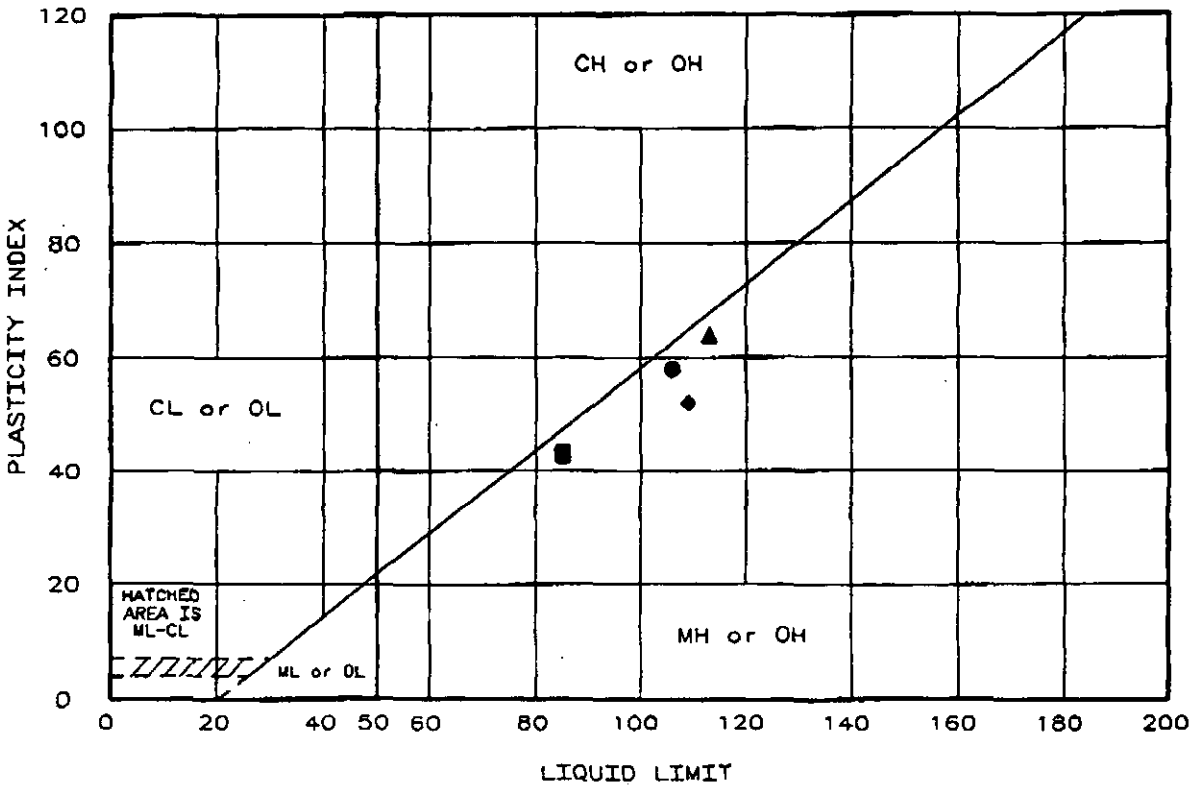
Figure A-1 **2/2**

LIQUID AND PLASTIC LIMITS TEST REPORT



	Location + Description	LL	PL	PI	-200	ASTM D 2487-90
●	CC-Q-D	106	48	58		
▲	CC-Q-E	113	49	64		
■	CC-Q-F	85	42	43		
◆	CC-Q-G	109	57	52		

Remarks:

Project: HNSE

Client:

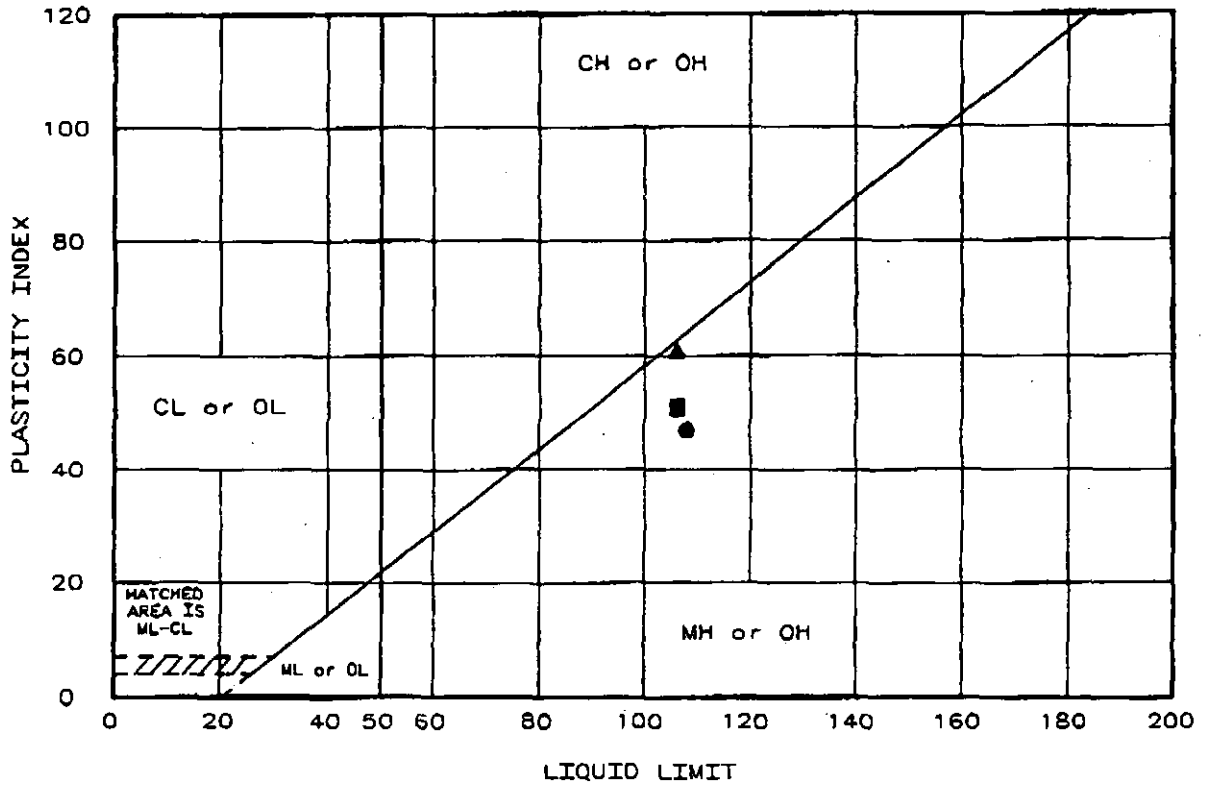
Location: Claremont Channel

HARTCROWSER

J-4924-16 8/9/99

Figure A-2

LIQUID AND PLASTIC LIMITS TEST REPORT



	Location + Description	LL	PL	PI	-200	ASTM D 2487-90
●	CC-Q-H	108	61	47		
▲	CC-Q-I	106	45	61		
■	CC-Q-J	106	55	51		

Remarks:

Project: HNSE

Client:

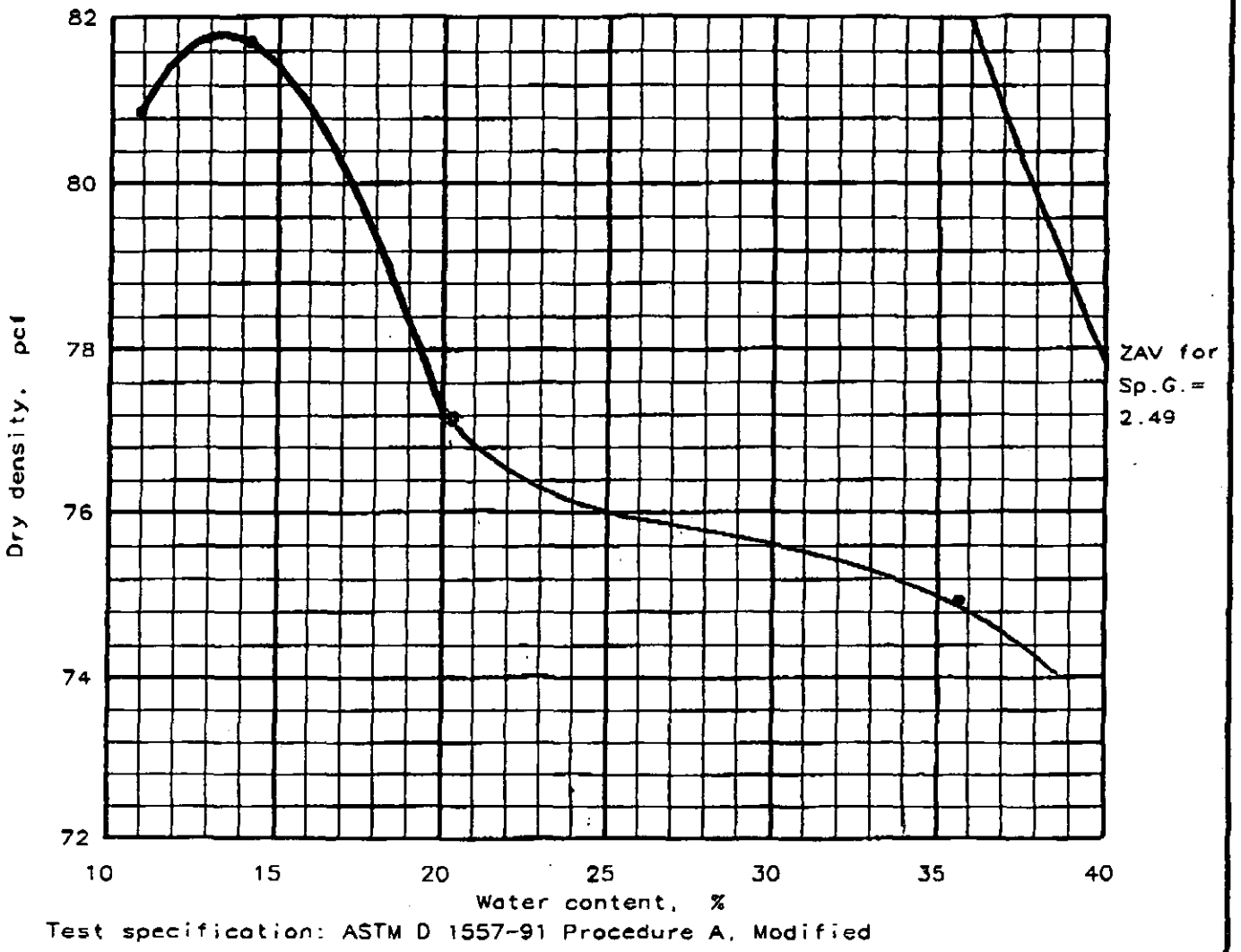
Location: Claremont Channel

HARTCROWSER

J-4924-16 8/9/99

Figure A-3

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 1557-91 Procedure A, Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
				2.49				

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 81.8 pcf Optimum moisture = 13.4 %	

Project No.: J-4924-16
Project: Claremont Channel
Location: Mix J1-CTI-7

Date: 11-24-1999

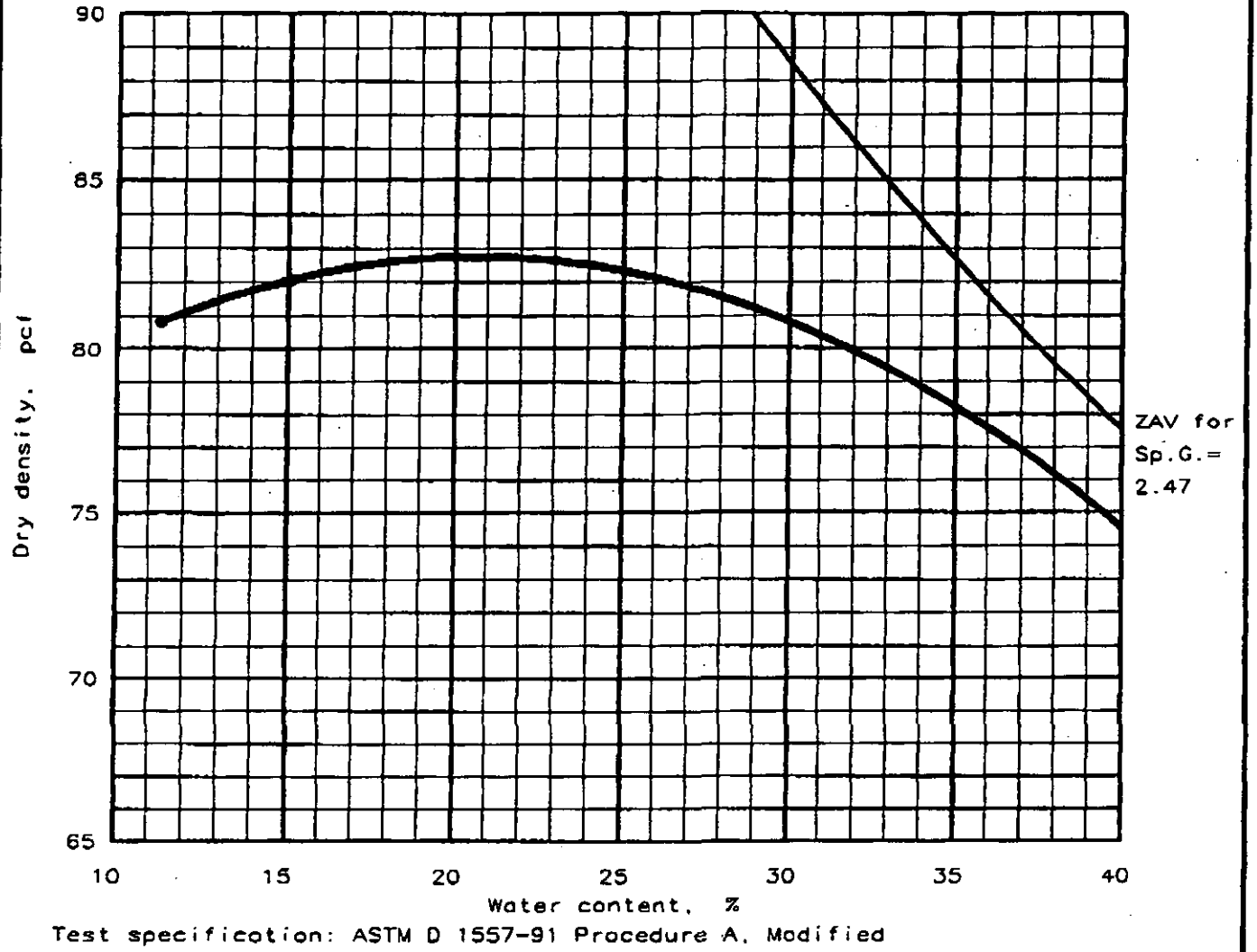
Remarks:

HARTCROWSER

MOISTURE-DENSITY RELATIONSHIP TEST

Figure A-4

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 1557-91 Procedure A, Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
				2.47				

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 82.8 pcf Optimum moisture = 20.7 %	

Project No.: J-4924-16
Project: Claremont Channel
Location: Mix J3-PORT-7

Date: 11-24-1999

Remarks:

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MOISTURE-DENSITY RELATIONSHIP TEST

Figure A-5

VALLEY FORGE LABORATORIES, INC.

Engineering Consultants Since 1967

Geotechnical Engineering

Construction Quality Control

Laboratory Testing

NDT and Related Services

Research and Special Studies

Environmental Engineering

Transportation and Traffic Engineering

SOIL LABORATORY TEST REPORT 3-10

VFL Project No. 00135
April 7, 2000

Attention: Ms. Shannon Dunn
Hart Crowser, Inc.
1910 Fairview Avenue East
Seattle, WA 98102

Re: Resilient Modulus
Claremont Terminal Channel Improvement Project

Sample Descriptions:

Jar samples designated as PROPAT, KS40, Alkaline activator, fly ash, and CC-Q-J.

Testing:

Resilient modulus testing was performed on a composite specimen in accordance with AASHTO TP-46-94 which includes a preconditioning sequence (500 cycles) and 15 loading sequences (100 cycles per sequence) with a combination of 3 levels of confining pressure and 5 levels of deviator stresses. The specimen (MIX) was mixed, molded, and cured according to the specified instructions for preparation (attached).

Results:

The testing results are summarized in the attached report. Plots of resilient modulus vs. deviator stresses and selected load and deformation vs. time/cycles are also attached.

Enclosed with this report are signed contracts and our invoice. The remaining samples will be shipped back to you next week. If you have any questions, please call.

Sincerely,

Bashar S. Qubain, Ph.D., P.E.
Director of Geotechnical Engineering

BSQ:lcw

Resilient Modulus Test for material type 1

Data File MIX.DAT Date: 04/06/00

Soil Sample _____
Location _____
Sample No. _____
Specific Gravity _____

SOIL SPECIMEN MEASUREMENTS:
Diameter Top 2.80
Middle 2.80
Bottom 2.80
Average 2.80
Membrane Thickness _____
Net Diameter (inch) 2.80
Ht Specimen+Cap+Base 5.60
Seating Load: 10% σd
Ht Cap+Base 0.00
Initial Length,Lo(inch) 5.60
Inside Diameter of Mold 2.80

SOIL SPECIMEN WEIGHT:
Wt. of Container
+Wet Soil-gms 1866.2
Wt of Container
-gms 1135.6
Weight Wet Soil Used 728.8

SOIL SPECIMEN VOLUME:
Initial Area Ao
(inch²) 6.16
Volume Ao·Lo
(inch3) 34.48
Wet Density (pcf) 80.53

Compaction Water Content % 42.00
% Staturation _____
Dry Density (pcf) 56.71

Compaction Method HOLDING/CURING

Water Content After
Mr Testing % 24.9

Vertical Spacing Between
LVDT Clamps(inch) _____

LOAD ID:
TP46-94 Subgrade soil
Number of cycles for precond. 500
Number of cycles per sequence 100
Load time 0.10 Cycle time 1.00 sec
Seating Load (lbs) 10.0

Waveform Type _____
Comments:

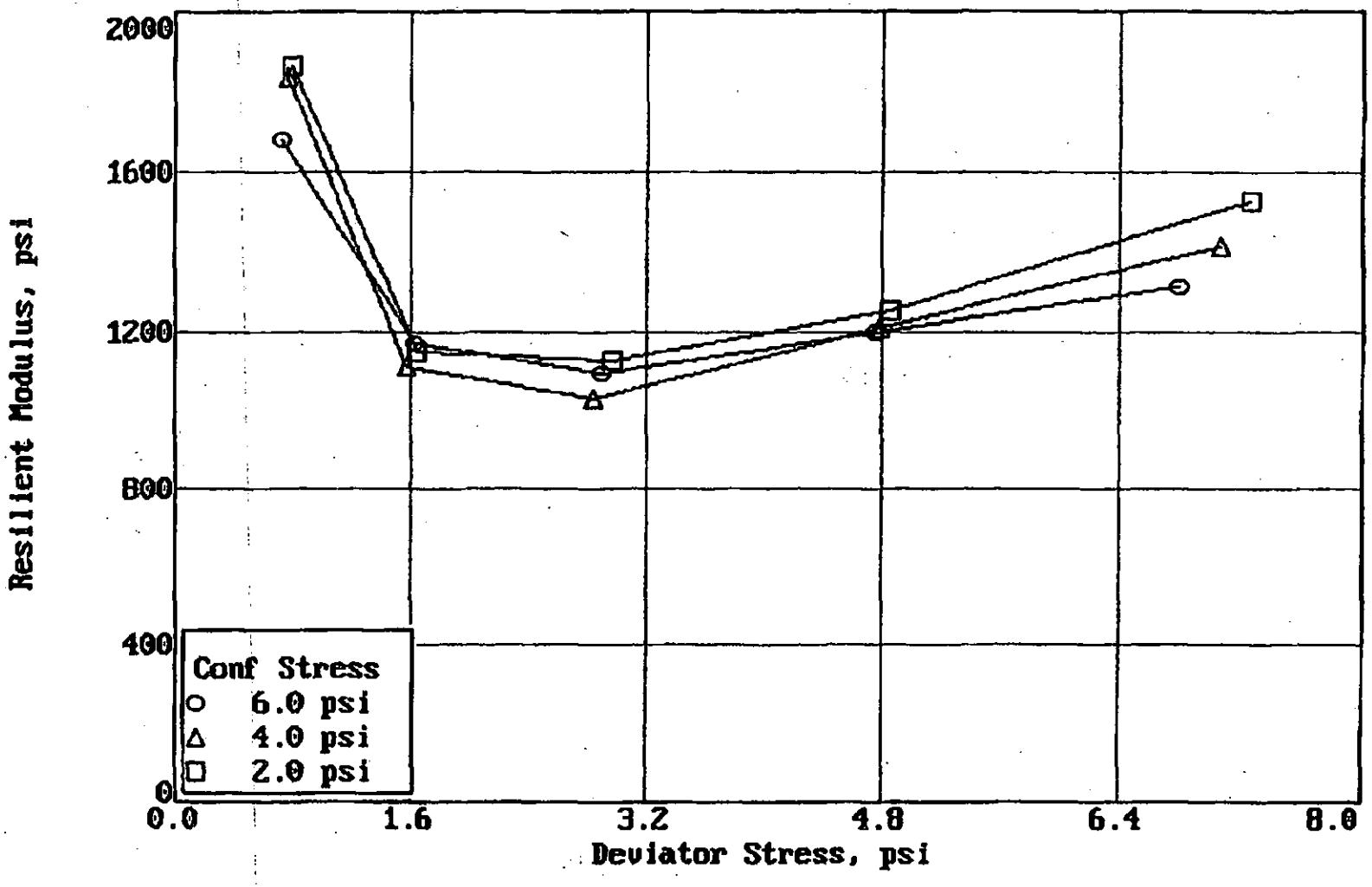
A Chamber Press. σ3 psi	B Nominal σd psi	C Mean Deviator Load lbs	D Standard Deviation of Load lbs	E Applied Deviator Stress psi	F Mean Recov Df LVDT #1 inch	G Mean Recov Df LVDT #2 inch	H Mean Recov. Def. inch	I Std. Dev. of Recov. Def. inch	J Mean of Resilient Strain in/in	K Mean of Mr psi	L Std Dev of Mr psi	M θ (σd+3σ3) psi
6.0	1.8	4.44	0.04	0.721	0.002422	0.002383	0.002402	0.000009	0.000429	1680	12	18.721
6.0	3.6	10.05	0.05	1.632	0.007864	0.007749	0.007806	0.000041	0.001394	1171	6	19.632
6.0	5.4	17.89	0.08	2.905	0.014994	0.014771	0.014883	0.000043	0.002658	1093	5	20.905
6.0	7.2	29.24	0.05	4.749	0.022430	0.021899	0.022165	0.000012	0.003958	1200	2	22.749
6.0	9.0	41.73	0.05	6.777	0.029096	0.028629	0.028863	0.000012	0.005154	1315	2	24.777
4.0	1.8	4.78	0.04	0.776	0.002453	0.002268	0.002361	0.000004	0.000422	1840	13	12.776
4.0	3.6	9.67	0.01	1.570	0.008127	0.007727	0.007927	0.000008	0.001416	1109	2	13.570
4.0	5.4	17.51	0.05	2.843	0.015563	0.015283	0.015423	0.000017	0.002754	1032	2	14.843
4.0	7.2	29.42	0.05	4.778	0.022277	0.021962	0.022119	0.000020	0.003950	1210	2	16.778
4.0	9.0	43.47	0.02	7.060	0.028114	0.027713	0.027913	0.000016	0.004985	1416	1	19.060
2.0	1.8	4.89	0.02	0.794	0.002453	0.002315	0.002384	0.000010	0.000426	1867	6	6.794
2.0	3.6	10.10	0.01	1.640	0.008066	0.007883	0.007975	0.000005	0.001424	1152	1	7.640
2.0	5.4	18.33	0.05	2.977	0.014973	0.014627	0.014800	0.000014	0.002643	1127	2	8.977
2.0	7.2	29.88	0.06	4.852	0.021818	0.021482	0.021650	0.000005	0.003866	1255	2	10.852
2.0	9.0	44.70	0.03	7.259	0.026772	0.026283	0.026528	0.000004	0.004737	1532	1	13.259

Data File MIX.DAT

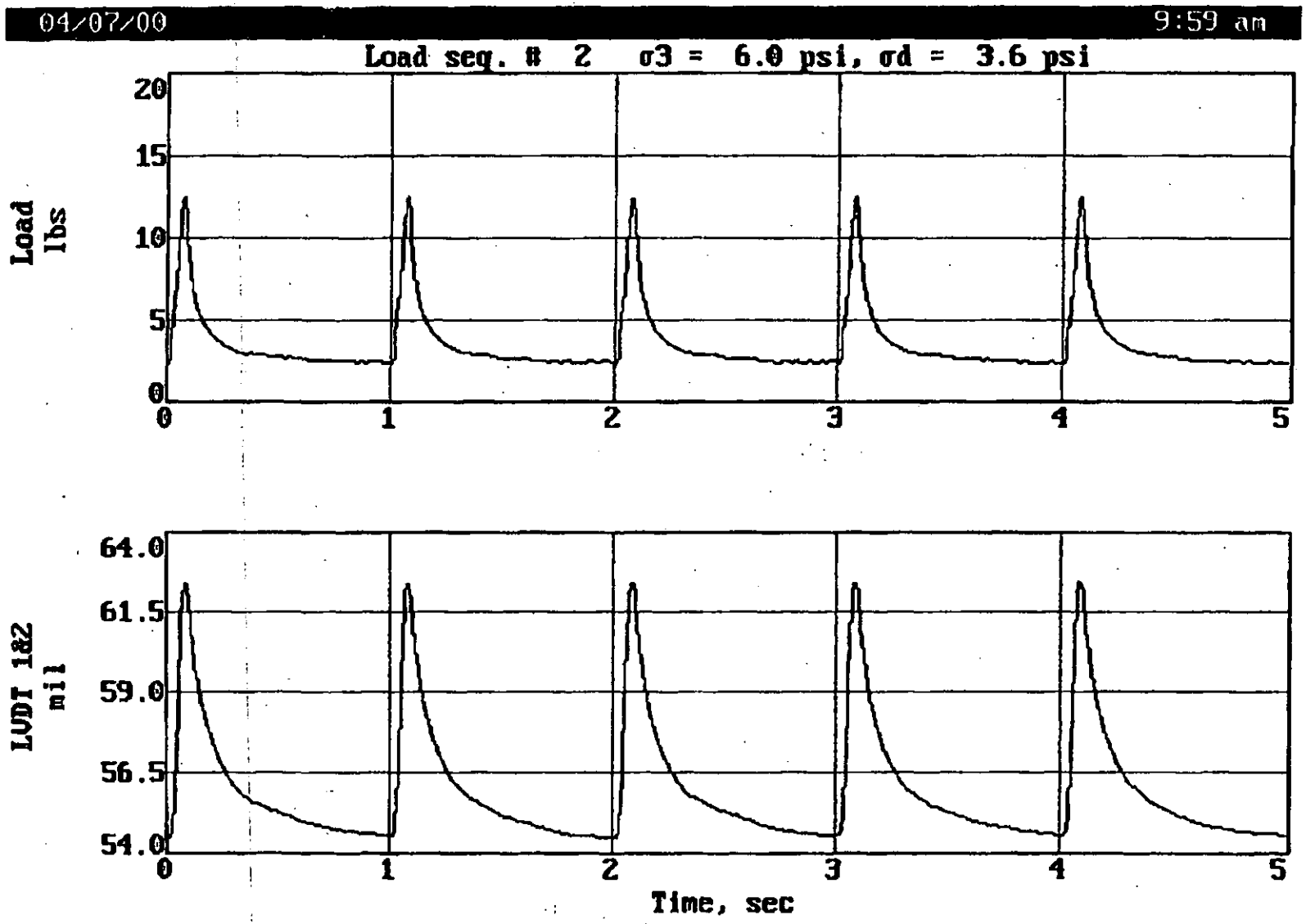
Permanent Deformation Data:

