CLOSURE CERTIFICATION DOCUMENT
FOR
PROTECO
LANDFILL CLOSURE
CARR. 385 KM 4.5
PEÑUELAS, PUERTO RICO

Prepared for:

Resources Management, Inc. d/b/a PROTECO
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April 9, 1999

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1.0 INTRODUCTION

1.1 REPORT OBJECTIVES

This report summarizes the closure activities at PROTECO's Peñuelas, Puerto Rico facility. Resources Management, Inc. d/b/a PROTECO is the successor to Proteccion Tecnica Ecologica. This report presents a construction data package that documents the construction of the Corrective Action Management Unit (CAMU) and completion of closure activities for the CAMU and regulated units, in accordance with the Closure Plan approved by the United States Environmental Protection Agency (USEPA), Region II on September 29, 1997. Law Environmental-Caribe (LAW) was retained by PROTECO to provide on-site observation and testing and to determine general compliance with the approved Closure Plan prepared by OHM Remediation Services Corporation (OHM), entitled "Closure and Post Closure Care Plan for Waste Units 1, 2, 3, 5, 6, 9, 10, 11, 12, 13, 16 and 17", dated September 1996.

A Post Closure Care Plan for the regulated waste units listed in this Closure Certification is currently being prepared. This plan will be submitted under separate cover.

1.2 PROJECT LOCATION AND HISTORY

The PROTECO facility is a waste management facility located in Peñuelas, Puerto Rico (southern Puerto Rico), along Road 385 at Km 4.5. The facility is located approximately 2.5 miles southeast of the center of Peñuelas, north of Tallaboa Bay of the Caribbean Sea, and 1.5 miles east of the Lower Tallaboa River Valley. A site location map is included as Figure 1-1.

In 1975, PROTECO began waste management activities that included the treatment, storage, and disposal of hazardous and non-hazardous waste in a variety of units (i.e. landfills, lagoons, and storage areas).

There are 14 hazardous waste units (regulated units) and 2 non-hazardous units at the facility. Compania Ganadera Del Sur, Inc. owns the property where the hazardous management units are located. Of the 14 hazardous waste units, Units 1, 2, 3, 5, 7, 9, 10, 11, 12, 13, 16, and 17 were used for waste treatment and disposal activities. Unit 4 was an aboveground container storage area, and Unit 15 was an aboveground storage tank. Hazardous waste management activities were

terminated in 1990. PROTECO is currently operating an Industrial Non-Hazardous Waste Landfill permitted by the Commonwealth of Puerto Rico.

1.3 GENERAL DESCRIPTION OF WASTE UNITS

Information for the regulated units at the PROTECO facility were presented in the Closure and Post Closure Care Plan (OHM, 1996). A summary of that information is provided below.

Unit 1

Unit 1 is a 0.31-acre drum disposal area containing approximately 5,800 drums (approximately 317,000 U.S. gallons) of various waste materials. The USEPA Waste Code designations for the waste materials include D-001, D-002, D-008, D-009, D-054, F-001, F-003, F-005, F-006, K-046, P-012, U-002, U-044, U-108, U-112, U-113, U-117, U-122, U-134, U-144, U-154, U-162, U-188, U-210, U-211, U-220, U-225, and U-226.

Unit 2

Unit 2 is a 0.06-acre drum disposal area that contains approximately 450 drums (approximately 22,900 U.S. gallons) of various waste materials. The waste code designations presented for Unit 1 also applies to Unit 2.

Unit 3

Unit 3 is a 0.26-acre drum disposal area that contains approximately 1,700 drums (approximately 92,600 U.S. gallons) of various waste materials. The waste code designations presented for Unit 1 also applies to Unit 3.

Unit 4

Unit 4 was an aboveground drum storage area. Approximately 1,000 drums containing various waste materials were removed from the unit in 1992 and disposed in a permitted disposal facility in the United States. Shallow soil samples collected at Unit 4 had elevated concentrations of total chromium and lead. It is estimated that approximately 3,000 cubic yards of soil were impacted. These soils have been placed in the CAMU as part of the closure of this unit.

Unit 5

Unit 5 is a 0.2-acre drum disposal area that contains an unknown quantity of drums of unknown waste types.

Unit 7

Unit 7 was a neutralization impoundment for corrosive waste materials. Sampling activities at the unit indicated that the waste materials did not exhibit corrosive characteristics at the time they were excavated as part of the CAMU operations. It is estimated that approximately 2,700 cubic yards of waste materials were removed, treated, and disposed as part of the CAMU operations.

Unit 9

Unit 9 was an oil lagoon used to collect waste oil. The waste material contained in the unit was approximately 477,700 gallons of water and approximately 300,000 gallons of sludge. During the fall of 1994, soil was added and mixed with the liquid in the lagoon to produce a solid matrix. The substance was then covered with clean soil. The waste code designations for the waste materials include D-001, but D-002, D-005, D-007, D-008, D-009, D-010, D-013, D-106, D-108, F-001, F-002, F-154, F-188, F-196, F-210, F-220, F-226, F-230, and F-239 may also be applicable. It is estimated that approximately 19,000 cubic yards of waste materials were removed, treated, and disposed as part of the CAMU operations.

Unit 10

Unit 10 is an immobilization facility that contains approximately 950 cubic yards of waste materials of unknown waste types.

Unit 11

Unit 11 is an immobilization area that contains approximately 5,800 cubic yards of waste materials consisting of the following waste code designations: D-001, D-002, D-008, D-009, D-013, F-002, F-009, U-044, U-138, U-140, U-144, U-154, U-156, U-188, U-201, U-210, U-226, and U-239. Unit 11 was located adjacent to Unit 10.

Unit 12

Unit 12 is a land treatment area that contains approximately 17,800 cubic yards of waste materials consisting of the following designations: D-002, D-013, and F-003.

Unit 13

Unit 13 was a rainwater collection lagoon for the site. Information on constituents contained in the rainwater are unknown. The volume of water stored in the lagoon varied during the year from zero up to approximately 80,000 gallons due to the high evaporation rate and high run-off volume for the site.

Unit 15

Unit 15 consisted of a 5,000-gallon aboveground storage tank that contained shampoo contaminated with lindane and 1 to 2 inches of solid residue.

Unit 16

Unit 16 is an immobilization area that contains approximately 29,700 cubic yards of waste materials. The waste codes believed to be applicable to the materials within the unit are D-001, D-002, D-007, D-008, D-009, D-013, F-001, F-002, F-003, F-005, F-006, F-007, F-018, K-050, K-051, K-052, P-030, P-098, U-002, U-019, U-044, U-151, U-154, U-159, U-188, U-196, U-210, U-220, U-223, and U-226.

Unit 17

Unit 17 is a neutralization impoundment that contains approximately 30,200 gallons of waste materials with waste code designations of D-001, D-002, and D-003.

1.4 CHRONOLOGY OF CLOSURE ACTIVITIES

REGULATED UNITS	START DATE	COMPLETION DATE
1	December 8, 1997	June 24, 1998
*2 / 3	December 12, 1997	July 7, 1998
4	November 11, 1997	November 14, 1997
5	December 5, 1997	June 19, 1998
7	August 10, 1998	August 17, 1998
9 (CAMU)	September 26, 1998	February 11, 1999
*10 / 11	September 26, 1998	February 11, 1999
*12 / 16	September 26, 1998	February 11, 1999
13	August 6, 1998	November 17, 1998
15 (TANK)	November 18, 1997	January 14, 1998
17	February 19, 1998	July 28, 1998

Note: *Units combined under one cover.

1.5 RESPONSIBLE PARTIES

The responsible parties during the design and closure of the waste units are listed below:

Owner	Compania Ganadera Del Sur, Inc. P.O. Box 1144 Peñuelas, Puerto Rico 00624
Operator	PROTECO 1506 Martin Travieso Street San Juan, Puerto Rico 00911
Engineering and Design Consultant	OHM Remediation Service Corp. 5335 Triangle Parkway, Suite 450 Norcross, Georgia 30092
General Contractor	Williams Environmental Services, Inc. 2075 West Park Place Stone Mountain, Georgia 30087
Second General Contractor	PROTECO 1506 Martin Travieso Street San Juan, Puerto Rico 00911
Owner's Engineer during Construction	Law Environmental – Caribe 1225 Ponce de Leon Ave. Santurce, Puerto Rico 00907
Surveyor of Record	José Rodríquez Torres P.O. Box 3751 Ponce, Puerto Rico 37099
Liner Installer	Waste-Tech, Inc. Gardens Hills Plaza S/C Suite 185 Carr. 19 Guaynabo, Puerto Rico 00966
Geosynthetic Laboratory	Precision Geosynthetic Laboratories 1742 West Katella Ave., Suite #4 Orange, CA 92867
General Laboratories (Chemical)	Environmental Quality Laboratories P.O. Box 11458 Santurce, Puerto Rico 00910
	Law Environmental National Laboratories 3355 McLemore Drive Pensacola, Fl 32514
General Laboratories (Soil)	GeoCim, Inc. P.O. Box 10872 San Juan, Puerto Rico 00922

Law Environmental – Caribe
1225 Ponce de Leon Ave. Ste 603
Santurce, Puerto Rico 00907

GeoSyntec Consultants, Inc.
2658 Holcomb Bridge Road, Suite 110
Alpharetta, Georgia 30022

Williams Environmental Services, Inc. (Williams) was retained as general contractor for the closure of the waste units and to direct the labor force provided by PROTECO. This agreement between Williams and PROTECO was established on November 6, 1997, and remained in force until April 30, 1998, when PROTECO terminated the agreement and retained William's former superintendent to provide general contracting services for the remainder of the closure activities.

LAW retained GeoCim to provide general testing services for the closure activities from November 1997 to January 1998. In January of 1998, LAW replaced GeoCim and began performing general testing until the completion of the closure in February of 1999.

2.0 CONSTRUCTION ACTIVITIES FOR COVER SYSTEMS

2.1 CLEARING AND GRUBBING

Closure construction activities began in November, 1997. The surface vegetation was systematically removed from the waste units and the surfaces proof-rolled with a smooth drum vibratory compactor to locate any soft areas.

2.2 BACKFILL AND COMPACTION OF COMPACTED SOIL COVER

After proof-rolling, each of the regulated units were covered with clean soil of varying thickness to develop the necessary grades for cover construction. The soil used for fill was obtained from on-site borrow sources. Soil classification tests were performed on the soil to determine compliance with the approved Closure Plan. Results of the soil classification tests are included in Appendix A.1. The fill was placed in lifts of six to eight-inches, loose thickness, and compacted to 95 percent of the Standard Proctor maximum dry density. Field quality control tests were performed as outlined in the approved Closure Plan. Copies of the field density tests are included in Appendix A.2. When final elevations were obtained and final density tests performed, the subgrade surface of each regulated unit was surveyed. The "as-built" drawings reflecting the upper surface elevations of finished subgrades are included as Drawings AB001 through AB009.

2.3 COMPACTED CLAY LINER

The CCL as described in the approved Closure Plan was not installed as part of the general cap construction. A modification was requested by PROTECO on March 3, 1998, to substitute a Geosynthetic Clay Liner (GCL) for the CCL. USEPA approved this modification on March 16, 1998. A copy of the approval letter is included in Appendix B.

2.4 GEOSYNTHETIC CLAY LINER

A GCL was installed directly over the prepared subgrade. The construction was sequenced to prevent the possible exposure of the GCL to moisture and premature hydration of the bentonite. PROTECO personnel performed the installation.

The GCL selected consisted of ClayMax 200R (unreinforced) and Bentomat ST (reinforced), manufactured by CETCO. The ClayMax 200R was placed on slopes of less than 3 horizontal to 1 vertical (3:1). The Bentomat ST was placed on slopes of 3:1.

The manufacturer performed quality control tests on the material produced for this project to assure the quality of the GCL prior to delivery. The tests and frequency were determined by ASTM D 4354 and ASTM D 5889, as applicable. Copies of the manufacturer's results are included in Appendix C.1. Conformance testing was performed on both types of GCL to determine compliance with the manufacturer minimum quality control requirements. Copies of the conformance tests performed are included in Appendix C.2.

2.5 40-MIL HDPE FLEXIBLE MEMBRANE

DURA SEAL® HD 40-mil geomembrane manufactured by the National Seal Company (NSC) was selected for this project. The manufacturer performed quality control tests as specified by the contract documents. Copies of the results are included in Appendix C.3.

Waste-Tech, Inc., a licensed installer of NSC, performed the installation. The geomembrane was installed immediately following the installation of the GCL to minimize the potential exposure of the GCL to moisture and premature hydration of the bentonite. The geomembrane panel seams were welded by fusion welding methods. Pipe boots, patches, and other repairs were welded by extrusion welding methods. To verify the integrity of the seaming method and the seams in the geomembrane system, destructive samples were obtained. The samples were sent to Precision Geosynthetic Laboratories for peel and shear testing. A summary of the destructive test results is included in Appendix C.4. The installation of the liner and the quality control tests performed by the contractor were observed and documented daily by representatives from LAW. During the installation of the geomembrane, the orientation of panels placement was surveyed by José Rodríquez Torres, a licensed surveyor registered by the Commonwealth of Puerto Rico. Copies of the "as-built" panel drawings are included as Drawings AB010 through AB012.

2.6 GEOTEXTILE

A 16-ounce geotextile was specified for use as the primary drainage and cushion layer. GEOTEX™, manufactured by Synthetic Industries, Inc., was selected for this purpose. Waste-Tech, Inc. installed the geotextile directly on the geomembrane. The geotextile was seamed together using a folded prayer seam with a single row of stitches. Quality control tests were

performed by the manufacturer on the resin and on the completed rolls. Copies of the test results are included in Appendix C-5. Additional samples were obtained from the delivered material and sent to Precision Geosynthetic Laboratories for conformance tests. A summary of the conformance tests is included in Appendix C.6.

2.7 COVER LAYER

The cover layer consisted of 18 inches of common soil fill and 12 inches of an aggregate armor. The common soil fill was placed directly on the geotextile and compacted. The common soil fill was obtained from on site borrow sources. Soil classification tests were performed to determine compliance with the approved Closure Plan. The results of the soil tests are included in Appendix A.1. The common soil fill was placed in two, nine-inches loose lifts and compacted to 95 percent of the Standard Proctor maximum dry density. Field quality control tests were performed as outlined in the approved Closure Plan. Copies of the field density tests are included in Appendix A.2.

The armor layer consisted of soil and rock. The rock ranged from three to six inches in size. This material was placed on the common fill layer and graded. The surface topography of the armor was surveyed and is recorded on Drawings AB001 though AB009 cross sections.

2.8 SEDIMENT BASIN

As part of the overall stormwater management strategy, LAW redesigned a larger stormwater sediment basin to accommodate stormwater from the surface of the regulated units, surrounding watershed areas, existing Industrial Non-Hazardous Waste Landfill and future expansions. The Commonwealth of Puerto Rico's Environmental Quality Board approved the sediment basin design in 1998.

PROTECO constructed the sediment basin at the original location specified in construction drawings prepared by OHM. This drawing titled Sediment Basin is included as Drawing C-11. LAW revised the capacity of the sediment basin during the permitting for a future landfill expansion. The Puerto Rico Environmental Quality Board approved the design in 1998. The drawing is included and titled Sediment Basin Plan as SB001. The sediment basin design included an earthen dike and a large metal outfall structure. The outfall structure was designed to contain

run-off water so that the solids can settle out prior to the water being discharged. The surface topography of the sediment basin was surveyed and is recorded on Drawings ABS01.

3.0 CAMU

3.1 PURPOSE

The purpose of the CAMU is to provide a means for disposing of waste from Units 4, 7 and 9 into a single regulated unit.

3.2 TEMPORARY STORAGE OF REGULATED UNITS 4 AND 9

Prior to construction of the CAMU, a temporary storage area was needed to store the waste from Units 4 and 9. This storage area was constructed adjacent to Unit 9 on the surfaces of Units 12 and 16. Construction of the temporary storage area consisted of grading and constructing berms around Units 12 and 16, and placing a 40-mil HDPE geomembrane over the prepared subgrade to provide additional protection to the underlying soils and to prevent stormwater runoff. DURA SEAL® HD 40-mil geomembrane manufactured by (NSC) was selected for this purpose. Two separate areas were constructed to segregate the wastes from Units 4 and 9. The waste from Unit 7 was placed directly into the CAMU.

3.3 EXCAVATION AND CONFORMATION ANALYSES

The Unit 9 materials were excavated and placed into the temporary storage area to allow CAMU construction. After removal of the material, the exposed surface within the excavated area was sectioned as required by the approved Sampling and Analysis Plan. Conformation samples were obtained from the bottom and sidewalls to verify that the excavation activities had removed the Unit 9 wastes and soils impacted above the corrective action goals. The samples were sent to EQ Lab for analysis. Copies of the laboratory results are included Appendix in F. Analytical results in two areas exceeded the corrective action goals established for this project, and additional excavation was required. Additional conformation samples were obtained and analyzed. Copies of the results are included in Appendix F.1.

3.4 CONSTRUCTION OF CAMU

After the conformation sampling was completed, the subgrade was graded to provide positive drainage of the base, and sideslopes were graded to 3:1 or less. The soil used for backfill was obtained from on-site borrow sources. Soil classification tests were performed on the soil to determine compliance with the project documents. The results of the soil tests are included in

Appendix A.1. The fill was placed in lifts of six to eight-inches loose and compacted to 95 percent of the Standard Proctor maximum dry density. Field quality control tests were performed as outlined in the approved Closure Plan. Copies of the field density tests are included in Appendix A.2. When finished subgrade elevations were obtained, a survey was performed. Four cross sections are included on Drawing AB013.

3.5 LOW PERMEABILITY LAYER

LPS consisting of a two-foot thick layer was installed in the base and slopes of the CAMU. The LPS was obtained from on-site borrow areas. The required soil classification tests were performed, and copies of these tests are included in Appendix A.1. LPS was installed in lifts of 8-inches, loose thickness, and compacted to a minimum of 95 percent of the Standard Proctor maximum dry density. After compaction of each lift, a relatively undisturbed sample was obtained, using the Shelby tube sampling method. The samples were extracted and sent to the lab for permeability testing to confirm that the LPS layer achieved the required coefficient of permeability, not more than $1x10^{-5}$ centimeters per second, as approved by the EPA. The results of the permeability tests are included in Appendix A.3.

When finished LPS elevations were obtained, a survey was performed. Four cross sections are included on Drawing AB014.

3.6 GEOSYNTHETIC CLAY LINER

The GCL was installed on the low permeability layer inside the CAMU. The GCL material was placed immediately prior to the installation of the 60-mil HDPE liner, which is discussed in Section 3.4. The construction was sequenced to prevent the possible exposure of the GCL to moisture and premature hydration of the bentonite. PROTECO personnel performed the installation.

The GCL consisted of ClayMax 200R (unreinforced) and Bentomat ST (reinforced), manufactured by CETCO. The ClayMax 200R was used on slopes of less than 3:1. The Bentomat ST was used on slopes of 3:1. Quality control tests were performed by the manufacturer on the rolls of GCL. Copies of the test results are included in Appendix C.1. Additional samples were obtained and tested by Precision Geosynthetic Laboratories to determine compliance with the contract documents. Copies of these results are included in Appendix C.2.

3.7 60-MIL HDPE LINER

DURA SEAL® HD 60-mil geomembrane manufactured by the National Seal Company was selected to line the CAMU. The manufacturer performed quality control tests on the geomembrane material as specified by the contract documents. Copies of the results are included in Appendix C.3.

Waste-Tech installed 60-mil geomembrane on the sides and base of the CAMU. NSC manufactured this geomembrane. Waste-Tech installed the geomembrane immediately over the GCL. Installation of the liner and the quality control tests performed by the contractor were observed and documented daily by representatives from LAW. The geomembrane panel seams were welded by fusion welding methods. Tie-ins, patches, and other repairs were welded by extrusion welding methods. Destructive samples were obtained to verify the integrity of the seaming method and the seams in the geomembrane system. The samples were sent to Precision Geosynthetic Laboratories for peel and shear testing. A summary of the destructive test results is included in Appendix C.4. During installation of the geomembrane, José Rodríquez Torres, a licensed surveyor registered by the Commonwealth of Puerto Rico, surveyed the panels. The surveyor prepared and submitted an "as-built" drawing, included as Drawing AB014.

3.8 PLACEMENT OF TREATED WASTE INTO THE CAMU

Placement of the treated waste was as follows:

- Waste from Unit 4 was used to construct the ramp from the inside top of the CAMU to the bottom.
- Waste from Unit 7 was excavated and placed directly on the bottom of the CAMU.
- Waste from Unit 9 was placed throughout other areas of the CAMU and makes up the majority of the inventory.

The waste from all the regulated units was analyzed prior to subsequent lift placement as required by the approved Closure Plan. Copies of the results are included in Appendix H.

3.9 FINAL COVER

The final cover of the CAMU was designed and constructed similar to the RCRA covers of the other regulated units. The CAMU cover system was joined to the cover systems of Units 10 and 11 located to the east and Units 12 and 16 located to the south. This provided a continuous layer of

protection over these units. The HDPE liner system was surveyed during placement, the surveyor prepared and submitted an "as-built" drawing, included as Drawing AB011.

4.0 CLOSURE OF UNIT 4

4.1 EXCAVATION AND REMOVAL

As previously described in Section 1.3, Unit 4 was an above ground drum storage facility. The cleanup and closure of this unit consisted of excavation of the upper two feet of material and relocating it to the temporary storage area constructed on Units 12/16. The area was then sectioned into 2,500 square foot grids, and conformation samples were obtained as specified by the Sampling and Analysis for CAMU Waste Units 4, 7, 9, and 15, dated September 1996. The samples were sent under chain of custody to Environmental Quality Laboratories, Inc., for analysis. The results are below the maximum concentration levels published in EPA Region III RBC table dated April 15, 1998. The results are included in Appendix D. After the results of the analysis were complete, the area was graded to provide positive drainage of stormwater from the surface. This unit is clean closed.

5.0 CLOSURE OF UNIT 7

5.1 EXCAVATION AND REMOVAL

As discussed in Section 1.3, Unit 7 was a neutralization impoundment for corrosive waste materials. The cleanup and closure of this unit consisted of excavating all visibly effected soils and placing them into the CAMU. After the visibly effected soils were removed, the sidewalls and bottom were sampled as specified by the Sampling and Analysis Plan for CAMU Waste Units 4, 7, 9, and 15, dated September 1996. The samples were sent under chain of custody to Environmental Quality Laboratories, Inc., for analysis. The results are below the maximum concentration levels published in EPA Region III RBC table dated April 15, 1998. The results are included in Appendix E. After the results of the analysis were complete, the area was graded to provide positive drainage of stormwater from the surface. This unit is clean closed.

6.0 CLOSURE OF UNIT 15

6.1 DECONTAMINATION

Decontamination of Unit 15 consisted of a removal of the collected solids from the bottom of the tank. The solids were placed into two 55-gallon drums. The tank was then sprayed with a degreaser and pressure washed. The water and residue were collected and placed into the 55-gallon drums. A copy of the Equipment Decontamination Verification record is included in Appendix G.1. The water and residue were sampled and sent to Environmental Quality Laboratories for analysis. Copies of the results are included in Appendix G.2.

6.2 DISPOSAL

After the results of the analysis were received and reviewed, the contents of the drums and the tank were disposed of at the PROTECO facilities industrial landfill. The drums were triple rinsed and recycled. A copy of the Waste Profile Sheet in included in Appendix G.3., and the Certificate of Disposal is included in Appendix G.4.

7.0 FIELD AND DESIGN CHANGES

7.1 CHANGES IN AREAS AND ELEVATION OF UNITS TO BE COVERED

During the rolling of the surface, areas of waste were observed to extend beyond the limits identified in the approved Closure Plan. LAW began interviewing PROTECO personnel, reviewed historical data, and excavated several test pits to verify the location and size of Units 1, 2, 3, 9, 10, 11, 13, and 17. Based on the information from these activities, the limits of Units 1, 2, 3, 9, 10, 11, and 17 were extended laterally so that the RCRA cap would fully cover each unit. To reduce the amount of fill needed to close the waste units and to improve the site stormwater drainage, the final elevations of several of the waste units were also adjusted.

7.2 CHANGE COMPACTED CLAY LINER TO GEOSYNTHETIC CLAY LINER

On March 3, 1998, on behalf of PROTECO, a request was made to the USEPA for a modification to the approved Closure Plan. The requested modification was to substitute the Compacted Clay Liner (CCL) with a Geocomposite Clay Liner (GCL) within the cover of the RCRA caps and the CAMU liner systems. This resulted in the elimination of the Test Fill Program associated with the CCL construction. This modification was necessitated because of the difficulty in obtaining an adequate supply of CCL meeting the specified permeability of $1x10^{-7}$ centimeter per second (cm/sec). The proposed alternate to the CCL included a two-foot layer of available local clay, compacted to achieve a permeability of not greater than $1x10^{-5}$ cm/sec, in addition to the GCL. On March 16, 1998, USEPA issued a letter approving the requested modification.

7.3 ADDITION OF TEXTURED GEOMEMBRANE

The increase in the surface area of several unit caps made it necessary to evaluate the stability of the soil/liner interface for the 3:1 slopes. On Units 2, 3 and 17 LAW determined that a textured geomembrane would be needed on the 3:1 slopes. The textured geomembrane was installed as indicated on the drawings.

7.4 CHANGE IN ANCHOR TRENCH AND CAP DETAIL

The anchor trench designed by OHM had a cap strip installed over the anchor trench and under the drainage pipe. LAW revised this detail to remove the cap strip and lower the drainage pipe into the

anchor trench. This reduced the amount of extrusion welding required and improved the drainage of the caps installed. A copy of the revised detail is included as Drawing AB015.