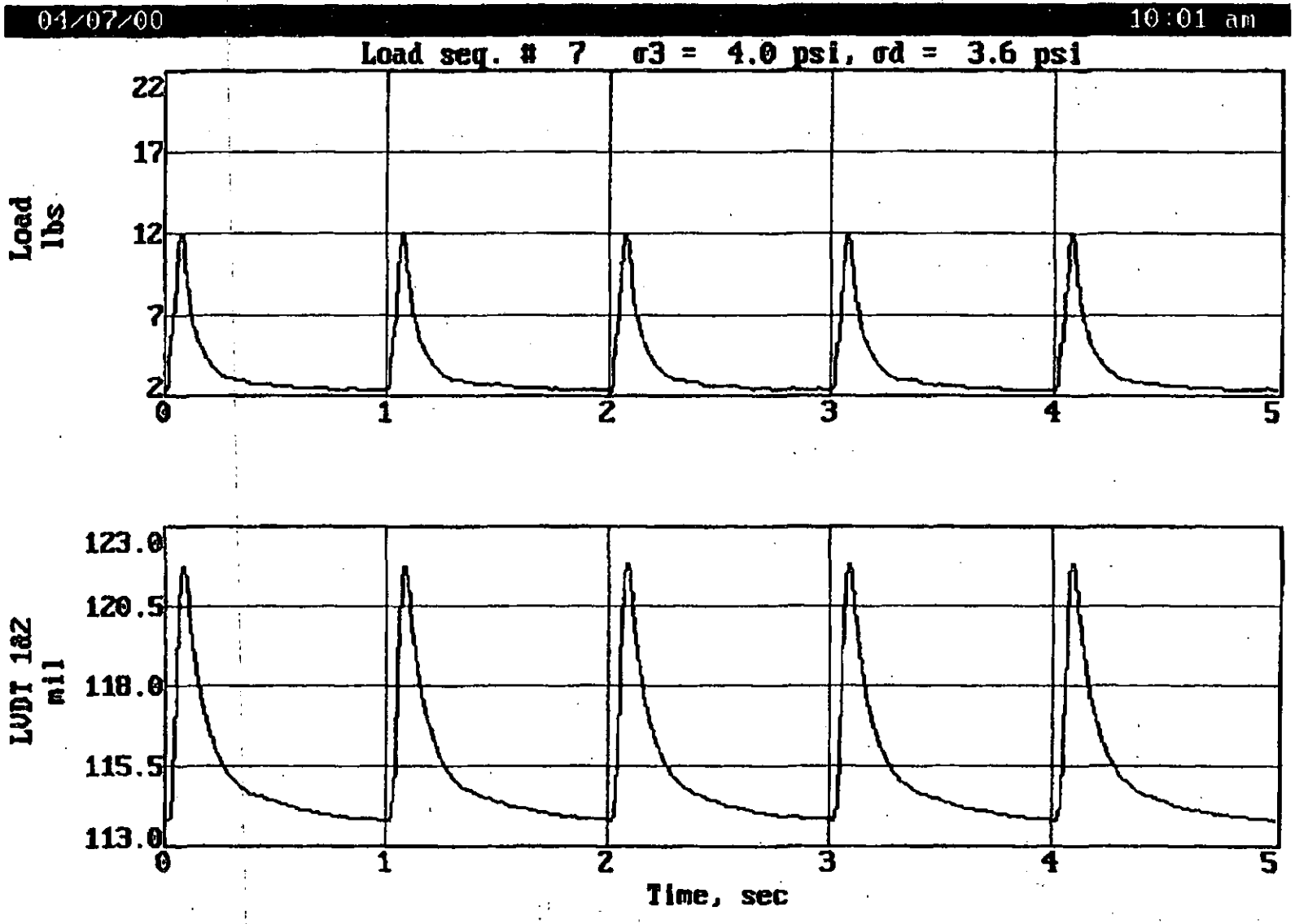
Seq. #	Chamber Press. σ_3 psi	Nominal σ_d psi	Actual Contact Stress psi	Permanent Def. inch
1	6.0	1.8	0.2	0.000051
2	6.0	3.6	0.4	0.000055
3	6.0	5.4	0.6	0.000074
4	6.0	7.2	0.8	0.000101
5	6.0	9.0	1.0	0.000127
6	4.0	1.8	0.2	0.000111
7	4.0	3.6	0.4	0.000114
8	4.0	5.4	0.6	0.000119
9	4.0	7.2	0.8	0.000126
10	4.0	9.0	1.0	0.000135
11	2.0	1.8	0.2	0.000122
12	2.0	3.6	0.4	0.000124
13	2.0	5.4	0.6	0.000129
14	2.0	7.2	0.8	0.000134
15	2.0	9.0	1.0	0.000142

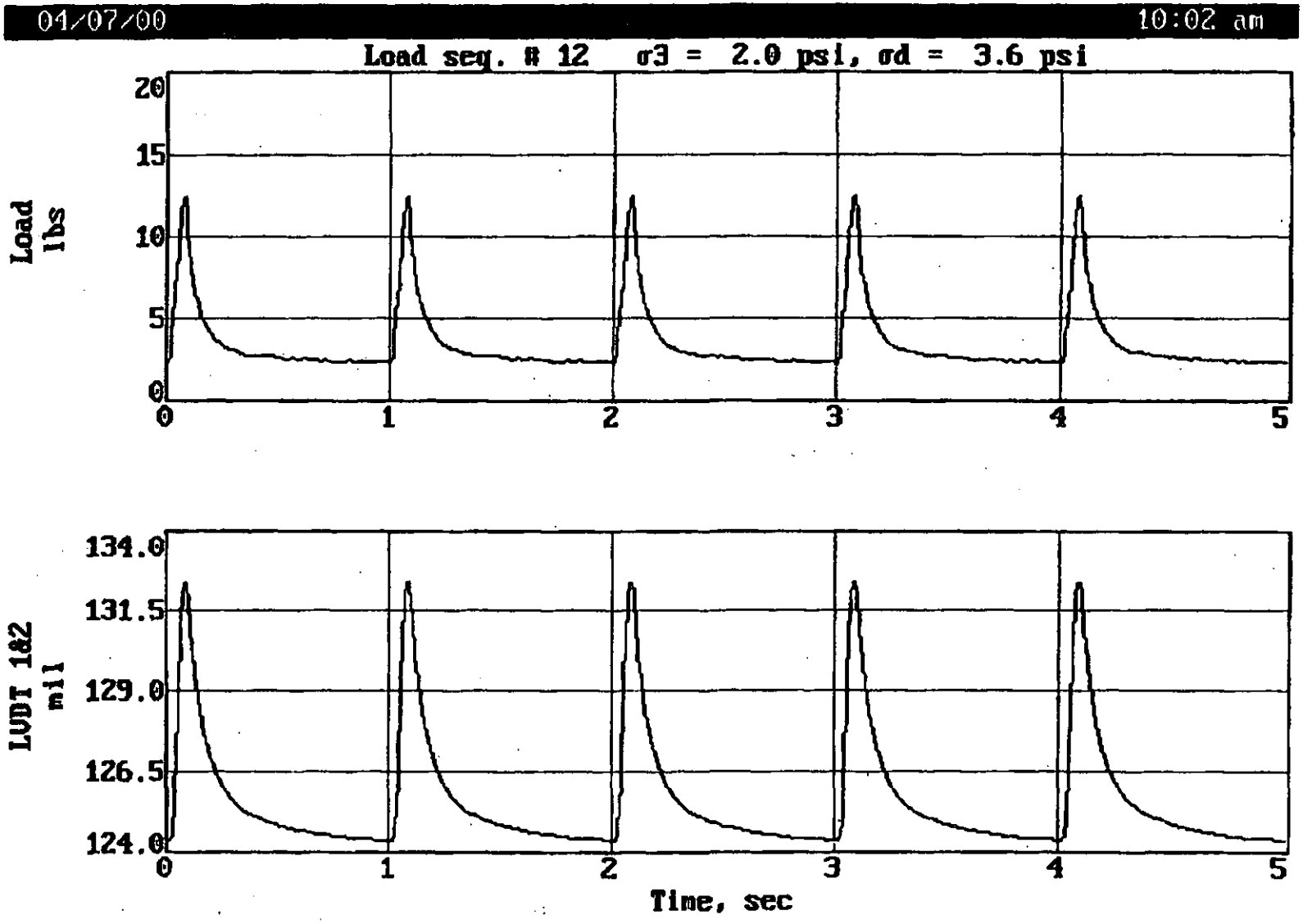
04/07/00 9:51 am



Sample No: MIX Location:


04/07/00
9:59 am
Load seq. # 2 σ3 = 6.0 psi, σd = 3.6 psi
Load lbs
20
15
10
5
0
0
1
2
3
4
5
LVDT 1&2 mil
64.0
61.5
59.0
56.5
54.0
Time, sec
Sample No: MIX
Location:


04/07/00
10:01 am
Load seq. # 7 σ3 = 4.0 psi, σd = 3.6 psi
Load lbs
22
17
12
7
2
0
1
2
3
4
5
LVDT 1&2 mil
123.0
120.5
118.0
115.5
113.0
0
1
2
3
4
5
Time, sec
Sample No: MIX
Location:



Sample No: MIX

Location:

Method for compositing sediment and additives:

1. Weigh out 700 gram of sediment (CC-Q-J) into mixing bowl (for 1 kg composited sample).
2. Weigh out 210 gram of PROPAT (30% of sediment mass) and add to mixing bowl.
3. Mix sediment and PROPAT for approximately 2 minutes at low speed.
4. Weigh out 136.5 gram fly ash (15% of total weight of sediment and PROPAT) into its own bowl.
5. Weigh out 182 gram KS40 (20% of total weight of sediment and PROPAT) into its own bowl.
6. Weigh out 45.5 gram alkaline activator (5% of total weight of sediment and PROPAT) into its own bowl.
7. Pour fly ash, KS40, and alkaline activator into ziplock bag, seal bag, and shake until materials are homogenous in color.
8. Pour materials into mixing bowl and mix for approximately 2-3 minutes at low speed, until composited samples appears homogenous.
9. Once the composited sample is mixed, pack it into the cylinder to be used for the test.
10. Place the cylinder in a ziplock bag, seal, and cure for 7 days at 120°F.
11. At the end of the seven day curing period, the sample is ready for the resilient modulus test.

BASHAR:
I USE THE MIXING BLADE THAT LOOKS LIKE THIS:

APPENDIX B
CHEMICAL DATA QUALITY REVIEW

AMENDED SEDIMENT SAMPLES WITHOUT PROPAT®

Nine amended sediment samples were collected on May 5 and 6, 1999 (samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J) and May 13, 1999 (sample CC-Q-PA). The samples were submitted to Quanterra Inc. of Pittsburgh, PA, for analysis of amended sediment samples and multiple extraction procedure (MEP).

The following criteria were evaluated in the standard data quality review process:

- Holding times;
- Method blanks;
- Procedure blanks;
- Reporting limits;
- Surrogate recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries;
- ICP serial dilution;
- Laboratory duplicate; and
- Procedure duplicate.

Sediment

Nine sediment samples were submitted for the analysis of the following:

- Total metals (EPA Method 6000/7000);
- Semivolatile organics (EPA Method 8270);
- Pesticides/PCBs (EPA Method 8081/8082);
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans) (EPA Method 8290);
- Total organic carbon (Walkley-Black);
- Cyanide (EPA Method 9012A); and
- Percent Solids (Plumb, 1981).

Major Problems Encountered

The detection limits for semivolatile organics and toxaphene were not met. Samples were reanalyzed outside of holding time. Due to laboratory error, detection limits on samples CC-Q-C and CC-Q-D were not met on the reanalysis. Data from the reanalysis are presented for samples CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, CC-Q-J, and CC-Q-PA. For samples CC-Q-C and CC-Q-D, non-detect values were reported from the original analysis and detected data were reported from the reanalysis. All data reported from reanalysis are qualified (J/UJ) due to reanalysis occurring outside of holding time.

Minor Problems Encountered

Total Metals. All required holding times were met. Continuing calibration blank contamination was detected in samples CC-Q-C, CC-Q-D, CC-Q-E, and CC-Q-F (beryllium and thallium); samples CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J (aluminum and beryllium); and sample CC-Q-PA (aluminum, barium, beryllium, and thallium). Associated sample results were qualified (U). Reporting limits were below the screening criteria except for beryllium and thallium in some samples. MS/MSD recoveries were below the control limit for antimony and lead in samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J. In sample CC-Q-PA, MS/MSD recoveries were below control limits for antimony, barium, beryllium, chromium, cobalt, copper, lead, magnesium, nickel, potassium, sodium, vanadium, and zinc. Associated sample results were qualified (J/UJ). The MS/MSD relative percent difference (RPD) for samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J were greater than the control limit for antimony. No sample results were qualified based on MS/MSD RPDs alone. The MS/MSD RPDs for sample CC-Q-PA were within control limits. LCS recoveries were within control limits. The ICP serial dilution percent difference for cadmium, copper, and manganese was greater than the limit for samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J. For sample CC-Q-PA, the ICP serial dilution percent difference for antimony, cadmium, cobalt, iron, magnesium, manganese, nickel, potassium, selenium, thallium, and vanadium were greater than the control limit. Associated sample results were qualified (J/UJ). Laboratory duplicate RPDs were within control limits.

Semivolatile Organics. The holding times were exceeded on the reanalysis of the extract. Associated sample results are qualified (J/UJ). No method blank contamination was detected. Reporting limits for semivolatile organic compounds were exceeded. Samples were reanalyzed outside of holding times. Surrogate recovery of nitrobenzene-d5 was outside of control limit for sample

CC-Q-H. No sample results were qualified based on one surrogate recovery. Surrogate recoveries were zero for sample CC-Q-PA as a result of dilution. Associated sample results were qualified (J/UJ). MS/MSD recoveries of pentachlorophenol were zero for samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J. MS/MSD recoveries were zero for sample CC-Q-PA. No sample results were qualified based on MS/MSD recoveries alone. The MS/MSD RPD for 4-chloro-3-methylphenol was outside control limits in samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J. No sample results were qualified based on MS/MSD RPDs alone. LCS recoveries and laboratory duplicate RPDs were within control limits.

Pesticides/PCBs. The holding times were exceeded on the reanalysis of toxaphene. The associated sample results are qualified (UJ). No method blank contamination was detected. Reporting limits for toxaphene were exceeded. The pesticide surrogate recoveries for TCX and DCB were zero for samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-I, and CC-Q-J as a result of dilution. Associated samples were qualified (J/UJ). PCB surrogate recoveries for TCX and DCB were above control limits for sample CC-Q-E. Associated sample result was qualified (J/UJ). PCB surrogate recoveries for DCB was above control limits for samples CC-Q-D, CC-Q-F, CC-Q-F duplicate, CC-Q-G, CC-Q-J, and CC-Q-PA. Pesticide surrogate recoveries for DCB in sample CC-Q-PA were above limits. Associated sample results were not qualified based on one surrogate exceedence. Pesticide MS/MSD recoveries were zero for samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, CC-Q-J and CC-Q-PA due to dilution. No samples were qualified based on MS/MSD recoveries alone. Pesticide MS/MSD RPDs were not calculated as a result of no recovery. MS/MSD recoveries and MS/MSD RPDs were within limits for PCBs. LCS recoveries and laboratory duplicate RPDs were within control limits.

Dioxins/Furans. All required holding times were met. No method blank contamination was detected. The internal standard was below the control limits for sample CC-Q-E. The associated sample results were qualified (J/UJ). Due to laboratory error, no MS/MSD was analyzed. LCS recoveries were within control limits. The laboratory duplicate RPDs were outside control limits for most compounds. No samples were qualified based on laboratory duplicates alone.

Total Organic Carbon. All required holding times were met. No method blank contamination was detected. LCS recoveries and laboratory duplicate RPDs were within control limits.

Cyanide. All required holding times were met. No method blank contamination was detected. MS/MSD recoveries were below limits for cyanide in sample CC-Q-PA. The associated sample result was not qualified based on MS/MSD recovery alone. MS/MSD RPDs were within control limits. LCS recoveries and laboratory duplicate RPDs were within control limits.

Percent Solids. All required holding times were met. Laboratory duplicate RPDs were within limits.

Leachate

Nine sediment samples were submitted for MEP. The leachate produced was analyzed for the following:

- Total metals (EPA Method 200 series);
- Semivolatile organics (EPA Method 8270);
- Pesticides/PCBs (EPA Method 8081/8082);
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans) (EPA Method 8290) (only leachates #1 and 7 were analyzed);
- Total organic carbon (Walkley-Black); and
- Cyanide (EPA Method 9012A).

Minor Problems Encountered

Total Metals. All required holding times were met. Continuing calibration blank contamination was detected in a number of samples for leachates 1 through 7. Associated sample results were qualified (U). Iron and lead were detected in the procedure blanks of a number of samples in leachates 1 through 7. Beryllium was detected in the procedure blanks of some samples in leachates 6 and 7 and selenium was detected in leachate 5. The associated sample results were qualified (J/UJ). There was not enough sample to analyze a matrix spike for leachates 1 through 7 for sample CC-Q-PA. Other MS recoveries were within control limits. The laboratory duplicate RPDs and LCS recoveries were within control limits. Procedure duplicate RPDs were outside control limits for a number of metals in each leachate. No qualifiers were assigned based on procedure duplicate RPDs alone.

Semivolatile Organics. All required holding times were met. Bis(2-ethylhexyl)phthalate (BEP) was detected in the method and procedure blanks for leachate 1 for sample CC-Q-PA and leachate 2 for samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J. Associated sample results were not qualified because BEP was not detected in the samples.

Surrogate recoveries were within control limits. There was not enough sample to run MS/MSD on sample CC-Q-PA. MS/MSD recoveries of 4-nitrophenol and pyrene were above control limits in leachates 3, 4, and 7 for samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J. Associated sample results were not qualified based on MS/MSD results alone. MS/MSD RPDs were within control limits. LCS recoveries for 4-nitrophenol and pyrene were above limits in leachate 7 for samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J. Associated detected results were qualified (J). There was no recovery of LCS in leachates 1 and 2 for sample CC-Q-PA. Leachate 2 was re-extracted outside of holding times with acceptable LCS recoveries. There was not enough sample for re-extraction of leachate 1. No samples were qualified based on LCS/LCSD results alone. All other LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits for sample CC-Q-PA. LCSD was not run on any other samples. Procedure duplicate RPDs were within control limits.

Pesticides/PCBs. All required holding times were met. No method or procedure blank contamination was detected. Surrogate recoveries of DCB were below control limits for a number of samples in leachates 1 through 7. No associated sample results were qualified based on the exceedence of one surrogate. There was not enough sample to run MS/MSD on sample CC-Q-PA. MS recoveries on other samples were within control limits. MSD recovery of Aroclor 1260 was below control limits in leachates 3 and 4 for samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J. Associated sample results were not qualified based on MSD recovery alone. MS/MSD RPD of Aroclor 1260 was above control limits in leachates 3 and 4 for samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J. Associated sample results were not qualified based on MS/MSD RPDs alone. All LCS recoveries were within control limits. LCSD recoveries and LCS/LCSD RPDs were within control limits for sample CC-Q-PA. LCSD was not run on any other samples. Procedure duplicate RPDs were within control limits.

Dioxins/Furans. All required holding times were met. OCDD was detected in the method blank of leachates 1 and 7 for samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J. Total TCDD was detected in the method blank of leachate 1 for sample CC-Q-PA. Associated sample results were qualified (U). 1,2,3,4,6,7,8-HpCDD, total HpCDD, and OCDD were detected in the procedure blanks of leachates 1 and 7 for samples CC-Q-C, CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J. OCDF was also detected in the procedure blank of leachate 1 for samples CC-Q-C,

CC-Q-D, CC-Q-E, CC-Q-F, CC-Q-G, CC-Q-H, CC-Q-I, and CC-Q-J. Associated sample results were qualified (J). Internal standard recoveries for leachate 1 for sample CC-Q-F were low. Associated sample results were qualified (J/UJ). There was not enough sample to run MS/MSD. LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits.

Total Organic Carbon. All required holding times were met. No method blank contamination was detected. There was not enough sample for MS/MSD on sample CC-Q-PA. MS/MSD recoveries and MS/MSD RPDs were within control limits for all other samples. LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits. Procedure duplicate RPDs were within control limits.

Cyanide. All required holding times were met. No method or procedure blank contamination was detected. There was not enough sample for MS/MSD on sample CC-Q-PA. There was no recovery of MS/MSD in leachates 1 through 7 for the other samples, possibly due to matrix interference. Associated sample results were not qualified based on MS/MSD recoveries alone. LCS recoveries were within control limits. LCSD recoveries and LCS/LCSD RPDs were within control limits for sample CC-Q-PA. LCSD was not run on any other samples. Procedure duplicate RPDs were within control limits.

TASK 4 AMENDED SEDIMENT SAMPLES

Eleven amended sediment samples were collected on October 14 and 15, 1999 (samples CAP-J1, CAP-J2, CAP-J3, CAP-J4, CAP-J5, CAP-J6, CAP-J7, CAP-J9, CAP-J10, and CAP-J11). Seven additives (fly ash, KS40, lime, fly ash 4, LKD, propat, and Portland cement) were collected on October 15, 1999. The amended sediment and additive samples were submitted to Quanterra Inc. of Pittsburgh, PA, for synthetic precipitation leaching procedure (SPLP) of the amended sediment samples and analysis of the leachate and additives.

The following criteria were evaluated in the standard data quality review process:

- Holding times;
- Method blanks;
- Procedure blanks;
- Reporting limits;
- Surrogate recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries;
- ICP serial dilution;
- Laboratory duplicate relative percent difference (RPD); and
- Procedure duplicate.

Amended Sediment

Eleven amended sediment samples were submitted for SPLP (EPA Method 1312). The leachate was submitted for the analysis of the following:

- Total metals (EPA Method 200 series);
- Semivolatile organics (EPA Method 8270);
- Pesticides/PCBs (EPA Method 8081/8082);
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans) (EPA Method 8290);
- Total organic carbon (TOC) (Walkley-Black);
- Cyanide (EPA Method 9012A); and
- Total suspended solids (TSS) (EPA Method 160.2).

Minor Problems Encountered

Total Metals. All required holding times were met. Continuing calibration blank contamination of beryllium, cobalt, and magnesium were detected in the samples. Associated sample results were qualified (U/UJ). Reporting limits were below the screening criteria. There was not sufficient sample to run MS. LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits.

Semivolatile Organics. All required holding times were met. No intra-lab blank contamination was detected. Reporting limits for some semivolatile organic compounds were exceeded slightly. Surrogate recoveries were within control limits. There was not enough sample to run MS/MSD. LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits.

Pesticides. All required holding times were met. No intra-lab blank contamination was detected. Reporting limits for some pesticides were above the screening criteria. Surrogate recoveries of DCB were above control limits for all samples. No qualifiers were applied as the remaining surrogate recoveries were within control limits. There was not sufficient sample to run MS/MSD. LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits.

PCBs. All required holding times were met. No intra-lab blank contamination was detected. Total PCB reporting limits were above the screening criteria. Surrogate recoveries of TCX were above control limits in samples CAP-J8 and CAP-J9. No qualifiers were applied as the remaining surrogate recoveries were within control limits. There was not enough sample to run MS/MSD. LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits.

Dioxins/Furans. All required holding times were met. No method blank contamination was detected. Reporting limits were met. Surrogate and LCS recoveries were within control limits.

Total Organic Carbon. All required holding times were met. TOC was detected in the method blank. No qualifiers were applied as TOC was detected in the associated samples at greater than five times the concentration in the method blank. Reporting limits were met. LCS recoveries were within control limits.

Cyanide. All required holding times were met. No method blank contamination was detected. Reporting limits were met. LCS recoveries were within control limits.

Percent Solids. All required holding times were met. No method blank contamination was detected. Reporting limits were met. LCS recoveries were within control limits.

Additives

Seven additive samples were submitted for analysis of the following:

- Total metals (EPA Method 6000/7000);
- Semivolatile organics (EPA Method 8270);
- Pesticides/PCBs (EPA Method 8081/8082);
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans) (EPA Method 8290);
- Total organic carbon (TOC) (Walkley-Black);
- Cyanide (EPA Method 9012A); and
- Percent solids (Plumb, 1981).

Minor Problems Encountered

Total Metals. All required holding times were met. Continuing calibration blank contamination of beryllium was detected. Associated sample results were qualified (U). Cobalt and copper were detected in the procedure blanks. The associated sample results were qualified (U/UJ). Reporting limits were met. MS/MSD recoveries for antimony, manganese, magnesium, and zinc were outside of control limits. Associate sample results were qualified (J/UJ). MS/MSD RPDs were above control limits for iron, manganese, and zinc. Associated sample results were qualified (J). LCS recoveries were within control limits.

Semivolatile Organics. All required holding times were met. No intra-lab blank contamination was detected. Reporting limits for some semivolatile organic compounds were above the screening criteria. All surrogate recoveries were zero in the reanalysis of the propat sample due to dilution. Surrogate recoveries of nitrobenze in the Portland cement sample and tribromophenol in the KS40 sample were outside of control limits. In sample LKD, surrogate recoveries of 2-fluorophenol and tribromophenol were below 10 percent and phenol-d5 was above 200 percent. Associated sample results were qualified (J/UJ). MS/MSD recoveries of phenol and 2-chlorophenol were above control limits. No samples were qualified solely on MS/MSD recoveries. MS/MSD RPDs were above control limits for 4-chloro-3-methylphenol. No samples were qualified solely on MS/MSD RPDs. LCS recoveries were within control limits.

Pesticides. All required holding times were met. No intra-lab blank contamination was detected. Reporting limits for some pesticides in the propat sample were above the screening criteria as a result of matrix interference. Surrogate recoveries were zero for the propat sample reanalysis as a result of dilution. MS/MSD recoveries and MS/MSD RPDs were within control limits. LCS recoveries were within control limits.

PCBs. All required holding times were met. No intra-lab blank contamination was detected. Reporting limits were below the screening criteria. Surrogate recoveries of TCX and DCB were zero in the propat sample reanalysis as a result of dilution. Associated sample results were qualified (J/UJ). MS/MSD recoveries and MS/MSD RPDs were within control limits. LCS recoveries were within control limits.

Dioxins/Furans. All required holding times were met. No method blank contamination was detected. Reporting limits were met. Surrogate and LCS recoveries were within control limits.

Total Organic Carbon. All required holding times were met. No method blank contamination was detected. Reporting limits were below the screening criteria. LCS recoveries were within control limits. Laboratory duplicate RPDs were within control limits.

Cyanide. All required holding times were met. No method blank contamination was detected. Reporting limits were met. MS and LCS recoveries were within control limits.

Total Solids. All required holding times were met. Reporting limits were met. Laboratory duplicate RPDs were within control limits.

TASK 5 AMENDED SEDIMENT SAMPLES

Two amended sediment samples (samples J1-CTI-7 and J3-PORT-7), one sediment sample (sample CC-Q-J), and one sample of PROPAT® (sample PROPAT) were collected on November 29, 1999. The samples were submitted to Quanterra Inc. of Pittsburgh, PA, for SPLP and analysis of the leachate. Samples J1-CTI-7 and J3-PORT-7 were also submitted for analysis of amended sediment samples.

The following criteria were evaluated in the standard data quality review process:

- Holding times;
- Method blanks;
- Reporting limits;
- Surrogate recoveries;
- Internal standard recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries; and
- Laboratory duplicate relative percent difference (RPD).

Amended Sediment

Two amended sediment samples were submitted for the analysis of the following:

- Total metals (EPA Method 6000/7000);
- Semivolatile organics (EPA Method 8270);
- Pesticides/PCBs (EPA Method 8081/8082);
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans) (EPA Method 8290);
- Total organic carbon (TOC) (Walkley-Black);
- Cyanide (EPA Method 9012A); and
- Percent solids (Plumb, 1981).

Minor Problems Encountered

Total Metals. All required holding times were met. Continuing calibration blank contamination of beryllium, cobalt, mercury, magnesium, and potassium were detected in the samples. Associated sample results were qualified (U). Reporting limits were below the screening criteria. MS/MSD recoveries were

outside of control limits for antimony, barium, cadmium, cobalt, and potassium. Associated sample results were qualified (J/UJ). MS/MSD RPDs were outside of control limits for aluminum, copper, mercury, lead, and zinc. Associated sample results were qualified (J).

Semivolatile Organics. All required holding times were met. No method blank contamination was detected. Reporting limits for some semivolatile organic compounds were exceeded slightly. Surrogate recoveries in undiluted samples were within control limits. Surrogate recoveries were diluted out in diluted samples. No qualifiers were assigned as the undiluted surrogate recoveries were within control limits. MS/MSD recoveries of pentachlorophenol were below control limits. No qualifiers were assigned based solely on MS/MSD recoveries. MS/MSD RPDs were within control limits. LCS recoveries were within control limits.

Pesticides. All required holding times were met. No method blank contamination was detected. Reporting limits for toxaphene were above the screening criteria. Surrogate recoveries of DCB were outside of control limits due to matrix interference in the samples analyzed at five times dilution. No qualifiers were applied as the remaining surrogate recoveries were within control limits. Surrogate recoveries were diluted out in samples run at 500 times dilution. No qualifiers were assigned as data are reported only from the five times dilution. MS/MSDs were only analyzed for in the sample run at 500 times dilution and were diluted out. No qualifiers were assigned as a result of only MS/MSD recoveries. LCS recoveries were within control limits.

PCBs. All required holding times were met. No method blank contamination was detected. Aroclor reporting limits were above the screening criteria. Surrogate recoveries of TCX were above control limits in samples CAP-J8 and CAP-J9. No qualifiers were applied as the remaining surrogate recoveries were within control limits. There was not enough sample to run MS/MSD. LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits.

Dioxins/Furans. All required holding times were met. No method blank contamination was detected. Reporting limits were met. Internal standard and LCS recoveries were within control limits. MS recoveries were within control limits. MSD recoveries of 2,3,7,8-TCDD, 1,2,3,4,6,7,8-HpCDD, OCDD, and OCDF were above control limits. MS/MSD RPDs were within control limits.

Total Organic Carbon. All required holding times were met. No method blank contamination was detected. Reporting limits were met. LCS recoveries were within control limits. Laboratory duplicate RPDs were within control limits.

Cyanide. All required holding times were met. No method blank contamination was detected. Reporting limits were met. MS/MSD recoveries and MS/MSD RPDs were within control limits. LCS recoveries were within control limits.

Percent Solids. All required holding times were met. Reporting limits were met.

SPLP Leachate Samples

Four samples were submitted for analysis of the following:

- Total metals (EPA Method 200 series);
- Semivolatile organics (EPA Method 8270);
- Pesticides/PCBs (EPA Method 8081/8082);
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans) (EPA Method 8290);
- Total organic carbon (TOC) (Walkley-Black);
- Cyanide (EPA Method 9012A); and
- Total suspended solids (EPA Method 160.2).

Minor Problems Encountered

Total Metals. All required holding times were met. Continuing calibration blank contamination was detected for barium and beryllium in the samples. No qualifiers were assigned as associated sample results were greater than five times the concentration of the blanks. Aluminum, cadmium, calcium, cobalt, iron, magnesium, sodium, and zinc were detected in the procedure blanks. The associated sample results were qualified (U). Reporting limits were met. MS/MSD recoveries for aluminum were above of control limits. Associated sample results were qualified (J/UJ). MS/MSD RPDs were within control limits. LCS recoveries were within control limits.

Semivolatile Organics. All required holding times were met. No method blank contamination was detected. Reporting limits for some semivolatile organic compounds are above the screening criteria in some samples. Surrogate recoveries were within control limits. MS/MSD recoveries and MS/MSD RPDs were within control limits. LCS recoveries were within control limits.

Pesticides. All required holding times were met. No intra-lab blank contamination was detected. Reporting limits for some pesticides were above the screening criteria. Surrogate recoveries were within control limits. MS/MSD recoveries and MS/MSD RPDs were within control limits. LCS recoveries were within control limits.

PCBs. All required holding times were met. No intra-lab blank contamination was detected. Reporting limits for total PCBs were above the screening criteria. Surrogate recoveries were within control limits. MS/MSD recoveries and MS/MSD RPDs were within control limits. LCS recoveries were within control limits.

Dioxins/Furans. All required holding times were met. Total TCDF was detected in the method blank. No qualifiers were assigned as total TCDF was not detected in any of the samples. Reporting limits were met. Internal standards. LCS, and MS/MSD recoveries were within control limits.

Total Organic Carbon. All required holding times were met. TOC was detected in the method blank. No qualifiers were assigned as the associated results were greater than five times the concentration in the method blank. Reporting limits were met. LCS recoveries were within control limits.

Cyanide. All required holding times were met. No method blank contamination was detected. Reporting limits were met. MS/MSD recoveries and MS/MSD RPDs were within control limits.

Total Suspended Solids. All required holding times were met. Reporting limits were met. LCS recoveries and laboratory duplicate RPDs were within control limits.

TASK 5 MEP LEACHATE SAMPLES

One amended sediment sample (J2-CTI-28) was collected on January 10, 2000. The sample was submitted to Quanterra Inc. of Pittsburgh, PA, for modified multiple extraction procedure (MEP) (EPA Method 1320 as modified by NJDEP, 1998) and analysis of the leachate.

The following criteria were evaluated in the standard data quality review process:

- Holding times;
- Method blanks;
- Reporting limits;
- Surrogate recoveries;
- Internal standard recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries; and
- Laboratory duplicate relative percent difference (RPD).

Leachate Samples

Seven leachate samples (day one through seven for sample J2-CTI-28) were submitted for analysis of the following:

- Total metals (EPA Method 200 series);
- Semivolatile organics (EPA Method 8270);
- Pesticides/PCBs (EPA Method 8081/8082);
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans) (EPA Method 8290);
- Total organic carbon (TOC) (Walkley-Black);
- Cyanide (EPA Method 9012A); and
- Total suspended solids (EPA Method 160.2).

Minor Problems Encountered

Total Metals. All required holding times were met. Continuing calibration blank contamination was detected for aluminum, beryllium, copper, and manganese. No qualifiers were assigned as the detected concentrations in associated samples were greater than five times the concentrations in the blanks. Aluminum, beryllium, arsenic, cobalt, copper, iron, potassium, selenium, and sodium were detected in the procedure blanks. Associated sample results were

qualified (UJ). Reporting limits were met except the detection limit for cadmium (5 µg/l) was slightly above the screening criteria (4 µg/l). MS/MSD recoveries and MS/MSD RPDs were within control limits. LCS recoveries were within control limits.

Semivolatile Organics. The holding time to create the leachate was exceeded in J2-CTI-28 Day 5, Day 6, and Day 7. Prior to submitting the sample J2-CTI-28 to the laboratory for MEP, the sample was cured at room temperature for 35 days. The delay in creating the leachate is not considered to have affected sample integrity as a result of the long curing time. No qualifiers were assigned as a result of the holding time exceedence. All other required holding times were met. No procedure blank contamination was detected. Reporting limits for hexachlorobutadiene and pentachlorophenol exceeded the screening criteria for these compounds. Surrogate recoveries were within control limits. MS/MSD recoveries for nitrophenol were above control limits. No quailifiers were assigned as a result of only MS/MSD recoveries. LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits.

Pesticides. The holding time to create the leachate was exceeded in J2-CTI-28 Day 5, Day 6, and Day 7. Prior to submitting the sample J2-CTI-28 to the laboratory for MEP, the sample was cured at room temperature for 35 days. The delay in creating the leachate is not considered to have affected sample integrity as a result of the long curing time. No qualifiers were assigned as a result of the holding time exceedence. All other required holding times were met. No procedure blank contamination was detected. Reporting limits for aldrin, alpha-BHC, and dieldrin were above the screening criteria. Surrogate recoveries were within control limits. The laboratory operator forgot to add the spike to the MS/MSD and the LCS in sample J2-CTI-28 Day 1. MS/MSD was analyzed in J2-CTI-28 Day 2. MS/MSD recoveries and MS/MSD RPDs were within control limits. LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits.

PCBs. The holding time to create the leachate was exceeded in J2-CTI-28 Day 5, Day 6, and Day 7. Prior to submitting the sample J2-CTI-28 to the laboratory for MEP, the sample was cured at room temperature for 35 days. The delay in creating the leachate is not considered to have affected sample integrity as a result of the long curing time. No qualifiers were assigned as a result of the holding time exceedence. All other required holding times were met. No procedure blank contamination was detected. Reporting limits for total PCBs (1 µg/l) exceeded the screening criteria (0.5 µg/l). Surrogate recoveries were within control limits. MS/MSD was analyzed in J2-CTI-28 Day 1. MS/MSD

Pesticides. All required holding times were met. No intra-lab blank contamination was detected. Reporting limits for some pesticides were above the screening criteria. Surrogate recoveries were within control limits. MS/MSD recoveries and MS/MSD RPDs were within control limits. LCS recoveries were within control limits.

PCBs. All required holding times were met. No intra-lab blank contamination was detected. Reporting limits for total PCBs were above the screening criteria. Surrogate recoveries were within control limits. MS/MSD recoveries and MS/MSD RPDs were within control limits. LCS recoveries were within control limits.

Dioxins/Furans. All required holding times were met. Total TCDF was detected in the method blank. No qualifiers were assigned as total TCDF was not detected in any of the samples. Reporting limits were met. Internal standards. LCS, and MS/MSD recoveries were within control limits.

Total Organic Carbon. All required holding times were met. TOC was detected in the method blank. No qualifiers were assigned as the associated results were greater than five times the concentration in the method blank. Reporting limits were met. LCS recoveries were within control limits.

Cyanide. All required holding times were met. No method blank contamination was detected. Reporting limits were met. MS/MSD recoveries and MS/MSD RPDs were within control limits.

Total Suspended Solids. All required holding times were met. Reporting limits were met. LCS recoveries and laboratory duplicate RPDs were within control limits.

TASK 5 MEP LEACHATE SAMPLES

One amended sediment sample (J2-CTI-28) was collected on January 10, 2000. The sample was submitted to Quanterra Inc. of Pittsburgh, PA, for modified multiple extraction procedure (MEP) (EPA Method 1320 as modified by NJDEP, 1998) and analysis of the leachate.

The following criteria were evaluated in the standard data quality review process:

- Holding times;
- Method blanks;
- Reporting limits;
- Surrogate recoveries;
- Internal standard recoveries;
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries;
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries; and
- Laboratory duplicate relative percent difference (RPD).

Leachate Samples

Seven leachate samples (day one through seven for sample J2-CTI-28) were submitted for analysis of the following:

- Total metals (EPA Method 200 series);
- Semivolatile organics (EPA Method 8270);
- Pesticides/PCBs (EPA Method 8081/8082);
- Polychlorinated dibenzo-p-dioxins and dibenzofurans (dioxins/furans) (EPA Method 8290);
- Total organic carbon (TOC) (Walkley-Black);
- Cyanide (EPA Method 9012A); and
- Total suspended solids (EPA Method 160.2).

Minor Problems Encountered

Total Metals. All required holding times were met. Continuing calibration blank contamination was detected for aluminum, beryllium, copper, and manganese. No qualifiers were assigned as the detected concentrations in associated samples were greater than five times the concentrations in the blanks. *Aluminum, beryllium, arsenic, cobalt, copper, iron, potassium, selenium, and* sodium were detected in the procedure blanks. Associated sample results were

qualified (UJ). Reporting limits were met except the detection limit for cadmium (5 µg/l) was slightly above the screening criteria (4 µg/l). MS/MSD recoveries and MS/MSD RPDs were within control limits. LCS recoveries were within control limits.

Semivolatile Organics. The holding time to create the leachate was exceeded in J2-CTI-28 Day 5, Day 6, and Day 7. Prior to submitting the sample J2-CTI-28 to the laboratory for MEP, the sample was cured at room temperature for 35 days. The delay in creating the leachate is not considered to have affected sample integrity as a result of the long curing time. No qualifiers were assigned as a result of the holding time exceedence. All other required holding times were met. No procedure blank contamination was detected. Reporting limits for hexachlorobutadiene and pentachlorophenol exceeded the screening criteria for these compounds. Surrogate recoveries were within control limits. MS/MSD recoveries for nitrophenol were above control limits. No quailifiers were assigned as a result of only MS/MSD recoveries. LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits.

Pesticides. The holding time to create the leachate was exceeded in J2-CTI-28 Day 5, Day 6, and Day 7. Prior to submitting the sample J2-CTI-28 to the laboratory for MEP, the sample was cured at room temperature for 35 days. The delay in creating the leachate is not considered to have affected sample integrity as a result of the long curing time. No qualifiers were assigned as a result of the holding time exceedence. All other required holding times were met. No procedure blank contamination was detected. Reporting limits for aldrin, alpha-BHC, and dieldrin were above the screening criteria. Surrogate recoveries were within control limits. The laboratory operator forgot to add the spike to the MS/MSD and the LCS in sample J2-CTI-28 Day 1. MS/MSD was analyzed in J2-CTI-28 Day 2. MS/MSD recoveries and MS/MSD RPDs were within control limits. LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits.

PCBs. The holding time to create the leachate was exceeded in J2-CTI-28 Day 5, Day 6, and Day 7. Prior to submitting the sample J2-CTI-28 to the laboratory for MEP, the sample was cured at room temperature for 35 days. The delay in creating the leachate is not considered to have affected sample integrity as a result of the long curing time. No qualifiers were assigned as a result of the holding time exceedence. All other required holding times were met. No procedure blank contamination was detected. Reporting limits for total PCBs (1 µg/l) exceeded the screening criteria (0.5 µg/l). Surrogate recoveries were within control limits. MS/MSD was analyzed in J2-CTI-28 Day 1. MS/MSD

recoveries and MS/MSD RPDs were within control limits. LCS/LCSD recoveries and LCS/LCSD RPDs were within control limits.

Dioxins/Furans. All required holding times were met. No method blank contamination was detected. Reporting limits were met. Internal standards. LCS, and MS/MSD recoveries were within control limits.

Total Organic Carbon. All required holding times were met. Method blank contamination was detected. No associated samples were qualified as concentrations were greater than five times the concentrations in the method blanks. Reporting limits were met. MS/MSD was analyzed in sample J2-CTI-28 Day 1. MS/MSD recoveries and RPDs were within control limits. LCS recoveries were within control limits.

Cyanide. All required holding times were met. No method or procedure blank contamination was detected. Reporting limits were met. MS/MSD was analyzed in sample J2-CTI-28 Day 1. MS/MSD recoveries were below control limits. Associated sample results were qualified (UJ). LCS recoveries were within control limits.

Total Suspended Solids. All required holding times were met. No method or procedure blank contamination was detected. Reporting limits were met. LCS recoveries were within control limits. Laboratory duplicate RPDs were within control limits.

APPENDIX C
ANALYTICAL RESULTS

Table C-1 - Bulk Chemistry Results for Amended Sediment without PROPAT®

Lab ID		C9E070135001	C9E070135002	C9E070135003	C9E070135004	C9E070135005
Sample ID	NRSCC	CC-Q-C	CC-Q-D	CC-Q-E	CC-Q-F	CC-Q-F-DUP
Sampling Date		5/05/99	5/05/99	5/05/99	5/05/99	5/05/99 DUP
Conventionals						
Percent Solids		64.5	60.6	62.5	68.7	69.2
Total Cyanide in mg/kg	21000	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Total Organic Carbon in mg/kg		25400	26800	27700	22800	23600
Metals in mg/kg						
Aluminum		14500	13800	19400	19100	16200
Antimony	340	1.3 J	1.3 J	1.3 J	1.1 J	1.1 J
Arsenic	20	21.7	22.3	26.9	29.7	29.6
Barium	47000	103	115	157	151	138
Beryllium	1	0.98 U	0.97 U	*1.3 U*	*1.2 U*	*1.1 U*
Cadmium	100	2.3 J	3.8 J	6.5 J	3 J	2.9 J
Calcium		47100	46700	57500	52800	50800
Chromium		118	167	219	135	132
Cobalt		10.5	9.4	12.5	11.7	10.4
Copper	600	124 J	167 J	197 J	143 J	141 J
Iron		24700 J	22100 J	28700 J	26700 J	24200 J
Lead	600	143 J	157 J	209 J	142 J	140 J
Magnesium		6890 J	6170 J	7960 J	7350 J	6820 J
Manganese		373 J	271 J	339 J	337 J	314 J
Mercury	270	1.8	3.1	3.4	2.3	2.3
Nickel	2400	27	28.4	40.4	31.1	28.2
Potassium		8850 J	8570 J	11300 J	10900 J	10400 J
Selenium	3100	3.6	3.6	4.2	4.3	3.9
Silver	4100	4.6	5.8	7.4	4	4.1
Sodium		5690	5150	7010	5580	5500
Thallium	2	1.8 U	*2.2 U*	*2.6 U*	*2.1 U*	1.9 U
Vanadium	7100	39.6 J	42.8 J	54.4 J	46 J	40.6 J
Zinc	1500	240	257	417	250	231

Table C-1 - Bulk Chemistry Results for Amended Sediment without PROPAT®

Lab ID		C9E070135001	C9E070135002	C9E070135003	C9E070135004	C9E070135005
Sample ID	NRSCC	CC-Q-C	CC-Q-D	CC-Q-E	CC-Q-F	CC-Q-F-DUP
Sampling Date		5/05/99	5/05/99	5/05/99	5/05/99	5/05/99 DUP
Pesticide/PCBs in µg/kg						
4,4'-DDD	12000	13 UJ	19 J	27 UJ	24 J	25 J
4,4'-DDE	9000	23 J	52 J	49 J	52 J	57 J
4,4'-DDT	9000	13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
Aldrin	170	13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
Aroclor 1016		51 U	54 U	260 UJ	48 U	48 U
Aroclor 1221		51 U	54 U	260 UJ	48 U	48 U
Aroclor 1232		51 U	54 U	260 UJ	48 U	48 U
Aroclor 1242		51 U	54 U	260 UJ	48 U	48 U
Aroclor 1248		350	790	2300 J	48 U	48 U
Aroclor 1254		300	640	1600 J	120	130
Aroclor 1260		94	280	430 J	100	100
Total PCBs	2000	744	1710	4330 J	220	230
Dieldrin	180	13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
Endosulfan I		13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
Endosulfan II		13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
Endosulfan sulfate		13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
Endrin	310000	13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
Endrin aldehyde		13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
Endrin ketone		13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
Heptachlor	650	13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
Heptachlor epoxide		13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
Methoxychlor	5200000	130 UJ	140 UJ	270 UJ	120 UJ	120 UJ
Toxaphene	200	100 UJ	110 UJ	110 UJ	97 UJ	97 UJ
alpha-BHC		13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
alpha-Chlordane		13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
beta-BHC		13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
delta-BHC		13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
gamma-BHC (Lindane)	2200	13 UJ	14 UJ	27 UJ	12 UJ	12 UJ
gamma-Chlordane		13 UJ	14 UJ	27 UJ	12 UJ	12 UJ

Table C-1 - Bulk Chemistry Results for Amended Sediment without PROPAT®

Lab ID		C9E070135001	C9E070135002	C9E070135003	C9E070135004	C9E070135005
Sample ID	NRSCC	CC-Q-C	CC-Q-D	CC-Q-E	CC-Q-F	CC-Q-F-DUP
Sampling Date		5/05/99	5/05/99	5/05/99	5/05/99	5/05/99 DUP
Semivolatiles in µg/kg						
2-Methylnaphthalene		510 U	2700 U	1100 UJ	340 J	310 J
Acenaphthene	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
Acenaphthylene		510 U	2700 U	1100 UJ	260 J	950 UJ
Anthracene	10000000	260 J	2700 U	360 J	440 J	370 J
Fluorene	10000000	510 U	2700 U	1100 UJ	170 J	950 UJ
Naphthalene	4200000	510 U	2700 U	240 J	460 J	430 J
Phenanthrene		340 J	2700 U	510 J	810 J	670 J
Benzo(a)anthracene	4000	210 J	2700 U	510 J	820 J	710 J
Benzo(a)pyrene	660	780	*2700 U*	*1100 UJ*	*960 UJ*	650 J
Benzo(b)fluoranthene	4000	220 J	2700 U	620 J	930 J	770 J
Benzo(ghi)perylene		180 J	400 J	1100 UJ	56 J	49 J
Benzo(k)fluoranthene	4000	510 U	2700 U	530 J	1000 J	760 J
Chrysene	40000	270 J	2700 U	650 J	1000 J	940 J
Dibenz(a,h)anthracene	660	510 U	*2700 U*	*1100 UJ*	*960 UJ*	*950 UJ*
Fluoranthene	10000000	420 J	1600 J	1200 J	1600 J	1300 J
Indeno(1,2,3-cd)pyrene	4000	200 J	440 J	59 J	85 J	77 J
Pyrene	10000000	410 J	1500 J	880 J	1200 J	1000 J
Butyl benzyl phthalate	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
Di-n-butyl phthalate	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
Di-n-octyl phthalate	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
Diethyl phthalate	*10000000*	*510 U*	*2700 U*	*1100 UJ*	*960 UJ*	*950 UJ*
Dimethyl phthalate	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
bis(2-Ethylhexyl) phthalate	210000	1400 J	4600 J	5100 J	350 J	270 J
2,4,5-Trichlorophenol	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
2,4,6-Trichlorophenol	270000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
2,4-Dichlorophenol	3100000	510 U	2700 U	1100 UJ	960 UJ	4800 UJ
2,4-Dimethylphenol	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
2,4-Dinitrophenol	2100000	2500 U	13000 U	5100 UJ	4700 UJ	4600 UJ
2-Chlorophenol	5200000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
2-Methylphenol	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
2-Nitrophenol		510 U	2700 U	1100 UJ	960 UJ	950 UJ
3- & 4-Methylphenol		510 U	2700 U	1100 UJ	270 J	270 J

Table C-1 - Bulk Chemistry Results for Amended Sediment without PROPAT®

Lab ID		C9E070135001	C9E070135002	C9E070135003	C9E070135004	C9E070135005
Sample ID	NRSCC	CC-Q-C	CC-Q-D	CC-Q-E	CC-Q-F	CC-Q-F-DUP
Sampling Date		5/05/99	5/05/99	5/05/99	5/05/99	5/05/99 DUP
4,6-Dinitro-2-methylphenol		2500 U	13000 U	5100 UJ	4700 UJ	4600 UJ
4-Chloro-3-methylphenol	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
4-Nitrophenol		2500 U	13000 U	5100 UJ	4700 UJ	4600 UJ
Pentachlorophenol	24000	2500 U	13000 U	5100 UJ	4700 UJ	4600 UJ
Phenol	10000000	510 U	2700 U	140 J	960 UJ	950 UJ
1,2,4-Trichlorobenzene	1200000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
1,2-Dichlorobenzene	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
1,3-Dichlorobenzene	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
1,4-Dichlorobenzene	10000000	510 U	2700 U	170 J	960 UJ	950 UJ
2,2'-oxybis(1-Chloropropane)	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
2,4-Dinitrotoluene		510 U	2700 U	1100 UJ	960 UJ	950 UJ
2,6-Dinitrotoluene		510 U	2700 U	1100 UJ	960 UJ	950 UJ
2-Chloronaphthalene		510 U	2700 U	1100 UJ	960 UJ	950 UJ
2-Nitroaniline		2500 U	13000 U	5100 UJ	4700 UJ	4600 UJ
3,3'-Dichlorobenzidine	6000	2500 U	*13000 U*	5100 UJ	4700 UJ	4600 UJ
3-Nitroaniline		2500 U	13000 U	5100 UJ	4700 UJ	4600 UJ
4-Bromophenyl phenyl ether		510 U	2700 U	1100 UJ	960 UJ	950 UJ
4-Chloroaniline	4200000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
4-Chlorophenyl phenyl ether		510 U	2700 U	1100 UJ	960 UJ	950 UJ
4-Nitroaniline		2500 U	13000 U	5100 UJ	4700 UJ	4600 UJ
Carbazole		510 U	2700 U	1100 UJ	960 UJ	950 UJ
Dibenzofuran		510 U	2700 U	1100 UJ	960 UJ	950 UJ
Hexachlorobenzene	2000	510 U	*2700 U*	1100 UJ	960 UJ	950 UJ
Hexachlorobutadiene	21000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
Hexachlorocyclopentadiene	7300000	2500 U	13000 U	5100 UJ	4700 UJ	4600 UJ
Hexachloroethane	100000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
Isophorone	10000000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
N-Nitrosodi-n-propylamine	660	510 U	*2700 U*	*1100 UJ*	*960 UJ*	*950 UJ*
N-Nitrosodiphenylamine	600000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
Nitrobenzene	520000	510 U	2700 U	1100 UJ	960 UJ	950 UJ
bis(2-Chloroethoxy)methane		510 U	2700 U	1100 UJ	960 UJ	950 UJ
bis(2-Chloroethyl) ether		510 U	2700 U	1100 UJ	960 UJ	950 UJ

Table C-1 - Bulk Chemistry Results for Amended Sediment without PROPAT®

Lab ID		C9E070135006	C9E070135007	C9E070135008	C9E070135009	C9E190199001
Sample ID	NRSCC	CC-Q-G	CC-Q-H	CC-Q-I	CC-Q-J	CC-Q-PA
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/13/99
Conventionals						
Percent Solids		66.6	64.4	66.3	65.1	61.7
Total Cyanide in mg/kg	21000	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Total Organic Carbon in mg/kg		27000	27600	30500	31900	20600
Metals in mg/kg						
Aluminum		16800	20400	15800	14200	14400
Antimony	340	1.5 J	0.85 J	1.1 J	1.3 J	1.3 J
Arsenic	20	30.5	21.7	20.4	26.9	18.4
Barium	47000	152	125	106	138	100 J
Beryllium	1	1.1	1.2	1	0.97 U	0.73 UJ
Cadmium	100	4.8 J	2.8 J	2.9 J	8 J	2.3 J
Calcium		56700	57300	51000	49300	107000
Chromium		209	123	114	239	110 J
Cobalt		10.6	12.9	11	10.6	9.8 J
Copper	600	185 J	127 J	125 J	192 J	122 J
Iron		25800 J	28800 J	24800 J	22400 J	25300 J
Lead	600	189 J	147 J	144 J	218 J	132 J
Magnesium		7070 J	7980 J	7000 J	6410 J	7010 J
Manganese		315 J	502 J	459 J	279 J	333 J
Mercury	270	3.5	2	2.1	3.7	2.1
Nickel	2400	34.9	35.3	30.6	43.1	25.2 J
Potassium		10600 J	10900 J	9880 J	9010 J	8730 J
Selenium	3100	4.4	4.1	3.8	3.8	3.9 J
Silver	4100	7.7	5.2	4.7	7.4	3.9
Sodium		5640	6220	5710	5940	6620 J
Thallium	2	1.8	2.2	1.4 J	1.8	1.2 UJ
Vanadium	7100	52.8 J	49 J	41.1 J	46.5 J	34.1 J
Zinc	1500	304	281	259	463	263 J