7.5 ADDITION OF GEOTEXTILE TO THE BASE OF THE CAMU

A 16-ounce geotextile was installed on the bottom and above the geomembrane in the CAMU to protect the geomembrane from the gravel placed for the drainage layer. No geotextile was installed on the slopes. The geotextile was installed with 6 to 12-inch overlaps and heat bonded along 100 percent of the seam length.

7.6 TREATMENT OF UNITS 7 AND 9

The waste within Units 7 and 9 was mixed with soil in the fall of 1994 to create a physically stable material. The waste and soil produced a relatively homogenous mixture. Prior to closure activities described in this report, several test pits were excavated to verify both the limits and the stability of the material. No visible liquid was observed in any of the test pits excavated. A temporary cell was constructed adjacent to Unit 9 on the surface of Units 12/16. The waste from Unit 9 was excavated and placed in the temporary cell. Prior to placement into the CAMU, chemical analysis was performed on samples of the waste, one sample for every 500 cubic yard of material. The results of the tests were compared with both the limits established in the USEPA Region III RBC Table, revised April 15, 1998. Copies of the results are included in Appendix H.

8.0 CLOSURE CERTIFICATIONS

(ENGINEER)

CLOSURE CERTIFICATION
For
Waste Units 1, 2, 3, 4, 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, and 17
at
PROTECO
LANDFILL CLOSURE
CARR. 385 KM 4.5
PEÑUELAS, PUERTO RICO

As a professional engineer registered by the Commonwealth of Puerto Rico, I hereby certify that the hazardous waste units located in Peñuelas, Puerto Rico, as listed above and described in the attached closure document, have been closed in general accordance (including modifications described herein) with the Closure Plan dated September 1996 and approved by the USEPA on September 29, 1997.

Glenn N. Coffman, P.E., Partner

GLENN NORMAN COFFMAN
LICENCIA
INGENIERO
LICENCIADO
9155
PUERTO RICO

Law Environmental – Caribe
1225 Ponce de Leon Ave.
Caso Building, Suite 603
Telephone: 787-722-7740

April 9, 1999
Commonwealth of Puerto Rico Registration
Number 9155

9.0 CLOSURE CERTIFICATIONS

(OPERATOR)

CLOSURE CERTIFICATION
For
Waste Units 1, 2, 3, 4, 5, 7, 9, 10, 11, 12, 13, 14, 15, 16, and 17
at
PROTECO
LANDFILL CLOSURE
CARR. 385 KM 4.5
PEÑUELAS, PUERTO RICO

I certify under penalty of perjury that the information contained in or accompanying this submission is true, accurate, and complete. As to the identified portion(s) of this submission for which I cannot personally verify its truth and accuracy, I certify as the corporate officer having supervisory responsibility for the person(s) who, acting under my direct instructions, made the verification, that this information is true, accurate, and complete.

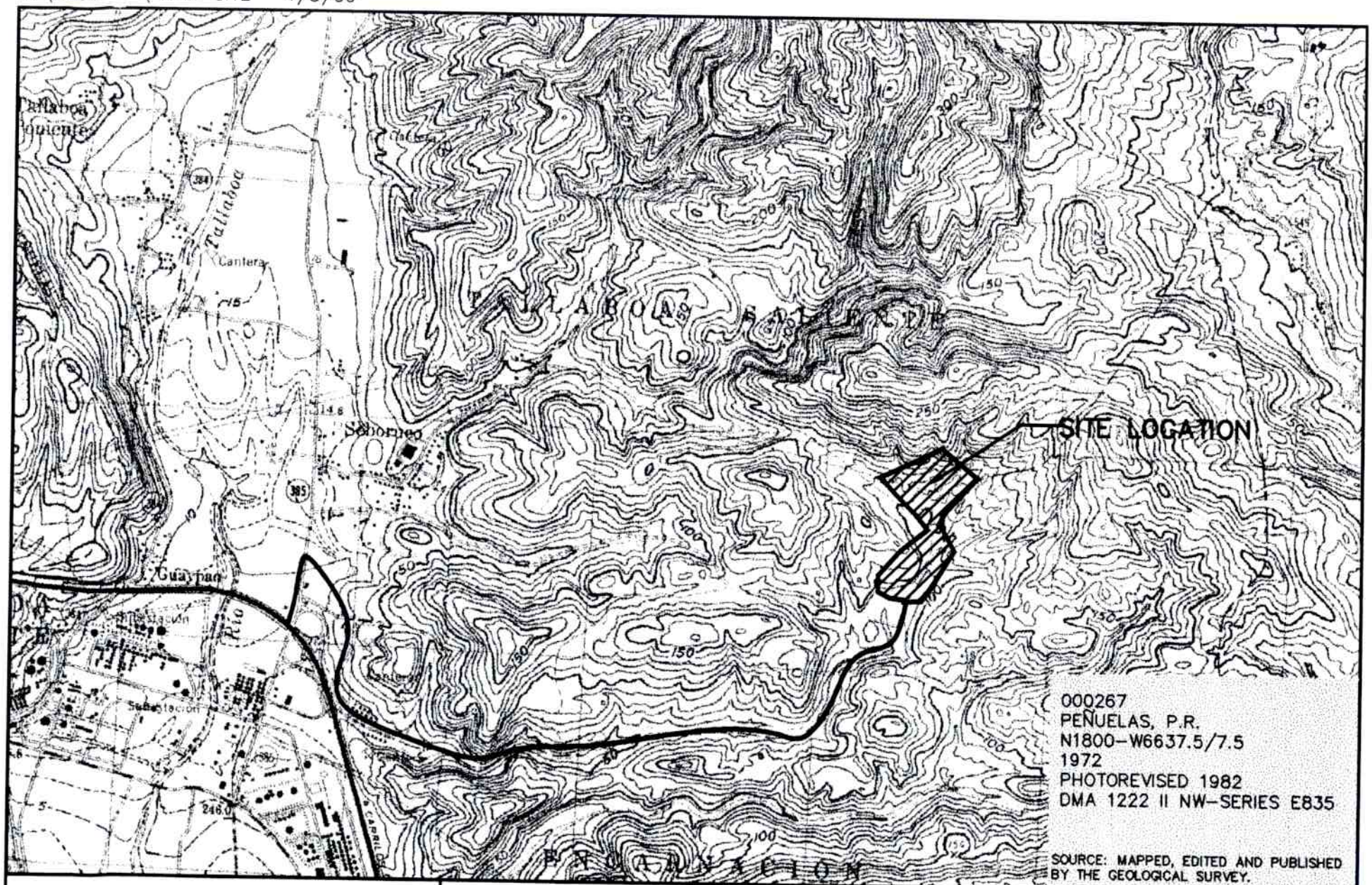
Dr. Jorge J. Fernández Pabón, President

PROTECO
P.O. Box 850
Peñuelas, Puerto Rico 00624
Telephone 787-836-2058

April 8, 1999

FIGURE

J: \PROT \SCAN-SITE 4/5/99



PROTECO

CLOSURE OF HAZARDOUS WASTE UNITS

PEÑUELAS, PUERTO RICO

LAW

Law Environmental-Caribe

SITE LOCATION MAP

JOB NO. 12000-7-0221

FIGURE 1-1

PREPARED BY/DATE

CHECKED BY/DATE

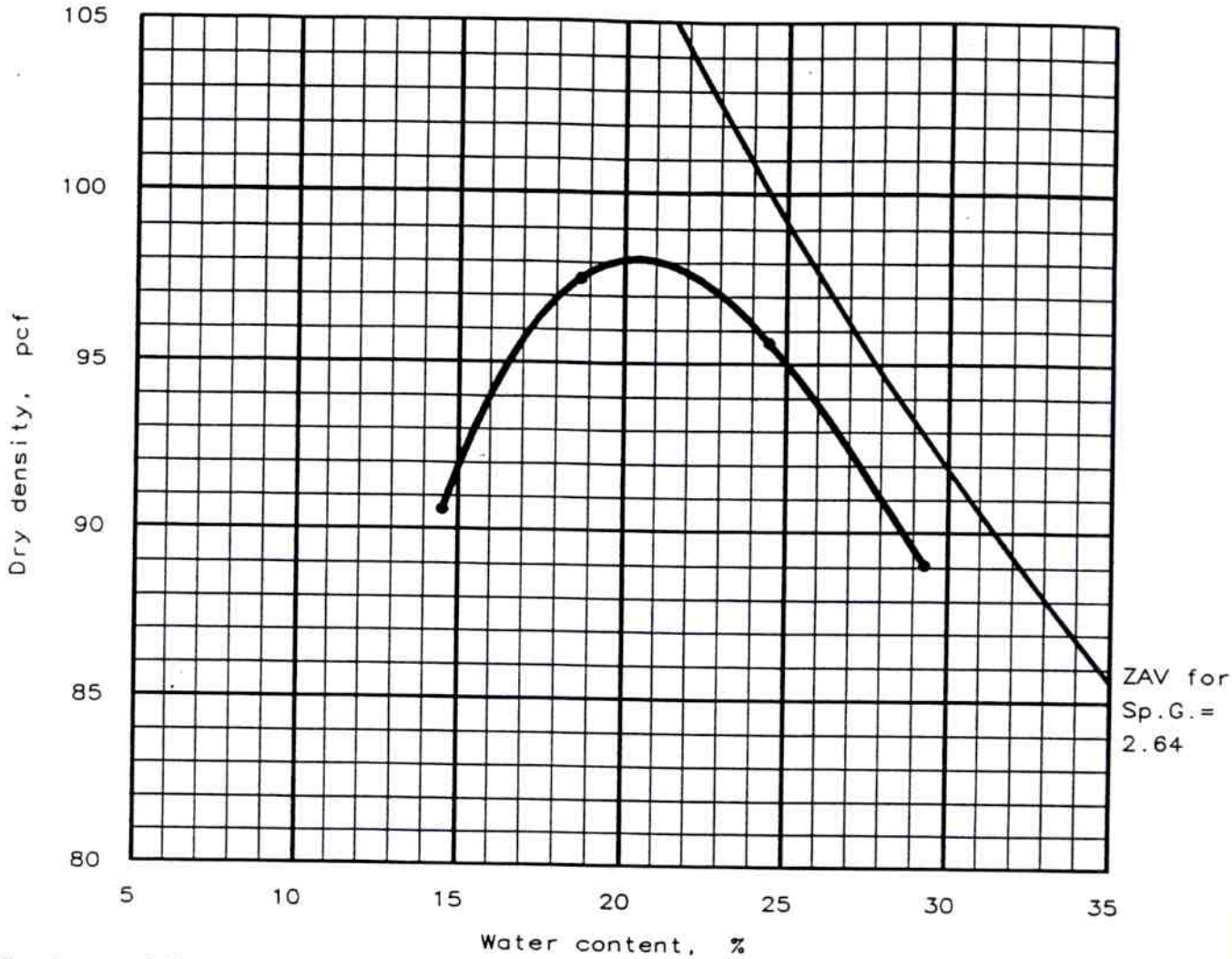
APPENDIX A

Quality Assurance Test Results

APPENDIX A.1

Soil Classification Tests and Proctors

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	CL	A-7-6	17.2 %	2.64	45.2	21.4	12.2 %	62.2 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 98.1 pcf Optimum moisture = 20.4 %	SANDY LEAN CLAY WITH GRAVEL, WHITE.

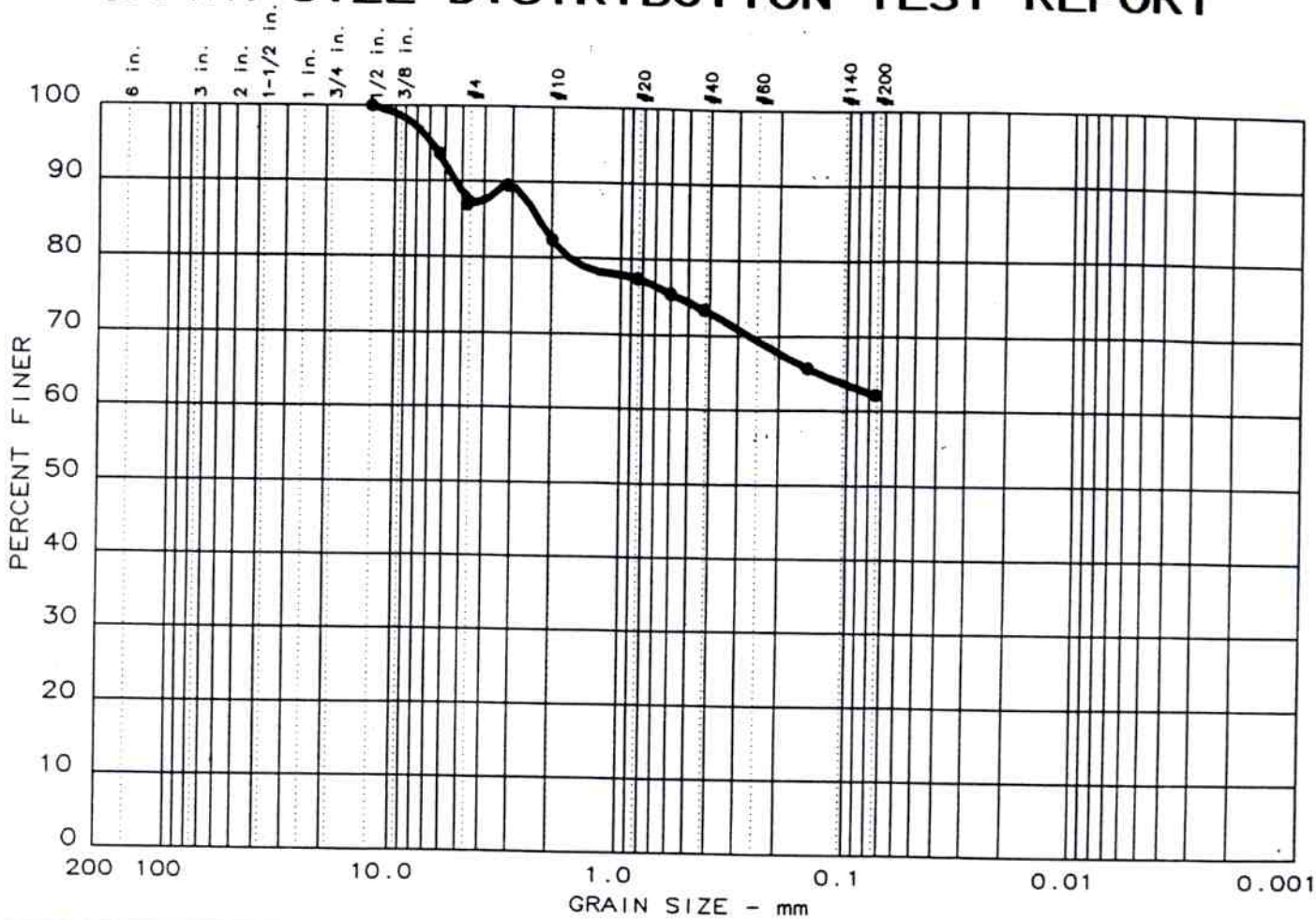
Project No.: 12000-7-0221
Project: PROTECO
Location: PENUELAS
P.R.
Date: 2-11-1998

Remarks:
STRUCTURAL FILL FROM
SOUTH AREA UNIT NO.17
LAW ENVIRONMENTAL-CARIBE

MOISTURE-DENSITY RELATIONSHIP TEST
LAW ENVIRONMENTAL - CARIBE

Fig. No. 4L

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	13	0.0	12.2	25.6	62.2	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	45.2	21.4	2.26							

MATERIAL DESCRIPTION	USCS	AASHTO
● SANDY LEAN CLAY WITH GRAVEL, WHITE.	CL	A-7-6

Project No.: 12000-7-0221
Project: PROTECO
● Location: PENUELAS, PR

Date: 2/3/98

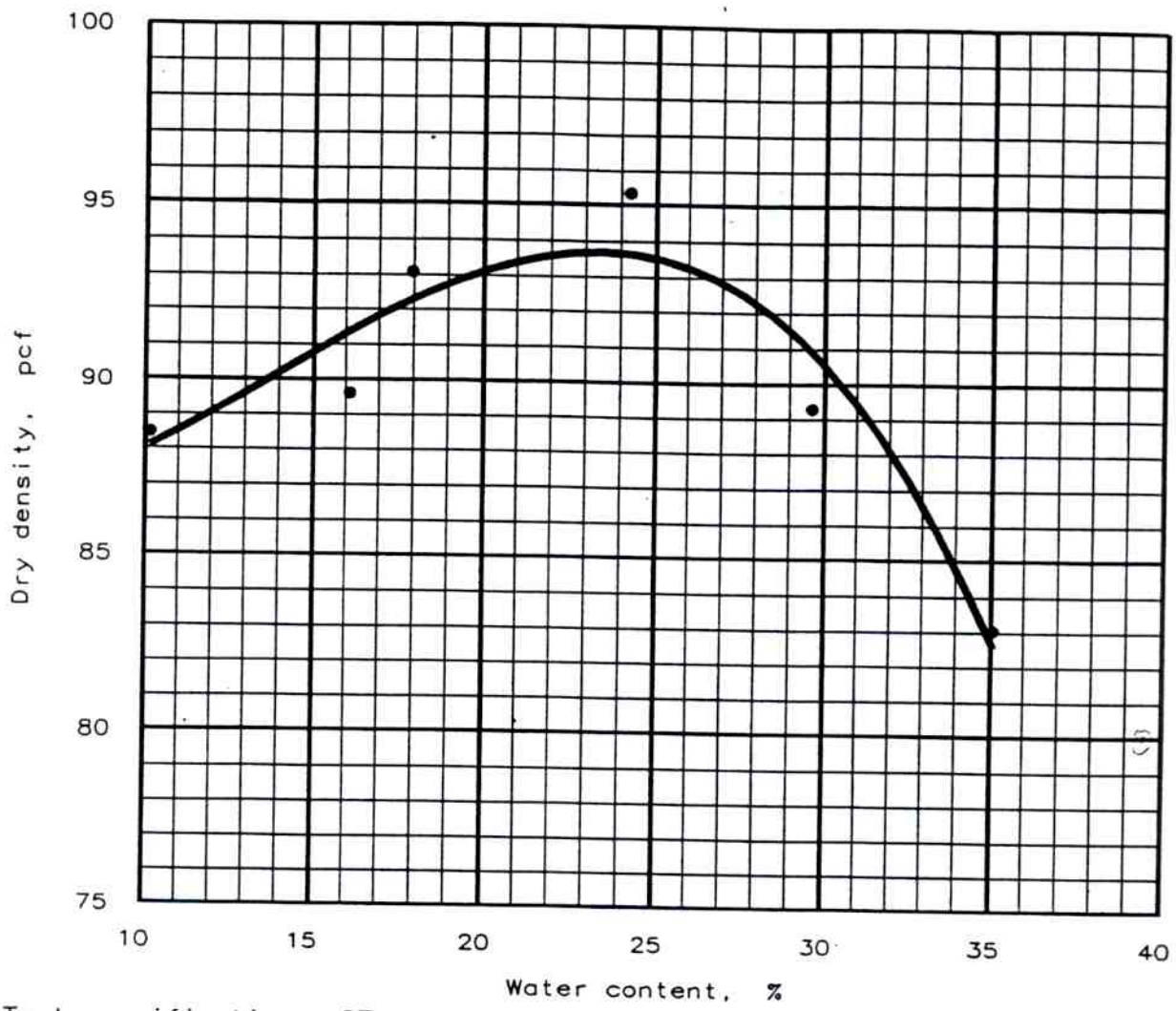
GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENVIRONMENTAL - CARIBE

Remarks:
STRUCTURAL FILL FROM
SOUTH AREA UNIT NO.17

LAW ENVIRONMENTAL-CARIBE

Figure No. 4L

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
2'	CH	A-7-6	14.5 %		52.9	31.4	1.8 %	79.4 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 93.7 pcf Optimum moisture = 23.4 %	SANDY FAT CLAY WITH GRAVEL, YELLOW.

Project No.: 12000-7-0221
Project: PROTECO
Location: PENUELAS
PR
Date: 2-05-1998

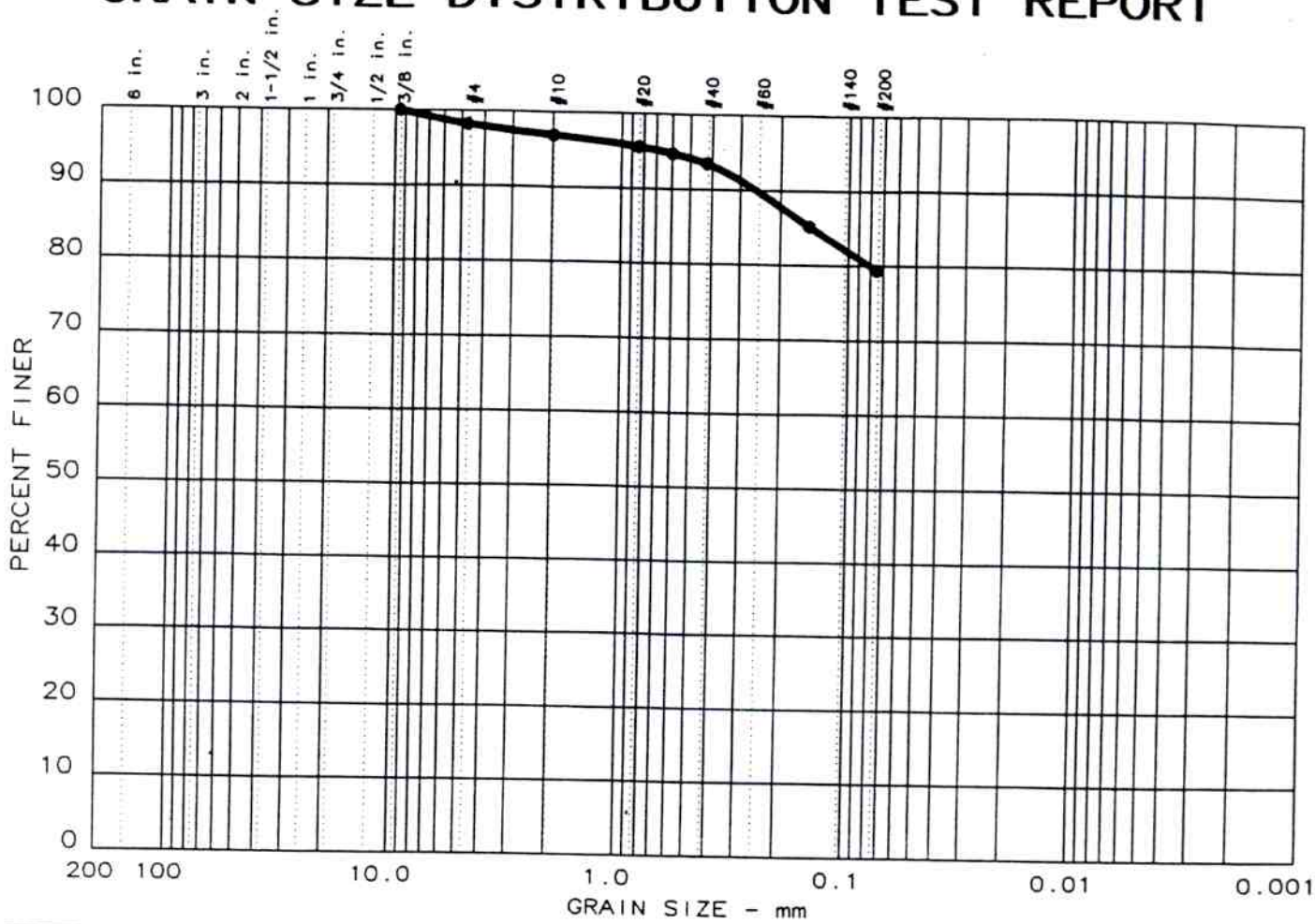
Remarks:
SAMPLE FROM BORROW AREA
EAST SITE
LAW ENV.& SVCS. INC.

MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENVIRONMENTAL-CARIBE

Fig. No. 2

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	11	0.0	1.8	18.8	79.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	52.9	31.4	0.145							

MATERIAL DESCRIPTION	USCS	AASHTO
● SILTY CLAY, LITTLE SAND, TRACE GRAVEL, YELLOW.	CH	A-7-6

Project No.: 12000-7-0221
Project: PROTECO
● Location: PENUELAS, PR

Date: 2/3/98

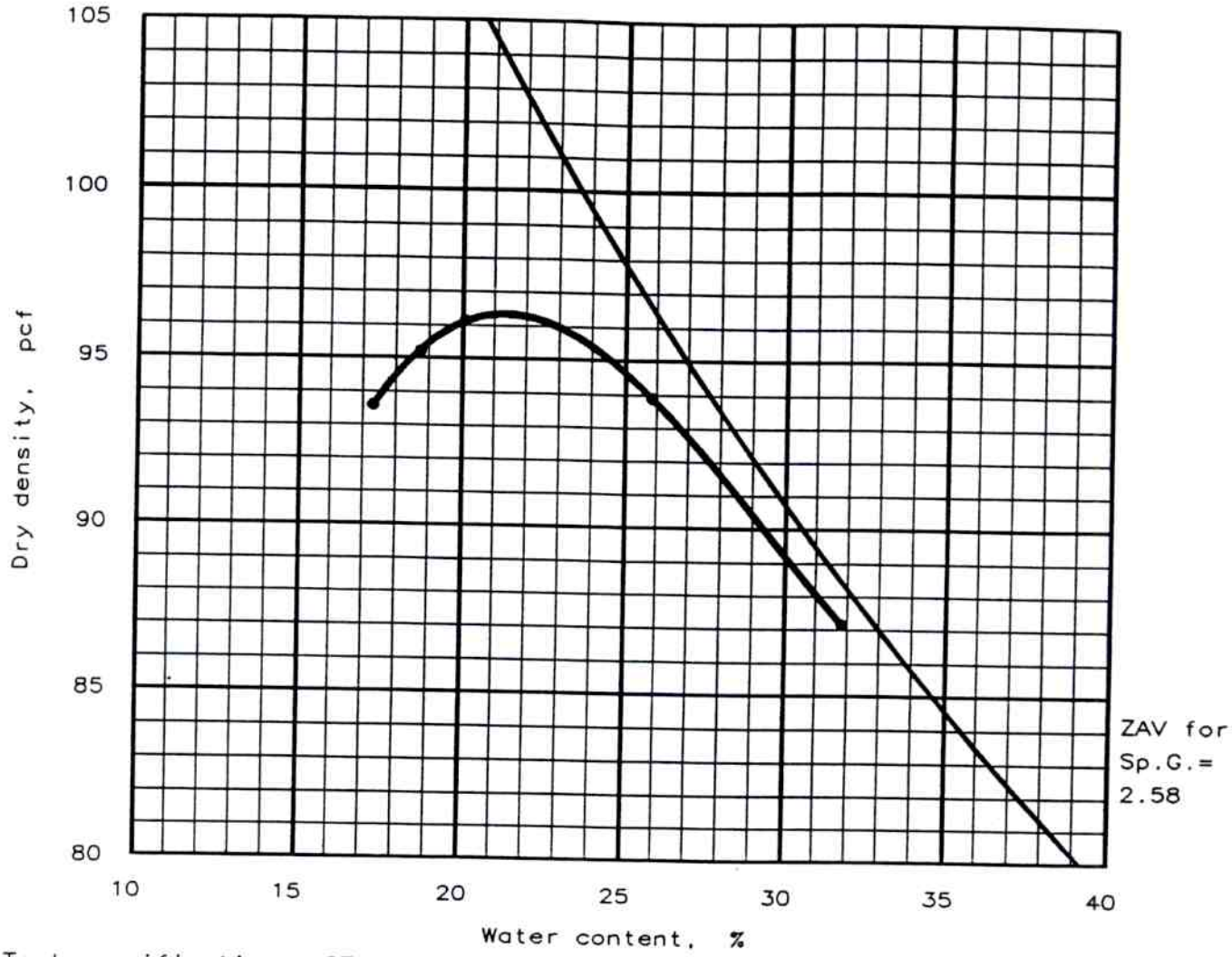
Remarks:
SAMPLE MATERIAL FROM BORROW SITE

GRAIN SIZE DISTRIBUTION TEST REPORT
LAW ENVIRONMENTAL - CARIBE

LAW ENG. & SVCS., INC.

Figure No. 2L

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
N P	CH	A-7-6	17.9 %	2.58	51.3	30.4	0.9 %	74.4 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 96.4 pcf Optimum moisture = 21.3 %	SANDY FAT CLAY, TRACE GRAVEL, YELLOWISH BROWN.

Project No.: 12000-7-0221
Project: PROTECO
Location: PENUELAS
P.R.
Date: 2-13-1998

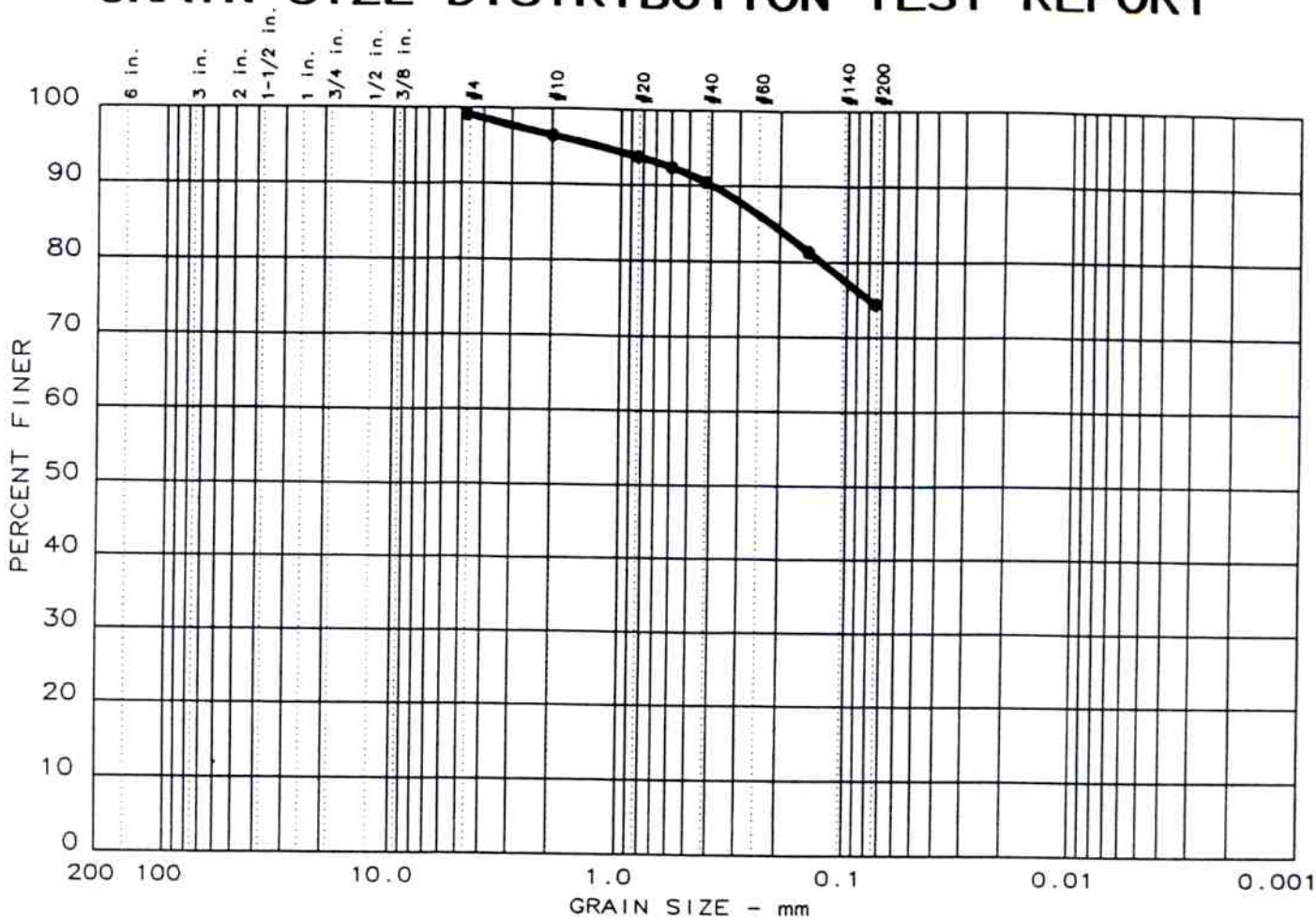
Remarks:
MATERIAL SAMPLE FROM
BORROW AREA-CENTER
LAW ENVIRONMENTAL-CARIBE

MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENVIRONMENTAL-CARIBE

Fig. No. 5L

GRAIN SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	16	0.0	0.9	24.7	74.4	

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●	51.3	30.4	0.219							

MATERIAL DESCRIPTION	USCS	AASHTO
● SANDY FAT CLAY, TRACE GRAVEL, YELLOWISH BROWN.	CH	A-7-6

Project No.: 12000-7-0221
Project: PROTECO
● Location: PENUELAS, PR

Date: 2/13/98

Remarks:
MATERIAL FROM BORROW AREA-CENTER

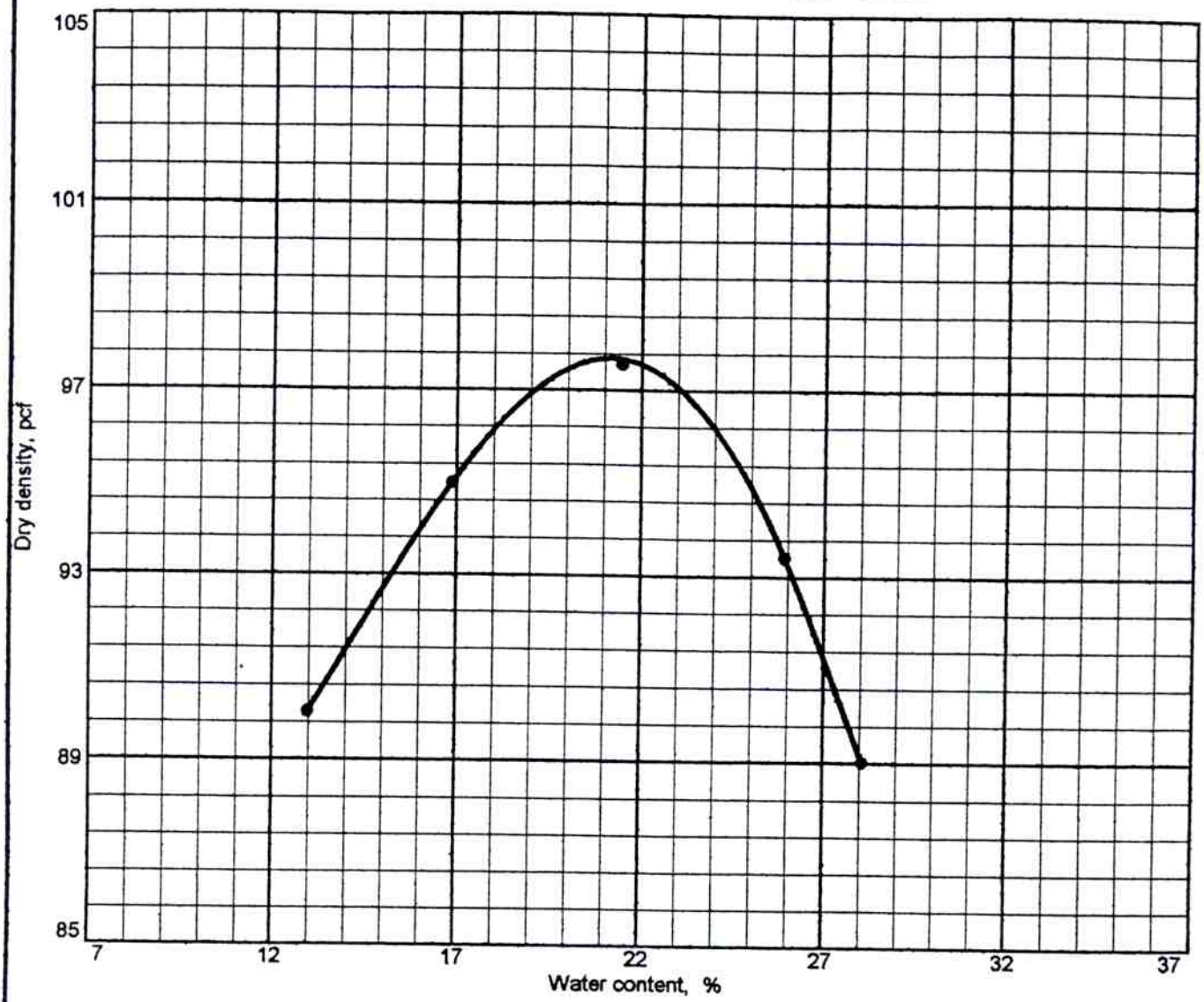
LAW ENVIRONMENTAL-CARIBE

GRAIN SIZE DISTRIBUTION TEST REPORT

LAW ENVIRONMENTAL-CARIBE

Figure No. 5L

COMPACTION TEST REPORT



Test specification: ASTM D 698-91 Procedure A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
0'	CL		12.0		44	20	7.5	68.5

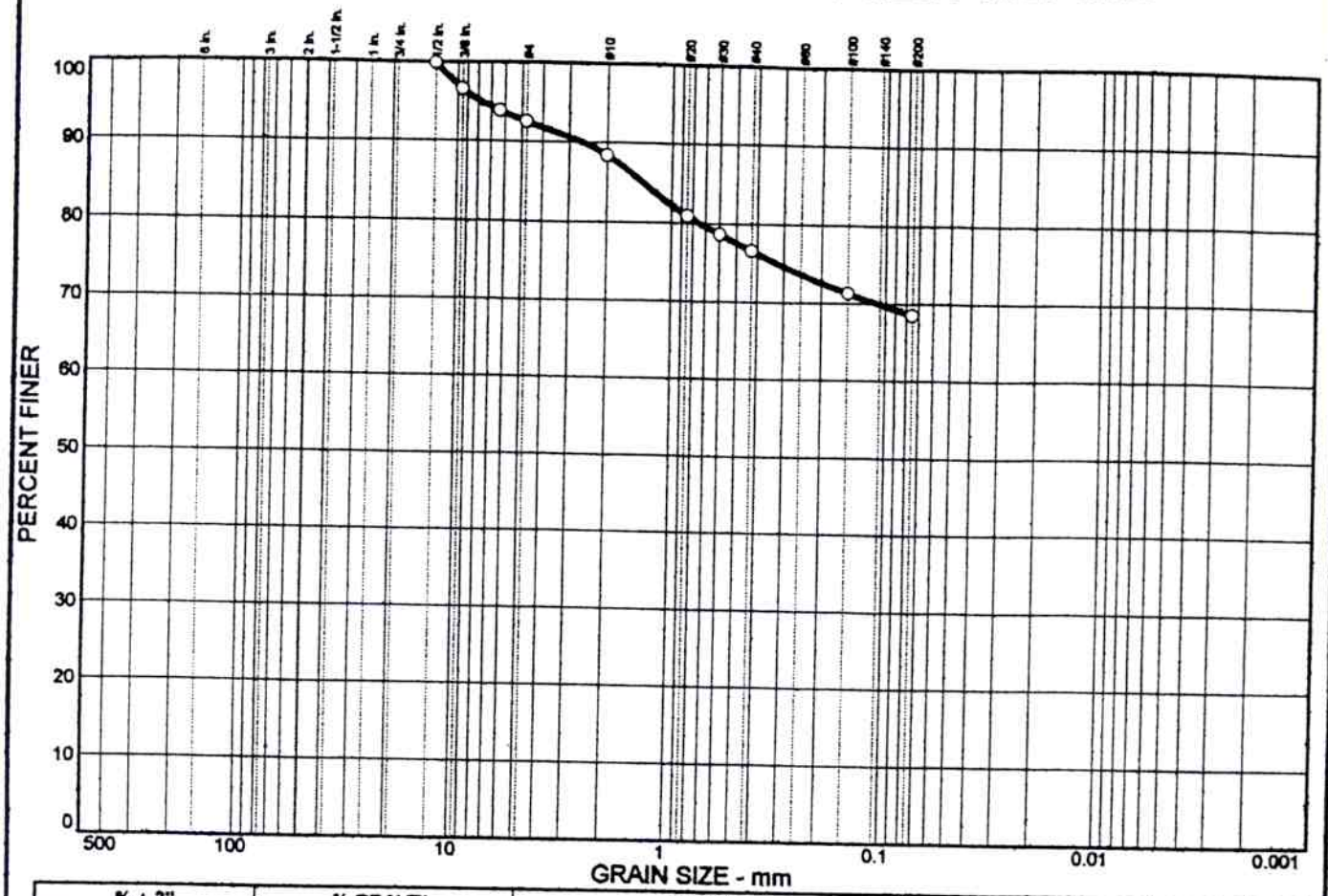
TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 97.7 pcf Optimum moisture = 21.2 %	Sandy Lean Clay,Some gravel,Yellowish Brown.

Project No. 12000-7-0221 **Client:** PROTECO
Project: PROTECO
ROAD NO.385 KM.4.5
Location: UNIT NO.9

Remarks:

LAW ENVIRONMENTAL / CARIBE
1225 PONCE de LEON AVE, SUITE 603, SANTURCE, PR 00907
Phone: 787-722-7740 - Fax: 787-722-7796

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	7.5	24.0	68.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5 in.	100.0		
.375 in.	96.6		
.25 in.	93.9		
#4	92.5		
#10	88.4		
#20	80.9		
#30	78.7		
#40	76.6		
#100	71.3		
#200	68.5		

* (no specification provided)

Soil Description

Sandy Lean Clay,Some gravel,Yellowish Brown.

Atterberg Limits

PL= 24 LL= 44 PI= 20

Coefficients

D_{85}= 1.35 D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(13)

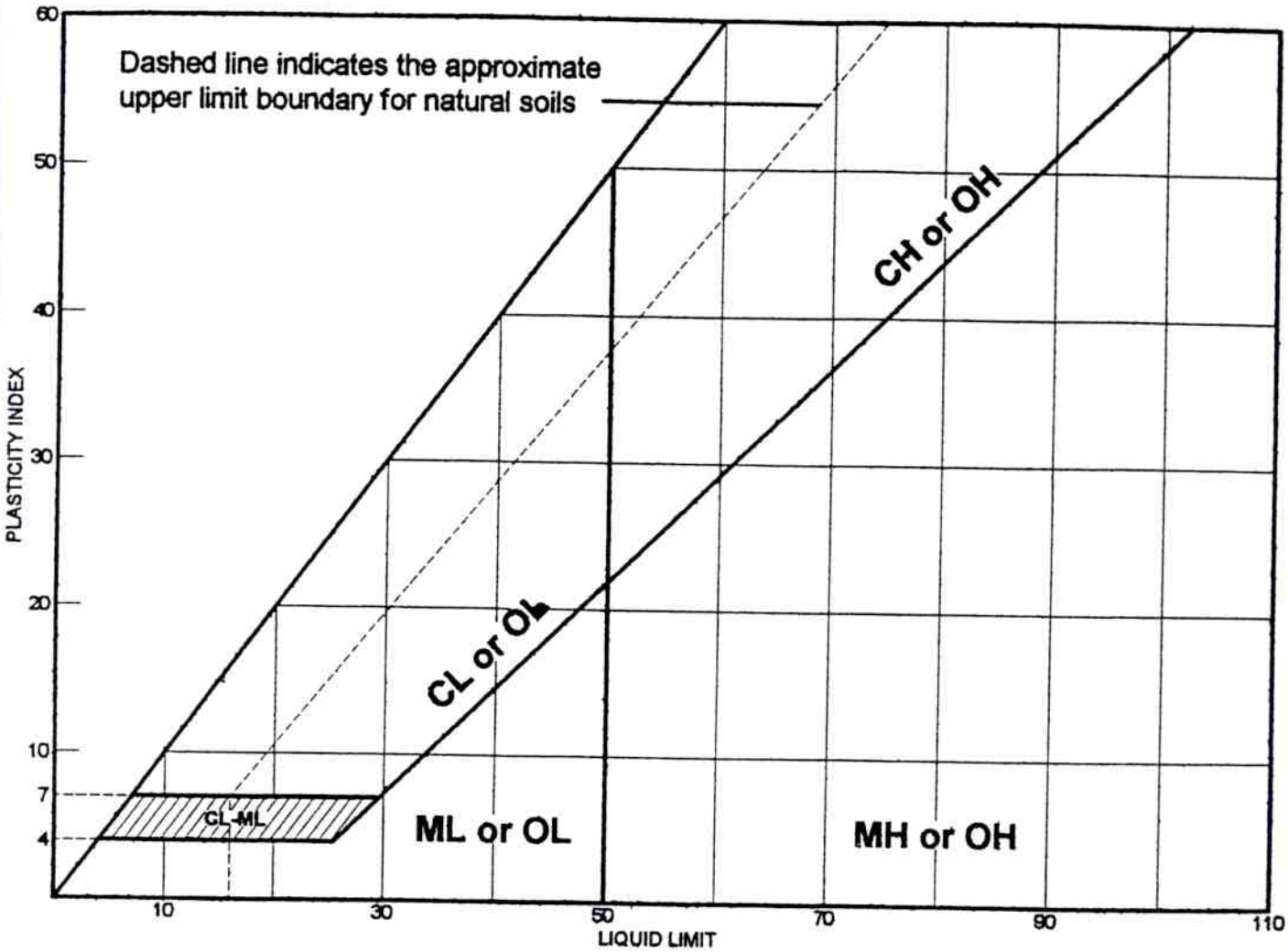
Remarks

Sample No.: 7
Location: UNIT NO.9
Source of Sample:
Date: 5-14-98
Elev./Depth: 0'

LAW ENVIRONMENTAL / CARIBE
1225 PONCE de LEON AVE, SUITE 603
SANTURCE, PR 00907

Client: PROTECO
Project: PROTECO
ROAD NO.385 KM.4.5
Project No: 12000-7-0221

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Sandy Lean Clay,Some gravel,Yellowish Brown.	44	24	20	76.6	68.5	CL

Project No. 12000-7-0221 **Client:** PROTECO

Project: PROTECO

ROAD NO.385 KM.4.5

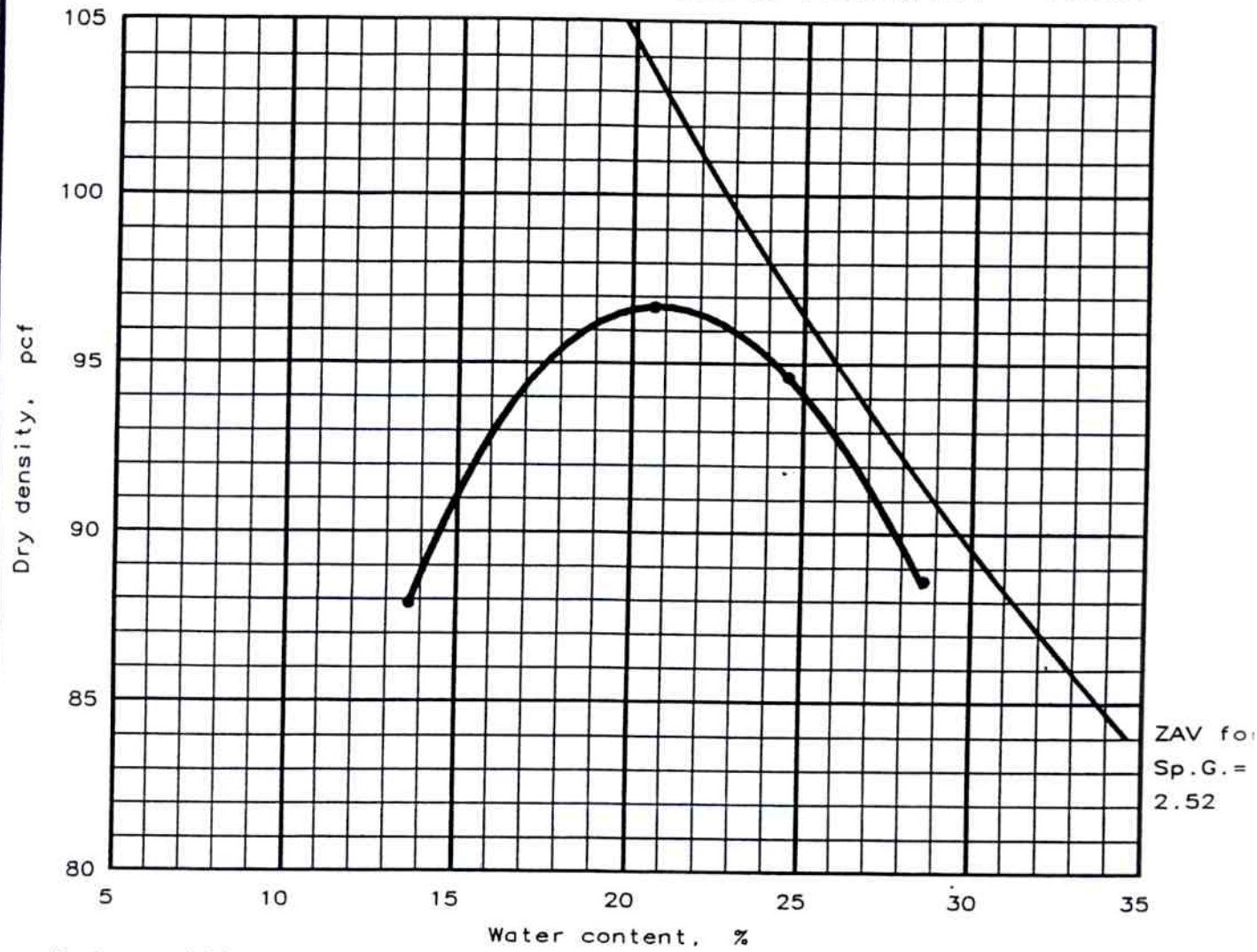
● **Location:** UNIT NO.9

Remarks:

●

LAW ENVIRONMENTAL / CARIBE
1225 PONCE de LEON AVE, SUITE 603, SANTURCE, PR 00907
Phone: 787-722-7740 - Fax: 787-722-7796

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.20
	USCS	AASHTO						
0'	CL	A-7-6	17.0 %	2.52	45.0	21	6.4 %	59.5 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 96.7 pcf Optimum moisture = 20.8 %	Sandy Lean Clay, Few Gravel, Tan.