Table C-1 - Bulk Chemistry Results for Amended Sediment without PROPAT®

Lab ID		C9E070135006	C9E070135007	C9E070135008	C9E070135009	C9E190199001
Sample ID	NRSCC	CC-Q-G	CC-Q-H	CC-Q-I	CC-Q-J	CC-Q-PA
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/13/99
Pesticide/PCBs in µg/kg						
4,4'-DDD	12000	26 J	5.3 U	13 UJ	26 UJ	14 U
4,4'-DDE	9000	61 J	10	13 J	34 J	26
4,4'-DDT	9000	13 UJ	5.3 U	13 UJ	26 UJ	14 U
Aldrin	170	13 UJ	5.3 U	13 UJ	26 UJ	14 U
Aroclor 1016		50 U	51 U	50 U	250 U	54 U
Aroclor 1221		50 U	51 U	50 U	250 U	54 U
Aroclor 1232		50 U	51 U	50 U	250 U	54 U
Aroclor 1242		50 U	51 U	50 U	250 U	54 U
Aroclor 1248		760	300	460	2200	530
Aroclor 1254		630	170	260	1500	630
Aroclor 1260		290	110	140	600	54 U
Total PCBs	2000	1680	580	860	4300	1160
Dieldrin	180	13 UJ	5.3 U	13 UJ	26 UJ	14 U
Endosulfan I		13 UJ	5.3 U	13 UJ	26 UJ	14 U
Endosulfan II		13 UJ	5.3 U	13 UJ	26 UJ	14 U
Endosulfan sulfate		13 UJ	5.3 U	13 UJ	26 UJ	14 U
Endrin	310000	13 UJ	5.3 U	13 UJ	26 UJ	14 U
Endrin aldehyde		13 UJ	5.3 U	13 UJ	26 UJ	14 U
Endrin ketone		13 UJ	5.3 U	13 UJ	26 UJ	14 U
Heptachlor	650	13 UJ	5.3 U	13 UJ	26 UJ	14 U
Heptachlor epoxide		13 UJ	5.3 U	13 UJ	26 UJ	14 U
Methoxychlor	5200000	130 UJ	53 U	130 UJ	260 UJ	140 U
Toxaphene	200	100 UJ	100 UJ	100 UJ	100 UJ	110 UJ
alpha-BHC		13 UJ	5.3 U	13 UJ	26 UJ	14 U
alpha-Chlordane		13 UJ	5.3 U	13 UJ	26 UJ	14 U
beta-BHC		13 UJ	5.3 U	13 UJ	26 UJ	14 U
delta-BHC		13 UJ	5.3 U	13 UJ	26 UJ	14 U
gamma-BHC (Lindane)	2200	13 UJ	5.3 U	13 UJ	26 UJ	14 U
gamma-Chlordane		13 UJ	5.3 U	13 UJ	26 UJ	14 U

Table C-1 - Bulk Chemistry Results for Amended Sediment without PROPAT®

Lab ID		C9E070135006	C9E070135007	C9E070135008	C9E070135009	C9E190199001
Sample ID	NRSCC	CC-Q-G	CC-Q-H	CC-Q-I	CC-Q-J	CC-Q-PA
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/13/99
Semivolatiles in µg/kg						
2-Methylnaphthalene		320 J	1000 UJ	990 UJ	1000 UJ	27000 UJ
Acenaphthene	10000000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
Acenaphthylene		990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
Anthracene	10000000	330 J	1000 UJ	990 UJ	590 J	27000 UJ
Fluorene	*10000000*	*5000 UJ*	*1000 UJ*	*990 UJ*	*1000 UJ*	*27000 UJ*
Naphthalene	4200000	450 J	1000 UJ	990 UJ	300 J	27000 UJ
Phenanthrene		590 J	350 J	280 J	470 J	27000 UJ
Benzo(a)anthracene	4000	580 J	420 J	290 J	500 J	*27000 UJ*
Benzo(a)pyrene	660	*990 UJ*	540 J	330 J	*1000 UJ*	*27000 UJ*
Benzo(b)fluoranthene	4000	780 J	480 J	270 J	630 J	27000 *UJ*
Benzo(ghi)perylene		990 UJ	100 UJ	990 UJ	1000 UJ	27000 UJ
Benzo(k)fluoranthene	4000	740 J	620 J	280 J	650 J	*27000 UJ*
Chrysene	40000	740 J	510 J	340 J	620 J	27000 UJ
Dibenz(a,h)anthracene	660	*990 UJ*	*1000 UJ*	990 UJ	1000 UJ	*27000 UJ*
Fluoranthene	10000000	1200 J	750 J	540 J	990 J	27000 UJ
Indeno(1,2,3-cd)pyrene	4000	67 J	66 J	50 J	1000 UJ	*27000 UJ*
Pyrene	10000000	930 J	610 J	430 J	720 J	27000 UJ
Butyl benzyl phthalate	10000000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
Di-n-butyl phthalate	10000000	280 J	300 J	1600 J	1000 UJ	27000 UJ
Di-n-octyl phthalate	10000000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
Diethyl phthalate	10000000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
Dimethyl phthalate	10000000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
bis(2-Ethylhexyl) phthalate	210000	3800 J	4800 J	2900 J	6900 J	27000 UJ
2,4,5-Trichlorophenol	10000000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
2,4,6-Trichlorophenol	270000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
2,4-Dichlorophenol	3100000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
2,4-Dimethylphenol	10000000	370 J	1000 UJ	990 UJ	1000 UJ	27000 UJ
2,4-Dinitrophenol	2100000	4800 UJ	5000 UJ	4800 UJ	4900 UJ	*130000 UJ*
2-Chlorophenol	5200000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
2-Methylphenol	10000000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
2-Nitrophenol		990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
3- & 4-Methylphenol		480 J	1000 UJ	990 UJ	640 J	27000 UJ

Table C-1 - Bulk Chemistry Results for Amended Sediment without PROPAT®

Lab ID		C9E070135006	C9E070135007	C9E070135008	C9E070135009	C9E190199001
Sample ID	NRSCC	CC-Q-G	CC-Q-H	CC-Q-I	CC-Q-J	CC-Q-PA
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/13/99
4,6-Dinitro-2-methylphenol		4800 UJ	5000 UJ	4800 UJ	4900 UJ	130000 UJ
4-Chloro-3-methylphenol	10000000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
4-Nitrophenol		4800 UJ	5000 UJ	4800 UJ	4900 UJ	130000 UJ
Pentachlorophenol	24000	4800 UJ	5000 UJ	4800 UJ	4900 UJ	*130000 UJ*
Phenol	10000000	150 J	190 J	990 UJ	300 J	27000 UJ
1,2,4-Trichlorobenzene	1200000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
1,2-Dichlorobenzene	10000000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
1,3-Dichlorobenzene	10000000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
1,4-Dichlorobenzene	10000000	160 J	1000 UJ	990 UJ	380 J	27000 UJ
2,2'-oxybis(1-Chloropropane)	10000000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
2,4-Dinitrotoluene		990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
2,6-Dinitrotoluene		990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
2-Chloronaphthalene		990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
2-Nitroaniline		4800 UJ	5000 UJ	4800 UJ	4900 UJ	130000 UJ
3,3'-Dichlorobenzidine	6000	4800 UJ	5000 UJ	4800 UJ	4900 UJ	*130000 UJ*
3-Nitroaniline		4800 UJ	5000 UJ	4800 UJ	4900 UJ	130000 UJ
4-Bromophenyl phenyl ether		990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
4-Chloroaniline	4200000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
4-Chlorophenyl phenyl ether		990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
4-Nitroaniline		4800 UJ	5000 UJ	4800 UJ	4900 UJ	130000 UJ
Carbazole		990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
Dibenzofuran		990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
Hexachlorobenzene	2000	990 UJ	1000 UJ	990 UJ	1000 UJ	*27000 UJ*
Hexachlorobutadiene	21000	990 UJ	1000 UJ	990 UJ	1000 UJ	*27000 UJ*
Hexachlorocyclopentadiene	7300000	4800 UJ	5000 UJ	4800 UJ	4900 UJ	130000 UJ
Hexachloroethane	100000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
Isophorone	10000000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
N-Nitrosodi-n-propylamine	660	*990 UJ*	*1000 UJ*	*990 UJ*	*1000 UJ*	*27000 UJ*
N-Nitrosodiphenylamine	600000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
Nitrobenzene	520000	990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
bis(2-Chloroethoxy)methane		990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ
bis(2-Chloroethyl) ether		990 UJ	1000 UJ	990 UJ	1000 UJ	27000 UJ

U Not detected at indicated detection limit.

J Estimated value.

Value exceeds screening criteria.

Detection limits that exceed the screening criteria are italicized.

NRSCC - NJDEP Non-Residential Soil Cleanup Criteria.

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220001	C9E100115001	C9E100116001	C9E110207001	C9E120109001	C9E130222001	C9E140223001
Sample ID	GWQS	CC-Q-C LEACH #1	CC-Q-C LEACH #2	CC-Q-C LEACH #3	CC-Q-C LEACH #4	CC-Q-C LEACH #5	CC-Q-C LEACH #6	CC-Q-C LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Conventionals								
Total Cyanide in µg/L		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total Organic Carbon in mg/L		39.2	5.7	4.7	3.4	3.5	3.5	1.2
Metals in µg/L								
Aluminum	200	1140	3460	3890	4480	3780	3330	2590
Antimony	20	3.2 J	3.4 J	3.6 J	2.8 J	2.4 J	3.7 J	3.1 J
Arsenic	8	7.9 J	5.7 J	5.3 J	4.1 J	5.5 J	7.8 J	11.4
Barium	2000	28.6 J	11.1 J	7.2 J	4.3 UJ	4.4 J	2.7 J	2.6 J
Beryllium	20	0.07 UJ	0.05 U	0.05 U	0.05 U	0.15 J	0.12 UJ	0.14 UJ
Cadmium	4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Calcium		105000	81300	69200	61000	57600	39600	25800
Chromium	100	20.1	28.1	23.6	20.9	27.5	19.6	15.1
Cobalt		6.3 J	1.4 U	2.2 J	1.4 U	1.4 U	1.4 U	1.4 U
Copper	1000	454	77.2	38.6	29.8	35.2	28.8	28.5
Iron	300	12.2 J	264	18.9 J	8.4 UJ	19.6 J	96 J	60.4 J
Lead	10	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Magnesium		128 J	127 J	71.6 J	53.7 J	110 J	88.5 J	110 J
Manganese	50	1.1 U	3.8 J	1.1 U	1.1 U	1.1 U	1.4 J	1.2 J
Mercury	2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	100	80.7	11 J	8.1 U	8.1 U	12.7 J	8.1 U	8.1 U
Potassium		191000	37200	12500	5580	3380 J	1590 J	1520 UJ
Selenium	50	13.1	9.3	9.4	11.4	12.1	11.3 U	9.2
Silver		0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Sodium	50000	175000	23500	8010	5430	8200	11400	15000
Thallium	10	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Vanadium		59.2	38.5 J	32.4 J	29.1 J	28.6 J	27.7 J	33.1 J
Zinc	5000	6.1 U	6.1 U	9.9 J	6.1 U	6.1 U	9.5 J	6.1 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220001	C9E100115001	C9E100116001	C9E110207001	C9E120109001	C9E130222001	C9E140223001
Sample ID	GWQS	CC-Q-C LEACH #1	CC-Q-C LEACH #2	CC-Q-C LEACH #3	CC-Q-C LEACH #4	CC-Q-C LEACH #5	CC-Q-C LEACH #6	CC-Q-C LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pesticide/PCBs in µg/L								
4,4'-DDD	0.1	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDE	0.1	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT	0.1	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	0.04	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Aroclor 1016		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1221		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1232		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1242		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1248		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1254		1.1 U	1 U	1.6	1 U	1 U	1 U	1 U
Aroclor 1260		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total PCBs	0.5	*1.1 U*	*1 U*	1.6	*1 U*	*1 U*	*1 U*	*1 U*
Dieldrin	0.03	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Endosulfan I	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan sulfate	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin	2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin aldehyde		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin ketone		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	40	0.56 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	3	2.2 U	2 U	2 U	2 U	2 U	2 U	2 U
alpha-BHC	0.02	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
alpha-Chlordane		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
beta-BHC	0.2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220001	C9E100115001	C9E100116001	C9E110207001	C9E120109001	C9E130222001	C9E140223001
Sample ID	GWQS	CC-Q-C LEACH #1	CC-Q-C LEACH #2	CC-Q-C LEACH #3	CC-Q-C LEACH #4	CC-Q-C LEACH #5	CC-Q-C LEACH #6	CC-Q-C LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Semivolatiles in mg/L								
2-Methylnaphthalene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Acenaphthene	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Acenaphthylene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Anthracene	2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Fluorene	0.3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Naphthalene	0.3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Phenanthrene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Benzo(a)anthracene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Benzo(a)pyrene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Benzo(b)fluoranthene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Benzo(ghi)perylene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Benzo(k)fluoranthene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Chrysene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Dibenz(a,h)anthracene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Fluoranthene	0.3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Indeno(1,2,3-cd)pyrene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Pyrene	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Butyl benzyl phthalate	0.1	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Di-n-butyl phthalate	0.9	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Di-n-octyl phthalate	0.1	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Diethyl phthalate	5	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Dimethyl phthalate		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
bis(2-Ethylhexyl) phthalate	0.03	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
2,4,5-Trichlorophenol	0.7	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
2,4,6-Trichlorophenol	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
2,4-Dichlorophenol	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
2,4-Dimethylphenol	0.1	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
2,4-Dinitrophenol	0.04	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.2 U*
2-Chlorophenol	0.04	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
2-Methylphenol		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
2-Nitrophenol		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
4,6-Dinitro-2-methylphenol		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U
4-Chloro-3-methylphenol		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
4-Nitrophenol		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220001	C9E100115001	C9E100116001	C9E110207001	C9E120109001	C9E130222001	C9E140223001
Sample ID	GWQS	CC-Q-C LEACH #1	CC-Q-C LEACH #2	CC-Q-C LEACH #3	CC-Q-C LEACH #4	CC-Q-C LEACH #5	CC-Q-C LEACH #6	CC-Q-C LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pentachlorophenol	0.001	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.2 U*
Phenol	4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
1,2,4-Trichlorobenzene	0.009	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.04 U*
1,2-Dichlorobenzene	0.6	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
1,3-Dichlorobenzene	0.6	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
1,4-Dichlorobenzene	0.075	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
2,2'-oxybis(1-Chloropropa	0.3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
2,4-Dinitrotoluene	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.04* U
2,6-Dinitrotoluene	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.04* U
2-Chloronaphthalene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
2-Nitroaniline		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U
3,3'-Dichlorobenzidine	0.06	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	*0.2* U
3-Nitroaniline		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U
4-Bromophenyl phenyl ether		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
4-Chloroaniline		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
4-Chlorophenyl phenyl ether		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
4-Nitroaniline		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.2 U
Carbazole		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Dibenzofuran		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Hexachlorobenzene	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
Hexachlorobutadiene	0.001	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.04 U*
Hexachlorocyclopentadie	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	*0.2* U
Hexachloroethane	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.04* U
Isophorone	0.1	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
N-Nitrosodi-n-propylamin	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.04* U
N-Nitrosodiphenylamine	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.04* U
Nitrobenzene	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.04* U
bis(2-Chloroethoxy)methane		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.04 U
bis(2-Chloroethyl) ether	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.04* U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220002	C9E100115002	C9E100116002	C9E110207002	C9E120109002	C9E130222002	C9E140223002
Sample ID	GWQS	CC-Q-D LEACH #1	CC-Q-D LEACH #2	CC-Q-D LEACH #3	CC-Q-D LEACH #4	CC-Q-D LEACH #5	CC-Q-D LEACH #6	CC-Q-D LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Conventionals								
Total Cyanide in µg/L		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total Organic Carbon in mg/L		30.5	5.8				2.5	1.9
Metals in µg/L								
Aluminum	200	2310	3900	4580	4010	4040	3390	2440
Antimony	20	7.7 J	6.1 J	4.1 J	5.1 J	4.2 J	3.8 J	2.8 J
Arsenic	8	10.8	6.2 J	4.2 J	6 J	7 J	8 J	11.5
Barium	2000	26.9 J	16.8 J	9.5 J	4.9 UJ	4 J	3.1 J	3 J
Beryllium	20	0.08 UJ	0.05 U	0.07 UJ	0.05 U	0.05 U	0.19 UJ	0.1 UJ
Cadmium	4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Calcium		88900	90100	77100	68300	51300	37000	27100
Chromium	100	36.8	46.1	42.8	39.2	37.2	31.1	30.4
Cobalt		6.1 J	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Copper	1000	443	89.7	45.6	35.6	33	28.3	33.3
Iron	300	72.4 J	748	83.5 J	19.6 UJ	53.5 J	24.3 J	80.7 J
Lead	10	1.1 U	4.4	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Magnesium		61.4 J	235 J	81.2 J	65.5 J	49.6 J	53.8 J	164 J
Manganese	50	1.1 U	8.7 J	1.4 UJ	1.1 U	1.1 U	1.1 U	1.2 J
Mercury	2	0.1 U	0.1 U	0.14 J	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	100	93.5	16.6 J	8.1 U	8.1 U	13 J	8.1 U	8.1 U
Potassium		216000	39200	12700	4500 J	3060 J	2070 J	354 U
Selenium	50	17.2	9.4	12.4	12.6	15.3	13.2 U	10.2
Silver		0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Sodium	50000	175000	17400	6090	6630	3500 J	2880 J	15300
Thallium	10	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	6.3 UJ
Vanadium		88.6	43.7 J	32.5 J	29.7 J	31 J	36 J	36.2 J
Zinc	5000	6.1 U	14.3 J	16.2 J	6.1 U	6.1 U	6.1 U	6.5 J

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220002	C9E100115002	C9E100116002	C9E110207002	C9E120109002	C9E130222002	C9E140223002
Sample ID	GWQS	CC-Q-D LEACH #1	CC-Q-D LEACH #2	CC-Q-D LEACH #3	CC-Q-D LEACH #4	CC-Q-D LEACH #5	CC-Q-D LEACH #6	CC-Q-D LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pesticide/PCBs in µg/L								
4,4'-DDD	0.1	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
4,4'-DDE	0.1	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
4,4'-DDT	0.1	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Aldrin	0.04	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Aroclor 1016		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1221		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1232		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1242		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1248		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1254		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1260		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total PCBs	0.5	*1.1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*
Dieldrin	0.03	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Endosulfan I	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan sulfate	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin	2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin aldehyde		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin ketone		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	40	0.56 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	3	2.2 U	2 U	2 U	2 U	2 U	2 U	2 U
alpha-BHC	0.02	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
alpha-Chlordane		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
beta-BHC	0.2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220002	C9E100115002	C9E100116002	C9E110207002	C9E120109002	C9E130222002	C9E140223002
Sample ID	GWQS	CC-Q-D LEACH #1	CC-Q-D LEACH #2	CC-Q-D LEACH #3	CC-Q-D LEACH #4	CC-Q-D LEACH #5	CC-Q-D LEACH #6	CC-Q-D LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Semivolatiles in mg/L								
2-Methylnaphthalene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthene	0.4	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthylene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Anthracene	2	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Fluorene	0.3	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Naphthalene	0.3	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenanthrene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)anthracene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(ghi)perylene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenz(a,h)anthracene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Fluoranthene	0.3	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Indeno(1,2,3-cd)pyrene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Pyrene	0.2	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Butyl benzyl phthalate	0.1	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Di-n-butyl phthalate	0.9	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.004 J
Di-n-octyl phthalate	0.1	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Diethyl phthalate	5	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Dimethyl phthalate		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
bis(2-Ethylhexyl) phthalate	0.03	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.0043 J	0.01 U
2,4,5-Trichlorophenol	0.7	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4,6-Trichlorophenol	0.02	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dichlorophenol	0.02	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dimethylphenol	0.1	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dinitrophenol	0.04	*0.05 U*	*0.05 U*	*0.053 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.052 U*
2-Chlorophenol	0.04	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Methylphenol		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Nitrophenol		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4,6-Dinitro-2-methylphenol		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.052 U
4-Chloro-3-methylphenol		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Nitrophenol		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.052 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220002	C9E100115002	C9E100116002	C9E110207002	C9E120109002	C9E130222002	C9E140223002
Sample ID	GWQS	CC-Q-D LEACH #1	CC-Q-D LEACH #2	CC-Q-D LEACH #3	CC-Q-D LEACH #4	CC-Q-D LEACH #5	CC-Q-D LEACH #6	CC-Q-D LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pentachlorophenol	0.001	*0.05 U*	*0.05 U*	*0.053 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.052 U*
Phenol	4	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
1,2,4-Trichlorobenzene	0.009	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
1,2-Dichlorobenzene	0.6	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
1,3-Dichlorobenzene	0.6	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
1,4-Dichlorobenzene	0.075	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,2'-oxybis(1-Chloropropa	0.3	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dinitrotoluene	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,6-Dinitrotoluene	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Chloronaphthalene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Nitroaniline		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.052 U
3,3'-Dichlorobenzidine	0.06	0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.052 U
3-Nitroaniline		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.052 U
4-Bromophenyl phenyl ether		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Chloroaniline		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Chlorophenyl phenyl ether		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Nitroaniline		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.052 U
Carbazole		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzofuran		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachlorobenzene	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachlorobutadiene	0.001	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachlorocyclopentadie	0.05	0.05 U	0.05 U	*0.053 U*	0.05 U	0.05 U	0.05 U	*0.052 U*
Hexachloroethane	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Isophorone	0.1	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
N-Nitrosodi-n-propylamin	0.02	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
N-Nitrosodiphenylamine	0.02	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Nitrobenzene	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
bis(2-Chloroethoxy)methane		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
bis(2-Chloroethyl) ether	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220003	C9E100115003	C9E100116003	C9E110207003	C9E120109003	C9E130222003	C9E140223003
Sample ID	GWQS	CC-Q-E LEACH #1	CC-Q-E LEACH #2	CC-Q-E LEACH #3	CC-Q-E LEACH #4	CC-Q-E LEACH #5	CC-Q-E LEACH #6	CC-Q-E LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Conventionals								
Total Cyanide in µg/L		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total Organic Carbon in mg/L		32.9	5.6	3.6	3.1	2.7	2.4	1.9
Metals in µg/L								
Aluminum	200	2730	3050	4510	4340	5480	5080	3200
Antimony	20	7.5 J	5.0 J	4.0 J	4.9 J	4.4 J	4.2 J	4.3 J
Arsenic	8	8 J	5.6 J	4 J	4.6 J	4.8 J	4.7 J	7.8 J
Barium	2000	32.6 J	14.5 J	13.5 J	6.5 J	5.6 J	4.1 J	3 J
Beryllium	20	0.05 U	0.05 U	0.05 U	0.05 U	0.1 UJ	0.15 UJ	0.18 UJ
Cadmium	4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Calcium		88600	85600	84100	75400	63700	51300	37900
Chromium	100	37.4	40.3	45.8	42.1	38.5	32.1	34.2
Cobalt		9.3 J	1.4 U	1.6 UJ	1.4 U	1.4 U	1.4 U	1.4 U
Copper	1000	210	93.1	55.9	43.6	34.7	30	38.1
Iron	300	524	133	315	24 J	27.6 J	8.6 J	30.1 J
Lead	10	3.8	1.1 U	1.8 J	1.1 U	1.1 U	1.1 U	1.1 U
Magnesium		171 J	78.9 J	139 J	45.9 J	49 J	48 J	168 J
Manganese	50	6.5 J	2 J	4.1 UJ	1.1 U	1.1 U	1.1 U	1.1 U
Mercury	2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	100	104	14.5 J	8.1 U	8.1 U	8.8 J	9.6 J	8.3 J
Potassium		232000	40500	13500	5780	3440 J	2180 J	354 U
Selenium	50	15.4	9.5	9.1	10.6	11.5 U	12.6	11.4
Silver		0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.84 UJ
Sodium	50000	202000	22900	6130	3380 J	2480 J	2510 J	16700
Thallium	10	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Vanadium		71.9	37.5 J	31.4 J	26.9 J	26.7 J	27.8 J	27.2 J
Zinc	5000	9.9 J	6.1 U	10.6 J	16.4 J	6.1 U	6.1 U	7.8 J

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220003	C9E100115003	C9E100116003	C9E110207003	C9E120109003	C9E130222003	C9E140223003
Sample ID	GWQS	CC-Q-E LEACH #1	CC-Q-E LEACH #2	CC-Q-E LEACH #3	CC-Q-E LEACH #4	CC-Q-E LEACH #5	CC-Q-E LEACH #6	CC-Q-E LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pesticide/PCBs in µg/L								
4,4'-DDD	0.1	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDE	0.1	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT	0.1	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	0.04	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Aroclor 1016		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1221		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1232		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1242		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1248		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1254		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1260		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total PCBs	0.5	*1.1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*
Dieldrin	0.03	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Endosulfan I	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan sulfate	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin	2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin aldehyde		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin ketone		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	40	0.56 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	3	2.2 U	2 U	2 U	2 U	2 U	2 U	2 U
alpha-BHC	0.02	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
alpha-Chlordane		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
beta-BHC	0.2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220003	C9E100115003	C9E100116003	C9E110207003	C9E120109003	C9E130222003	C9E140223003
Sample ID	GWQS	CC-Q-E LEACH #1	CC-Q-E LEACH #2	CC-Q-E LEACH #3	CC-Q-E LEACH #4	CC-Q-E LEACH #5	CC-Q-E LEACH #6	CC-Q-E LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Semivolatiles in mg/L								
2-Methylnaphthalene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthene	0.4	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthylene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Anthracene	2	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Fluorene	0.3	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Naphthalene	0.3	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenanthrene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)anthracene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(ghi)perylene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenz(a,h)anthracene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Fluoranthene	0.3	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Indeno(1,2,3-cd)pyrene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Pyrene	0.2	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Butyl benzyl phthalate	0.1	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Di-n-butyl phthalate	0.9	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Di-n-octyl phthalate	0.1	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Diethyl phthalate	5	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Dimethyl phthalate		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
bis(2-Ethylhexyl) phthalate	0.03	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4,5-Trichlorophenol	0.7	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4,6-Trichlorophenol	0.02	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dichlorophenol	0.02	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dimethylphenol	0.1	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dinitrophenol	0.04	*0.05 U*	*0.05 U*	*0.053 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.051 U*
2-Chlorophenol	0.04	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Methylphenol		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Nitrophenol		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4,6-Dinitro-2-methylphenol		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.051 U
4-Chloro-3-methylphenol		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Nitrophenol		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.051 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220003	C9E100115003	C9E100116003	C9E110207003	C9E120109003	C9E130222003	C9E140223003
Sample ID	GWQS	CC-Q-E LEACH #1	CC-Q-E LEACH #2	CC-Q-E LEACH #3	CC-Q-E LEACH #4	CC-Q-E LEACH #5	CC-Q-E LEACH #6	CC-Q-E LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pentachlorophenol	0.001	*0.05 U*	*0.05 U*	*0.053 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.051 U*
Phenol	4	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
1,2,4-Trichlorobenzene	0.009	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
1,2-Dichlorobenzene	0.6	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
1,3-Dichlorobenzene	0.6	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
1,4-Dichlorobenzene	0.075	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,2'-oxybis(1-Chloropropa	0.3	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dinitrotoluene	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,6-Dinitrotoluene	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Chloronaphthalene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Nitroaniline		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.051 U
3,3'-Dichlorobenzidine	0.06	0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.051 U
3-Nitroaniline		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.051 U
4-Bromophenyl phenyl ether		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Chloroaniline		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Chlorophenyl phenyl ether		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Nitroaniline		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.051 U
Carbazole		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzofuran		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachlorobenzene	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachlorobutadiene	0.001	*0.01 U*	*0.01 U*	*0.011 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*
Hexachlorocyclopentadie	0.05	0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	*0.051* U
Hexachloroethane	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Isophorone	0.1	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
N-Nitrosodi-n-propylamin	0.02	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
N-Nitrosodiphenylamine	0.02	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Nitrobenzene	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
bis(2-Chloroethoxy)methane		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
bis(2-Chloroethyl) ether	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220004	C9E100115004	C9E100116004	C9E110207004	C9E120109004	C9E130222004	C9E140223004
Sample ID	GWQS	CC-Q-F LEACH #1	CC-Q-F LEACH #2	CC-Q-F LEACH #3	CC-Q-F LEACH #4	CC-Q-F LEACH #5	CC-Q-F LEACH #6	CC-Q-F LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Conventionals								
Total Cyanide in µg/L		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total Organic Carbon in mg/L		25.3	4.3	2.5	2.5	2.1	1.9	1.3
Metals in µg/L								
Aluminum	200	1300	2410	3420	4240	5420	4630	4720
Antimony	20	2.3 J	3.2 J	3.3 J	4.6 J	2.9 J	5.0 J	3.5 J
Arsenic	8	7.9 J	3.2 J	4.3 J	5.3 J	5 J	4.8 J	6.2 J
Barium	2000	38.7 J	15.6 J	13.6 J	8 J	10.8 J	4.4 J	5.7 J
Beryllium	20	0.05 U	0.05 U	0.05 U	0.05 U	0.16 UJ	0.12 UJ	0.17 UJ
Cadmium	4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Calcium		91400	87000	87400	77700	67900	57600	55600
Chromium	100	27	33.3	33.8	32.1	31.5	24.8	31
Cobalt		3 J	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Copper	1000	602	85.2	41.9	33.1	27.5	22.3 J	32.8
Iron	300	176	8 J	239	10.1 J	541	19.8 J	36.5 J
Lead	10	1.1 U	1.1 U	1.1 U	1.1 U	2.7 J	1.1 U	1.1 U
Magnesium		105 J	37.1 J	106 J	31.9 J	179 J	61.3 J	183 J
Manganese	50	2.8 J	1.1 U	3.2 UJ	1.1 U	7.5 J	1.1 U	1.1 U
Mercury	2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	100	87.1	11.5 J	8.1 U	8.1 U	8.1 U	8.1 U	9.2 J
Potassium		243000	43600	15000	6440	3630 J	1260 J	526 UJ
Selenium	50	12.6	5.6	6.3	7.2	7.9 UJ	8.9	10.6
Silver		0.7 U	0.7 U	0.7 U	0.7 U	1 J	0.7 U	0.7 U
Sodium	50000	180000	19000	5370	2980 J	3110 J	9020	21400
Thallium	10	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Vanadium		51.6	31.3 J	25.8 J	23.5 J	23.5 J	18.4 J	21.9 J
Zinc	5000	6.1 U	6.1 U	7.8 J	6.1 U	6.2 J	6.1 U	6.1 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220004	C9E100115004	C9E100116004	C9E110207004	C9E120109004	C9E130222004	C9E140223004
Sample ID	GWQS	CC-Q-F LEACH #1	CC-Q-F LEACH #2	CC-Q-F LEACH #3	CC-Q-F LEACH #4	CC-Q-F LEACH #5	CC-Q-F LEACH #6	CC-Q-F LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pesticide/PCBs in µg/L								
4,4'-DDD	0.1	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDE	0.1	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT	0.1	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	0.04	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Aroclor 1016		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1221		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1232		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1242		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1248		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1254		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1260		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total PCBs	0.5	*1.1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*
Dieldrin	0.03	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Endosulfan I	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan sulfate	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin	2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin aldehyde		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin ketone		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.4	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	40	0.56 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	3	2.2 U	2 U	2 U	2 U	2 U	2 U	2 U
alpha-BHC	0.02	*0.056 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
alpha-Chlordane		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
beta-BHC	0.2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.2	0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane		0.056 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220004	C9E100115004	C9E100116004	C9E110207004	C9E120109004	C9E130222004	C9E140223004
Sample ID	GWQS	CC-Q-F LEACH #1	CC-Q-F LEACH #2	CC-Q-F LEACH #3	CC-Q-F LEACH #4	CC-Q-F LEACH #5	CC-Q-F LEACH #6	CC-Q-F LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Semivolatiles in mg/L								
2-Methylnaphthalene		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Acenaphthene	0.4	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Acenaphthylene		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Anthracene	2	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Fluorene	0.3	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Naphthalene	0.3	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Phenanthrene		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Benzo(a)anthracene		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Benzo(ghi)perylene		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Chrysene		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Dibenz(a,h)anthracene		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Fluoranthene	0.3	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Indeno(1,2,3-cd)pyrene		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Pyrene	0.2	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Butyl benzyl phthalate	0.1	0.01 U	0.01 U	0.0033 J	0.011 U	0.01 U	0.01 U	0.01 U
Di-n-butyl phthalate	0.9	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Di-n-octyl phthalate	0.1	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Diethyl phthalate	5	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Dimethyl phthalate		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
bis(2-Ethylhexyl) phthalate	0.03	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.013 J
2,4,5-Trichlorophenol	0.7	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
2,4,6-Trichlorophenol	0.02	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
2,4-Dichlorophenol	0.02	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
2,4-Dimethylphenol	0.1	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
2,4-Dinitrophenol	0.04	*0.05 U*	*0.05 U*	*0.053 U*	*0.053 U*	*0.05 U*	*0.05 U*	*0.052 U*
2-Chlorophenol	0.04	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
2-Methylphenol		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
2-Nitrophenol		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
4,6-Dinitro-2-methylphenol		0.05 U	0.05 U	0.053 U	0.053 U	0.05 U	0.05 U	0.052 U
4-Chloro-3-methylphenol		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
4-Nitrophenol		0.05 U	0.05 U	0.053 U	0.053 U	0.05 U	0.05 U	0.052 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220004	C9E100115004	C9E100116004	C9E110207004	C9E120109004	C9E130222004	C9E140223004
Sample ID	GWQS	CC-Q-F LEACH #1	CC-Q-F LEACH #2	CC-Q-F LEACH #3	CC-Q-F LEACH #4	CC-Q-F LEACH #5	CC-Q-F LEACH #6	CC-Q-F LEACH #7
Sampling Date		5/05/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pentachlorophenol	0.001	*0.05 U*	*0.05 U*	*0.053 U*	*0.053 U*	*0.05 U*	*0.05 U*	*0.052 U*
Phenol	4	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
1,2,4-Trichlorobenzene	0.009	*0.01 U*	*0.01 U*	*0.011 U*	*0.011 U*	*0.01 U*	*0.01 U*	*0.01 U*
1,2-Dichlorobenzene	0.6	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
1,3-Dichlorobenzene	0.6	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
1,4-Dichlorobenzene	0.075	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
2,2'-oxybis(1-Chloropropa	0.3	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
2,4-Dinitrotoluene	0.01	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
2,6-Dinitrotoluene	0.01	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
2-Chloronaphthalene		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
2-Nitroaniline		0.05 U	0.05 U	0.053 U	0.053 U	0.05 U	0.05 U	0.052 U
3,3'-Dichlorobenzidine	0.06	0.05 U	0.05 U	0.053 U	0.053 U	0.05 U	0.05 U	0.052 U
3-Nitroaniline		0.05 U	0.05 U	0.053 U	0.053 U	0.05 U	0.05 U	0.052 U
4-Bromophenyl phenyl ether		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
4-Chloroaniline		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
4-Chlorophenyl phenyl ether		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
4-Nitroaniline		0.05 U	0.05 U	0.053 U	0.053 U	0.05 U	0.05 U	0.052 U
Carbazole		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Dibenzofuran		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Hexachlorobenzene	0.01	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Hexachlorobutadiene	0.001	*0.01 U*	*0.01 U*	*0.011 U*	*0.011 U*	*0.01 U*	*0.01 U*	*0.01 U*
Hexachlorocyclopentadie	0.05	0.05 U	0.05 U	*0.053 U*	*0.053 U*	0.05 *U*	0.05 *U*	*0.052 U*
Hexachloroethane	0.01	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Isophorone	0.1	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
N-Nitrosodi-n-propylamin	0.02	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
N-Nitrosodiphenylamine	0.02	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
Nitrobenzene	0.01	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
bis(2-Chloroethoxy)methane		0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U
bis(2-Chloroethyl) ether	0.01	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.01 U	0.01 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220005	C9E100115005	C9E100116005	C9E110207005	C9E120109005	C9E130222005	C9E140223005
Sample ID	GWQS	CC-Q-G LEACH #1	CC-Q-G LEACH #2	CC-Q-G LEACH #3	CC-Q-G LEACH #4	CC-Q-G LEACH #5	CC-Q-G LEACH #6	CC-Q-G LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Conventionals								
Total Cyanide in µg/L		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total Organic Carbon in mg/L		40.7	6.2	3.1	3.2	2.5	2.3	1.6
Metals in µg/L								
Aluminum	200	1140	2180	3100	3960	4360	4610	4100
Antimony	20	2.6 J	2.8 J	4.1 J	4.2 J	4.7 J	3.2 J	4.6 J
Arsenic	8	9 J	3.8 J	3.6 J	2.5 J	3.9 J	3.7 J	5.8 J
Barium	2000	60.4 J	20.6 J	12.3 J	8.2 J	6.3 J	5.3 J	4.9 J
Beryllium	20	0.05 U	0.06 UJ	0.05 U	0.05 U	0.12 UJ	0.09 UJ	0.21 UJ
Cadmium	4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Calcium		131000	80100	75700	73000	61000	58600	52900
Chromium	100	33.6	33.5	36.4	34.7	27.2	24.5	30.9
Cobalt		5.3 J	1.4 U	1.4 U	1.9 J	1.4 U	1.4 U	1.4 U
Copper	1000	962	148	65.4	47.4	34.5	31.8	39.2
Iron	300	668	682	141 J	9.1 J	22.9 J	45.7 J	45.9 J
Lead	10	4.5	3.1	1.5 J	1.1 U	1.1 U	1.1 U	1.1 U
Magnesium		283 J	254 J	77.8 J	39.2 J	33.6 J	49 J	167 J
Manganese	50	8.6 J	8.3 J	1.7 UJ	1.1 U	1.1 U	1.1 U	1.1 U
Mercury	2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.13 J	0.1 U
Nickel	100	141	26.4 J	8.1 U	8.1 U	11 J	9.2 J	8.1 U
Potassium		235000	44300	17000	7200	4060 J	2830 J	420 J
Selenium	50	12.4	3.1 J	5.7	6.1	8.7 U	6.7 U	8
Silver		0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.77 J
Sodium	50000	179000	27800	6300	2700 J	2040 J	2180 J	15800
Thallium	10	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Vanadium		57.5	41.7 J	33.6 J	34.6 J	28.8 J	28.8 J	26.7 J
Zinc	5000	11.8 J	9.6 J	7 J	6.1 U	6.1 U	7.4 J	6.1 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220005	C9E100115005	C9E100116005	C9E110207005	C9E120109005	C9E130222005	C9E140223005
Sample ID	GWQS	CC-Q-G LEACH #1	CC-Q-G LEACH #2	CC-Q-G LEACH #3	CC-Q-G LEACH #4	CC-Q-G LEACH #5	CC-Q-G LEACH #6	CC-Q-G LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pesticide/PCBs in µg/L								
4,4'-DDD	0.1	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDE	0.1	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT	0.1	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	0.04	*0.06 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Aroclor 1016		1.2 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1221		1.2 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1232		1.2 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1242		1.2 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1248		1.2 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1254		1.2 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1260		1.2 U	1 U	1 U	1 U	1 U	1 U	1 U
Total PCBs	0.5	*1.2 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*
Dieldrin	0.03	*0.06 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Endosulfan I	0.4	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.4	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan sulfate	0.4	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin	2	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin aldehyde		0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin ketone		0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.4	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.2	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	40	0.6 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	3	2.4 U	2 U	2 U	2 U	2 U	2 U	2 U
alpha-BHC	0.02	*0.06 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
alpha-Chlordane		0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
beta-BHC	0.2	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC		0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.2	0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane		0.06 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220005	C9E100115005	C9E100116005	C9E110207005	C9E120109005	C9E130222005	C9E140223005
Sample ID	GWQS	CC-Q-G LEACH #1	CC-Q-G LEACH #2	CC-Q-G LEACH #3	CC-Q-G LEACH #4	CC-Q-G LEACH #5	CC-Q-G LEACH #6	CC-Q-G LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Semivolatiles in mg/L								
2-Methylnaphthalene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthene	0.4	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthylene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Anthracene	2	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Fluorene	0.3	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Naphthalene	0.3	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Phenanthrene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)anthracene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(ghi)perylene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenz(a,h)anthracene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Fluoranthene	0.3	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Indeno(1,2,3-cd)pyrene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Pyrene	0.2	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Butyl benzyl phthalate	0.1	0.01 U	0.01 U	0.0023 J	0.01 U	0.01 U	0.01 U	0.01 U
Di-n-butyl phthalate	0.9	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Di-n-octyl phthalate	0.1	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Diethyl phthalate	5	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Dimethyl phthalate		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
bis(2-Ethylhexyl) phthalate	0.03	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.0055 J
2,4,5-Trichlorophenol	0.7	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4,6-Trichlorophenol	0.02	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dichlorophenol	0.02	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dimethylphenol	0.1	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dinitrophenol	0.04	*0.05 U*	*0.05 U*	*0.053 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
2-Chlorophenol	0.04	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Methylphenol		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Nitrophenol		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4,6-Dinitro-2-methylphenol		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.05 U
4-Chloro-3-methylphenol		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Nitrophenol		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.05 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220005	C9E100115005	C9E100116005	C9E110207005	C9E120109005	C9E130222005	C9E140223005
Sample ID	GWQS	CC-Q-G LEACH #1	CC-Q-G LEACH #2	CC-Q-G LEACH #3	CC-Q-G LEACH #4	CC-Q-G LEACH #5	CC-Q-G LEACH #6	CC-Q-G LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pentachlorophenol	0.001	*0.05 U*	*0.05 U*	*0.053 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Phenol	4	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
1,2,4-Trichlorobenzene	0.009	*0.01 U*	*0.01 U*	*0.011 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*
1,2-Dichlorobenzene	0.6	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
1,3-Dichlorobenzene	0.6	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
1,4-Dichlorobenzene	0.075	*0.01 U*	*0.01 U*	*0.011 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*
2,2'-oxybis(1-Chloropropa	0.3	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,4-Dinitrotoluene	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2,6-Dinitrotoluene	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Chloronaphthalene		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
2-Nitroaniline		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.05 U
3,3'-Dichlorobenzidine	0.06	0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.05 U
3-Nitroaniline		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.05 U
4-Bromophenyl phenyl ether		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Chloroaniline		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Chlorophenyl phenyl ether		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Nitroaniline		0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U	0.05 U
Carbazole		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzofuran		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachlorobenzene	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Hexachlorobutadiene	0.001	*0.01 U*	*0.01 U*	*0.011 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*
Hexachlorocyclopentadie	0.05	0.05 U	0.05 U	*0.053 U*	0.05 U	0.05 U	0.05 U	0.05 U
Hexachloroethane	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Isophorone	0.1	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
N-Nitrosodi-n-propylamin	0.02	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
N-Nitrosodiphenylamine	0.02	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
Nitrobenzene	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
bis(2-Chloroethoxy)methane		0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U
bis(2-Chloroethyl) ether	0.01	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U	0.01 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220006	C9E100115006	C9E100116006	C9E110207006	C9E120109006	C9E130222006	C9E140223006
Sample ID	GWQS	CC-Q-H LEACH #1	CC-Q-H LEACH #2	CC-Q-H LEACH #3	CC-Q-H LEACH #4	CC-Q-H LEACH #5	CC-Q-H LEACH #6	CC-Q-H LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Conventionals								
Total Cyanide in µg/L		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total Organic Carbon in mg/L		50.7	7.2	3.9	3.9	3	3	2.3
Metals in µg/L								
Aluminum	200	780	1750	2450	3630	3190	3260	3820
Antimony	20	2.8 J	2.2 J	2.8 J	4.8 J	2.7 J	3.2 J	3.2 J
Arsenic	8	7.1 J	3.8 J	3.3 J	3.7 J	3.5 J	6 J	5.9 J
Barium	2000	41.4 J	10.5 J	8.2 J	5.5 J	5.6 J	4 J	4.7 J
Beryllium	20	0.05 U	0.05 U	0.05 U	0.05 U	0.07 UJ	0.13 UJ	0.2 UJ
Cadmium	4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Calcium		139000	73300	68400	65800	54300	50400	45400
Chromium	100	20.4	19.8	22.2	22.5	18.2	16.2	15.3
Cobalt		4 J	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Copper	1000	736	84.2	42.7	37.1	27.1	25.1	28.7
Iron	300	13.5 J	8.8 J	13.9 UJ	8.2 J	74.7 J	62.9 J	190
Lead	10	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.3 J
Magnesium		63.6 J	65.1 J	44.2 J	34.7 J	101 J	76.2 J	136 J
Manganese	50	1.1 U	1.1 U	1.1 U	1.1 U	1.2 J	1.4 J	3.3 J
Mercury	2	0.1 U	0.1 U	0.1 J	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	100	102	12.8 J	8.1 U	8.1 U	8.1 U	8.1 U	8.1 U
Potassium		219000	35300	13300	7190	1130 J	2050 J	1430 J
Selenium	50	9.8	5.8	5.4	5.7	8 UJ	9	9.4
Silver		0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Sodium	50000	189000	20700	8510	4980 J	17900	8590	10400
Thallium	10	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Vanadium		47 J	33.6 J	31.3 J	25.7 J	25.6 J	24.6 J	21.3 J
Zinc	5000	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	8.3 J

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220006	C9E100115006	C9E100116006	C9E110207006	C9E120109006	C9E130222006	C9E140223006
Sample ID	GWQS	CC-Q-H LEACH #1	CC-Q-H LEACH #2	CC-Q-H LEACH #3	CC-Q-H LEACH #4	CC-Q-H LEACH #5	CC-Q-H LEACH #6	CC-Q-H LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pesticide/PCBs in µg/L								
4,4'-DDD	0.1	0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDE	0.1	0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT	0.1	0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	0.04	*0.065 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Aroclor 1016		1.3 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1221		1.3 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1232		1.3 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1242		1.3 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1248		1.3 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1254		1.3 U	1 U	1 U	1 U	1 U	1.4	1 U
Aroclor 1260		1.3 U	1 U	1 U	1 U	1 U	1 U	1 U
Total PCBs	0.5	*1.3 U*	*1 U*	*1 U*	*1 U*	*1 U*	1.4	*1 U*
Dieldrin	0.03	*0.065 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Endosulfan I	0.4	0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.4	0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan sulfate	0.4	0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin	2	0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin aldehyde		0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin ketone		0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.4	0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.2	0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	40	0.65 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	3	2.6 U	2 U	2 U	2 U	2 U	2 U	2 U
alpha-BHC	0.02	*0.065 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
alpha-Chlordane		0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
beta-BHC	0.2	0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC		0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.2	0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane		0.065 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220006	C9E100115006	C9E100116006	C9E110207006	C9E120109006	C9E130222006	C9E140223006
Sample ID	GWQS	CC-Q-H LEACH #1	CC-Q-H LEACH #2	CC-Q-H LEACH #3	CC-Q-H LEACH #4	CC-Q-H LEACH #5	CC-Q-H LEACH #6	CC-Q-H LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Semivolatiles in mg/L								
2-Methylnaphthalene		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Acenaphthene	0.4	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Acenaphthylene		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Anthracene	2	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Fluorene	0.3	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Naphthalene	0.3	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Phenanthrene		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Benzo(a)anthracene		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Benzo(ghi)perylene		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Chrysene		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Dibenz(a,h)anthracene		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Fluoranthene	0.3	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Indeno(1,2,3-cd)pyrene		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Pyrene	0.2	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Butyl benzyl phthalate	0.1	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Di-n-butyl phthalate	0.9	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Di-n-octyl phthalate	0.1	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Diethyl phthalate	5	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Dimethyl phthalate		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
bis(2-Ethylhexyl) phthalate	0.03	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
2,4,5-Trichlorophenol	0.7	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
2,4,6-Trichlorophenol	0.02	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
2,4-Dichlorophenol	0.02	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
2,4-Dimethylphenol	0.1	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
2,4-Dinitrophenol	0.04	*0.05 U*	*0.05 U*	*0.05 U*	*0.053 U*	*0.05 U*	*0.05 U*	*0.05 U*
2-Chlorophenol	0.04	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
2-Methylphenol		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
2-Nitrophenol		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
4,6-Dinitro-2-methylphenol		0.05 U	0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U
4-Chloro-3-methylphenol		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
4-Nitrophenol		0.05 U	0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220006	C9E100115006	C9E100116006	C9E110207006	C9E120109006	C9E130222006	C9E140223006
Sample ID	GWQS	CC-Q-H LEACH #1	CC-Q-H LEACH #2	CC-Q-H LEACH #3	CC-Q-H LEACH #4	CC-Q-H LEACH #5	CC-Q-H LEACH #6	CC-Q-H LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pentachlorophenol	0.001	*0.05 U*	*0.05 U*	*0.05 U*	*0.053 U*	*0.05 U*	*0.05 U*	*0.05 U*
Phenol	4	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
1,2,4-Trichlorobenzene	0.009	*0.01 U*	*0.01 U*	*0.01 U*	*0.011 U*	*0.01 U*	*0.01 U*	*0.01 U*
1,2-Dichlorobenzene	0.6	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
1,3-Dichlorobenzene	0.6	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
1,4-Dichlorobenzene	0.075	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
2,2'-oxybis(1-Chloropropa	0.3	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
2,4-Dinitrotoluene	0.01	0.01 U	0.01 U	0.01 U	*0.011 U*	0.01 U	0.01 U	0.01 U
2,6-Dinitrotoluene	0.01	0.01 U	0.01 U	0.01 U	*0.011 U*	0.01 U	0.01 U	0.01 U
2-Chloronaphthalene		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
2-Nitroaniline		0.05 U	0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U
3,3'-Dichlorobenzidine	0.06	0.05 U	0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U
3-Nitroaniline		0.05 U	0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U
4-Bromophenyl phenyl ether		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
4-Chloroaniline		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
4-Chlorophenyl phenyl ether		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
4-Nitroaniline		0.05 U	0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U
Carbazole		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Dibenzofuran		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Hexachlorobenzene	0.01	0.01 U	0.01 U	0.01 U	*0.011 U*	0.01 U	0.01 U	0.01 U
Hexachlorobutadiene	0.001	*0.01 U*	*0.01 U*	*0.01 U*	*0.011 U*	*0.01 U*	*0.01 U*	*0.01 U*
Hexachlorocyclopentadie	0.05	0.05 U	0.05 U	0.05 U	0.053 U	0.05 U	0.05 U	0.05 U
Hexachloroethane	0.01	0.01 U	0.01 U	0.01 U	*0.011 U*	0.01 U	0.01 U	0.01 U
Isophorone	0.1	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
N-Nitrosodi-n-propylamin	0.02	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
N-Nitrosodiphenylamine	0.02	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Nitrobenzene	0.01	0.01 U	0.01 U	0.01 U	*0.011 U*	0.01 U	0.01 U	0.01 U
bis(2-Chloroethoxy)methane		0.01 U	0.01 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
bis(2-Chloroethyl) ether	0.01	0.01 U	0.01 U	0.01 U	*0.011 U*	0.01 U	0.01 U	0.01 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220007	C9E100115007	C9E100116007	C9E110207007	C9E120109007	C9E130222007	C9E140223007
Sample ID	GWQS	CC-Q-I LEACH #1	CC-Q-I LEACH #2	CC-Q-I LEACH #3	CC-Q-I LEACH #4	CC-Q-I LEACH #5	CC-Q-I LEACH #6	CC-Q-I LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Conventionals								
Total Cyanide in µg/L		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total Organic Carbon in mg/L		50.1	7.4	3.9	3.8	3	2.8	2
Metals in µg/L								
Aluminum	200	389	1870	3260	3970	3380	3830	4050
Antimony	20	2.4 J	2.9 J	2.3 J	2.8 J	2.3 J	2.6 J	3.8 J
Arsenic	8	6.7 J	3.7 J	1.9 J	3 J	5 J	4.1 J	5 J
Barium	2000	43 J	11.7 J	7.7 J	5.7 J	5.3 J	4.7 J	7 J
Beryllium	20	0.05 U	0.05 U	0.05 U	0.05 U	0.15 UJ	0.08 UJ	0.14 UJ
Cadmium	4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Calcium		122000	75200	69500	63200	58800	49800	45400
Chromium	100	21.2	22	22	20	19.1	15.9	16.6
Cobalt		4 J	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Copper	1000	735	87.7	40.2	33.1	29.5	24.6 J	29.9
Iron	300	22.6 J	6.5 U	55.3 J	8.6 J	67 J	82.4 J	487
Lead	10	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.8 J
Magnesium		157 J	66.7 J	39.7 J	36.4 J	114 J	106 J	230 J
Manganese	50	1.1 U	1.1 U	1.1 U	1.1 U	1.2 J	2.2 J	8.1 J
Mercury	2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	100	107	14.2 J	8.1 U	8.1 U	8.1 U	8.4 J	8.1 U
Potassium		213000	34200	13500	7310	2060 J	1820 J	1430 J
Selenium	50	11.7	5	5.8	5.6	8.9 U	7.2 U	9.6
Silver		0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Sodium	50000	183000	22700	7780	6180	11800	10400	12500
Thallium	10	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Vanadium		43 J	33.3 J	28 J	22.4 J	26.7 J	21.4 J	21.4 J
Zinc	5000	6.1 U	8.8 J	8.9 J	6.1 U	6.1 U	7.5 J	9.3 J