Project No.: 12000-7-0221

Project: PROTECO

Location: Penuelas

Puerto Rico

Date: 3-16-1998

Remarks:

SOUTH SIDE OF RETENTION POND

Law Enviromental-Caribe

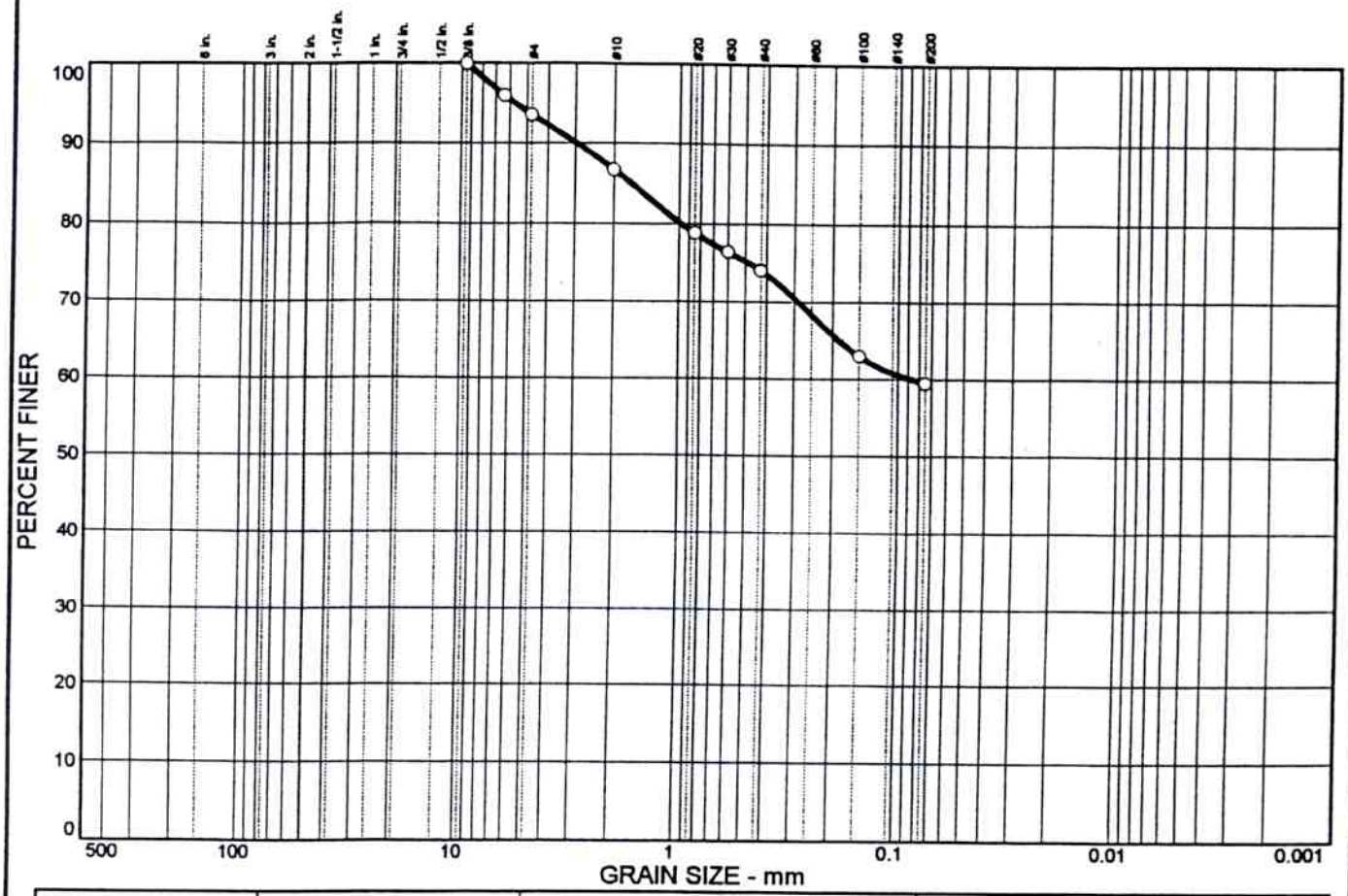
MOISTURE-DENSITY RELATIONSHIP TEST

LAW ENVIRONMENTAL / CARIBE

1225 PONCE de LEON AVE, SUITE 603, SANTURCE, PR

Fig. No. 6L

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	6.4	34.1	59.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
.25 in.	96.0		
#4	93.6		
#10	86.8		
#20	78.8		
#30	76.4		
#40	74.0		
#100	63.0		
#200	59.5		

* (no specification provided)

Soil Description

SANDY LEAN CLAY,FEW GRAVEL,TAN.

Atterberg Limits

PL= 24 LL= 45 PI= 21

Coefficients

D_{85}= 1.65 D_{60}= 0.0863 D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(11)

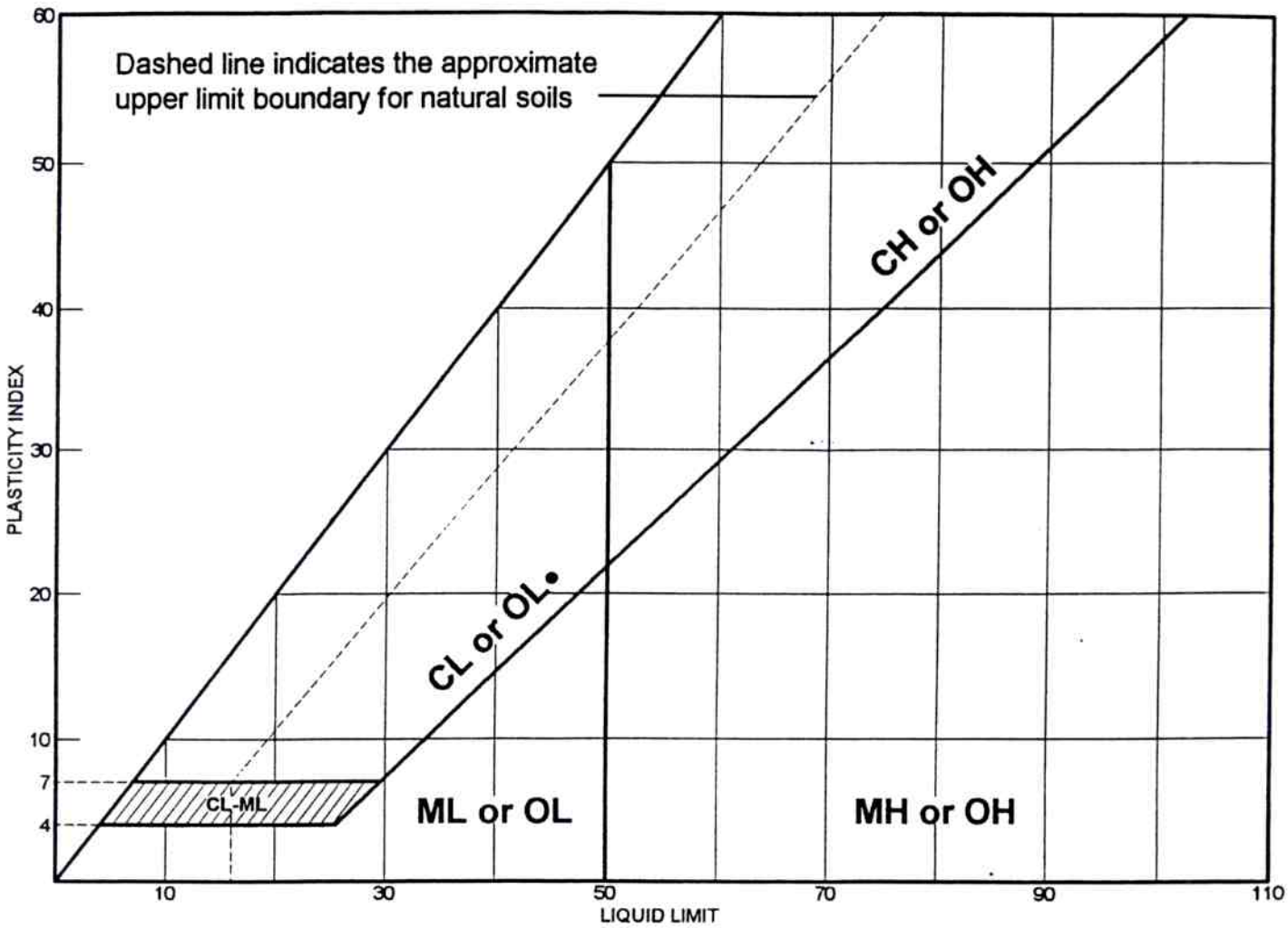
Remarks

Sample No.: 6 **Source of Sample:** **Date:** 3-17-98
Location: SOUTH SIDE OF RETENTION POND. **Elev./Depth:** 0'

LAW ENVIRONMENTAL / CARIBE
1225 PONCE de LEON AVE, SUITE 603
SANTURCE, PR 00907

Client: PROTECO
Project: PROTECO
ROAD NO.385 KM.4.5
Project No: 12000-7-0221

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
•	SANDY LEAN CLAY,FEW GRAVEL,TAN.	45	24	21	74.0	59.5	CL

Project No. 12000-7-0221 **Client:** PROTECO

Project: PROTECO

ROAD NO.385 KM.4.5

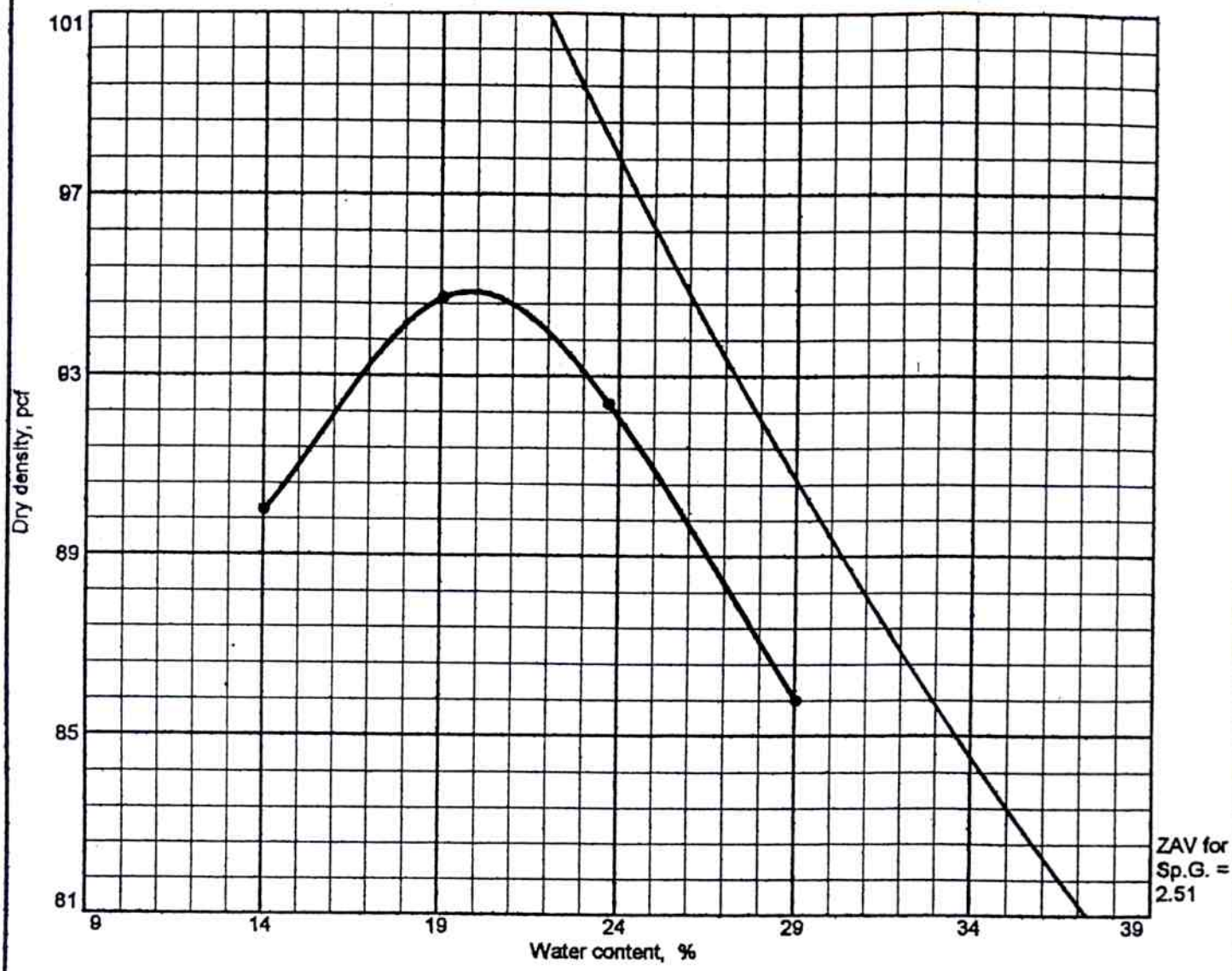
• **Location:** SOUTH SIDE OF RETENTION POND.

Remarks:

• SAMPLE MATERIAL FROM SOUTH SIDE OF RETENTION POND.

LAW ENVIRONMENTAL / CARIBE
1225 PONCE de LEON AVE, SUITE 603, SANTURCE, PR 00907
Phone: 787-722-7740 - Fax: 787-722-7796

COMPACTION TEST REPORT



Test specification: ASTM D 698-91 Procedure A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
0'	CL	A-7-6(13)	19.5	2.51	43	23	5.6	64.4

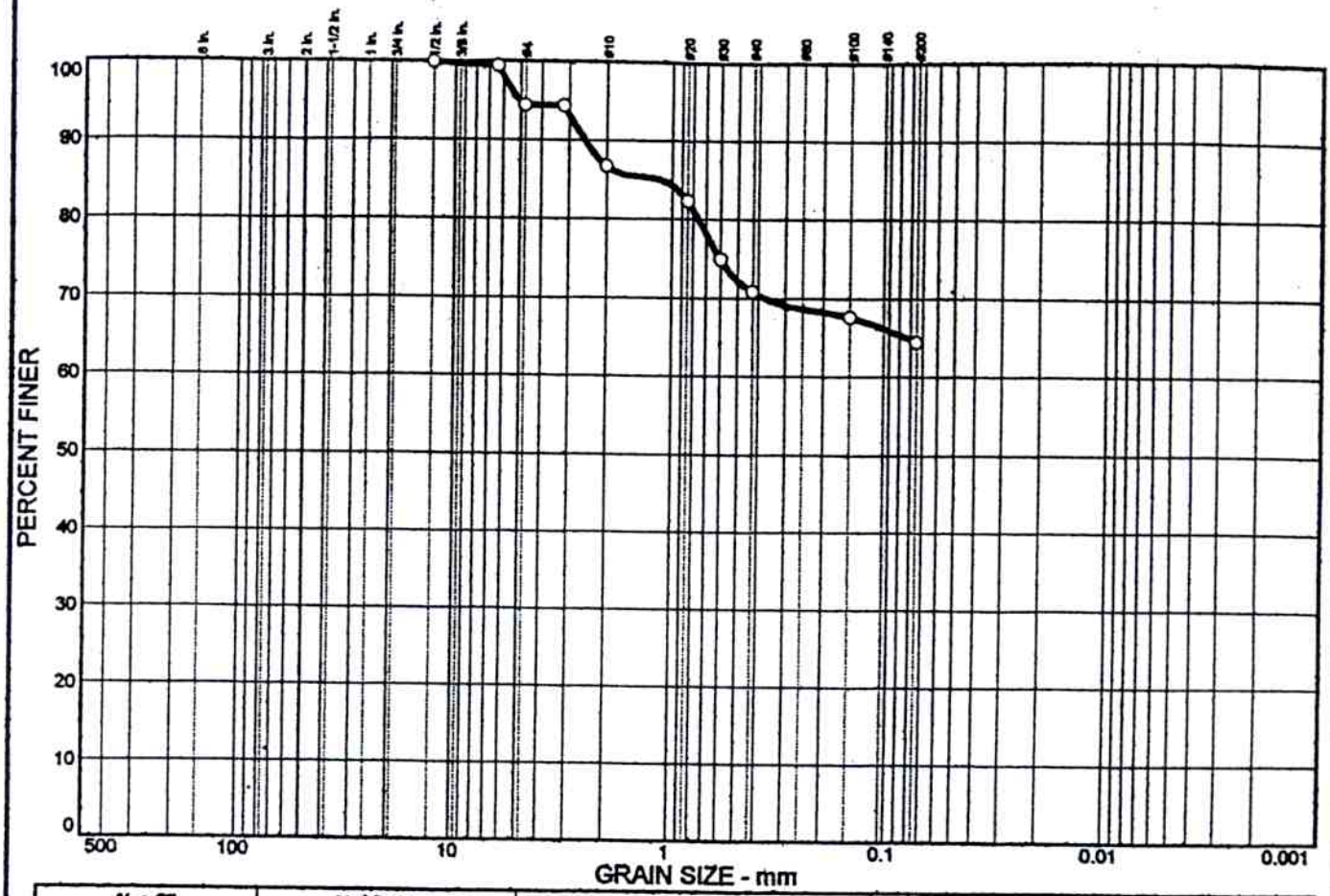
TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 94.9 pcf Optimum moisture = 19.8 %	SANDY LEAN CLAY,FEW GRAVEL, YELLOWISH BROWN.

Project No. 12000-7-0221 **Client:** PROTECO
Project: PROTECO
ROAD NO.385 KM.4.5
• **Location:** EAST SIDE OF BORROW AREA

Remarks:

LAW ENVIRONMENTAL / CARIBE
1225 PONCE de LEON AVE, SUITE 603, SANTURCE, PR 00907
Phone: 787-722-7740 - Fax: 787-722-7796

PARTIC E SIZE DISTRIBUTION T ST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	5.6	30.0	64.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5 in.	100.0		
.25 in.	99.4		
.125 in.	94.4		
#4	94.4		
#10	86.7		
#20	82.3		
#30	74.9		
#40	70.8		
#100	67.6		
#200	64.4		

* (no specification provided)

Soil Description

SANDY LEAN CLAY,FEW GRAVEL,YELLOWISH BROWN.

Atterberg Limits

PL= 20 LL= 43 PI= 23

Coefficients

D_{85}= 1.14 D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

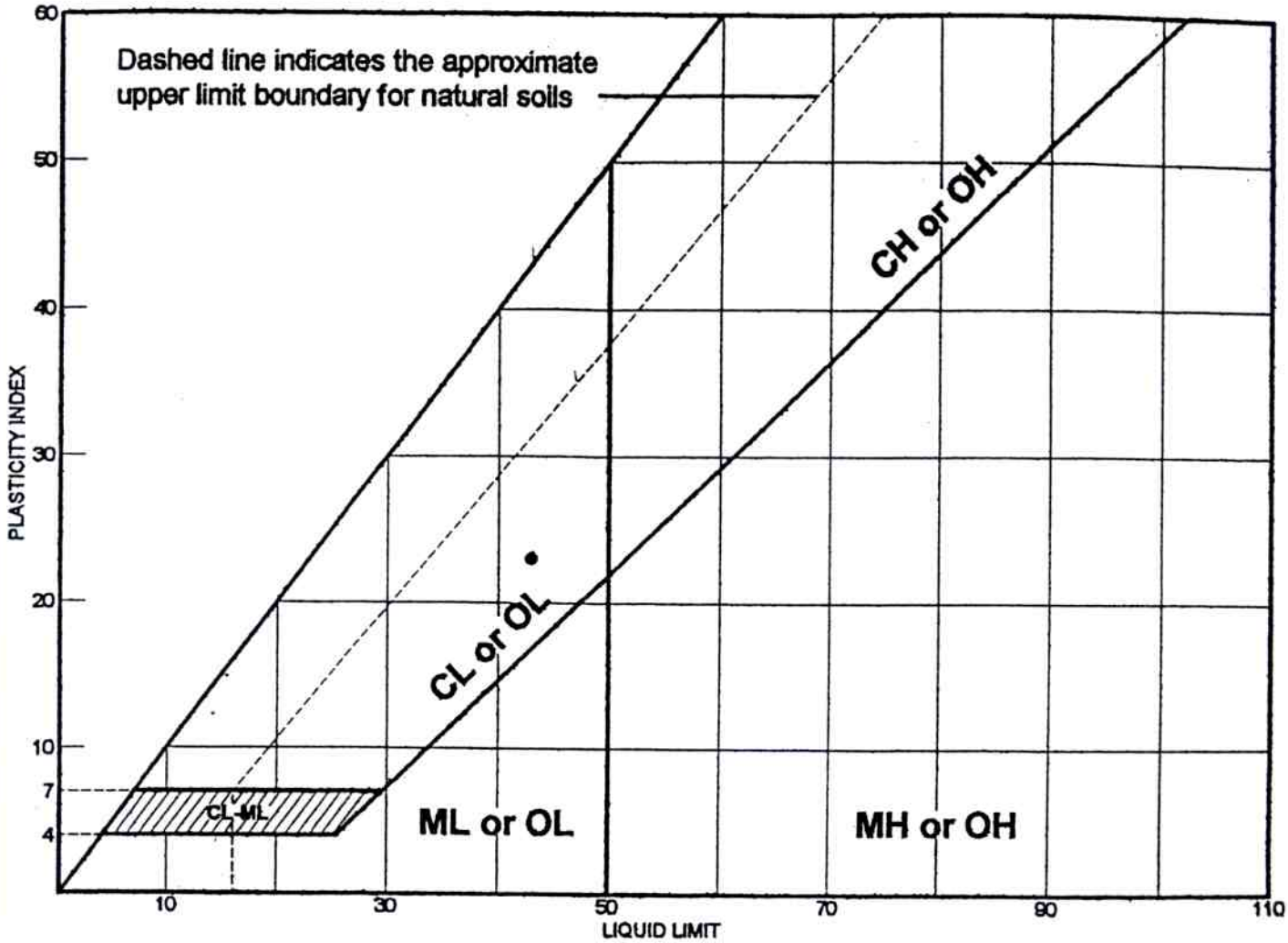
USCS= CL AASHTO= A-7-6(13)

Remarks

Sample No.: 8 **Source of Sample:** **Date:** 5/22/98
Location: EAST SIDE OF BORROW AREA **Elev./Depth:** 0'

LAW ENVIRONMENTAL / CARIBE **1225 PONCE de LEON AVE, SUITE 603** **SANTURCE, PR 00907**	**Client:** PROTECO **Project:** PROTECO ROAD NO.385 KM.4.5 **Project No:** 12000-7-0221

LIQU.. AND PLASTIC LIMITS ..EST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	SANDY LEAN CLAY,FEW GRAVEL,YELLOWISH BROWN.	43	20	23	70.8	64.4	CL

Project No. 12000-7-0221 **Client:** PROTECO

Project: PROTECO

ROAD NO.385 KM.4.5

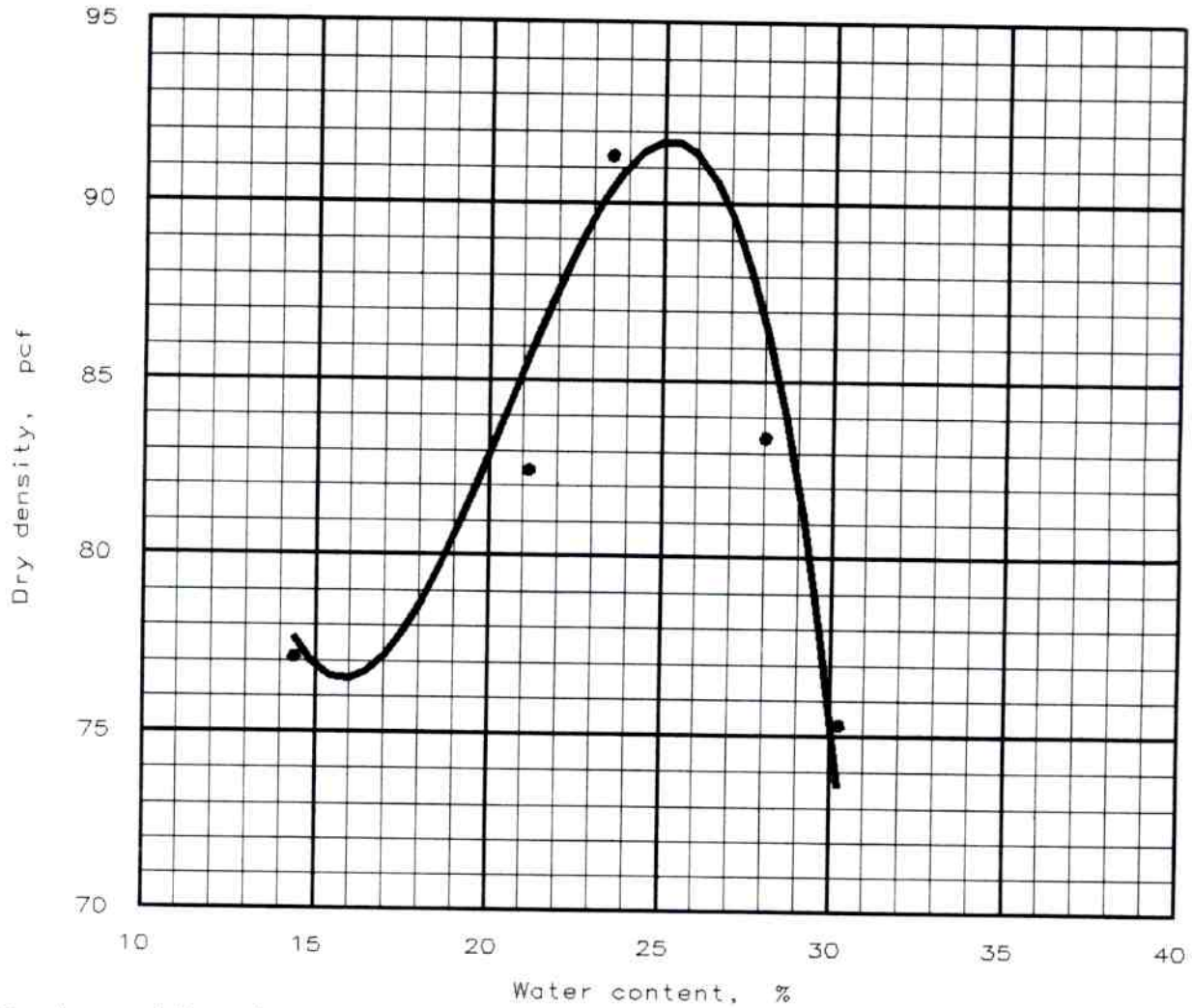
● **Location:** EAST SIDE OF BORROW AREA

Remarks:

●

LAW ENVIRONMENTAL / CARIBE
1225 PONCE de LEON AVE, SUITE 603, SANTURCE, PR 00907
Phone: 787-722-7740 - Fax: 787-722-7796

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
3'	CL	A-7-6	26.2 %		42.6	23.6	0.0 %	94.8 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 91.7 pcf Optimum moisture = 25.2 %	Clay, trace sand, yellowish brown.