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220007	C9E100115007	C9E100116007	C9E110207007	C9E120109007	C9E130222007	C9E140223007
Sample ID	GWQS	CC-Q-I LEACH #1	CC-Q-I LEACH #2	CC-Q-I LEACH #3	CC-Q-I LEACH #4	CC-Q-I LEACH #5	CC-Q-I LEACH #6	CC-Q-I LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pesticide/PCBs in µg/L								
4,4'-DDD	0.1	0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDE	0.1	0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT	0.1	0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	0.04	*0.057 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Aroclor 1016		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1221		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1232		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1242		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1248		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1254		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1260		1.1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total PCBs	0.5	*1.1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*
Dieldrin	0.03	*0.057 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Endosulfan I	0.4	0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.4	0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan sulfate	0.4	0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin	2	0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin aldehyde		0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin ketone		0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.4	0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.2	0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	40	0.57 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	3	2.3 U	2 U	2 U	2 U	2 U	2 U	2 U
alpha-BHC	0.02	*0.057 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
alpha-Chlordane		0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
beta-BHC	0.2	0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC		0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.2	0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane		0.057 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220007	C9E100115007	C9E100116007	C9E110207007	C9E120109007	C9E130222007	C9E140223007
Sample ID	GWQS	CC-Q-I LEACH #1	CC-Q-I LEACH #2	CC-Q-I LEACH #3	CC-Q-I LEACH #4	CC-Q-I LEACH #5	CC-Q-I LEACH #6	CC-Q-I LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Semivolatiles in mg/L								
2-Methylnaphthalene		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Acenaphthene	0.4	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Acenaphthylene		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Anthracene	2	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Fluorene	0.3	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Naphthalene	0.3	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Phenanthrene		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Benzo(a)anthracene		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Benzo(a)pyrene		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Benzo(b)fluoranthene		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Benzo(ghi)perylene		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Benzo(k)fluoranthene		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Chrysene		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Dibenz(a,h)anthracene		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Fluoranthene	0.3	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Indeno(1,2,3-cd)pyrene		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Pyrene	0.2	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Butyl benzyl phthalate	0.1	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Di-n-butyl phthalate	0.9	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Di-n-octyl phthalate	0.1	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Diethyl phthalate	5	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Dimethyl phthalate		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
bis(2-Ethylhexyl) phthalate	0.03	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
2,4,5-Trichlorophenol	0.7	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
2,4,6-Trichlorophenol	0.02	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
2,4-Dichlorophenol	0.02	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
2,4-Dimethylphenol	0.1	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
2,4-Dinitrophenol	0.04	*0.05 U*	*0.05 U*	*0.062 U*	*0.053 U*	*0.05 U*	*0.05 U*	*0.053 U*
2-Chlorophenol	0.04	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
2-Methylphenol		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
2-Nitrophenol		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
4,6-Dinitro-2-methylphenol		0.05 U	0.05 U	0.062 U	0.053 U	0.05 U	0.05 U	0.053 U
4-Chloro-3-methylphenol		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
4-Nitrophenol		0.05 U	0.05 U	0.062 U	0.053 U	0.05 U	0.05 U	0.053 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220007	C9E100115007	C9E100116007	C9E110207007	C9E120109007	C9E130222007	C9E140223007
Sample ID	GWQS	CC-Q-I LEACH #1	CC-Q-I LEACH #2	CC-Q-I LEACH #3	CC-Q-I LEACH #4	CC-Q-I LEACH #5	CC-Q-I LEACH #6	CC-Q-I LEACH #7
Sampling Date		5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99	5/06/99
Pentachlorophenol	0.001	*0.05 U*	*0.05 U*	*0.062 U*	*0.053 U*	*0.05 U*	*0.05 U*	*0.053 U*
Phenol	4	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
1,2,4-Trichlorobenzene	0.009	*0.01 U*	*0.01 U*	*0.012 U*	*0.011 U*	*0.01 U*	*0.01 U*	*0.011 U*
1,2-Dichlorobenzene	0.6	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
1,3-Dichlorobenzene	0.6	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
1,4-Dichlorobenzene	0.075	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
2,2'-oxybis(1-Chloropropa	0.3	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
2,4-Dinitrotoluene	0.01	0.01 U	0.01 U	*0.012 U*	*0.011 U*	0.01 U	0.01 U	*0.011* U
2,6-Dinitrotoluene	0.01	0.01 U	0.01 U	*0.012 U*	*0.011 U*	0.01 U	0.01 U	*0.011* U
2-Chloronaphthalene		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
2-Nitroaniline		0.05 U	0.05 U	0.062 U	0.053 U	0.05 U	0.05 U	0.053 U
3,3'-Dichlorobenzidine	0.06	0.05 U	0.05 U	*0.062 U*	0.053 U	0.05 U	0.05 U	0.053 U
3-Nitroaniline		0.05 U	0.05 U	0.062 U	0.053 U	0.05 U	0.05 U	0.053 U
4-Bromophenyl phenyl ether		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
4-Chloroaniline		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
4-Chlorophenyl phenyl ether		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
4-Nitroaniline		0.05 U	0.05 U	0.062 U	0.053 U	0.05 U	0.05 U	0.053 U
Carbazole		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Dibenzofuran		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Hexachlorobenzene	0.01	0.01 U	0.01 U	*0.012 U*	*0.011 U*	0.01 U	0.01 U	*0.011* U
Hexachlorobutadiene	0.001	*0.01 U*	*0.01 U*	*0.012 U*	*0.011 U*	*0.01 U*	*0.01 U*	*0.011 U*
Hexachlorocyclopentadie	0.05	0.05 U	0.05 U	*0.062 U*	*0.053 U*	0.05 U	0.05 U	*0.053* U
Hexachloroethane	0.01	0.01 U	0.01 U	*0.012 U*	*0.011 U*	0.01 U	0.01 U	*0.011* U
Isophorone	0.1	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
N-Nitrosodi-n-propylamin	0.02	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
N-Nitrosodiphenylamine	0.02	0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
Nitrobenzene	0.01	0.01 U	0.01 U	*0.012 U*	*0.011 U*	0.01 U	0.01 U	*0.011* U
bis(2-Chloroethoxy)methane		0.01 U	0.01 U	0.012 U	0.011 U	0.01 U	0.01 U	0.011 U
bis(2-Chloroethyl) ether	0.01	0.01 U	0.01 U	*0.012 U*	*0.011 U*	0.01 U	0.01 U	*0.011* U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220008	C9E070220009	C9E100115008	C9E100115009	C9E100116008	C9E100116009
Sample ID	GWQS	CC-Q-J LEACH #1	CC-Q-J LEACH #1	CC-Q-J LEACH #2	CC-Q-J LEACH #2	CC-Q-J LEACH #3	CC-Q-J LEACH #3
Sampling Date		5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP
Conventionals							
Total Cyanide in µg/L		10 U	10 U	10 U	10 U	10 U	10 U
Total Organic Carbon in mg/L		50.6	45.3	7	6.8	3.7	3.9
Metals in µg/L							
Aluminum	200	281	2580	3040	3430	4560	4240
Antimony	20	3.0 J	3.6 J	4.4 J	4.3 J	6.0 J	5.5 J
Arsenic	8	7.7 J	8.9 J	2.5 J	3.1 J	4.2 J	4 J
Barium	2000	58.1 J	61.9 J	14 J	14.6 J	9.5 J	8.9 J
Beryllium	20	0.05 U	0.1 UJ	0.05 U	0.05 U	0.05 U	0.05 U
Cadmium	4	0.25 U	0.43 J	0.25 U	0.25 U	0.25 U	0.25 U
Calcium		162000	124000	75000	75600	68700	70300
Chromium	100	26.8	49.1	38.6	38	43.2	46
Cobalt		6.3 J	8 J	1.4 U	1.4 U	1.9 UJ	1.4 U
Copper	1000	1090	1050	133	131	66	69.8
Iron	300	9 J	1640	17.6 J	7 J	11.3 UJ	27 UJ
Lead	10	1.1 U	13.6	1.1 U	1.1 U	1.1 U	1.1 U
Magnesium		196 J	519 J	95.9 J	76.8 J	42 J	97.4 J
Manganese	50	1.1 U	20	1.1 U	1.1 U	1.1 U	1.1 U
Mercury	2	0.1 U	0.22	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	100	223	205	20.4 J	21.6 J	8.1 U	8.1 U
Potassium		196000	202000	29100	31900	11000	8180
Selenium	50	13.2	14.4	6.9	7.6	6.5	7.1
Silver		0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Sodium	50000	193000	185000	26100	20900	12500	18900
Thallium	10	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Vanadium		35.4 J	47.6 J	29.3 J	30.3 J	28 J	26 J
Zinc	5000	6.1 U	34.3	6.1 U	6.1 U	6.1 U	6.1 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220008	C9E070220009	C9E100115008	C9E100115009	C9E100116008	C9E100116009
Sample ID	GWQS	CC-Q-J LEACH #1	CC-Q-J LEACH #1	CC-Q-J LEACH #2	CC-Q-J LEACH #2	CC-Q-J LEACH #3	CC-Q-J LEACH #3
Sampling Date		5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP
Pesticide/PCBs in µg/L							
4,4'-DDD	0.1	0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDE	0.1	0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT	0.1	0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	0.04	*0.057 U*	*0.058 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Aroclor 1016		1.1 U	1.1 U	1 U	1 U	1 U	1 U
Aroclor 1221		1.1 U	1.1 U	1 U	1 U	1 U	1 U
Aroclor 1232		1.1 U	1.1 U	1 U	1 U	1 U	1 U
Aroclor 1242		1.1 U	1.1 U	1 U	1 U	1 U	1 U
Aroclor 1248		1.1 U	1.1 U	1 U	1 U	1 U	1 U
Aroclor 1254		1.1 U	1.1 U	1 U	1 U	1 U	1 U
Aroclor 1260		1.1 U	1.1 U	1 U	1 U	1 U	1 U
Total PCBs	0.5	1.1 U	1.1 U	1 U	1 U	1 U	1 U
Dieldrin	0.03	*0.057 U*	*0.058 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Endosulfan I	0.4	0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.4	0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan sulfate	0.4	0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin	2	0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin aldehyde		0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin ketone		0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.4	0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.2	*0.057 U*	*0.058 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Methoxychlor	40	0.57 U	0.58 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	3	2.3 U	2.3 U	2 U	2 U	2 U	2 U
alpha-BHC	0.02	*0.057 U*	*0.058 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
alpha-Chlordane		0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
beta-BHC	0.2	0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC		0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.2	0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane		0.057 U	0.058 U	0.05 U	0.05 U	0.05 U	0.05 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220008	C9E070220009	C9E100115008	C9E100115009	C9E100116008	C9E100116009
Sample ID	GWQS	CC-Q-J LEACH #1	CC-Q-J LEACH #1	CC-Q-J LEACH #2	CC-Q-J LEACH #2	CC-Q-J LEACH #3	CC-Q-J LEACH #3
Sampling Date		5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP
Semivolatiles in mg/L							
2-Methylnaphthalene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Acenaphthene	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Acenaphthylene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Anthracene	2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Fluorene	0.3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Naphthalene	0.3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Phenanthrene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Benzo(a)anthracene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Benzo(a)pyrene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Benzo(b)fluoranthene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Benzo(ghi)perylene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Benzo(k)fluoranthene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Chrysene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Dibenz(a,h)anthracene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Fluoranthene	0.3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Indeno(1,2,3-cd)pyrene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Pyrene	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Butyl benzyl phthalate	0.1	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Di-n-butyl phthalate	0.9	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Di-n-octyl phthalate	0.1	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Diethyl phthalate	5	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Dimethyl phthalate		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
bis(2-Ethylhexyl) phthalate	0.03	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
2,4,5-Trichlorophenol	0.7	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
2,4,6-Trichlorophenol	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
2,4-Dichlorophenol	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
2,4-Dimethylphenol	0.1	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
2,4-Dinitrophenol	0.04	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.053 U*
2-Chlorophenol	0.04	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
2-Methylphenol		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
2-Nitrophenol		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
4,6-Dinitro-2-methylphenol		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.053 U
4-Chloro-3-methylphenol		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
4-Nitrophenol		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.053 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E070220008	C9E070220009	C9E100115008	C9E100115009	C9E100116008	C9E100116009
Sample ID	GWQS	CC-Q-J LEACH #1	CC-Q-J LEACH #1	CC-Q-J LEACH #2	CC-Q-J LEACH #2	CC-Q-J LEACH #3	CC-Q-J LEACH #3
Sampling Date		5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP
Pentachlorophenol	0.001	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.053 U*
Phenol	4	0.0031 J	0.0034 J	0.01 U	0.01 U	0.01 U	0.011 U
1,2,4-Trichlorobenzene	0.009	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.011 U*
1,2-Dichlorobenzene	0.6	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
1,3-Dichlorobenzene	0.6	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
1,4-Dichlorobenzene	0.075	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
2,2'-oxybis(1-Chloropropa	0.3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
2,4-Dinitrotoluene	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.011 U*
2,6-Dinitrotoluene	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.011 U*
2-Chloronaphthalene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
2-Nitroaniline		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.053 U
3,3'-Dichlorobenzidine	0.06	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.053 U
3-Nitroaniline		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.053 U
4-Bromophenyl phenyl ether		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
4-Chloroaniline		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
4-Chlorophenyl phenyl ether		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
4-Nitroaniline		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.053 U
Carbazole		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Dibenzofuran		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Hexachlorobenzene	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.011 U*
Hexachlorobutadiene	0.001	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.011 U*
Hexachlorocyclopentadie	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	*0.053 U*
Hexachloroethane	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.011 U*
Isophorone	0.1	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
N-Nitrosodi-n-propylamin	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
N-Nitrosodiphenylamine	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
Nitrobenzene	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.011 U*
bis(2-Chloroethoxy)methane		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U
bis(2-Chloroethyl) ether	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.011 U*

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E110207008	C9E110207009	C9E120109008	C9E120109009	C9E130222008	C9E130222009	C9E140223008	C9E140223009
Sample ID	GWQS	CC-Q-J LEACH #4	CC-Q-J LEACH #4	CC-Q-J LEACH #5	CC-Q-J LEACH #5	CC-Q-J LEACH #6	CC-Q-J LEACH #6	CC-Q-J LEACH #7	CC-Q-J LEACH #7
Sampling Date		5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP
Conventionals									
Total Cyanide in µg/L		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total Organic Carbon in mg/L		3.7	3.8	3	3.2	2.8	2.7	2	2.3
Metals in µg/L									
Aluminum	200	6050	5800	5260	5700	4610	4760	4490	3900
Antimony	20	5.6 J	5.0 J	5.6 J	5.3 J	4.0 J	4.6 J	5.0 J	4.7 J
Arsenic	8	3.4 J	3.2 J	4.4 J	3.7 J	4.4 J	5.1 J	5.4 J	5.7 J
Barium	2000	7.6 J	9.7 J	7.5 J	6.5 J	5.4 J	4.9 J	9.1 J	4.9 J
Beryllium	20	0.05 U	0.05 U	0.13 UJ	0.13 UJ	0.18 UJ	0.16 UJ	0.16 UJ	0.12 UJ
Cadmium	4	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 J	0.32 J	0.25 U
Calcium		66100	64800	59400	58700	46400	48600	42600	42100
Chromium	100	40.3	40.4	40.7	36.6	31.1	30.4	30.3	32.9
Cobalt		1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
Copper	1000	51.7	54.7	45.5	42.6	39	37.1	41.9	43.1
Iron	300	12.6 J	12 J	75 J	18.5 J	88.1 J	80 J	384	114
Lead	10	1.1 U	1.1 U	1.4 J	1.1 U	1.1 J	1.1 J	3.6	1.3 J
Magnesium		38.6 J	48.7 J	91.2 J	46.4 J	104 J	86.4 J	215 J	191 J
Manganese	50	1.1 U	1.1 U	1.4 J	1.1 U	1.6 J	1.1 U	4.6 J	1.6 J
Mercury	2	0.11 J	0.12 J	0.11 J	0.1 U	0.12 J	0.1 J	0.1 U	0.1 U
Nickel	100	8.1 U	8.1 U	11.2 J	8.1 U	8.1 U	10.2 J	9 J	8.3 J
Potassium		6280	5390	1650 J	3440 J	1880 J	1540 J	1530 J	721 J
Selenium	50	8.3	5.5	8.2 UJ	9.1 U	8.3 U	9.6	8	9.2
Silver		0.7 U	0.7 U	0.7 U	0.75 J	0.7 U	0.73 J	0.7 U	0.7 U
Sodium	50000	5790	8150	26800	5140	12600	7730	11500	18300
Thallium	10	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Vanadium		26.9 J	26.9 J	26.7 J	25.9 J	26.7 J	25.6 J	25.6 J	27.8 J
Zinc	5000	6.1 U	7.6 J	6.1 U	6.1 U	6.1 U	8.6 J	16.3 J	6.1 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E110207008	C9E110207009	C9E120109008	C9E120109009	C9E130222008	C9E130222009	C9E140223008	C9E140223009
Sample ID	GWQS	CC-Q-J LEACH #4	CC-Q-J LEACH #4	CC-Q-J LEACH #5	CC-Q-J LEACH #5	CC-Q-J LEACH #6	CC-Q-J LEACH #6	CC-Q-J LEACH #7	CC-Q-J LEACH #7
Sampling Date		5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP
Pesticide/PCBs in µg/L									
4,4'-DDD	0.1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDE	0.1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT	0.1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	0.04	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Aroclor 1016		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1221		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1232		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1242		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1248		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1254		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1260		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total PCBs	0.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dieldrin	0.03	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Endosulfan I	0.4	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.4	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan sulfate	0.4	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin	2	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin aldehyde		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin ketone		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.4	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.2	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	40	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	3	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
alpha-BHC	0.02	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
alpha-Chlordane		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
beta-BHC	0.2	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.2	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E110207008	C9E110207009	C9E120109008	C9E120109009	C9E130222008	C9E130222009	C9E140223008	C9E140223009
Sample ID	GWQS	CC-Q-J LEACH #4	CC-Q-J LEACH #4	CC-Q-J LEACH #5	CC-Q-J LEACH #5	CC-Q-J LEACH #6	CC-Q-J LEACH #6	CC-Q-J LEACH #7	CC-Q-J LEACH #7
Sampling Date		5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP
Semivolatiles in mg/L									
2-Methylnaphthalene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Acenaphthene	0.4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Acenaphthylene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Anthracene	2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Fluorene	0.3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Naphthalene	0.3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Phenanthrene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Benzo(a)anthracene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Benzo(a)pyrene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Benzo(b)fluoranthene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Benzo(ghi)perylene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Benzo(k)fluoranthene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Chrysene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Dibenz(a,h)anthracene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Fluoranthene	0.3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Indeno(1,2,3-cd)pyrene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Pyrene	0.2	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Butyl benzyl phthalate	0.1	0.01 U	0.0024 J	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Di-n-butyl phthalate	0.9	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Di-n-octyl phthalate	0.1	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Diethyl phthalate	5	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Dimethyl phthalate		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
bis(2-Ethylhexyl) phthalate	0.03	0.01 U	0.01 U	0.0034 J	0.01 U	0.01 U	0.01 U	0.011 U	0.08 J
2,4,5-Trichlorophenol	0.7	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
2,4,6-Trichlorophenol	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
2,4-Dichlorophenol	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
2,4-Dimethylphenol	0.1	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
2,4-Dinitrophenol	0.04	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.054 U*	*0.05 U*
2-Chlorophenol	0.04	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
2-Methylphenol		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
2-Nitrophenol		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
4,6-Dinitro-2-methylphenol		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.054 U	0.05 U
4-Chloro-3-methylphenol		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
4-Nitrophenol		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.054 U	0.05 U

Table C-2 - Analytical Results for MEP Leachate Samples of Amended Sediment without PROPAT®

Lab ID		C9E110207008	C9E110207009	C9E120109008	C9E120109009	C9E130222008	C9E130222009	C9E140223008	C9E140223009
Sample ID	GWQS	CC-Q-J LEACH #4	CC-Q-J LEACH #4	CC-Q-J LEACH #5	CC-Q-J LEACH #5	CC-Q-J LEACH #6	CC-Q-J LEACH #6	CC-Q-J LEACH #7	CC-Q-J LEACH #7
Sampling Date		5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP	5/06/99	5/06/99 DUP
Pentachlorophenol	0.001	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.054 U*	*0.05 U*
Phenol	4	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
1,2,4-Trichlorobenzene	0.009	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.011 U*	*0.01 U*
1,2-Dichlorobenzene	0.6	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
1,3-Dichlorobenzene	0.6	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
1,4-Dichlorobenzene	0.075	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
2,2'-oxybis(1-Chloropropa	0.3	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
2,4-Dinitrotoluene	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.011 U*	0.01 *U*
2,6-Dinitrotoluene	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.011 U*	0.01 *U*
2-Chloronaphthalene		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
2-Nitroaniline		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.054 U	0.05 U
3,3'-Dichlorobenzidine	0.06	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.054 U	0.05 U
3-Nitroaniline		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.054 U	0.05 U
4-Bromophenyl phenyl ether		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
4-Chloroaniline		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
4-Chlorophenyl phenyl ether		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
4-Nitroaniline		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.054 U	0.05 U
Carbazole		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Dibenzofuran		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Hexachlorobenzene	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.011 U*	0.01 *U*
Hexachlorobutadiene	0.001	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.01 U*	*0.011 U*	*0.01 U*
Hexachlorocyclopentadie	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	*0.054 U*	0.05 *U*
Hexachloroethane	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.011 U*	0.01 *U*
Isophorone	0.1	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
N-Nitrosodi-n-propylamin	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
N-Nitrosodiphenylamine	0.02	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
Nitrobenzene	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.011 U*	0.01 *U*
bis(2-Chloroethoxy)methane		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.011 U	0.01 U
bis(2-Chloroethyl) ether	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	*0.011 U*	0.01 *U*

U Not detected at indicated detection limit.
J Estimated value.
Value exceeds the screening criteria.
Detection limits that exceed the screening criteria are italicized.

Table C-3 - Task 4 Analytical Results of SPLP Leachate Samples

Analyte	GWQS	D3R19	D3QAQ	D3QAR	D3QAW	D3QAX	D3QC0
Sample ID:		CAP-J1	CAP-J2	CAP-J3	CAP-J4	CAP-J5	CAP-J6
Sample Date:		10/15/99	10/14/99	10/14/99	10/14/99	10/14/99	10/14/99
Conventionals							
Total Cyanide in µg/L		10 U	10 U	11.9	10 U	10 U	10 U
Total Suspended Solids in mg/L		4 U	4 U	4 U	4 U	4 U	4 U
Total Organic Carbon in mg/L		55.8	92.8	53.3	39.7	77.5	72.8
Metals in µg/L						0	
Aluminum	200	2400	880	2500	1900	710	620
Antimony	20	12 B	*500 U*	6.2 B	5.6 B	3 B	2.2 B
Arsenic	8	2 B	3.2 B	2.7 B	2 B	5.3 B	4.4 B
Barium	2000	31 B	61 B	36 B	31 B	56 B	65 B
Beryllium	20	0.13 B	5 U	5 U	0.1 B	5 U	0.14 B
Cadmium	4	*100 U*	*100 U*	*100 U*	*100 U*	*100 U*	*100 U*
Calcium		89900	158000	72400	101000	125000	144000
Chromium	100	22 B	46 B	38 B	24 B	41 B	32 B
Cobalt		6.3 B	13 B	14 B	8.5 B	17 B	17 B
Copper	1000	510	710	520	410 B	1100	970
Iron	300	16 B	12 B	18 B	61 B	12 B	15 B
Lead	10	*500 U*	*500 U*	*500 U*	*500 U*	*500 U*	*500 U*
Magnesium		55 B	91 B	58 B	65 B	55 B	67 B
Manganese	50	15 U	15 U	15 U	1.7 B	1.3 B	15 U
Mercury	2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	50	110	91	70	150	160
Potassium		106000	358000	248000	121000	331000	366000
Selenium	50	6 B	13 B	9.6 B	7.6 B	11 B	9.3 B
Silver		500 U	500 U	500 U	500 U	500 U	500 U
Sodium	50000	128000	212000	163000	143000	223000	244000
Thallium	10	*500 U*	3.9 B	*500 U*	*500 U*	*500 U*	*500 U*
Vanadium		22 B	20 B	24 B	23 B	35 B	29 B
Zinc	5000	13 B	6.2 B	6.9 B	20 U	20 U	10 B

Table C-3 - Task 4 Analytical Results of SPLP Leachate Samples

Analyte	GWQS	D3R19	D3QAQ	D3QAR	D3QAW	D3QAX	D3QC0
Sample ID:		CAP-J1	CAP-J2	CAP-J3	CAP-J4	CAP-J5	CAP-J6
Sample Date:		10/15/99	10/14/99	10/14/99	10/14/99	10/14/99	10/14/99
Pesticide/PCBs in µg/L							
4,4'-DDD	0.1	0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
4,4'-DDE	0.1	0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
4,4'-DDT	0.1	0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
Aldrin	0.04	*0.074 U*	*0.074 U*	*0.071 U*	*0.071 U*	*0.071 U*	*0.074 U*
Aroclor 1016		1.5 U	1.5 U	1.4 U	1.4 U	1.4 U	1.5 U
Aroclor 1221		1.5 U	1.5 U	1.4 U	1.4 U	1.4 U	1.5 U
Aroclor 1232		1.5 U	1.5 U	1.4 U	1.4 U	1.4 U	1.5 U
Aroclor 1242		1.5 U	1.5 U	1.4 U	1.4 U	1.4 U	1.5 U
Aroclor 1248		1.5 U	1.5 U	1.4 U	1.4 U	1.4 U	1.5 U
Aroclor 1254		1.5 U	1.5 U	1.4 U	1.4 U	1.4 U	1.5 U
Aroclor 1260		1.5 U	1.5 U	1.4 U	1.4 U	1.4 U	1.5 U
Total PCBs	0.5	*1.5 U*	*1.5 U*	*1.4 U*	*1.4 U*	*1.4 U*	*1.5 U*
alpha-BHC	0.02	*0.074 U*	*0.074 U*	*0.071 U*	*0.071 U*	*0.071 U*	*0.074 U*
beta-BHC	0.2	0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
delta-BHC		0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
alpha-Chlordane		0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
Dieldrin	0.03	*0.074 U*	*0.074 U*	*0.071 U*	*0.071 U*	*0.071 U*	*0.074 U*
Endosulfan I	0.4	0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
Endosulfan II	0.4	0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
Endosulfan sulfate	0.4	0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
Endrin	2	0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
Endrin aldehyde		0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
Endrin ketone		0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
gamma-BHC (Lindane)	0.2	0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
gamma-Chlordane		0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
Heptachlor	0.4	0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
Heptachlor epoxide	0.2	0.074 U	0.074 U	0.071 U	0.071 U	0.071 U	0.074 U
Methoxychlor	40	0.74 U	0.74 U	0.71 U	0.71 U	0.71 U	0.74 U
Toxaphene	3	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U

Table C-3 - Task 4 Analytical Results of SPLP Leachate Samples

Analyte	GWQS	D3R19	D3QAQ	D3QAR	D3QAW	D3QAX	D3QC0
Sample ID:		CAP-J1	CAP-J2	CAP-J3	CAP-J4	CAP-J5	CAP-J6
Sample Date:		10/15/99	10/14/99	10/14/99	10/14/99	10/14/99	10/14/99
Semivolatiles in µg/L							
2-Methylnaphthalene		11 U	10 U	10 U	10 U	10 U	11 U
Acenaphthene	400	11 U	10 U	10 U	10 U	10 U	11 U
Acenaphthylene		11 U	10 U	10 U	10 U	10 U	11 U
Anthracene	2000	11 U	10 U	10 U	10 U	10 U	11 U
Fluorene	300	11 U	10 U	10 U	10 U	10 U	11 U
Naphthalene	300	11 U	10 U	10 U	10 U	10 U	11 U
Phenanthrene		11 U	10 U	10 U	10 U	10 U	11 U
Benzo(a)anthracene		11 U	10 U	10 U	10 U	10 U	11 U
Benzo(a)pyrene		11 U	10 U	10 U	10 U	10 U	11 U
Benzo(b)fluoranthene		11 U	10 U	10 U	10 U	10 U	11 U
Benzo(ghi)perylene		11 U	10 U	10 U	1.8 J	10 U	11 U
Benzo(k)fluoranthene		11 U	10 U	10 U	10 U	10 U	11 U
Chrysene		11 U	10 U	10 U	10 U	10 U	11 U
Dibenz(a,h)anthracene		11 U	10 U	10 U	10 U	10 U	11 U
Fluoranthene	300	11 U	10 U	10 U	10 U	10 U	11 U
Indeno(1,2,3-cd)pyrene		11 U	10 U	10 U	10 U	10 U	11 U
Pyrene	200	11 U	10 U	10 U	10 U	10 U	11 U
Butyl benzyl phthalate	100	11 U	10 U	10 U	10 U	10 U	11 U
Di-n-butyl phthalate	900	11 U	10 U	10 U	10 U	10 U	11 U
Di-n-octyl phthalate	100	11 U	10 U	10 U	10 U	10 U	11 U
Diethyl phthalate	5000	11 U	10 U	10 U	10 U	10 U	11 U
Dimethyl phthalate		11 U	10 U	10 U	10 U	10 U	11 U
bis(2-Ethylhexyl) phthalate	30	11 U	10 U	10 U	10 U	10 U	11 U
2,4,5-Trichlorophenol	700	11 U	10 U	10 U	10 U	10 U	11 U
2,4,6-Trichlorophenol	20	11 U	10 U	10 U	10 U	10 U	11 U
2,4-Dichlorophenol	20	11 U	10 U	10 U	10 U	10 U	11 U
2,4-Dimethylphenol	100	11 U	10 U	10 U	2.8 J	10 U	11 U
2,4-Dinitrophenol	40	*53 U*	*52 U*	*52 U*	*52 U*	*51 U*	*54 U*
2-Chlorophenol	40	11 U	10 U	10 U	10 U	10 U	11 U
2-Methylphenol		11	10 U	10 U	10 U	2.2 J	11 U
2-Nitrophenol		11 U	10 U	10 U	10 U	10 U	11 U
3- & 4-Methylphenol		5.4 J	11	10 U	10 U	6 J	5.2 J
4,6-Dinitro-2-methylphenol		53 U	52 U	52 U	52 U	51 U	54 U
4-Chloro-3-methylphenol		11 U	10 U	10 U	10 U	10 U	11 U
4-Nitrophenol		53 U	52 U	52 U	52 U	51 U	54 U