Project No.: 2097-97
Project: PROTECO RECRA Closure
Location: Penuelas, P.R.

Date: November 20, 1997

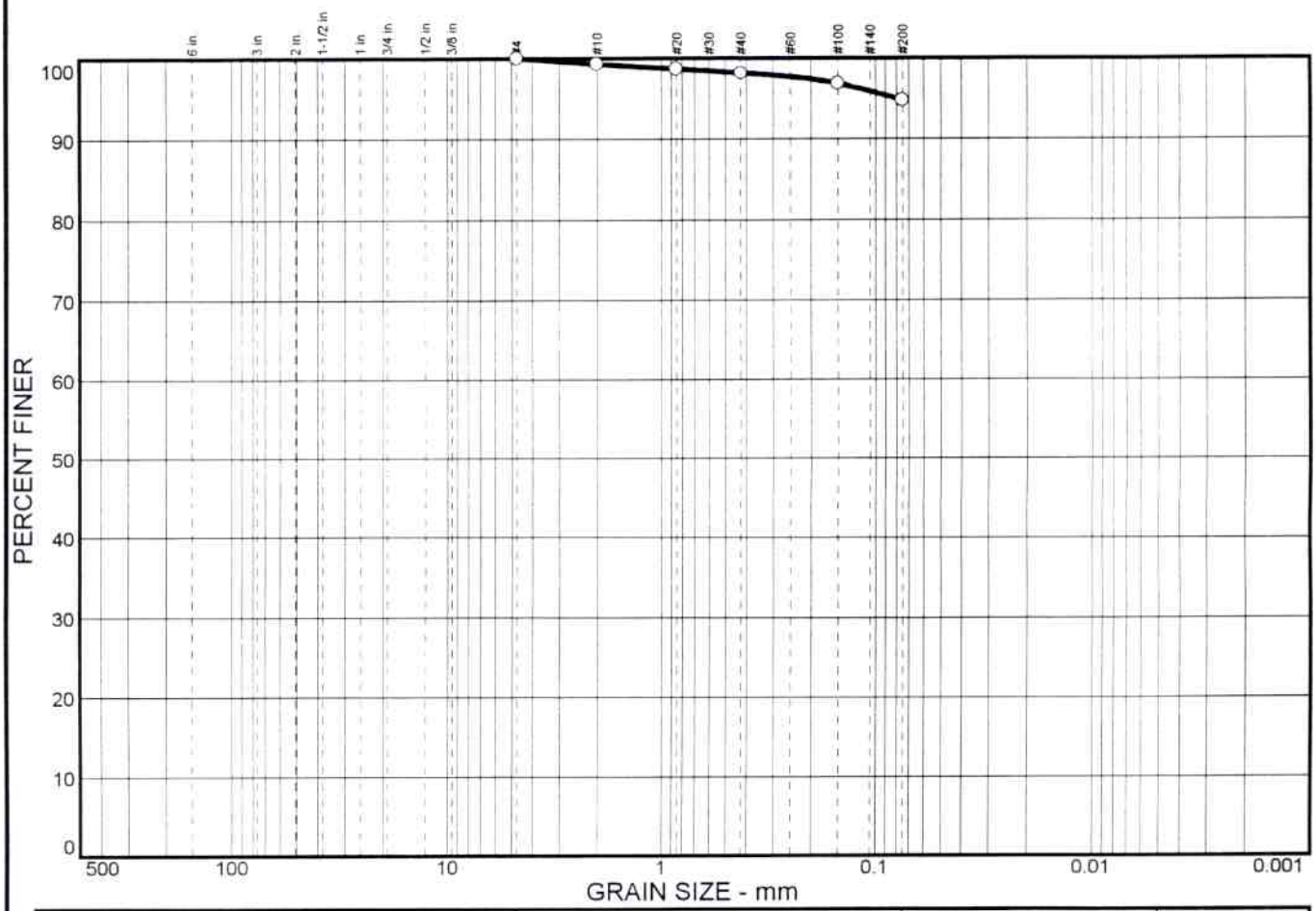
Remarks:
Proteco
Sampled 11/19/97

MOISTURE-DENSITY RELATIONSHIP TEST

GEO CIM, INC.

Fig. No. 8LP

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	5.2	94.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.3		
#20	98.7		
#40	98.2		
#100	96.9		
#200	94.8		

* (no specification provided)

Soil Description

Clay, trace sand, yellowish brown.

Atterberg Limits

PL= 19.0 LL= 42.6 PI= 23.6

Coefficients

D_{85}= D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(24)

Remarks

Max Dry Dens. 91.7 pcf @ 25.2% Opt. Moisture Sampled 11/19/97

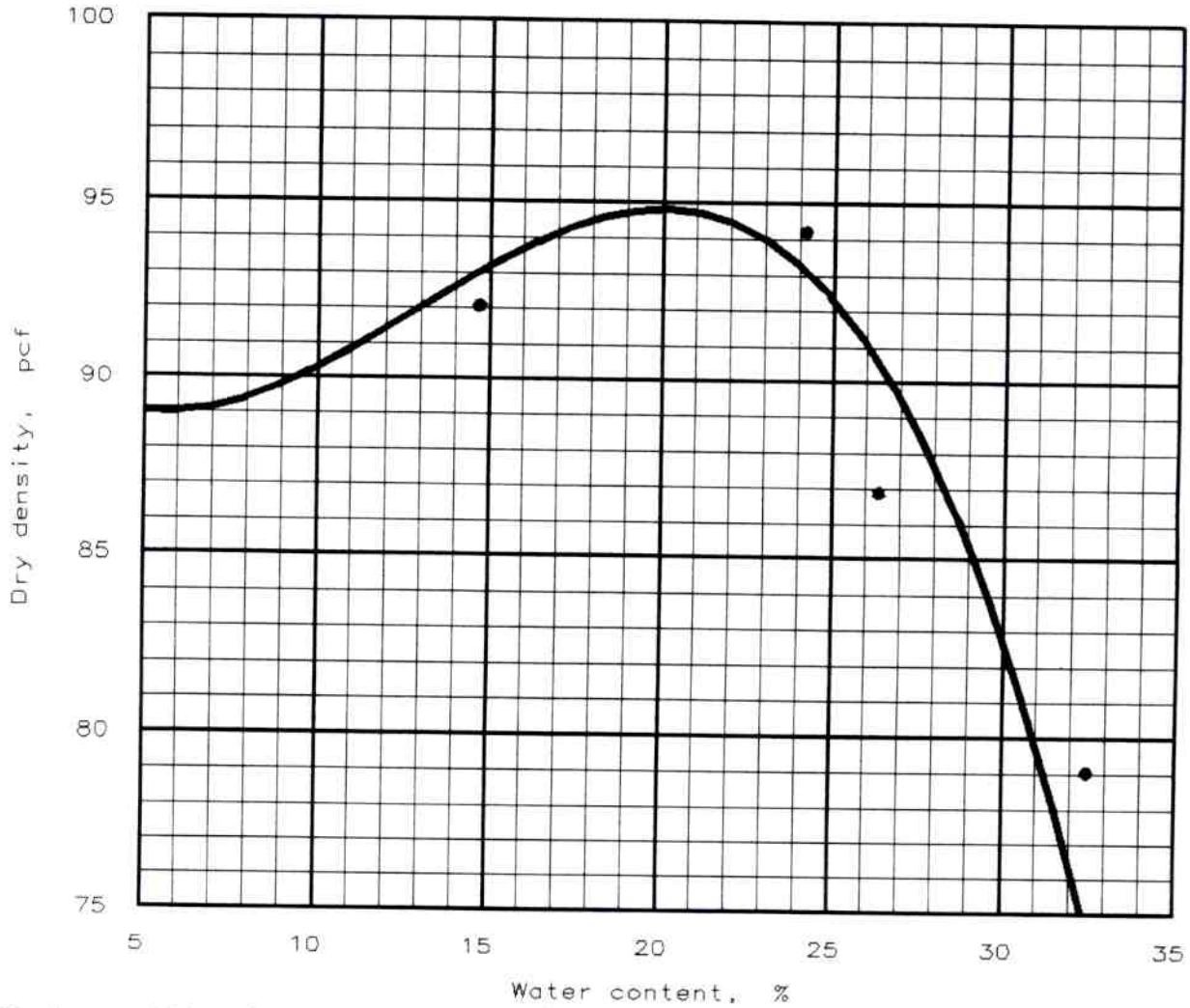
Sample No.: 8LP **Source of Sample:** Clay Borrow **Date:** 11/26/97
Location: **Elev./Depth:** 3'

GEO CIM, INC.

Client: PROTECO c/o LAW ENVIRONMENTAL
Project: PROTECO RECRA Closure
Project No: 2097-97

R. Davila - GCI

MOISTURE-DENSITY RELATIONSHIP TEST

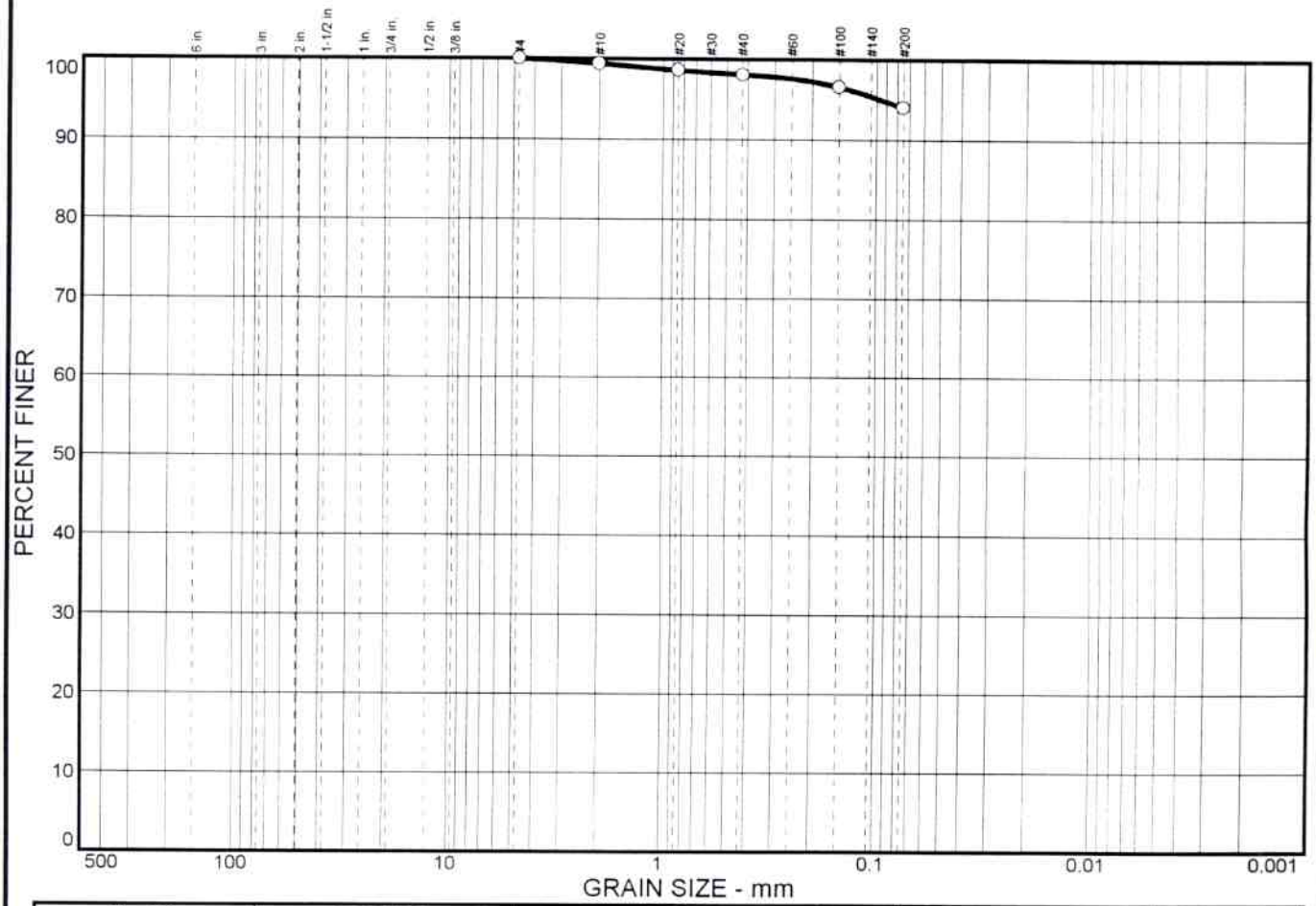


Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
6'	CH	A-7-6	26.8 %		59.4	36.5	0 %	94.0 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 94.8 pcf Optimum moisture = 20.1 %	Clay, trace sand, yellowish brown.
Project No.: 2097-97 Project: PROTECO RECRA Closure Location: Penuelas, P.R. Date: November 21, 1997	Remarks: Proteco Sampled 11/20/97
MOISTURE-DENSITY RELATIONSHIP TEST **GEO CIM, INC.**	Fig. No. 10LP

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	6.0	94.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.4		
#20	98.6		
#40	98.1		
#100	96.6		
#200	94.0		

* (no specification provided)

Soil Description

Clay, trace sand, yellowish brown.

Atterberg Limits

PL= 22.9 LL= 59.4 PI= 36.5

Coefficients

D_{85}= D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(38)

Remarks

Max Dry Dens 94.8 pcf @ 20.1% Opt. Moisture Sampled 11/20/97

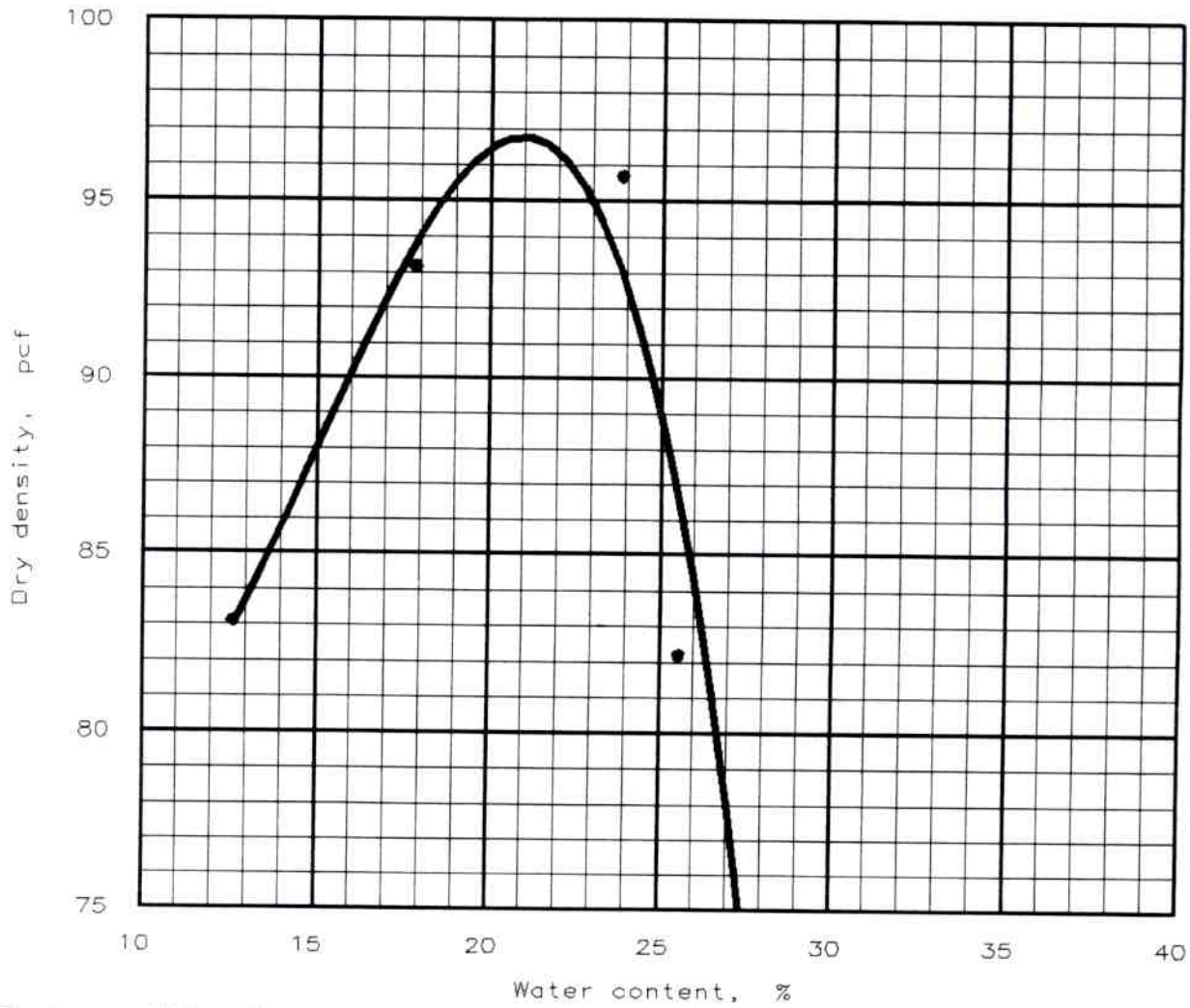
Sample No.: 10LP **Source of Sample:** Clay Borrow **Date:** 11/25/97
Location: **Elev./Depth:** 6'

GEO CIM, INC.

Client: PROTECO c/o LAW ENVIRONMENTAL
Project: PROTECO RECRA Closure
Project No: 2097-97

R. Davila - GCI

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	CH	A-7-6	32.2 %		66.8	45.4	0.0 %	97.3 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 96.8 pcf Optimum moisture = 21.0 %	Clay, trace sand, yellow

Project No.: 2097-97
Project: PROTECO RECRA Closure
Location: Penuelas P.R.
Sampled 11/13/97
Date: November 17, 1997

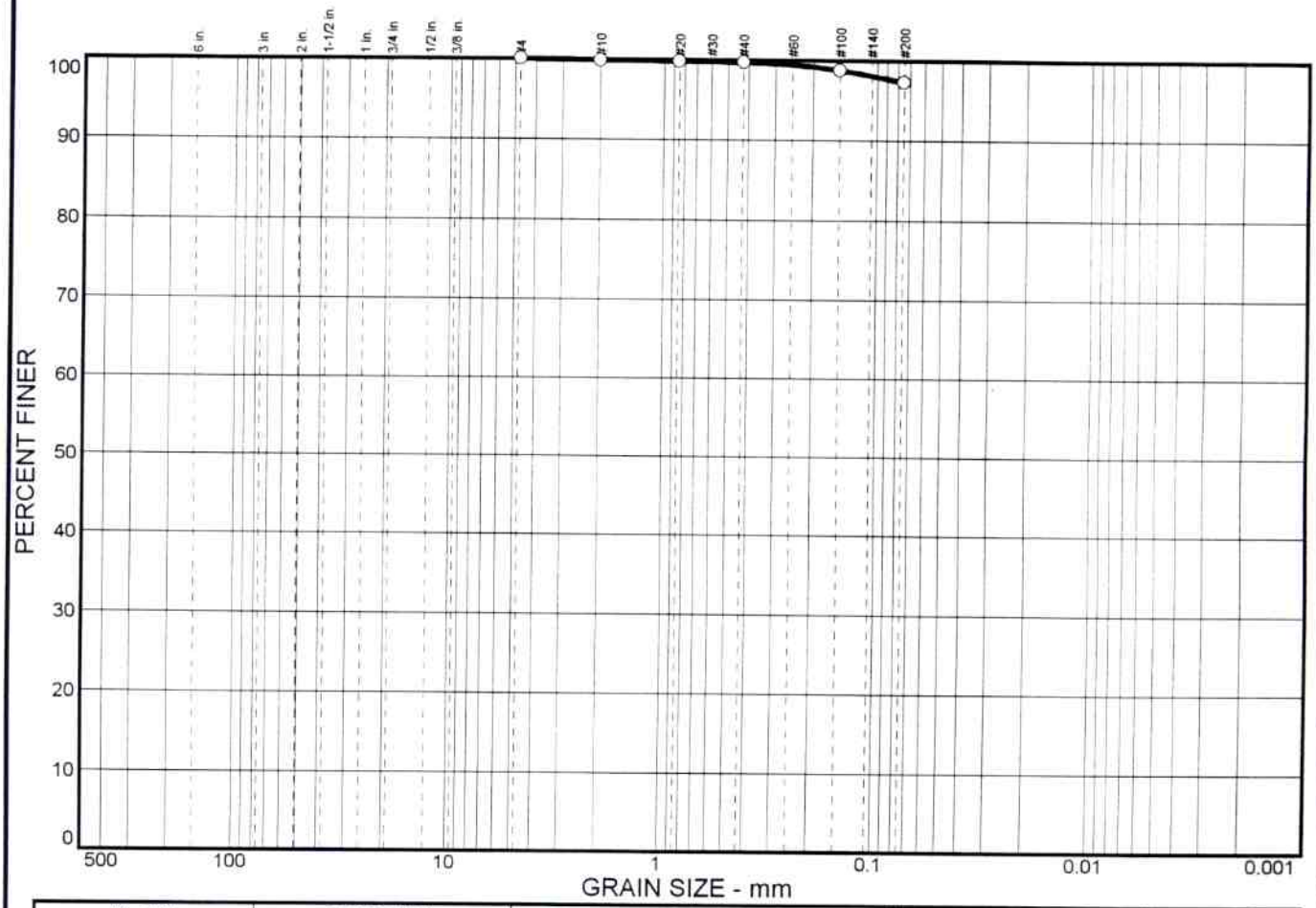
Remarks:
PROTECO
Clay Borrow

MOISTURE-DENSITY RELATIONSHIP TEST

GEO CIM, INC.

Fig. No. 3LP

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	2.7	97.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.8		
#40	99.7		
#100	98.8		
#200	97.3		

* (no specification provided)

Soil Description

Clay, trace sand, yellow.

Atterberg Limits

PL= 21.4 LL= 66.8 PI= 45.4

Coefficients

D_{85}= D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(50)

Remarks

Max Dry Dens. 96.8 pcf @ 21.0% Opt. Moisture
Sampled 11/13/97

Sample No.: 3LP **Source of Sample:** Clay Borrow **Date:** 11/20/97
Location: **Elev./Depth:** 1'

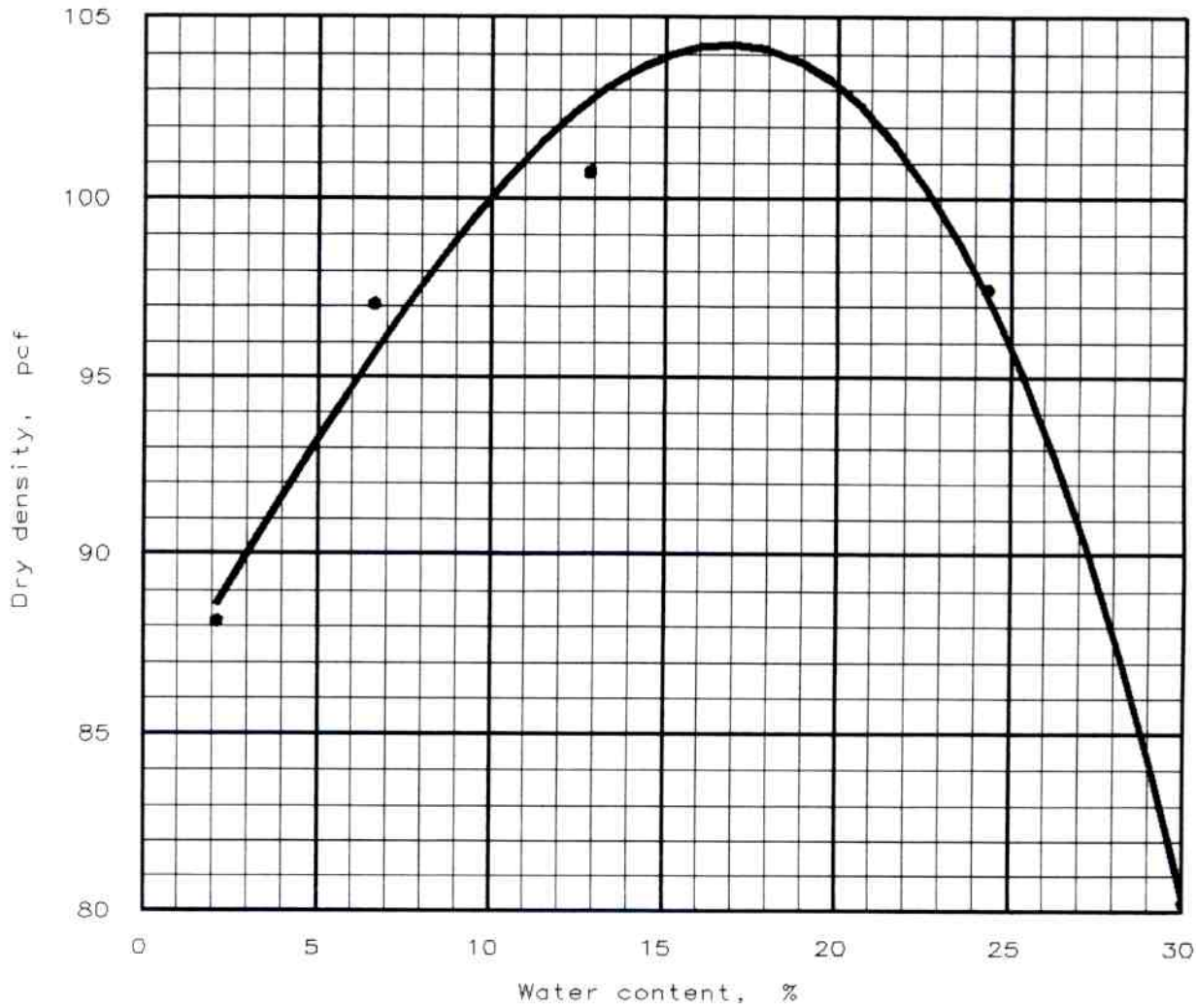
GEO CIM, INC.