Table C-3 - Task 4 Analytical Results of SPLP Leachate Samples

Analyte	GWQS	D3R19	D3QAQ	D3QAR	D3QAW	D3QAX	D3QC0
Sample ID:		CAP-J1	CAP-J2	CAP-J3	CAP-J4	CAP-J5	CAP-J6
Sample Date:		10/15/99	10/14/99	10/14/99	10/14/99	10/14/99	10/14/99
Pentachlorophenol	1	*53 U*	*52 U*	*52 U*	*52 U*	*51 U*	*54 U*
Phenol	4000	35	51	21	29	13	16
1,2,4-Trichlorobenzene	9	*11 U*	*10 U*	*10 U*	*10 U*	*10 U*	*11 U*
1,2-Dichlorobenzene	600	11 U	10 U	10 U	10 U	10 U	11 U
1,3-Dichlorobenzene	600	11 U	10 U	10 U	10 U	10 U	11 U
1,4-Dichlorobenzene	75	11 U	10 U	10 U	10 U	10 U	11 U
2,2'-oxybis(1-Chloropropane)	300	11 U	10 U	10 U	10 U	10 U	11 U
2,4-Dinitrotoluene	10	*11 U*	10 U	10 U	10 U	10 U	*11 U*
2,6-Dinitrotoluene	10	*11 U*	10 U	10 U	10 U	10 U	*11 U*
2-Chloronaphthalene		11 U	10 U	10 U	10 U	10 U	11 U
2-Nitroaniline		53 U	52 U	52 U	52 U	51 U	54 U
3,3'-Dichlorobenzidine	60	53 U	52 U	52 U	52 U	51 U	54 U
3-Nitroaniline		53 U	52 U	52 U	52 U	51 U	54 U
4-Bromophenyl phenyl ether		11 U	10 U	10 U	10 U	10 U	11 U
4-Chloroaniline		11 U	10 U	10 U	10 U	10 U	11 U
4-Chlorophenyl phenyl ether		11 U	10 U	10 U	10 U	10 U	11 U
4-Nitroaniline		53 U	52 U	52 U	52 U	51 U	54 U
Carbazole		11 U	10 U	10 U	10 U	10 U	11 U
Dibenzofuran		11 U	10 U	10 U	10 U	10 U	11 U
Hexachlorobenzene	10	*11 U*	10 U	10 U	10 U	10 U	*11 U*
Hexachlorobutadiene	1	*11 U*	*10 U*	*10 U*	*10 U*	*10 U*	*11 U*
Hexachlorocyclopentadiene	50	*53 U*	*52 U*	*52 U*	*52 U*	*51 U*	*54 U*
Hexachloroethane	10	*11 U*	10 U	10 U	10 U	10 U	*11 U*
Isophorone	100	11 U	10 U	10 U	10 U	10 U	11 U
N-Nitrosodi-n-propylamine	20	11 U	10 U	10 U	10 U	10 U	11 U
N-Nitrosodiphenylamine	20	11 U	10 U	10 U	10 U	10 U	11 U
Nitrobenzene	10	*11 U*	10 U	10 U	10 U	10 U	*11 U*
bis(2-Chloroethoxy)methane		11 U	10 U	10 U	10 U	10 U	11 U
bis(2-Chloroethyl) ether	10	*11 U*	10 U	10 U	10 U	10 U	*11 U*
Benzoic Acid		21 NJ	21 NJ	17 NJ	89 NJ	83 NJ	64 NJ
Benzyl Alcohol			12 NJ	55 NJ	49 NJ	35 NJ	29 NJ

Table C-3 - Task 4 Analytical Results of SPLP Leachate Samples

Analyte	GWQS	D3R1C	D3R1G	D3R1H	D3R1J	D3R1M
Sample ID:		CAP-J7	CAP-J8	CAP-J9	CAP-J10	CAP-J11
Sample Date:		10/15/99	10/15/99	10/15/99	10/15/99	10/15/99
Conventionals						
Total Cyanide in µg/L		10 U	10 U	10 U	10 U	10 U
Total Suspended Solids in mg/L		4 U	4 U	4 U	4 U	4 U
Total Organic Carbon in mg/L		73.2	92.8	83.7	75.5	253
Metals in µg/L						
Aluminum	200	420 B	1400	33 B	480 B	390 B
Antimony	20	5.3 B	6.1 B	*500 U*	*500 U*	*500 U*
Arsenic	8	*500 U*	4.8 B	3 B	3.4 B	4.6 B
Barium	2000	61 B	14 B	30 B	55 B	61 B
Beryllium	20	0.12 B	5 U	0.14 B	0.11 B	0.11 B
Cadmium	4	*100 U*	*100 U*	*100 U*	*100 U*	*100 U*
Calcium		235000	163000	691000	225000	221000
Chromium	100	30 B	10 B	6.5 B	24 B	24 B
Cobalt		7.4 B	11 B	12 B	10 B	13 B
Copper	1000	1100	1800	1500	1600	1100
Iron	300	11 B	200	11 B	13 B	17 B
Lead	10	4.2 B	1.3 B	*180 B*	1.6 B	*500 U*
Magnesium		22 B	25 B	26 B	31 B	17 B
Manganese	50	15 U	1.3 B	15 U	15 U	1.1 B
Mercury	2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	110	200	180	160	180
Potassium		33700	21700	18700	27300	27000
Selenium	50	1.6 B	3.5 B	1.7 B	*250 U*	2.5 B
Silver		500 U	500 U	500 U	500 U	500 U
Sodium	50000	138000	169000	139000	178000	264000
Thallium	10	*500 U*	*500 U*	*500 U*	*500 U*	*500 U*
Vanadium		6.4 B	25 B	6.3 B	9.7 B	10 B
Zinc	5000	20 U	15 B	20	20 U	20 U

Table C-3 - Task 4 Analytical Results of SPLP Leachate Samples

Analyte	GWQS	D3R1C	D3R1G	D3R1H	D3R1J	D3R1M
Sample ID:		CAP-J7	CAP-J8	CAP-J9	CAP-J10	CAP-J11
Sample Date:		10/15/99	10/15/99	10/15/99	10/15/99	10/15/99
Pesticide/PCBs in µg/L						
4,4'-DDD	0.1	0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
4,4'-DDE	0.1	0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
4,4'-DDT	0.1	0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
Aldrin	0.04	*0.074 U*	*0.071 U*	*0.071 U*	*0.07 U*	*0.071 U*
Aroclor 1016		1.5 U	1.4 U	1.4 U	1.4 U	1.4 U
Aroclor 1221		1.5 U	1.4 U	1.4 U	1.4 U	1.4 U
Aroclor 1232		1.5 U	1.4 U	1.4 U	1.4 U	1.4 U
Aroclor 1242		1.5 U	1.4 U	1.4 U	1.4 U	1.4 U
Aroclor 1248		1.5 U	1.4 U	1.4 U	1.4 U	1.4 U
Aroclor 1254		1.5 U	1.4 U	1.4 U	1.4 U	1.4 U
Aroclor 1260		1.5 U	1.4 U	1.4 U	1.4 U	1.4 U
Total PCBs	0.5	*1.5 U*	*1.4 U*	*1.4 U*	*1.4 U*	*1.4 U*
alpha-BHC	0.02	*0.074 U*	*0.071 U*	*0.071 U*	*0.07 U*	*0.071 U*
beta-BHC	0.2	0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
delta-BHC		0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
alpha-Chlordane		0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
Dieldrin	0.03	*0.074 U*	*0.071 U*	*0.071 U*	*0.07 U*	*0.071 U*
Endosulfan I	0.4	0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
Endosulfan II	0.4	0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
Endosulfan sulfate	0.4	0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
Endrin	2	0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
Endrin aldehyde		0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
Endrin ketone		0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
gamma-BHC (Lindane)	0.2	0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
gamma-Chlordane		0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
Heptachlor	0.4	0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
Heptachlor epoxide	0.2	0.074 U	0.071 U	0.071 U	0.07 U	0.071 U
Methoxychlor	40	0.74 U	0.71 U	0.71 U	0.7 U	0.71 U
Toxaphene	3	2.9 U	2.9 U	2.9 U	2.8 U	2.9 U

Table C-3 - Task 4 Analytical Results of SPLP Leachate Samples

Analyte	GWQS	D3R1C	D3R1G	D3R1H	D3R1J	D3R1M
Sample ID:		CAP-J7	CAP-J8	CAP-J9	CAP-J10	CAP-J11
Sample Date:		10/15/99	10/15/99	10/15/99	10/15/99	10/15/99
Semivolatiles in µg/L						
2-Methylnaphthalene		11 U	11 U	10 U	11 U	10 U
Acenaphthene	400	11 U	11 U	10 U	11 U	10 U
Acenaphthylene		11 U	11 U	10 U	11 U	10 U
Anthracene	2000	11 U	11 U	10 U	11 U	10 U
Fluorene	300	11 U	11 U	10 U	11 U	10 U
Naphthalene	300	11 U	11 U	10 U	11 U	10 U
Phenanthrene		11 U	11 U	10 U	11 U	10 U
Benzo(a)anthracene		11 U	11 U	10 U	11 U	10 U
Benzo(a)pyrene		11 U	11 U	10 U	11 U	10 U
Benzo(b)fluoranthene		11 U	11 U	10 U	11 U	10 U
Benzo(ghi)perylene		11 U	11 U	10 U	11 U	10 U
Benzo(k)fluoranthene		11 U	11 U	10 U	11 U	10 U
Chrysene		11 U	11 U	10 U	11 U	10 U
Dibenz(a,h)anthracene		11 U	11 U	10 U	11 U	10 U
Fluoranthene	300	11 U	11 U	10 U	11 U	10 U
Indeno(1,2,3-cd)pyrene		11 U	11 U	10 U	11 U	10 U
Pyrene	200	11 U	11 U	10 U	11 U	10 U
Butyl benzyl phthalate	100	11 U	11 U	10 U	11 U	10 U
Di-n-butyl phthalate	900	11 U	11 U	10 U	11 U	10 U
Di-n-octyl phthalate	100	11 U	11 U	10 U	11 U	10 U
Diethyl phthalate	5000	11 U	11 U	10 U	11 U	10 U
Dimethyl phthalate		11 U	11 U	10 U	11 U	10 U
bis(2-Ethylhexyl) phthalate	30	11 U	11 U	10 U	11 U	10 U
2,4,5-Trichlorophenol	700	11 U	11 U	10 U	11 U	10 U
2,4,6-Trichlorophenol	20	11 U	11 U	10 U	11 U	10 U
2,4-Dichlorophenol	20	11 U	11 U	10 U	11 U	10 U
2,4-Dimethylphenol	100	11 U	11 U	10 U	11 U	10 U
2,4-Dinitrophenol	40	*53 U*	*53 U*	*52 U*	*53 U*	*52 U*
2-Chlorophenol	40	11 U	11 U	10 U	11 U	10 U
2-Methylphenol		4.4 J	7.3 J	6 J	5.5 J	3.2 J
2-Nitrophenol		11 U	11 U	10 U	11 U	10 U
3- & 4-Methylphenol		18	18 U	16	25	9.1 J
4,6-Dinitro-2-methylphenol		53 U	53 U	52 U	53 U	52 U
4-Chloro-3-methylphenol		11 U	11 U	10 U	11 U	10 U
4-Nitrophenol		53 U	53 U	52 U	53 U	52 U

Table C-3 - Task 4 Analytical Results of SPLP Leachate Samples

Analyte	GWQS	D3R1C	D3R1G	D3R1H	D3R1J	D3R1M
Sample ID:		CAP-J7	CAP-J8	CAP-J9	CAP-J10	CAP-J11
Sample Date:		10/15/99	10/15/99	10/15/99	10/15/99	10/15/99
Pentachlorophenol	1	1.9 J	*53 U*	*52 U*	*53 U*	*52 U*
Phenol	4000	73 U	47 U	75	44	19
1,2,4-Trichlorobenzene	9	*11 U*	*11 U*	*10 U*	*11 U*	*10 U*
1,2-Dichlorobenzene	600	11 U	11 U	10 U	11 U	10 U
1,3-Dichlorobenzene	600	11 U	11 U	10 U	11 U	10 U
1,4-Dichlorobenzene	75	11 U	11 U	10 U	11 U	10 U
2,2'-oxybis(1-Chloropropane)	300	11 U	11 U	10 U	11 U	10 U
2,4-Dinitrotoluene	10	*11 U*	*11 U*	10 U	*11 U*	10 U
2,6-Dinitrotoluene	10	*11 U*	*11 U*	10 U	*11 U*	10 U
2-Chloronaphthalene		11 U	11 U	10 U	11 U	10 U
2-Nitroaniline		53 U	53 U	52 U	53 U	52 U
3,3'-Dichlorobenzidine	60	53 U	53 U	52 U	53 U	52 U
3-Nitroaniline		53 U	53 U	52 U	53 U	52 U
4-Bromophenyl phenyl ether		11 U	11 U	10 U	11 U	10 U
4-Chloroaniline		11 U	11 U	10 U	11 U	10 U
4-Chlorophenyl phenyl ether		11 U	11 U	10 U	11 U	10 U
4-Nitroaniline		53 U	53 U	52 U	53 U	52 U
Carbazole		11 U	11 U	10 U	11 U	10 U
Dibenzofuran		11 U	11 U	10 U	11 U	10 U
Hexachlorobenzene	10	*11 U*	*11 U*	10 U	*11 U*	10 U
Hexachlorobutadiene	1	*11 U*	*11 U*	*10 U*	*11 U*	*10 U*
Hexachlorocyclopentadiene	50	*53 U*	*53 U*	*52 U*	*53 U*	*52 U*
Hexachloroethane	10	*11 U*	*11 U*	10 U	*11 U*	10 U
Isophorone	100	11 U	11 U	10 U	11 U	10 U
N-Nitrosodi-n-propylamine	20	11 U	11 U	10 U	11 U	10 U
N-Nitrosodiphenylamine	20	11 U	11 U	10 U	11 U	10 U
Nitrobenzene	10	*11 U*	*11 U*	10 U	*11 U*	10 U
bis(2-Chloroethoxy)methane		11 U	11 U	10 U	11 U	10 U
bis(2-Chloroethyl) ether	10	*11 U*	*11 U*	10 U	*11 U*	10 U
Benzoic Acid		21 NJ	21 NJ	18 NJ	22 NJ	3.5 NJ
Benzyl Alcohol		86 NJ		56 NJ	57 NJ	39 NJ

U Not detected at indicated detection limit.
J Estimated value.
Value exceeds the screening criteria.
Detection limits that exceed the screening criteria are italicized.

Table C-4 - Analytical Results for Additives

Lab ID:		D3R27	D3R24	D3R25	D3R26	D3R28	D3R22	D3R23
Sample ID:	NRSCC	PROPAT®	LIME	FLY ASH#4	LKD	PORTLAND	FLY ASH	KS40
Sample Date:		10/15/99	10/15/99	10/15/99	10/15/99	10/15/99	10/15/99	10/15/99
Conventionals in %								
Percent Solids		76.1	99.4	81.9	99.8	99.1	81.4	99.2
Total Organic Carbon	21000	8.9	0.005 U	0.787	0.005 U	0.005 U	0.707	0.005 U
Total Cyanide in mg/kg		2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Metals in mg/kg								
Aluminum		6550	9660	19200	345	23900	22700	16600
Antimony	340	20.2 J	0.66 J	0.82 J	6 UJ	1.3 J	0.74 J	2.6 J
Arsenic	20	6.5	34	48.1	1.4	12.1	51.5	5.9
Barium	47000	502	118	152	4.2 J	203	172	86.5
Beryllium	1	0.31 UJ	2.4	*1.1 U*	0.031 UJ	0.35 UJ	1.3 U	0.59 U
Cadmium	100	20.6	0.14 J	0.21 J	0.039 J	0.27 J	0.24 J	4.1
Calcium		36300	3150	45800	479000	458000	51700	353000
Chromium		121	27.4	25.3	0.38 J	63.1	29.1	27.7
Cobalt		10.5	9	7.4	5 U	9.6	8.4	5.6
Copper	600	356	32.5	38.4	0.75 UJ	297	44.2	24.1
Iron		36000 J	7840 J	16500 J	685 J	18900 J	19100 J	10500 J
Lead	600	1780	11.2	27.7	2.3	8.4	29.7	43.2
Magnesium		4130 J	578 J	4840 J	4100 J	4970 J	5850 J	10100 J
Manganese		405 J	67.3 J	125 J	25.8 J	325 J	111 J	506 J
Mercury	270	2.1	0.12	0.64	0.017 U	0.017 U	0.67	0.24
Nickel	2400	148	16.8	14.3	3.3 J	30.9	17.5	13.8
Potassium		3770	1180	3450	238 J	1850	4050	14500
Selenium	3100	1.5	8.5	16.1	0.5 U	1 U	18.3	1.4
Silver	4100	1.7	1 U	1.2 U	1 U	0.1 J	1.2 U	2.1
Sodium		5350	218 J	961	37.4 J	1900	1100	2500
Thallium	2	2.7	2.4	1.6	1 U	3.3	2.1	3.2
Vanadium	7100	19.7	61.2	52	7.1	51.8	58.6	15.1
Zinc	1500	4830 J	23.8 J	23.6 J	7.3 J	272 J	27.6 J	103 J

Table C-4 - Analytical Results for Additives

Lab ID:		D3R27	D3R24	D3R25	D3R26	D3R28	D3R22	D3R23
Sample ID:	NRSCC	PROPAT®	LIME	FLY ASH#4	LKD	PORTLAND	FLY ASH	KS40
Sample Date:		10/15/99	10/15/99	10/15/99	10/15/99	10/15/99	10/15/99	10/15/99
Pesticide/PCBs in µg/kg								
4,4'-DDD	12000	4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
4,4'-DDE	9000	4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
4,4'-DDT	9000	4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
Aldrin	170	4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
alpha-Chlordane		4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
Aroclor 1016		8700 UJ	66 U	81 U	66 U	67 U	81 U	67 U
Aroclor 1221		8700 UJ	66 U	81 U	66 U	67 U	81 U	67 U
Aroclor 1232		8700 UJ	66 U	81 U	66 U	67 U	81 U	67 U
Aroclor 1242		18000 J	66 U	81 U	66 U	67 U	81 U	67 U
Aroclor 1248		8700 UJ	66 U	81 U	66 U	67 U	81 U	67 U
Aroclor 1254		8700 UJ	66 U	81 U	66 U	67 U	81 U	67 U
Aroclor 1260		8700 UJ	66 U	81 U	66 U	67 U	81 U	67 U
Total PCBs	2000	18000 J	66 U	81 U	66 U	67 U	81 U	67 U
alpha-BHC		4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
beta-BHC		4500 UJ	4.1	4.1 U	3.4 U	3.4 U	4.2 U	4.1
delta-BHC		4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
Dieldrin	180	*4500 UJ*	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
Endosulfan I		4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
Endosulfan II		4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
Endosulfan sulfate		4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
Endrin	310000	4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
Endrin aldehyde		4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
Endrin ketone		4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
gamma-BHC (Lindane)	2200	*4500 UJ*	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
gamma-Chlordane		4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
Heptachlor	650	*4500 UJ*	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
Heptachlor epoxide		4500 UJ	3.4 U	4.1 U	3.4 U	3.4 U	4.2 U	3.4 U
Methoxychlor	5200000	45000 UJ	34 U	41 U	34 U	34 U	42 U	34 U
Toxaphene	200	*180000 UJ*	130 U	160 U	130 U	140 U	160 U	140 U

Table C-4 - Analytical Results for Additives

Lab ID:		D3R27	D3R24	D3R25	D3R26	D3R28	D3R22	D3R23
Sample ID:	NRSCC	PROPAT®	LIME	FLY ASH#4	LKD	PORTLAND	FLY ASH	KS40
Sample Date:		10/15/99	10/15/99	10/15/99	10/15/99	10/15/99	10/15/99	10/15/99
Semivolatiles in µg/kg								
2-Methylnaphthalene		4600 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Acenaphthene	10000000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
Acenaphthylene		4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
Anthracene	10000000	5100 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Fluorene	10000000	1200 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Naphthalene	4200000	1800 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Phenanthrene		6600 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Benzo(a)anthracene	4000	*4300 U*	660 U	810 U	660 UJ	670 U	810 U	670 U
Benzo(a)pyrene	660	*4300 U*	660 U	*810 U*	660 UJ	*670 U*	*810 U*	*670 U*
Benzo(b)fluoranthene	4000	*4300 U*	660 U	810 U	660 UJ	670 U	810 U	670 U
Benzo(ghi)perylene		620 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Benzo(k)fluoranthene	4000	*4300 U*	660 U	810 U	660 UJ	670 U	810 U	670 U
Chrysene	40000	5300 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Dibenz(a,h)anthracene	660	*4300 U*	660 U	*810 U*	660 UJ	*670 U*	*810 U*	*670 U*
Fluoranthene	10000000	6800 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Indeno(1,2,3-cd)pyrene	4000	700 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Pyrene	10000000	4000 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Butyl benzyl phthalate	10000000	76000 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Di-n-butyl phthalate	10000000	24000 J	230 J	390 J	170 J	160 J	810 U	670 U
Di-n-octyl phthalate	10000000	130000 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Diethyl phthalate	10000000	4300 U	270 J	810 U	660 UJ	670 U	810 U	670 U
Dimethyl phthalate	10000000	3300 J	660 U	810 U	660 UJ	670 U	810 U	670 U
bis(2-Ethylhexyl) phthalate	210000	320000 J	660 U	810 U	320 J	670 U	810 U	670 U
2,4,5-Trichlorophenol	10000000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
2,4,6-Trichlorophenol	270000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
2,4-Dichlorophenol	3100000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
2,4-Dimethylphenol	10000000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
2,4-Dinitrophenol	2100000	21000 U	3200 U	3900 U	3200 UJ	3200 U	3900 U	3200 U
2-Chlorophenol	5200000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
2-Methylphenol	10000000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
2-Nitrophenol		4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
3- & 4-Methylphenol		4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U

Table C-4 - Analytical Results for Additives

Lab ID:		D3R27	D3R24	D3R25	D3R26	D3R28	D3R22	D3R23
Sample ID:	NRSCC	PROPAT®	LIME	FLY ASH#4	LKD	PORTLAND	FLY ASH	KS40
Sample Date:		10/15/99	10/15/99	10/15/99	10/15/99	10/15/99	10/15/99	10/15/99
4,6-Dinitro-2-methylphenol		21000 U	3200 U	3900 U	3200 UJ	3200 U	3900 U	3200 U
4-Chloro-3-methylphenol	10000000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
4-Nitrophenol		21000 U	3200 U	3900 U	3200 UJ	3200 U	3900 U	3200 U
Pentachlorophenol	24000	21000 U	3200 U	3900 U	3200 UJ	3200 U	3900 U	3200 U
Phenol	10000000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
1,2,4-Trichlorobenzene	1200000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
1,2-Dichlorobenzene	10000000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
1,3-Dichlorobenzene	10000000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
1,4-Dichlorobenzene	10000000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
2,2'-oxybis(1-Chloropropane)	10000000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
2,4-Dinitrotoluene		4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
2,6-Dinitrotoluene		4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
2-Chloronaphthalene		4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
2-Nitroaniline		21000 U	3200 U	3900 U	3200 UJ	3200 U	3900 U	3200 U
3,3'-Dichlorobenzidine	6000	*21000 U*	3200 U	3900 U	3200 UJ	3200 U	3900 U	3200 U
3-Nitroaniline		21000 U	3200 U	3900 U	3200 UJ	3200 U	3900 U	3200 U
4-Bromophenyl phenyl ether		4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
4-Chloroaniline	4200000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
4-Chlorophenyl phenyl ether		4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
4-Nitroaniline		21000 U	3200 U	3900 U	3200 UJ	3200 U	3900 U	3200 U
Carbazole		4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
Dibenzofuran		4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
Hexachlorobenzene	2000	*4300 U*	660 U	810 U	660 UJ	670 U	810 U	670 U
Hexachlorobutadiene	21000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
Hexachlorocyclopentadiene	7300000	21000 U	3200 U	3900 U	3200 UJ	3200 U	3900 U	3200 U
Hexachloroethane	100000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
Isophorone	10000000	4300 U	660 U	810 U	5300 J	670 U	810 U	670 U
N-Nitrosodi-n-propylamine	660	*4300 U*	660 U	810 U	660 UJ	670 U	810 U	670 U
N-Nitrosodiphenylamine	600000	1200 J	660 U	810 U	660 UJ	670 U	810 U	670 U
Nitrobenzene	520000	4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
bis(2-Chloroethoxy)methane		4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U
bis(2-Chloroethyl) ether		4300 U	660 U	810 U	660 UJ	670 U	810 U	670 U

U Not detected at indicated detection limit.
J Estimated value.
Value exceeds screening criteria.
Detection limits that exceed the screening criteria are italicized.
NRSCC - NJDEP Non-Residential Soil Cleanup Criteria.

Table C-5 - Task 5 Analytical Results for Amended Sediment

Sample ID:	NRSCC	J1-CTI-7	J3-PORT-7
Sample Date:		11/29/1999	11/29/1999
Percent Solids		97.8	96.3
Conventionals in mg/kg			
Total Cyanide	21000	2.6 U	3.5
Total Organic Carbon		31500	28800
Metals in mg/kg			
Aluminum		13800 J	9890 J
Antimony	340	4 J	149 J
Arsenic	20	24.8	17.3
Barium	47000	273 J	267 J
Beryllium	1	0.84 U	0.43 U
Cadmium	100	7 J	17.9 J
Calcium		92100	170000
Chromium		635	194
Cobalt		13.2 UJ	9.4 UJ
Copper	600	173 J	1460 J
Iron		22900	24900
Lead	600	404 J	665 J
Magnesium		6470	6210
Manganese		302	268
Mercury	270	4.7 J	3.2 J
Nickel	2400	259	62.4
Potassium		5590 J	2090 UJ
Selenium	3100	5.7	2.2
Silver	4100	5.2	7.1
Sodium		6690	4460
Thallium	2	1	1 U
Vanadium	7100	39	33.7
Zinc	1500	957 J	1620 J

Table C-5 - Task 5 Analytical Results for Amended Sediment

Sample ID:	NRSCC	J1-CTI-7	J3-PORT-7
Sample Date:		11/29/1999	11/29/1999
Pesticide/PCBs in µg/kg			
4,4'-DDD	12000	8.7 U	8.8 U
4,4'-DDE	9000	44	55
4,4'-DDT	9000	46	46
Aldrin	170	67	67
Aroclor 1016		3400 U	3400 U
Aroclor 1221		3400 U	3400 U
Aroclor 1232		3400 U	3400 U
Aroclor 1242		6900	6400
Aroclor 1248		3400 U	3400 U
Aroclor 1254		3400 U	3400 U
Aroclor 1260		3400 U	3400 U
Total PCBs	2000	6900	6400
alpha-BHC		8.7 U	8.8 U
beta-BHC		8.7 U	8.8 U
delta-BHC		8.7 U	8.8 U
alpha-Chlordane		36	39
Dieldrin	180	8.7 U	8.8 U
Endosulfan I		8.7 U	8.8 U
Endosulfan II		33	29
Endosulfan sulfate		8.7 U	8.8 U
Endrin	310000	58	64
Endrin aldehyde		42	43
Endrin ketone		8.7 U	8.8 U
gamma-BHC (Lindane)	2200	8.7 U	8.8 U
gamma-Chlordane		16	15
Heptachlor	650	8.7 U	8.8 U
Heptachlor epoxide		8.7 U	8.8 U
Methoxychlor	5200000	87 U	88 U
Toxaphene	200	*340 U*	*350 U*

APPENDIX D
MIXING METHODS AND SAMPLE PREPARATION

APPENDIX D - MIXING METHODS AND SAMPLE PREPARATION

This appendix describes the mixing methods used during the Bench-Scale Testing of PROPAT® as a dredged material stabilizing agent. Two types of mixing methods were used. This appendix discusses:

- Preparatory work for mixing;
- Mixing of amended sediment without PROPAT®; and
- Mixing of amended sediment with PROPAT® (Bench Top and Tasks 4 and 5 testing).

Preparatory Work

The frozen sediment samples were removed from the freezer and placed in the refrigerator (4°C) at least three days before the amending began. Three days in the refrigerator was sufficient to thaw the sediment.

The day before sampling, enough utensils were decontaminated so that each sample had its own equipment. This eliminated the need to decontaminate equipment between mixes. It also ensured that the utensils were dry prior to coming into contact with the sediment and additives.

The decontamination procedure consisted of an Alconox solution scrub, followed by tap water rinse, and completed with a triple rinse of DI water. The equipment was laid out to dry on aluminum foil (shiny side down) overnight to dry. The bowls and the cylinders were left upside down to dry.

The next morning, the equipment (bowls, buckets, and spoons) was wrapped in aluminum foil (shiny side out) and transported to the cage. The cylinders (both cap and the cylinder itself) were labeled, as were the Ziploc® bags that the cylinders would be kept in during curing.

Mixing of Amended Sediment without PROPAT®

The general amending procedure consisted of mixing in a certain percentage of additives to a given wet weight of sediment. The mix was homogenized and the resulting amended sediment was packed into cylinders. The cylinders were capped, placed in ziplock bags, which were sealed, and placed in the oven to cure for seven days at 120°F.

The list of equipment that was required for the work consisted of:

- Stainless steel bowls;
- Stainless steel spoons;
- 5- gallon plastic buckets;
- Plastic cylinders (3 inch diameter and 6 inch height plastic cylinders were used for this work);
- Large ziplock bags;
- Electric drill with paddle blade (a mixer can be used if available); and
- Pocket penetrometer.

Amending Work

The admixtures used were fly ash (15%), KS40 (10%), and alkaline activator (5%) (a percentage of the wet weight of the sediment). Amended sediment samples were submitted for bulk chemistry, modified multiple extraction procedure, compressive strength, and permeability. The amount of sample required for this testing was calculated and increased by 25% for spillage or additional tests. From this amount of wet sediment, the amount of additives needed for each sample was calculated.

Since the sediment was predominantly silt, the sieving step was not necessary. Sediment and additives were weighed out into separate bowls. The bowl was placed on the scale, the scale was tared, and the appropriate amount of sediment or additive was added to the bowl. The weights of the sediment and additives were recorded on the laboratory form.

The additives were poured into a 5-gallon bucket and aluminum foil was placed over the top of the bucket. The bucket was then shaken to homogenize the additives. Shaking was continued until the additives appeared uniform in color.

The sediment was scooped into a 5-gallon bucket and the homogenized additives were poured on top of the sediment. The sediment and additives were homogenized together with a paint paddle blade attached to an electric drill. The drill speed was set at low. The mixing time was noted and recorded on the laboratory form. Typically, sediment was mixed for about 5 minutes.

The amended sediment was packed into cylinders for compressive strength testing by scooping sediment into the cylinder and tapping the base of the cylinder on the ground. This packed the amended sediment into the cylinder and evacuated many of the air voids in the sediment. This procedure of scooping and tapping was repeated numerous times until the sediment would no longer pack into the cylinder. The cylinder was then topped off with sediment. The empty and full weights of the cylinders were weighed and recorded on the lab form.

Once the cylinder was completely filled, the cylinder was capped with a plastic snap on lid. When all the cylinders for a given amended sample were filled, the strength of each cylinder was measured with a pocket penetrometer. The penetrometer reading was recorded on the lab form. The cylinder was placed in a ziplock bag and the bag was sealed.

When all the samples were mixed for that day, the cylinders (in the ziplock bags) were placed in the oven. Each cylinder was placed in an upright position. The time that each sample was placed in the oven was noted and recorded.

The filled cylinders were kept in the oven (approximately 120°F) for seven days. Each day, the temperature of the oven was noted and recorded. The cylinders were removed daily from the oven and the strength of the amended sediment was measured with a pocket penetrometer. The pocket penetrometer readings were recorded on the lab form.

At the end of the seven-day cure, three cylinders from each amended sediment sample were placed in a cooler with ice packs and shipped to Quanterra for bulk chemistry and modified MEP. The remaining cylinder from each sample was submitted to Hart Crowser's Geotechnical Laboratory for compressive strength testing.

Modifications to Amending Work

O'Brien and Gere (OBG), a geotechnical laboratory in Pennsylvania, was mixing amended Claremont Channel sediment without PROPAT® and running compressive strength tests on the samples. OBG obtained higher strengths than Hart Crowser obtained with amended sediment without PROPAT®. Hart Crowser modified the mixing procedure to more closely mimic OBG's procedure. Modifications to the mixing procedure included:

- Sieving the coal fly ash through a No. 4 sieve;
- Using a Kitchen-aid mixer rather than an electric drill with paint mixing paddle;
- Homogenizing the additives in a plastic bag; and
- Using 2-by 4-inch wax-coated cardboard cylinders rather than the plastic cylinders.

These modifications to the mixing procedure produced compressive strengths that were more comparable to OBG's.

Mixing Amended Sediment with PROPAT®

The general amending procedure consists of mixing in a certain percentage of additives to a given wet weight of sediment and PROPAT®. The constituents are homogenized, compacted, and the resulting amended sediment is cured at approximately 120°F in the oven for seven days.

The equipment that is required for the mixing is:

- Stainless steel bowls (one bowl for PROPAT® and for each additive);
- One stainless steel mixing bowl;
- Stainless steel spoons;
- 5-gallon buckets (one bucket per amended sample);
- Cylinders for holding the compression samples (2-inch diameter and 4-inch height wax-coated cardboard cylinders that had a metal base were used);
- Large ziplock bags; and

Amending Work

The additives used were fly ash, KS40, alkaline activator, lime kiln dust, and Portland cement (percentage of the total wet weight of the sediment and PROPAT®). Tests were identified for each portion of the work. The amount of sample required for this testing was calculated and increased by 25% to allow for spillage or other accidents. The appropriate amount of PROPAT® was calculated from this total mass. From the sum of the sediment and PROPAT® masses, the amount of additives needed for each sample was calculated. From this amount of wet sediment, the amount of additives needed for each sample was calculated.

The protocol for the compressive strength test required that sediments were sieved (1/3 inch) prior to testing. However, since the sediment was predominantly silt, the sieving step was not necessary. The coal fly ash was sieved through a No. 4 sieve (3/8-inch) based on OBG Laboratories' suggestion. The larger pieces of fly ash are thought to be slightly hydrated and therefore less reactive than the smaller grained fly ash. The sieving of the fly ash separates out the larger pieces; the finer grained portion of the fly ash is used for the mixing.

The sediment was weighed out into the Kitchen-aid mixing bowl. The PROPAT® and additives were weighed out into separate bowls. The bowl was placed on the scale, the scale was tared, and the appropriate amount of sediment, PROPAT®, or additive was added to the bowl. The weights of the sediment, PROPAT®, and additives were recorded on the lab form.

If fly ash, KS40, and alkaline activator were the additives being used, they were poured into a clear plastic bag. The opening of the plastic bag was folded over a couple of times to form a seal. The bag was then shaken until the additives were uniform in color. The homogenized additives were poured on top of the sediment in the mixing bowl. If lime kiln dust or Portland cement was the additive, it was poured onto the sediment after being weighed out.

The sediment and non-PROPAT® additives were homogenized prior to adding the PROPAT®. The mixer was turned on at the first speed to mix the sediment. The blade paddle for the mixer (not the whisk and not the dough hook) was used to mix the sediment. After homogenizing the sediment and non-PROPAT® additives for approximately one minute, the PROPAT® was poured on top of the sediment in the mixing bowl.

The mixing time of the amended sediment and PROPAT® varied depending on the concentration of PROPAT®. Samples were mixed for approximately two minutes. At the higher percentages of PROPAT®, the mixer continually stalled as a result of the PROPAT® clogging the mixer blade. With 100% PROPAT®, it was not possible to completely homogenize the sample with the mixer because of the repeated stalling of the mixer blade. For these samples, the final mixing was performed with a stainless steel spoon in the 5-gallon bucket.

The mixer bowl only holds about 3.5 to 4 pounds of material. However, the amount of amended sediment required for all the tests was greater than this amount. So a number of batches of each sample were mixed up. Once a sample batch was mixed up, it was placed in a 5-gallon plastic bucket. When the batch was placed in the 5-gallon bucket, it was not homogenized with the other batches, except for the samples with 100% PROPAT®. These samples were hand mixed since the mixer could not completely homogenize the sample.

Compaction

Once the samples were homogenized, the modified Proctor compaction test was performed. Since the samples were contaminated, the electric compaction hammer could not be used due to the difficulty of decontaminating it. The manual hammer was used. Upon completion of the compaction test, the sample was analyzed for moisture content.

Compression

The compression samples were compacted into the 2- by 4-inch cylinders. For each sample, duplicate compression tests were performed on each sample. The compacted cylinders were filled by trying to achieve the wet density calculated from the compaction test. Amended sediment samples were packed into cylinders as a non-flowable mix by scooping the amended sediment into the cylinder and using a tamper to compact the mixture to a density as close as possible to the density measured in the compaction test. At higher

concentrations of PROPAT® (30 and 100 percent), the wet density was not achieved in the compacted cylinders. The empty and filled weight of each cylinder was weighed and recorded.

All the cylinders were placed in ziplock bags, which were sealed and placed in the oven.

Curing

When the compression cylinders were filled, the samples were place in the oven (~127°F) for seven-days. At the end of the seven-day cure, the samples were removed from the oven and submitted to Hart Crowser's Geotechnical Laboratory for analysis.

Moisture Content Sensitivity Analysis

Compression and compaction tests were run at varying moisture contents to determine the mixes sensitivity to varying moisture content. Samples that were dry of natural moisture content were created by mixing sediment and PROPAT® together and drying it over night. The following day, the non-PROPAT® additives were added to the mix and homogenized. Water was then added to obtain a number of different moisture contents.

Samples that were wet of natural moisture content were created by adding water to amended sediment at natural moisture content.

Table C-5 - Task 5 Analytical Results for Amended Sediment

Sample ID:	NRSCC	J1-CTI-7	J3-PORT-7
Sample Date:		11/29/1999	11/29/1999
Semivolatiles in µg/kg			
1,2,4-Trichlorobenzene	1200000	3400 U	3400 U
1,2-Dichlorobenzene	10000000	3400 U	3400 U
1,3-Dichlorobenzene	10000000	3400 U	3400 U
1,4-Dichlorobenzene	10000000	3400 U	3400 U
2,2'-oxybis(1-Chloropropane)	10000000	3400 U	3400 U
2,4,5-Trichlorophenol	10000000	3400 U	3400 U
2,4,6-Trichlorophenol	270000	3400 U	3400 U
2,4-Dichlorophenol	3100000	3400 U	3400 U
2,4-Dimethylphenol	10000000	3400 U	3400 U
2,4-Dinitrophenol	2100000	16000 U	17000 U
2,4-Dinitrotoluene		3400 U	3400 U
2,6-Dinitrotoluene		3400 U	3400 U
2-Chloronaphthalene		3400 U	3400 U
2-Chlorophenol	5200000	3400 U	3400 U
2-Methylnaphthalene		3400 U	3400 U
2-Methylphenol	10000000	3400 U	3400 U
2-Nitroaniline		16000 U	17000 U
2-Nitrophenol		3400 U	3400 U
3,3'-Dichlorobenzidine	6000	*16000 U*	*17000 U*
3- & 4-Methylphenol		3400 U	3400 U
3-Nitroaniline		16000 U	17000 U
4,6-Dinitro-2-methylphenol		16000 U	17000 U
4-Bromophenyl phenyl ether		3400 U	3400 U
4-Chloro-3-methylphenol	10000000	3400 U	3400 U
4-Chloroaniline	4200000	3400 U	3400 U
4-Chlorophenyl phenyl ether		3400 U	3400 U
4-Nitroaniline		16000 U	17000 U
4-Nitrophenol		16000 U	17000 U
Acenaphthene	10000000	3400 U	3400 U
Acenaphthylene		3400 U	3400 U
Anthracene	10000000	3400 U	3400 U
Benzo(a)anthracene	4000	*3400 U*	*3400 U*
Benzo(a)pyrene	660	*3400 U*	*3400 U*
Benzo(b)fluoranthene	4000	1100 J	*3400 U*
Benzo(ghi)perylene		420 J	380 J
Benzo(k)fluoranthene	4000	*3400 U*	*3400 U*
bis(2-Chloroethoxy)methane		3400 U	3400 U
bis(2-Chloroethyl) ether		3400 U	3400 U
bis(2-Ethylhexyl) phthalate	210000	190000	67000
Butyl benzyl phthalate	10000000	22000 J	13000 J
Carbazole		3400 U	3400 U
Chrysene	40000	3400 U	3400 *U*
Dibenz(a,h)anthracene	660	*3400 U*	*3400 U*

Table C-5 - Task 5 Analytical Results for Amended Sediment

Sample ID:	NRSCC	J1-CTI-7	J3-PORT-7
Sample Date:		11/29/1999	11/29/1999
Dibenzofuran		3400 U	3400 U
Diethyl phthalate	10000000	3400 U	3400 U
Dimethyl phthalate	10000000	3400 U	3400 U
Di-n-butyl phthalate	10000000	2300 J	2300 U
Di-n-octyl phthalate	10000000	26000 J	16000
Fluoranthene	10000000	1800 J	3400 U
Fluorene	10000000	3400 U	3400 U
Hexachlorobenzene	2000	*3400 U*	*3400 U*
Hexachlorobutadiene	21000	3400 U	3400 U
Hexachlorocyclopentadiene	7300000	16000 U	17000 U
Hexachloroethane	100000	3400 U	3400 U
Indeno(1,2,3-cd)pyrene	4000	400 J	430 J
Isophorone	10000000	3400 U	3400 U
Naphthalene	4200000	3400 U	3400 U
Nitrobenzene	520000	3400 U	3400 U
N-Nitrosodi-n-propylamine	660	*3400 U*	*3400 U*
N-Nitrosodiphenylamine	600000	3400 U	3400 U
Pentachlorophenol	24000	16000 U	17000 U
Phenanthrene		1300	3400 U
Phenol	10000000	1300 J	2100 J
Pyrene	10000000	3400 U	3400 U

U Not detected at indicated detection limit.
J Estimated value.
Value exceeds screening criteria.
Detection limits that exceed the screening criteria are italicized.
NRSCC - NJDEP Non-Residential Soil Cleanup Criteria.

Table C-6 - Task 5 Analytical Results for SPLP Leachate of Samples

Sample ID:	GWQS	J1-CTI-7	J3-PORT-7	CCQ-J	PROPAT
Sample Date:		11/29/1999	11/29/1999	11/29/1999	11/29/1999
Conventionals in mg/L					
Total Organic Carbon		52.9	81	9	33.4
Total Suspended Solids		4 U	4	4 U	4
Total Cyanide		0.01 U	0.004 J	0.01 U	0.01 U
Metals in µg/L					
Aluminum	200	900 J	19 UJ	1700 J	320 J
Antimony	20	2.5 J	10 U	10 U	24 J
Arsenic	8	8 J	8.3 J	2.5 J	3.3 J
Barium	2000	48 J	89 J	22 J	27 J
Beryllium	20	5 U	5 U	5 U	5 U
Cadmium	4	0.57 UJ	1.3 UJ	3.4 UJ	2.5 U
Calcium		221000	990000	51000	66700
Chromium	100	30	35	13	5
Cobalt		2.7 UJ	6 UJ	7.1 UJ	50 U
Copper	1000	630	980	15 J	94
Iron	300	13 UJ	17 UJ	1800	900
Lead	10	3 U	120	11	220
Magnesium		38 UJ	5000 U	34100	6700
Manganese	50	15 U	15 U	1600	46
Mercury	2	0.2 U	0.2 U	0.2 U	0.48
Nickel	100	100	220	29 J	24 J
Potassium		129000	23700	17400	45600
Selenium	50	16	2.4 J	5 U	5 U
Silver		5 U	5 U	0.98 J	5 U
Sodium	50000	187000	189000	193000	153000
Thallium	10	10 U	10 U	10 U	7.2 J
Vanadium		23 J	50 U	50 U	50 U
Zinc	5000	20 U	80	130	470

Table C-6 - Task 5 Analytical Results for SPLP Leachate of Samples

Sample ID:	GWQS	J1-CTI-7	J3-PORT-7	CCQ-J	PROPAT
Sample Date:		11/29/1999	11/29/1999	11/29/1999	11/29/1999
Pesticides in µg/L					
4,4'-DDD	0.1	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDE	0.1	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT	0.1	0.05 U	0.05 U	0.05 U	*0.05* U
Aldrin	0.04	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Aroclor 1016		1 U	1 U	1 U	1 U
Aroclor 1221		1 U	1 U	1 U	1 U
Aroclor 1232		1 U	1 U	1 U	1 U
Aroclor 1242		1 U	1 U	1 U	1 U
Aroclor 1248		1 U	1 U	1 U	1 U
Aroclor 1254		1 U	1 U	1 U	1 U
Aroclor 1260		1 U	1 U	1 U	1 U
Total PCBs	0.5	*1 U*	*1 U*	*1 U*	*1 U*
alpha-BHC	0.02	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
beta-BHC	0.2	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC		0.05 U	0.05 U	0.05 U	0.05 U
alpha-Chlordane		0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	0.03	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Endosulfan I	0.4	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.4	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan sulfate	0.4	0.05 U	0.05 U	0.05 U	0.05 U
Endrin	2	0.05 U	0.05 U	0.05 U	0.05 U
Endrin aldehyde		0.05 U	0.05 U	0.05 U	0.05 U
Endrin ketone		0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.2	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane		0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.4	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.2	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	40	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	3	2 U	2 U	2 U	2 U

Table C-6 - Task 5 Analytical Results for SPLP Leachate of Samples

Sample ID:	GWQS	J1-CTI-7	J3-PORT-7	CCQ-J	PROPAT
Sample Date:		11/29/1999	11/29/1999	11/29/1999	11/29/1999
Semivolatiles in µg/L					
1,2,4-Trichlorobenzene	9	*10 U*	*20 U*	*10 U*	*10 U*
1,2-Dichlorobenzene	600	10 U	20 U	10 U	10 U
1,3-Dichlorobenzene	600	10 U	20 U	10 U	10 U
1,4-Dichlorobenzene	75	10 U	20 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)	300	10 U	20 U	10 U	10 U
2,4,5-Trichlorophenol	700	10 U	20 U	10 U	10 U
2,4,6-Trichlorophenol	20	10 U	20 U	10 U	10 U
2,4-Dichlorophenol	20	10 U	20 U	10 U	10 U
2,4-Dimethylphenol	100	2.7 J	6.9 J	10 U	10 U
2,4-Dinitrophenol	40	51 U	100 U	50 U	50 U
2,4-Dinitrotoluene	10	10 U	20 U	10 U	10 U
2,6-Dinitrotoluene	10	10 U	20 U	10 U	10 U
2-Chloronaphthalene		10 U	20 U	10 U	10 U
2-Chlorophenol	40	10 U	20 U	10 U	10 U
2-Methylnaphthalene		2 J	2.2 J	10 U	10 U
2-Methylphenol		3.6 J	9.2 J	10 U	10 U
2-Nitroaniline		51 U	100 U	50 U	50 U
2-Nitrophenol		10 U	20 U	10 U	10 U
3,3'-Dichlorobenzidine	60	51 U	*100 U*	50 U	50 U
3-Nitroaniline		51 U	100 U	50 U	50 U
4,6-Dinitro-2-methylphenol		51 U	100 U	50 U	50 U
4-Bromophenyl phenyl ether		10 U	20 U	10 U	10 U
4-Chloro-3-methylphenol		10 U	20 U	10 U	10 U
4-Chloroaniline		10 U	20 U	10 U	10 U
4-Chlorophenyl phenyl ether		10 U	20 U	10 U	10 U
4-Methylphenol		19	41	10 U	10 U
4-Nitroaniline		51 U	100 U	50 U	50 U
4-Nitrophenol		51 U	100 U	50 U	50 U
Acenaphthene	400	10 U	20 U	10 U	10 U
Acenaphthylene		10 U	20 U	10 U	10 U
Anthracene	2000	10 U	20 U	10 U	10 U
Benzo(a)anthracene		10 U	20 U	10 U	10 U
Benzo(a)pyrene		10 U	20 U	10 U	10 U
Benzo(b)fluoranthene		10 U	20 U	10 U	10 U
Benzo(ghi)perylene		10 U	20 U	10 U	10 U
Benzo(k)fluoranthene		10 U	20 U	10 U	10 U

Table C-6 - Task 5 Analytical Results for SPLP Leachate of Samples

Sample ID:	GWQS	J1-CTI-7	J3-PORT-7	CCQ-J	PROPAT
Sample Date:		11/29/1999	11/29/1999	11/29/1999	11/29/1999
bis(2-Chloroethoxy)methane		10 U	20 U	10 U	10 U
bis(2-Chloroethyl) ether	10	10 U	20 U	10 U	10 U
bis(2-Ethylhexyl) phthalate	30	10 U	20 U	10 U	10 U
Butyl benzyl phthalate		10 U	20 U	10 U	10 U
Carbazole		10 U	20 U	10 U	10 U
Chrysene		10 U	20 U	10 U	10 U
Dibenz(a,h)anthracene		10 U	20 U	10 U	10 U
Dibenzofuran		10 U	20 U	10 U	10 U
Diethyl phthalate	5000	10 U	20 U	10 U	10 U
Dimethyl phthalate		10 U	20 U	10 U	10 U
Di-n-butyl phthalate	900	1.6 J	20 U	10 U	2 J
Di-n-octyl phthalate	100	10 U	20 U	10 U	10 U
Fluoranthene	300	10 U	20 U	10 U	10 U
Fluorene	300	10 U	20 U	10 U	10 U
Hexachlorobenzene	10	10 U	20 U	10 U	10 U
Hexachlorobutadiene	1	*10 U*	*20 U*	*10 U*	*10 U*
Hexachlorocyclopentadiene	50	*51 U*	*100 U*	50 U	50 U
Hexachloroethane	10	10 U	*20 U*	10 U	10 U
Indeno(1,2,3-cd)pyrene		10 U	20 U	10 U	10 U
Isophorone	100	10 U	20 U	10 U	10 U
Naphthalene	300	10 U	20 U	10 U	10 U
Nitrobenzene	10	10 U	20 U	10 U	10 U
N-Nitrosodi-n-propylamine	20	10 U	20 U	10 U	10 U
N-Nitrosodiphenylamine	20	10 U	20 U	10 U	10 U
Pentachlorophenol	1	*51 U*	*100 U*	*50 U*	*50 U*
Phenanthrene		10 U	20 U	10 U	10 U
Phenol	4000	59	89 J	10 U	10 U
Pyrene	200	10 U	20 U	10 U	10 U

U Not detected at indicated detection limit.
J Estimated value.
Value exceeds the screening criteria.
Detection limits that exceed the screening criteria are italicized.

Table C-7 - Task 5 Analytical Results for MEP Leachate Optimum Mix Sample

Lab ID:	GWQS	D7CEG	D7DVX	D7G0C	D7H1H	D7JJ3	D7KPF	D7MC2
Sample ID:		J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28
Sample Date:		1/10/00	1/10/00	1/10/00	1/10/00	1/10/00	1/10/00	1/10/00
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Conventionals								
Total Organic Carbon in mg/L		36.9	8.4	3.5	3.2	3.4	2.9	2.4
Total Suspended Solids in mg/L		4 U	4 U	4 U	4 U	4 U	4 U	4 U
Total Cyanide in µg/L		10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Metals in µg/L								
Aluminum	200	289	1560	2470	2070	2280	2400	2390
Antimony	20	14.2	11.8	9 J	9.9 J	11	10.1	10.3
Arsenic	8	5.8 J	3.1 J	*10 U*	3 UJ	4.5 J	3.3 J	2.3 J
Barium	2000	20.6 J	4.5 J	4 J	2.7 J	3 J	2.5 J	2 J
Beryllium	20	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cadmium	4	*5 U*	*5 U*	*5 U*	*5 U*	*5 U*	*5 U*	*5 U*
Calcium		244000	72700	62100	47500	43200	40700	37400
Chromium	100	13.7	9 J	6.6 J	8.6 J	10.6	9.7 J	7.6 J
Cobalt		6.7 B	3.4 J	50 U	2 UJ	1.7 UJ	50 U	2 J
Copper	1000	455	126	46.2	38.9	38.9	32.6	23.7 J
Iron	300	22 UJ	12.5 UJ	7.3 UJ	17.3 UJ	20.4 UJ	18.5 UJ	19.1 UJ
Lead	10	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Magnesium		1810 J	130 J	59.8 J	110 J	101 J	88.3 J	91 J
Manganese	50	2 J	15 U	15 U	15 U	15 U	15 U	15 U
Mercury	2	0.072 J	0.06 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	100	38.3 J	11.9 J	40 U	40 U	40 U	40 U	40 U
Potassium		130000	22900	6010	3470 J	2840 J	2280 J	1620 J
Selenium	50	19.9	9.6	6.3	7.4	5.5	6.1	7.3
Silver		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Sodium	50000	204000	22800	17500	14600	15500	12400	10100
Thallium	10	10 U	4.8 J	10 U	10 U	10 U	10 U	10 U
Vanadium		57	51.5	29.4 J	30.2 J	30.5 J	26 J	25.3 J
Zinc	5000	20 U	20 U	20 U	20 U	20 U	20 U	20 U

Table C-7 - Task 5 Analytical Results for MEP Leachate Optimum Mix Sample

Lab ID:	GWQS	D7CEG	D7DVX	D7G0C	D7H1H	D7JJ3	D7KPF	D7MC2
Sample ID:		J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28
Sample Date:		1/10/00	1/10/00	1/10/00	1/10/00	1/10/00	1/10/00	1/10/00
		Day 1	*Day 2*	*Day 3*	*Day 4*	*Day 5*	*Day 6*	*Day 7*
Pesticide/PCBs in µg/L								
4,4'-DDD	0.1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDE	0.1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT	0.1	0.05 U	0.058	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	0.04	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
alpha-BHC	0.02	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
alpha-Chlordane		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor 1016		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1221		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1232		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1242		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1248		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1254		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Aroclor 1260		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total PCBs	0.5	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*	*1 U*
beta-BHC	0.2	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	0.03	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Endosulfan I	0.4	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.4	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan sulfate	0.4	0.082	0.05 U	0.28	0.05 U	0.06	0.23	0.081
Endrin	2	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*	*0.05 U*
Endrin aldehyde		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endrin ketone		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.2	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.4	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.2	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	40	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	3	2 U	2 U	2 U	2 U	2 U	2 U	2 U

Table C-7 - Task 5 Analytical Results for MEP Leachate Optimum Mix Sample

Lab ID:	GWQS	D7CEG	D7DVX	D7G0C	D7H1H	D7JJ3	D7KPF	D7MC2
Sample ID:		J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28
Sample Date:		1/10/00	1/10/00	1/10/00	1/10/00	1/10/00	1/10/00	1/10/00
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Semivolatiles in µg/L								
1,2,4-Trichlorobenzene	9	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	600	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	600	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	75	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)	300	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	700	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	40	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	40	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol		10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline		50 U	50 U	50 U	50 U	50 U	50 U	50 U
2-Nitrophenol		10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	60	50 U	50 U	50 U	50 U	50 U	50 U	50 U
3-Nitroaniline		50 U	50 U	50 U	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol		50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether		10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol		10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline		10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether		10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol		4 J	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline		50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Nitrophenol		50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	400	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	2000	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene		10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table C-7 - Task 5 Analytical Results for MEP Leachate Optimum Mix Sample

Lab ID:	GWQS	D7CEG	D7DVX	D7G0C	D7H1H	D7JJ3	D7KPF	D7MC2
Sample ID:		J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28	J2-CTI-28
Sample Date:		1/10/00	1/10/00	1/10/00	1/10/00	1/10/00	1/10/00	1/10/00
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Benzo(ghi)perylene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	900	2.3 J	10 U	10 U	3.3 J	10 U	10 U	10 U
Di-n-octyl phthalate	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	5000	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	300	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	300	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	1	*10 U*	*10 U*	*10 U*	*10 U*	*10 U*	*10 U*	*10 U*
Hexachlorocyclopentadiene	50	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Hexachloroethane	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	100	10 U	10 U	10 U	10 U	10 U	10 U	10 U
N-Nitrosodi-n-propylamine	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	20	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	300	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	1	*50 U*	*50 U*	*50 U*	*50 U*	*50 U*	*50 U*	*50 U*
Phenanthrene		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	4000	10	4.6 J	10 U	2.3 J	10 U	10 U	10 U
Pyrene	200	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane		10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl) ether	10	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl) phthalate	30	10 U	10 U	10 U	10 U	10 U	10 U	7.9 J

U Not detected at indicated detection limit.
J Estimated value.
Value exceeds the screening criteria.
Detection limits that exceed the screening criteria are italicized.