Client: PROTECO c/o LAW ENVIRONMENTAL
Project: PROTECO RECRA Closure
Project No: 2097-97

R. Dávila

R. Davila - GCI

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
	CL	A-6	20.9 %		40.1	20.3	0.0 %	97.3 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 104.3 pcf Optimum moisture = 16.9 %	Clay, some sand, yellow.

Project No.: 2097-97
Project: PROTECO RECRA Closure
Location: Penuelas P.R.
Sampled 11/14/97
Date: November 17, 1997

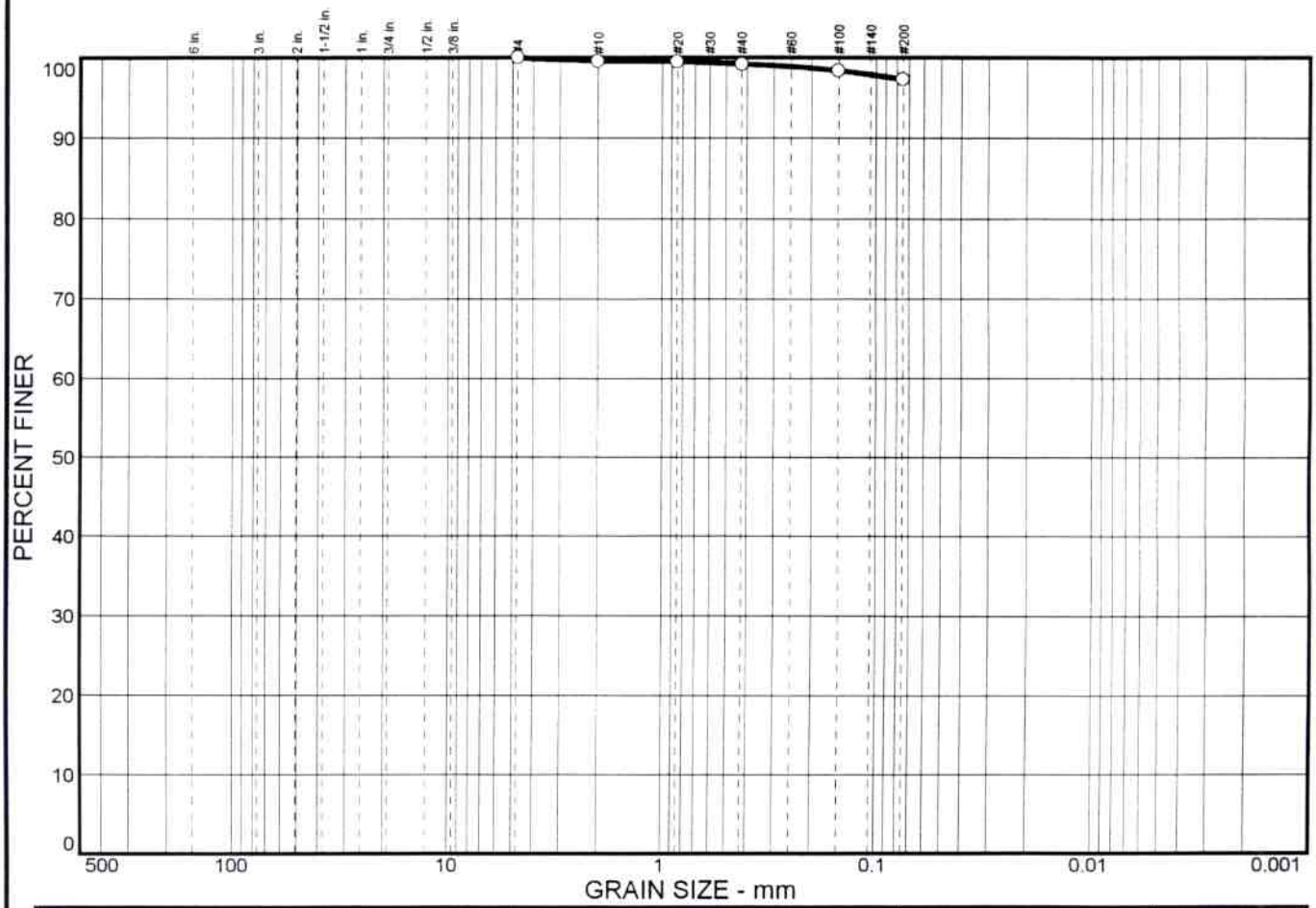
Remarks:
PROTECO
Clay Borrow

MOISTURE-DENSITY RELATIONSHIP TEST

GEO CIM, INC.

Fig. No. 4LP

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	2.7	97.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.6		
#20	99.5		
#40	99.2		
#100	98.4		
#200	97.3		

* (no specification provided)

Soil Description

Clay, trace sand, yellow.

Atterberg Limits

PL= 19.8 LL= 40.1 PI= 20.3

Coefficients

D_{85}= D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CL AASHTO= A-6(21)

Remarks

Max Dry Dens. 104.3 @ 16.9% Opt. Mouisture
Sampled 11/14/97

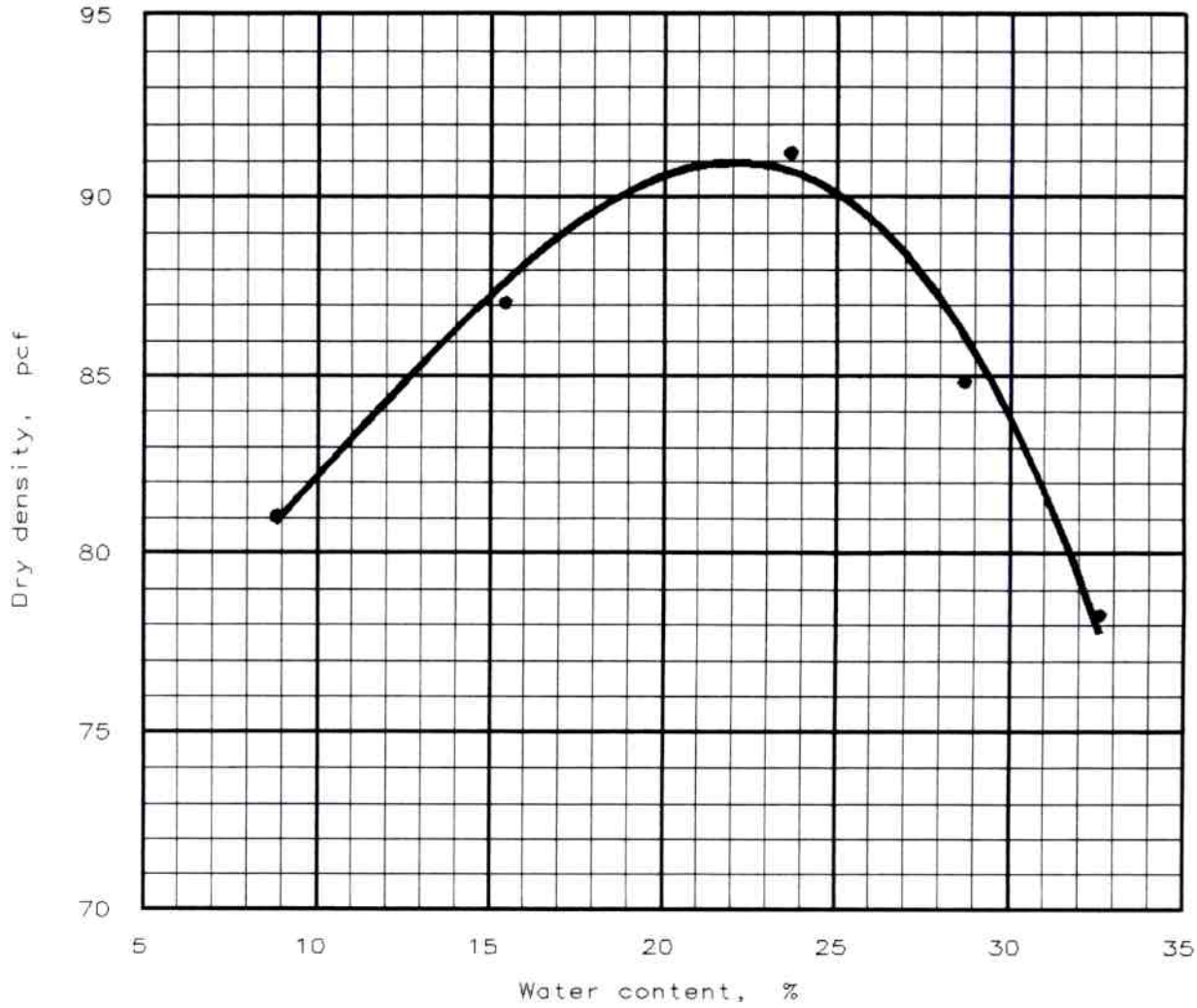
Sample No.: 4LP **Source of Sample:** Clay Borrow **Date:** 11/20/97
Location: **Elev./Depth:** 6'

GEO CIM, INC.

Client: PROTECO c/o LAW ENVIRONMENTAL
Project: PROTECO RECRA Closure
Project No: 2097-97

R. Davila - GCI

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
2'	CH	A-7-6	24.5 %		65.8	45.8	0 %	96.4 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 91.0 pcf Optimum moisture = 22.1 %	Clay, some sand, yellowish brown.

Project No.: 2097-97

Project: PROTECO RECRA Closure

Location: Penuelas, P.R.

Date: November 20, 1997

Remarks:

Proteco

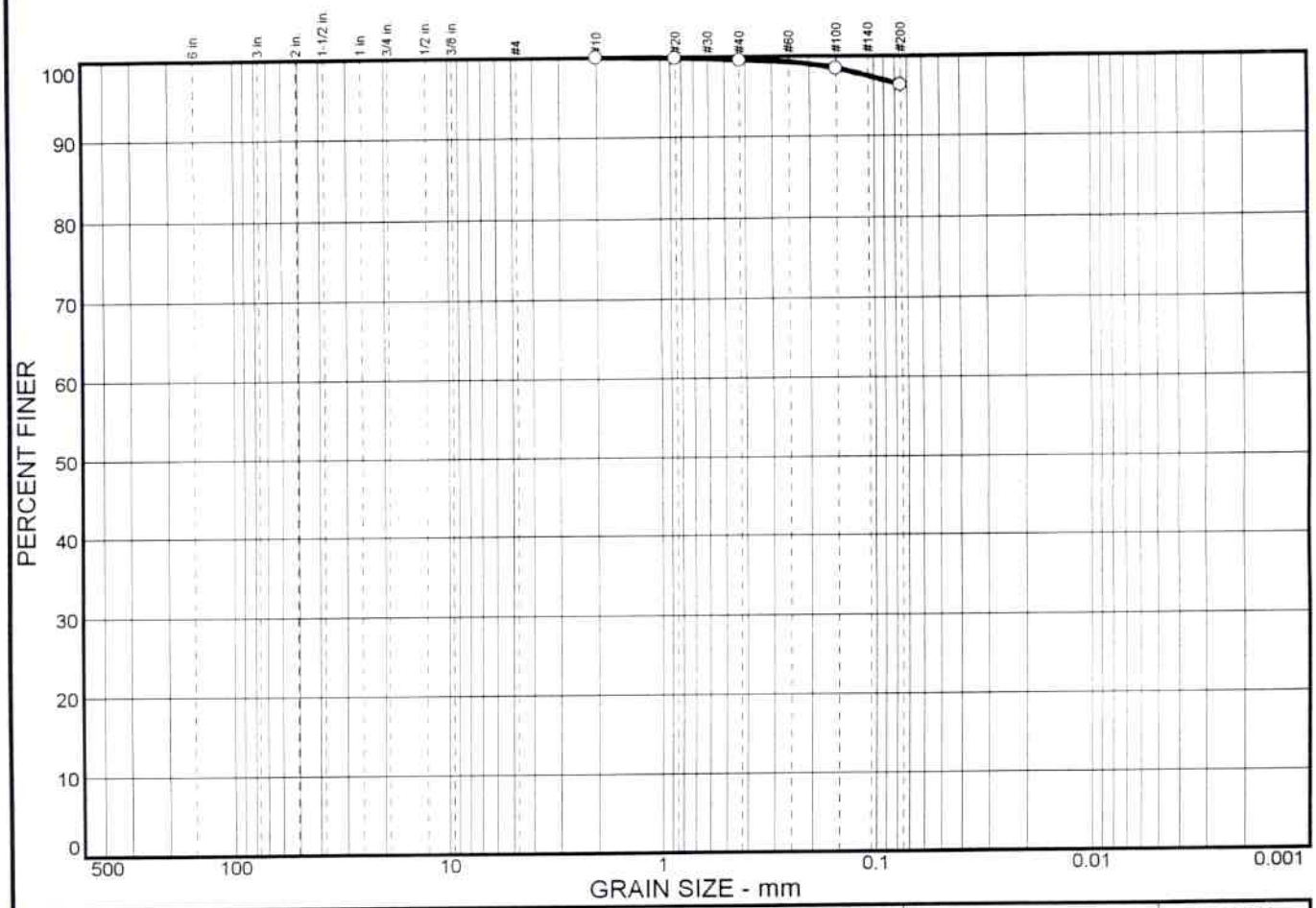
Sampled 11/19/97

MOISTURE-DENSITY RELATIONSHIP TEST

GEO CIM, INC.

Fig. No. 7LP

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	3.6	96.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	99.6		
#100	98.5		
#200	96.4		

* (no specification provided)

Soil Description

Clay, trace sand, yellowish brown.

Atterberg Limits

PL= 20.0 LL= 65.8 PI= 45.8

Coefficients

D_{85}= D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(49)

Remarks

Max Dry Dens. 91.0 pcf @ 22.1% Opt. Moisture Sampled 11/19/97

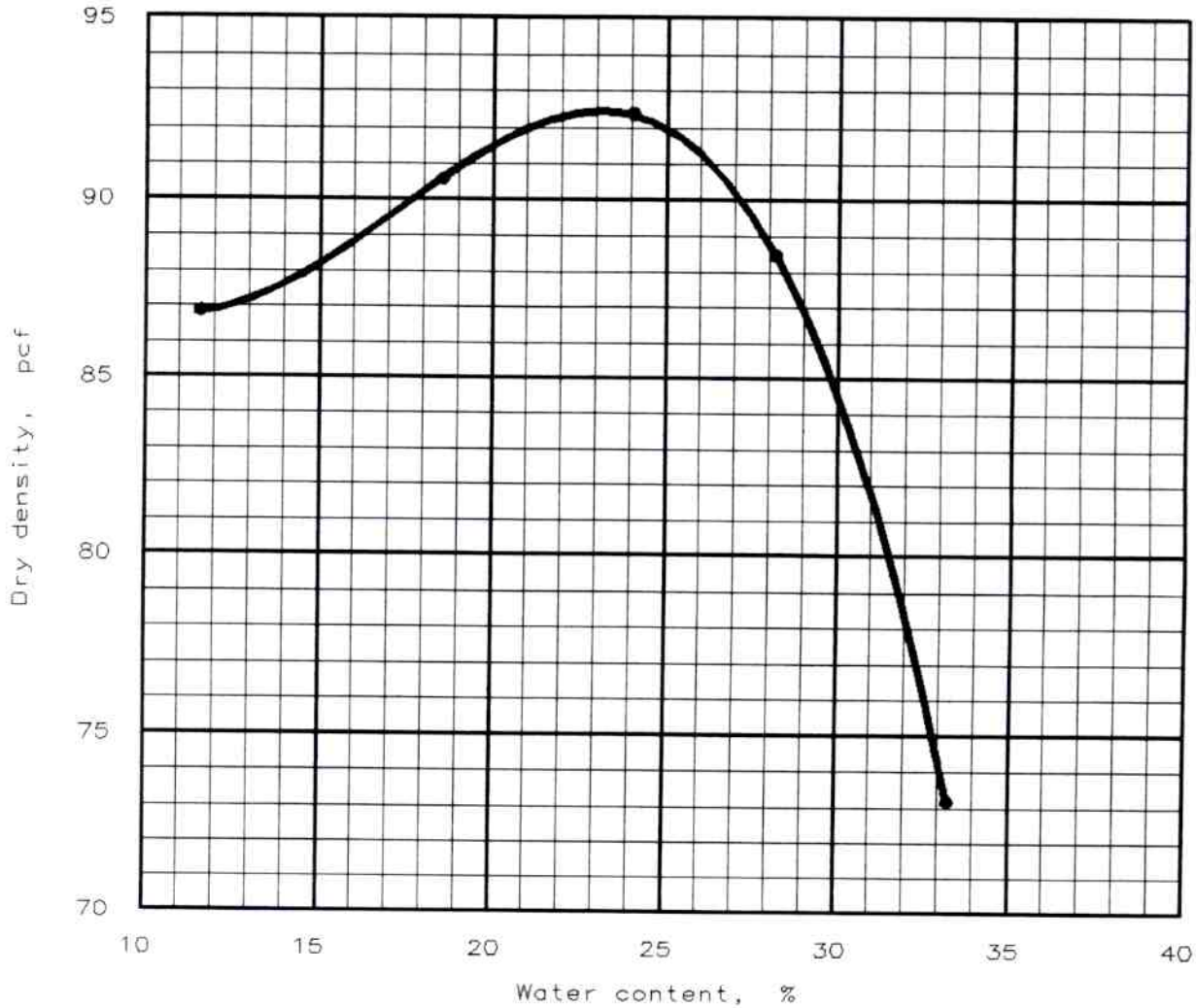
Sample No.: 7LP **Source of Sample:** Clay Borrow **Date:** 11/25/97
Location: **Elev./Depth:** 2'

GEO CIM, INC.

Client: PROTECO c/o LAW ENVIRONMENTAL
Project: PROTECO RECRA Closure
Project No: 2097-97

R. Davila - GCI

MOISTURE-DENSITY RELATIONSHIP TEST

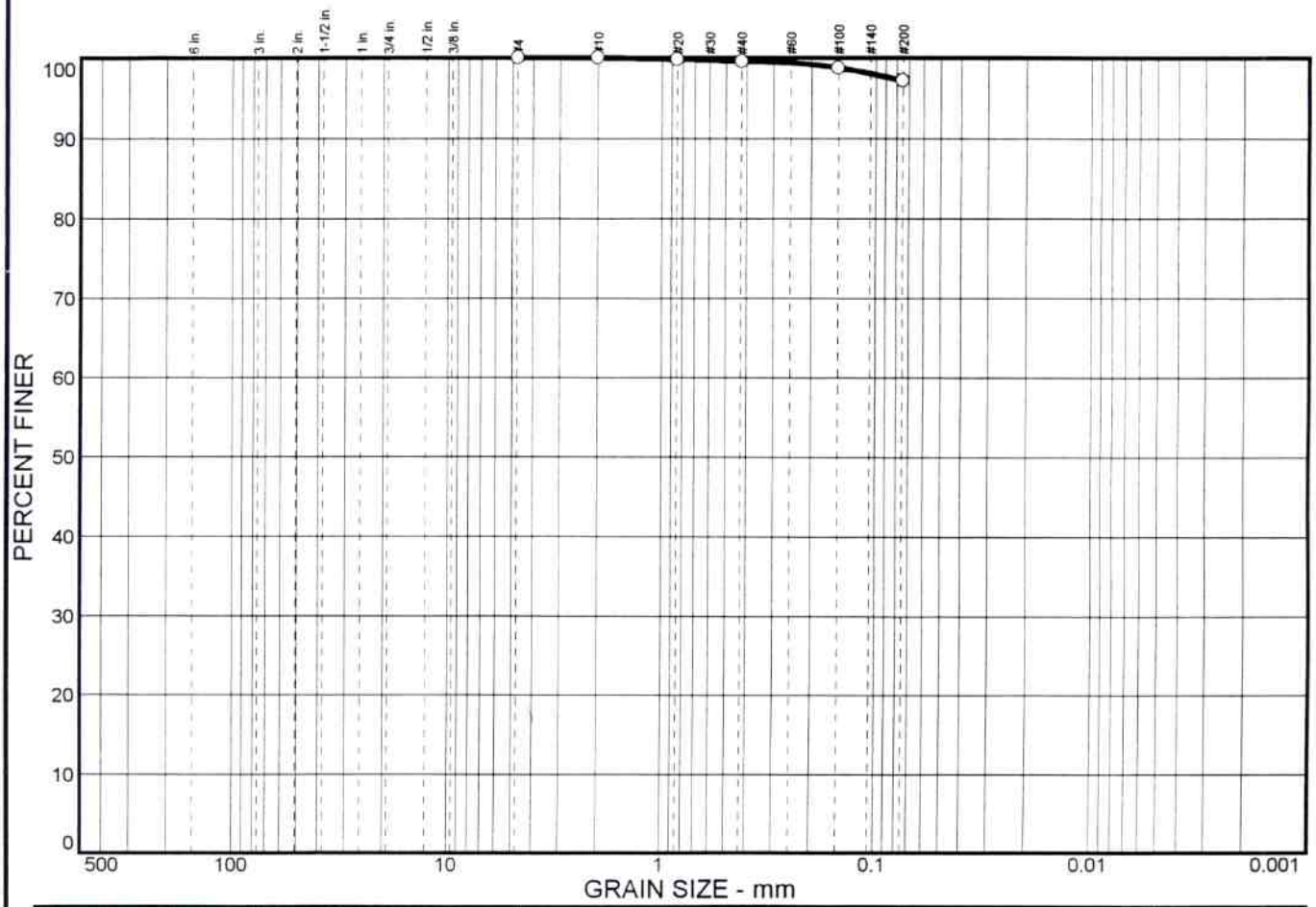


Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
336.41	CH	A-7-6	39.4 %		75.4	54.8	0 %	97.2 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 92.4 pcf Optimum moisture = 23.1 %	Clay, trace sand, yellowish brown.
Project No.: 2097-97 Project: Proteco Recra Closure Location: Penuelas P.R. Sampled 11/11/97 Date: November 13, 1997	Remarks: PROTECO N-67637.6247 E-406462.3964
MOISTURE-DENSITY RELATIONSHIP TEST **GEO CIM, INC.**	Fig. No. 1LP

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	2.8	97.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.8		
#40	99.6		
#100	98.8		
#200	97.2		

* (no specification provided)

Soil Description

Clay, trace sand, yellowish brown.

Atterberg Limits

PL= 20.6 LL= 75.4 PI= 54.8

Coefficients

D_{85}= D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(59)

Remarks

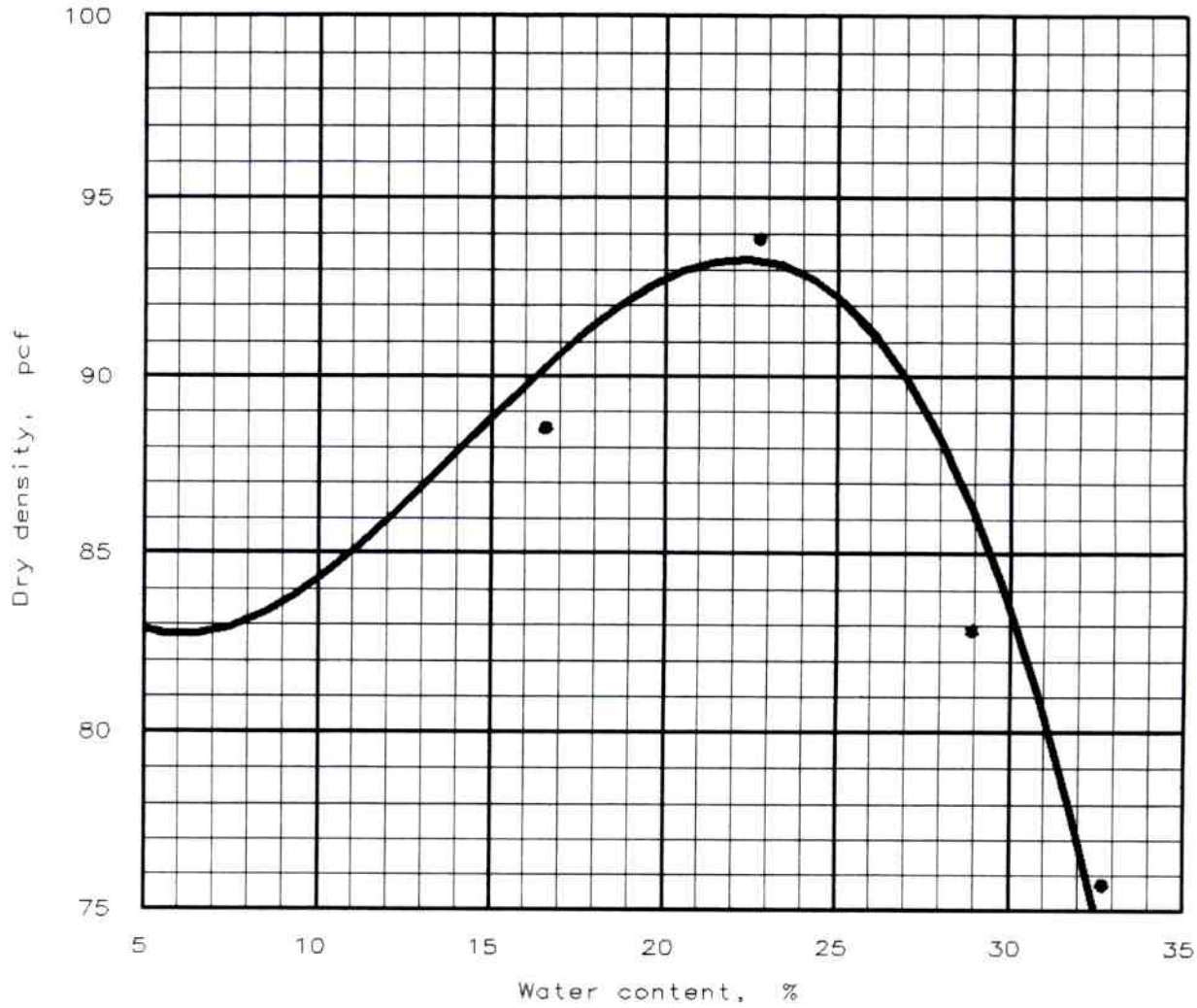
Max Dry Dens. 92.4 pcf @ 23.1% Opt. Moisture
Sampled 11/11/97

Sample No.: 1LP **Source of Sample:** Clay Borrow **Date:** 11/20/97
Location: N-67637.6247 E-406462.3964 **Elev./Depth:** 336.41

GEO CIM, INC.

Client: PROTECO c/o LAW ENVIRONMENTAL
Project: PROTECO RECRA Closure
Project No: 2097-97
R. Davila - GCI

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
4'	CH	A-7-6	23.8 %		56.0	32.4	0 %	98.0 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 93.3 pcf Optimum moisture = 22.3 %	Clay, trace sand, yellowish brown.

Project No.: 2097-97

Project: PROTECO RECRA Closure

Location: Penuelas, P.R.

Date: November 21, 1997

Remarks:

Proteco

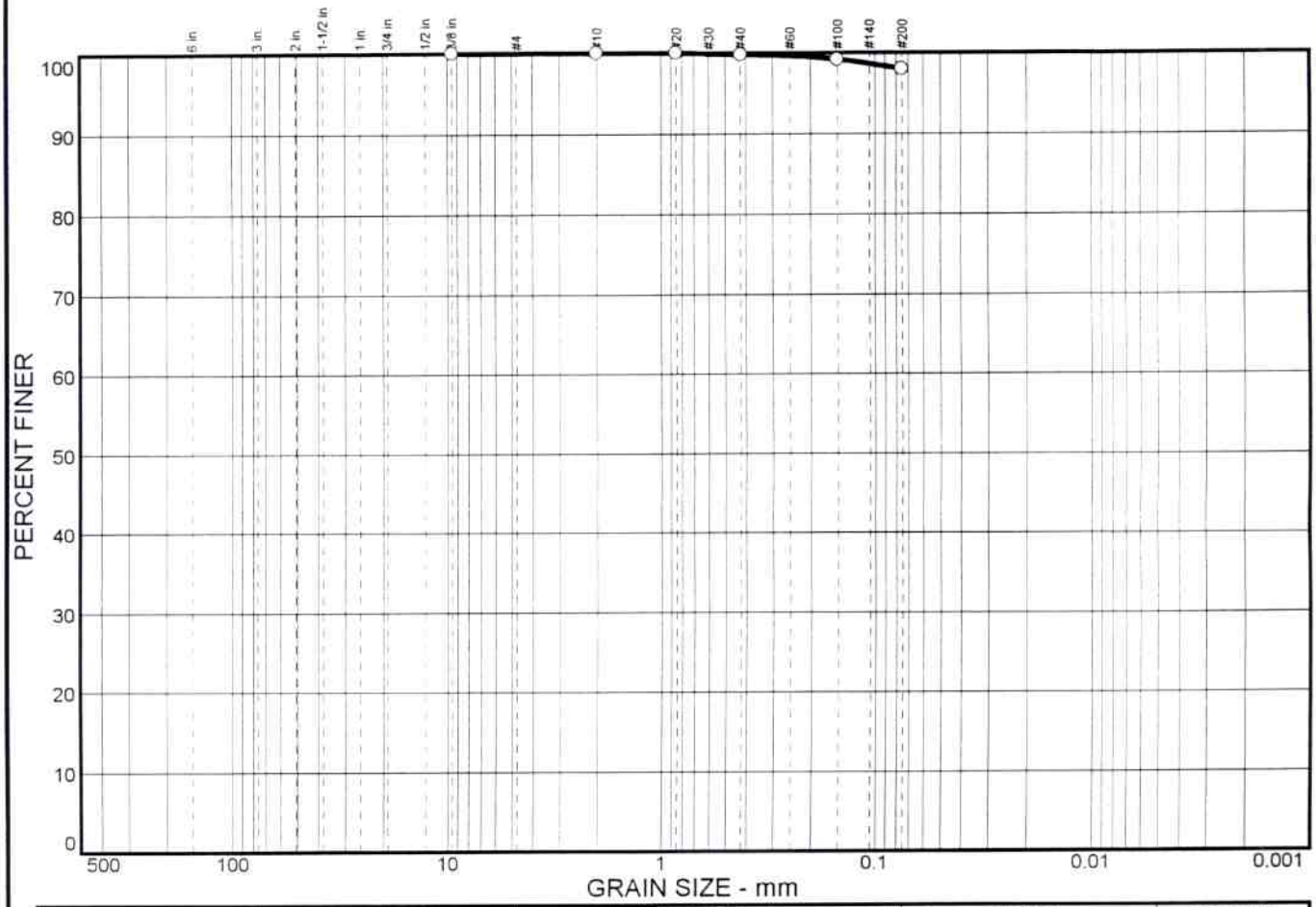
Sampled 11/20/97

MOISTURE-DENSITY RELATIONSHIP TEST

GEO CIM, INC.

Fig. No. 9LP

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	2.0	98.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#10	100.0		
#20	100.0		
#40	99.8		
#100	99.2		
#200	98.0		

* (no specification provided)

Soil Description

Clay, trace sand, yellowish brown.

Atterberg Limits

PL= 23.6 LL= 56.0 PI= 32.4

Coefficients

D_{85}= D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(36)

Remarks

Max Dry Dens 93.3 pcf @ 22.3% Opt. Moisture Sampled 11/20/97

Sample No.: 9LP **Source of Sample:** Clay Borrow **Date:** 11/25/97
Location: **Elev./Depth:** 4'

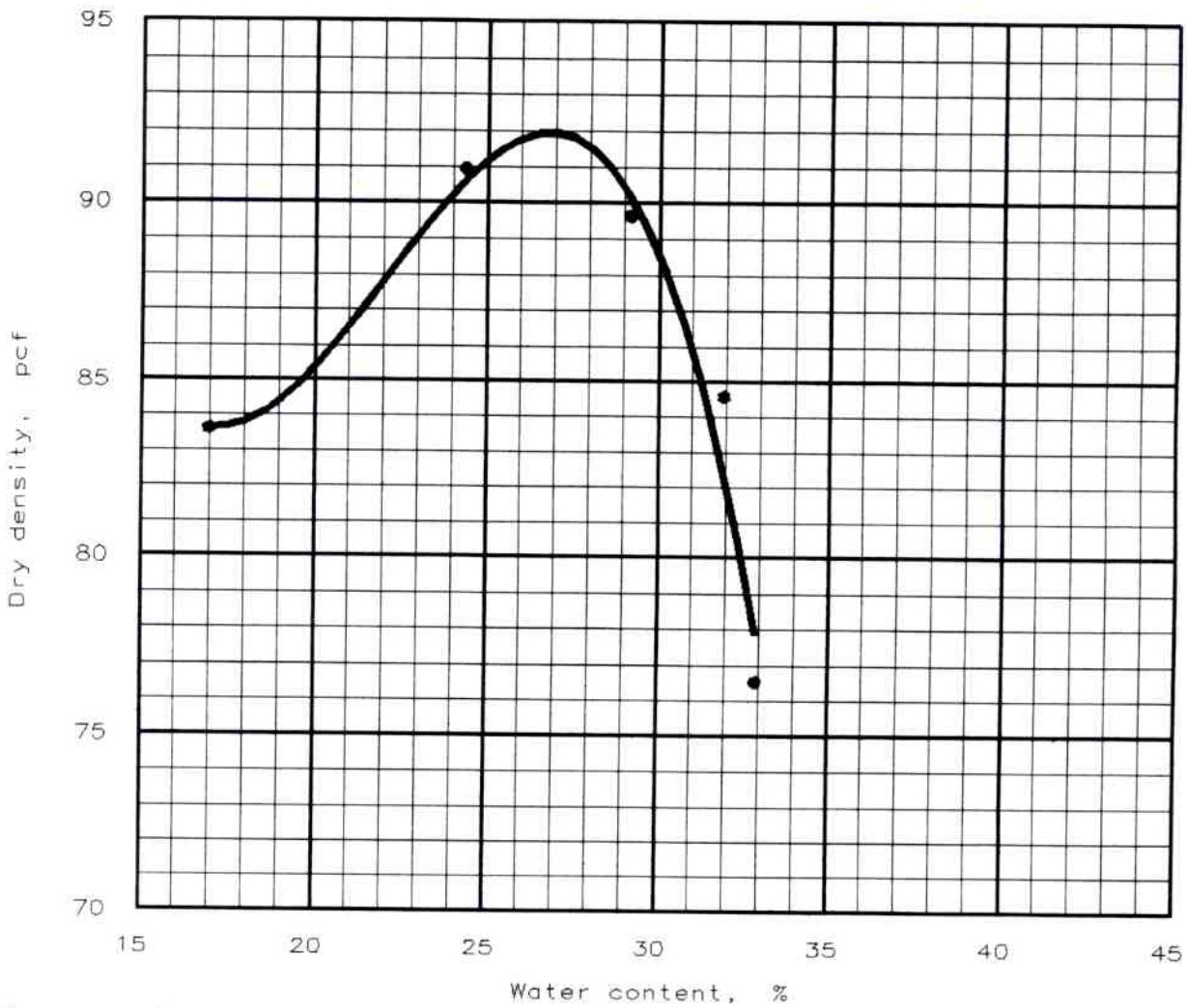
GEO CIM, INC.

Client: PROTECO c/o LAW ENVIRONMENTAL
Project: PROTECO RECRA Closure
Project No: 2097-97

R. Davila

R. Davila - GCI

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
336.41	CH	A-7-6	25.1 %		76.5	52.6	0.0 %	97.3 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 91.9 pcf Optimum moisture = 26.8 %	Clay, trace sand, yellow.

Project No.: 2097-97
Project: PROTECO RECRA Closure
Location: Penuelas P.R.
Sampled 11/12/97
Date: November 14, 1997

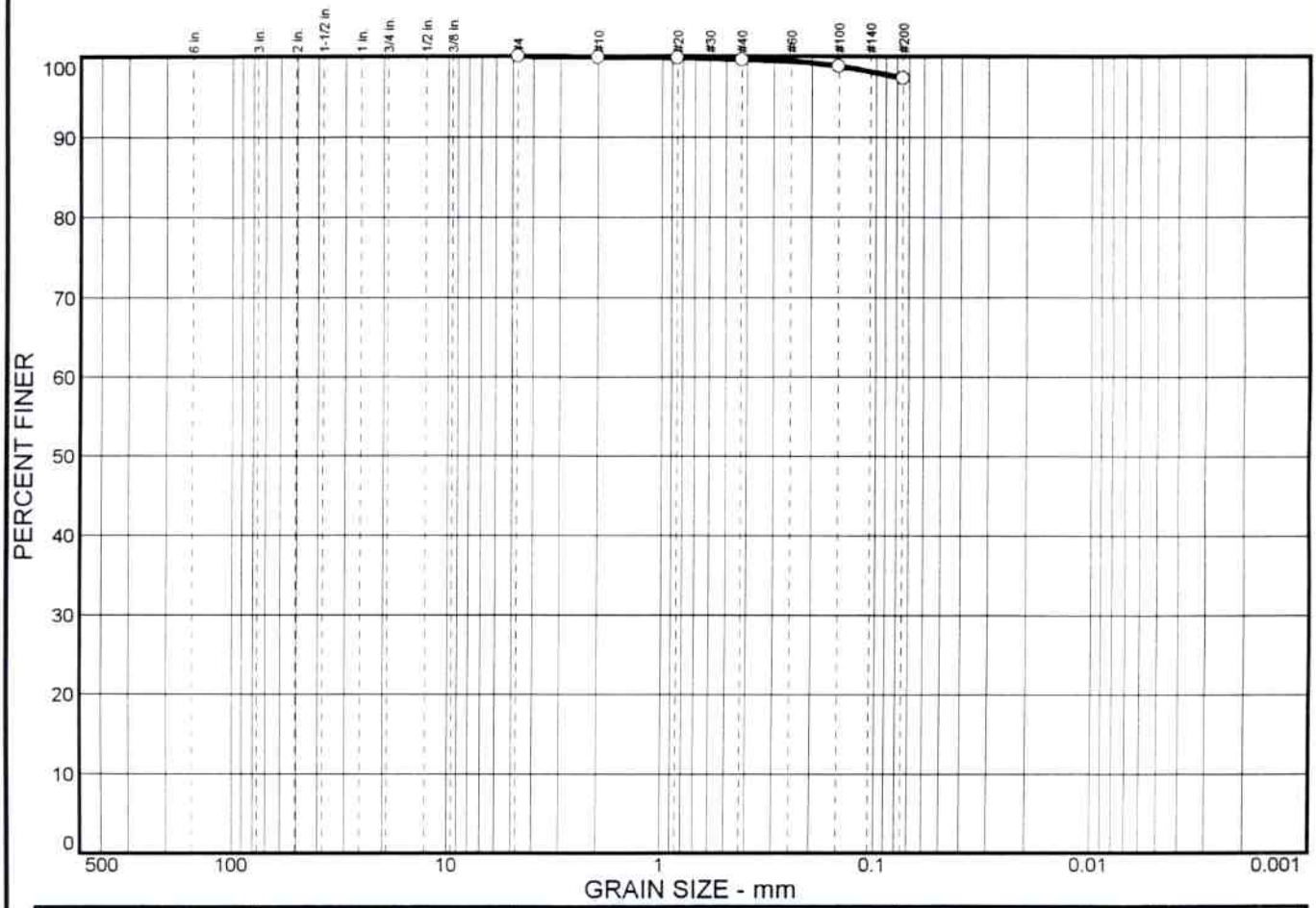
Remarks:
PROTECO
N-67637.6247
E-406462.3964

MOISTURE-DENSITY RELATIONSHIP TEST

GEO CIM, INC.

Fig. No. 2LP

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	2.7	97.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.8		
#40	99.6		
#100	98.8		
#200	97.3		

* (no specification provided)

Soil Description

Clay, trace sand, yellow.

Atterberg Limits

PL= 23.9 LL= 76.5 PI= 52.6

Coefficients

D_{85}= D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(58)

Remarks

Max Dry Dens. 91.9 pcf @ 26.8% Opt. Moisture
Sampled 11/12/97

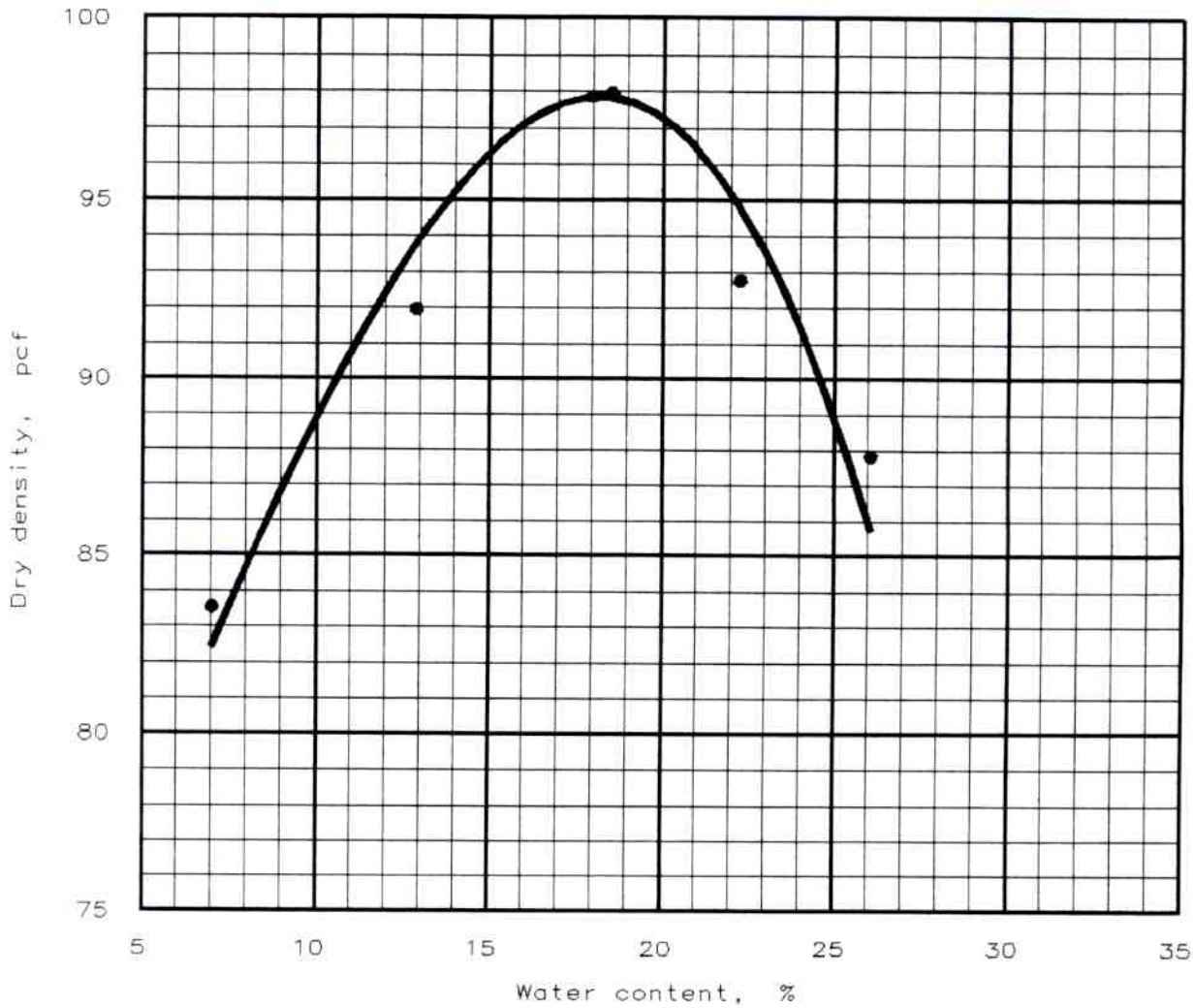
Sample No.: 2LP **Source of Sample:** Clay Borrow **Date:** 11/20/97
Location: N-67637.6247 E-406462.3964 **Elev./Depth:** 2'

GEO CIM, INC.

Client: PROTECO c/o LAW ENVIRONMENTAL
Project: PROTECO RECRA Closure
Project No: 2097-97

R. Davila - GCI

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
4'	CH	A-7-6	31.0 %		67.8	49.5	0.0 %	97.9 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 97.8 pcf Optimum moisture = 18.2 %	Clay, trace sand, olive brown.

Project No.: 2097-97
Project: PROTECO RECRA Closure
Location: Penuelas P.R.
Sampled 11/18/97
Date: November 20, 1997

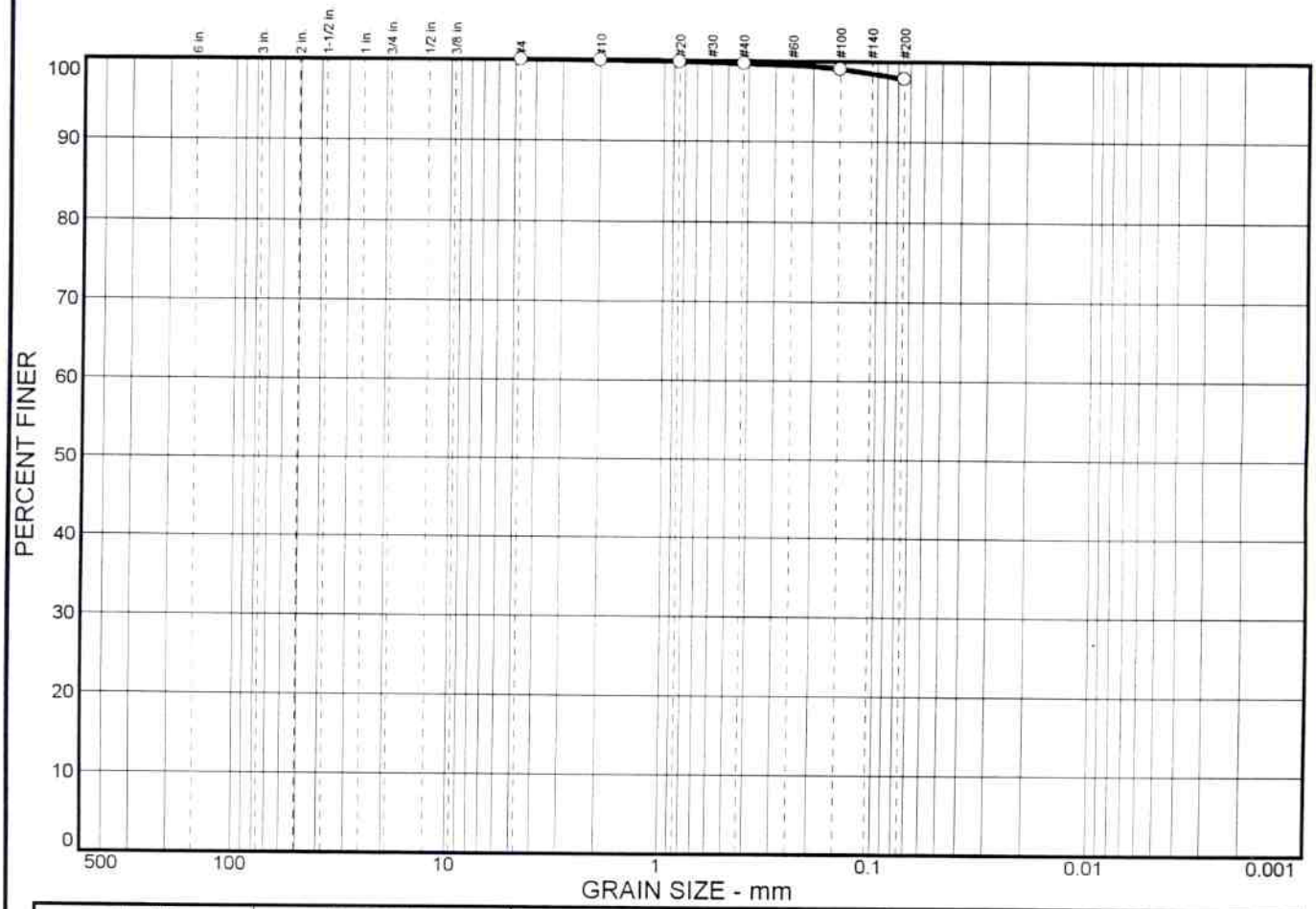
Remarks:
PROTECO

MOISTURE-DENSITY RELATIONSHIP TEST

GEO CIM, INC.

Fig. No. 5LP

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.0	2.1	97.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.9		
#40	99.7		
#100	99.1		
#200	97.9		

* (no specification provided)

Soil Description

Clay, trace sand, olive brown.

Atterberg Limits

PL= 18.3 LL= 67.8 PI= 49.5

Coefficients

D_{85}= D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(55)

Remarks

Max Dry Dens 97.8 pcf @ 18.2% Opt. Moisture

Sample No.: 5LP **Source of Sample:** Clay Borrow **Date:** 11/25/97
Location: **Elev./Depth:** 4'

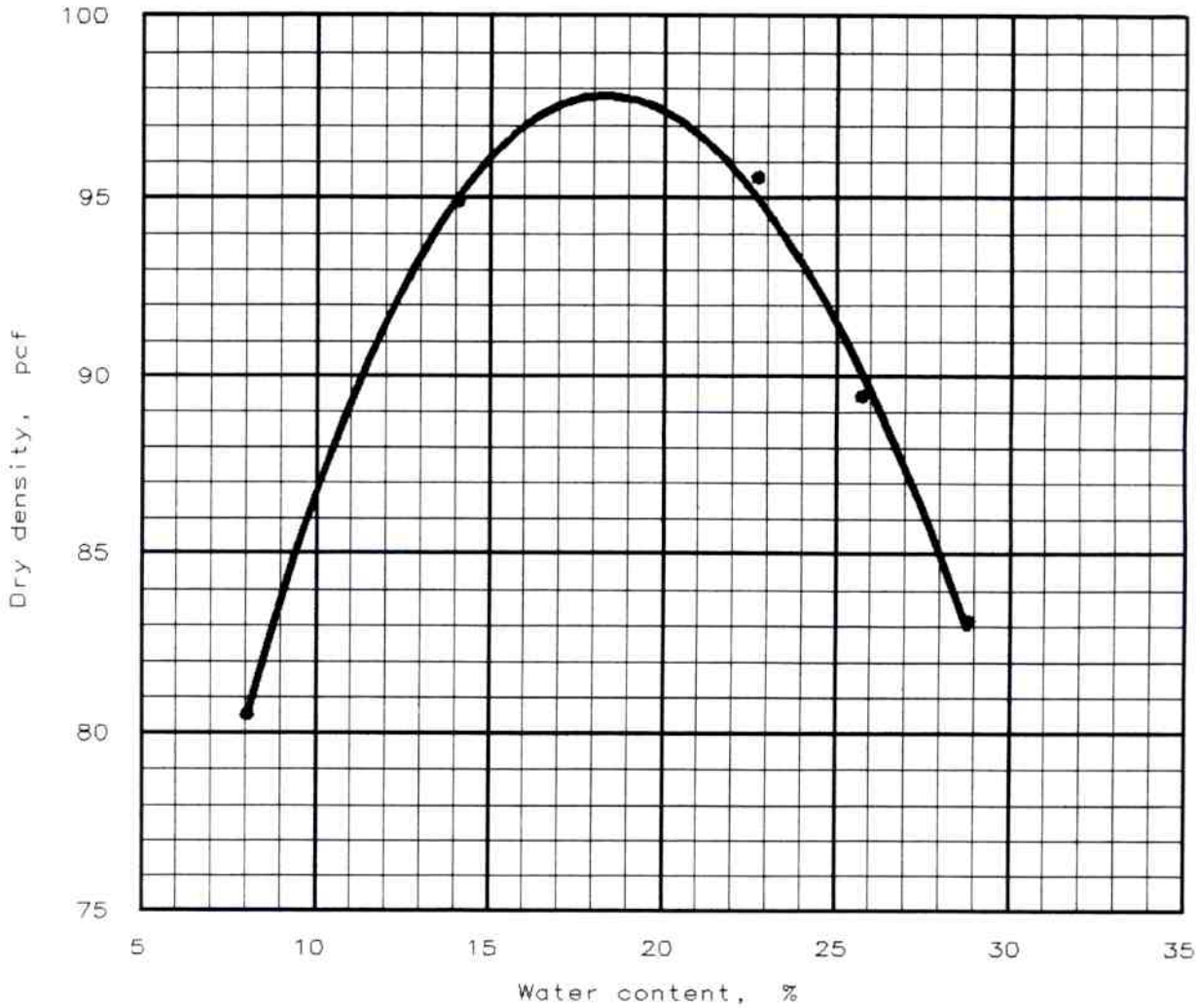
GEO CIM, INC.

Client: PROTECO c/o LAW ENVIRONMENTAL
Project: PROTECO RECRA Closure
Project No: 2097-97

R. Dávila

R. Davila - GCI

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
8'	CL	A-7-6	21.0 %		40.6	23.9	0.2 %	93.2 %

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 97.8 pcf Optimum moisture = 18.3 %	Clay, trace sand and gravel, yellow.

Project No.: 2097-97
Project: PROTECO RECRA Closure
Location: Penuelas P.R.
Sampled 11/18/97
Date: November 20, 1997

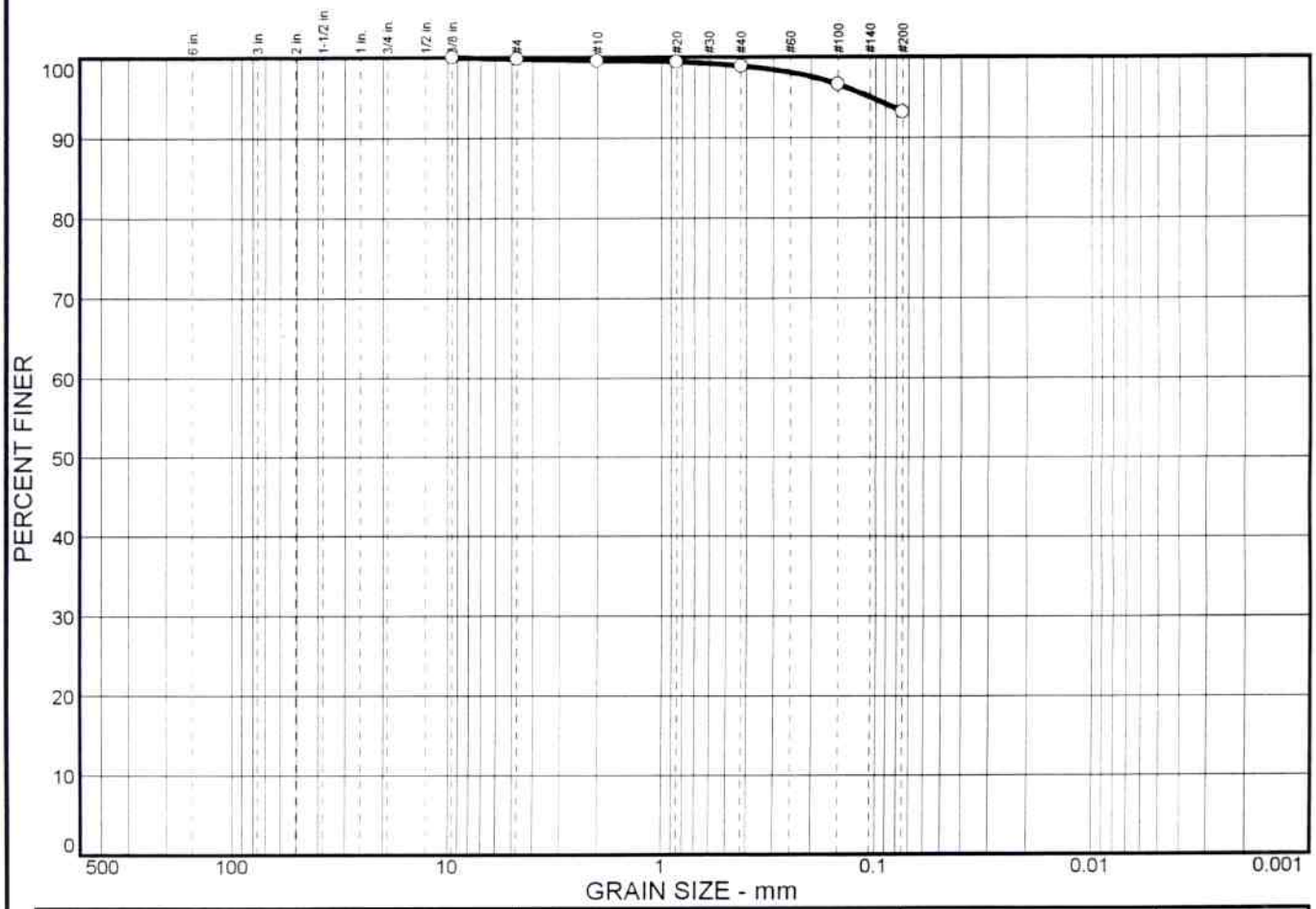
Remarks:
PROTECO

MOISTURE-DENSITY RELATIONSHIP TEST

GEO CIM, INC.

Fig. No. 6LP

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.2	6.6	93.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	99.8		
#10	99.6		
#20	99.4		
#40	98.9		
#100	96.6		
#200	93.2		

* (no specification provided)

Soil Description

Clay, trace sand and gravel, yellow.

Atterberg Limits

PL= 16.6 LL= 40.6 PI= 23.9

Coefficients

D_{85}= D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(23)

Remarks

Max Dry Dens 97.8 pcf @ 18.3% Opt. Moisture Sampled 11/18/97

Sample No.: 6LP **Source of Sample:** Clay Borrow **Date:** 11/25/97
Location: **Elev./Depth:** 8'

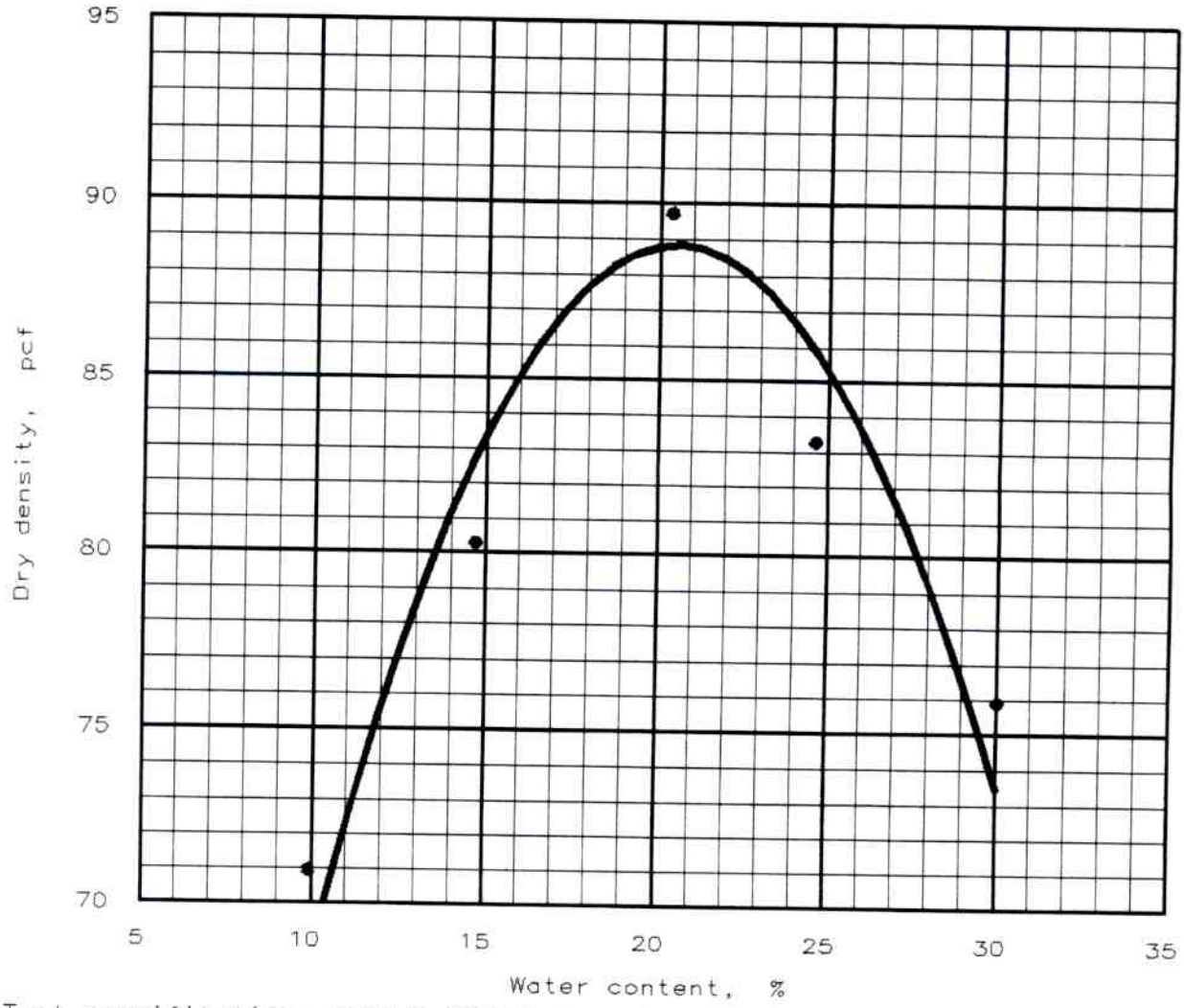
GEO CIM, INC.

Client: PROTECO c/o LAW ENVIRONMENTAL
Project: PROTECO RECRA Closure
Project No: 2097-97

R. Davila

R. Davila - GCI

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
N/A	CL	A-7-6	19.8 %		46.9	20.8		

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 88.8 pcf Optimum moisture = 20.5 %	Clay, some sand, trace gravel, yellowish brown.

Project No.: 2097-97
Project: PROTECO RECRA Closure
Location: Penuelas, P.R.

Date: December 26, 1997

Remarks:
Proteco

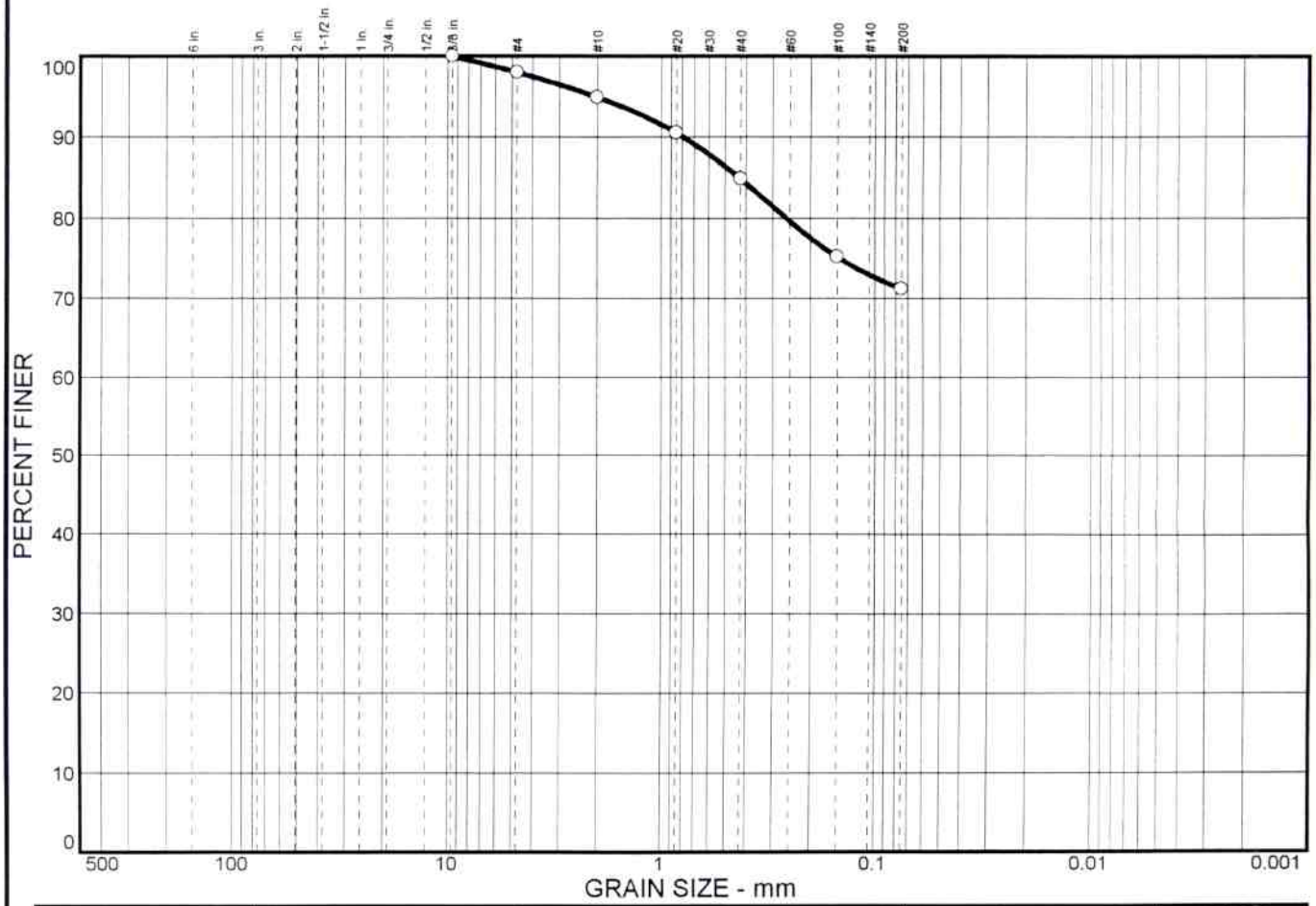
Source: Clay Borrow

MOISTURE-DENSITY RELATIONSHIP TEST

GEO CIM, INC.

Fig. No. 11

PARTICLE SIZE DISTRIBUTION TEST REPORT



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	2.0	26.8	71.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0		
#4	98.0		
#10	94.9		
#20	90.5		
#40	84.9		
#100	75.2		
#200	71.2		

* (no specification provided)

Soil Description

Clay, some sand, trace gravel, yellowish brown.

Atterberg Limits

PL= 26.1 LL= 46.9 PI= 20.8

Coefficients

D_{85}= 0.430 D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(15)

Remarks

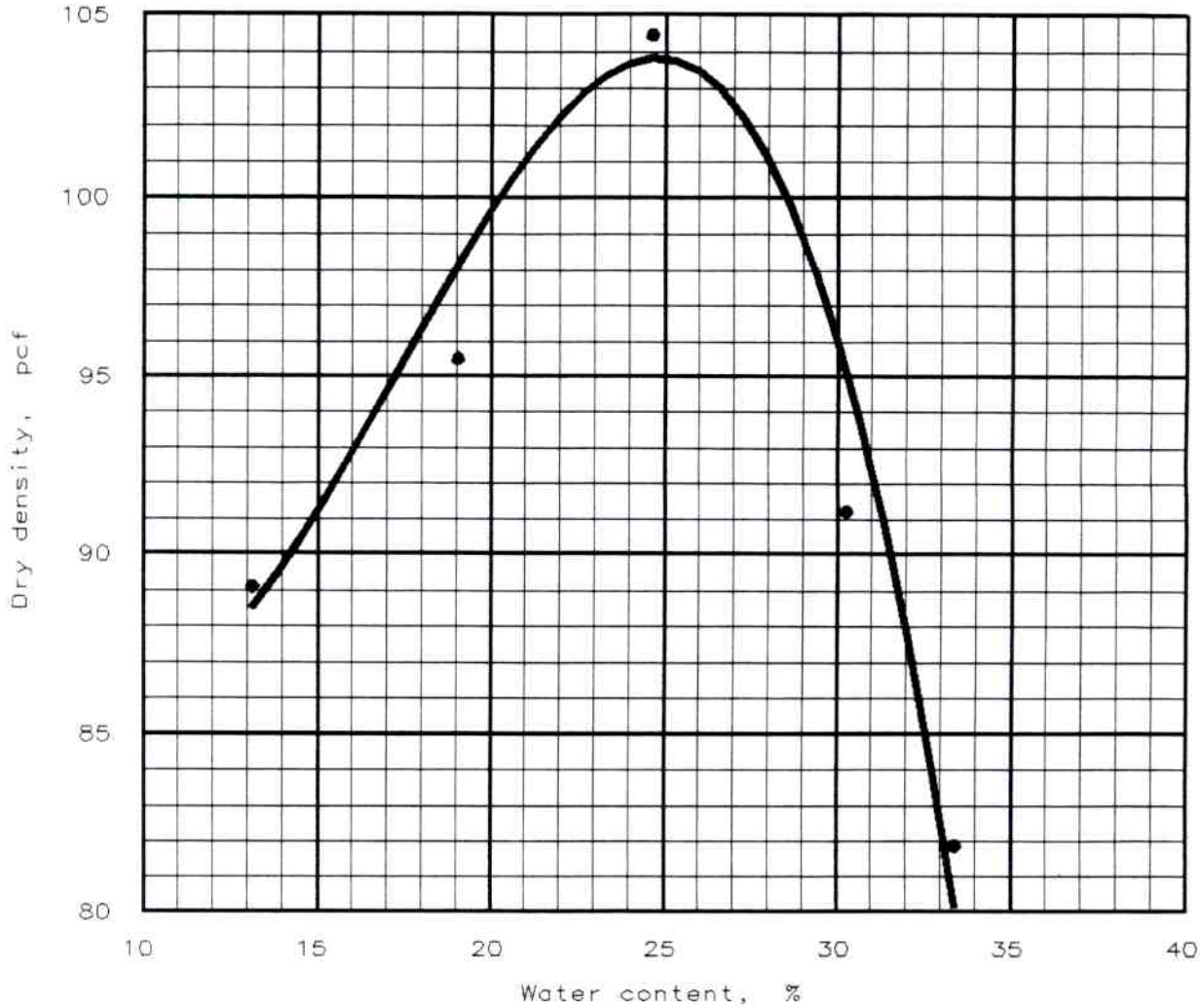
Max dry den 88.8 pcf @ 20.5% Opt moisture

Sample No.: 11LP **Source of Sample:** Clay Borrow **Date:** 12/26/97
Location: **Elev./Depth:**

GEO CIM, INC.

Client: PROTECO c/o LAW ENVIRONMENTAL
Project: PROTECO RECRA Closure
Project No: 2097-97 **R. Davila-GCI**

MOISTURE-DENSITY RELATIONSHIP TEST



Test specification: ASTM D 698-91 Procedure A, Standard

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

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 103.8 pcf Optimum moisture = 24.8 %	Silty clay, some sand & gravel, white

Project No.: 2097-97

Project: PROTECO RECRA Closure

Location: Penuelas, P.R.

Date: December 3, 1997

Remarks:

Proteco

Source: Juana Diaz Formation

MOISTURE-DENSITY RELATIONSHIP TEST

GEO CIM, INC.

Fig. No. 12

APPENDIX A.2

Field Density Test Results

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/11/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (9LP)		93.30	22.30	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
3A	UNIT 1 EAST SLOPE	4TH LIFT	90.30	26.80	96.78		

REPORT NO. 003

SUBMITTED BY: R. Davila
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES

FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/10/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (9LP)		93.30	22.30	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
4A	UNIT 1 SOUTH SIDE	5TH LIFT	91.90	25.00	98.50		

REPORT NO. 005

SUBMITTED BY: R. Daila
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/12/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-2922-81
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, TRACE SAND, YELLOWISH BROWN (8LP)	A-2-4	91.70	25.20	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
A	UNIT NO. 1 UPPER SIDE	7TH LIFT	87.24	23.29	95.14		TRANS. 6"
B	UNIT NO. 1 UPPER SIDE	7TH LIFT	87.65	22.31	95.58		TRANS. 6"
C	UNIT NO. 1 UPPER SIDE	7TH LIFT	89.87	23.55	98.00		TRANS. 6"
D	UNIT NO. 1 LOWER SIDE	8TH LIFT	88.62	25.20	96.64		TRANS. 6"
E	UNIT NO. 1 LOWER SIDE	8TH LIFT	87.65	22.79	95.58		TRANS. 6"
F	UNIT NO. 1 UPPER SIDE	8TH LIFT	87.43	24.01	95.34		TRANS. 6"
G	UNIT NO. 1 UPPER SIDE	8TH LIFT	87.59	23.13	95.52		TRANS. 6"
H	UNIT NO. 1 LOWER SIDE	9TH LIFT	87.68	22..30	95.62		TRANS. 6"
I	UNIT NO. 1 LOWER SIDE	9TH LIFT	88.86	25.71	96.90		TRANS. 6"

REPORT NO. 007

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES

FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/12/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (8LP)		91.70	25.20	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
6A	UNIT NO. 1 UPPER SIDE - B	7TH LIFT	89.10	22.90	97.16		

REPORT NO. 008

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES

FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/15/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (8LP)		92.40	23.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
7A	UNIT NO. 5 NORTH SIDE - B	4TH LIFT	89.40	22.70	96.75		

REPORT NO. 010

SUBMITTED BY: R. Daila
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/15/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-2922-81
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, TRACE SAND, YELLOWISH BROWN (1LP)		92.40	23.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
A	UNIT NO. 5 NORTH SIDE	4TH LIFT	89.71	21.43	97.09		
B	UNIT NO. 5 NORTH SIDE	4TH LIFT	87.86	22.91	95.09		

REPORT NO. 009

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/5/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-2922-81
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, TRACE SAND, YELLOWISH BROWN (9LP)		93.30	22.30	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
A	UNIT NO. 5 WEST SIDE	1ST LIFT	90.65	16.86	97.16		TRANS. 6"
B	UNIT NO. 5 EAST SIDE	1ST LIFT	88.39	13.06	94.74		TRANS. 6"

REPORT NO. 006

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

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2097-006.XLS

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES

FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/11/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (7LP)		91.00	22.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
4A	UNIT NO. 5 SOUTH SIDE	3RD LIFT	95.30	24.30	104.73		

REPORT NO. 005

SUBMITTED BY: R. Davila
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/11/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (9LP)		93.30	22.30	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
1A	UNIT NO. 5 WEST SIDE	1ST LIFT	93.60	18.30	100.32		

REPORT NO. 001

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES

FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/11/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (9LP)		93.30	22.30	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
2A	UNIT NO. 5 WEST SIDE	1ST LIFT	88.40	25.20	94.75		

REPORT NO. 002

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES

FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/18/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (7LP)		91.00	22.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
			90.70	24.20	99.67		

REPORT NO. 016

SUBMITTED BY: R. Dávila
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/16/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-2922-81
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, TRACE SAND, YELLOWISH BROWN (8LP)		92.40	23.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
A	UNIT NO. 1 EAST SIDE	10TH LIFT	87.33	23.49	94.51		TRANS. 6"
B	UNIT NO. 1 WEST SIDE	10TH LIFT	88.17	23.99	95.42		TRANS. 6"
C	UNIT NO. 2 & 3 NORTH SIDE	1ST LIFT	89.39	23.70	96.74		TRANS. 6"
D	UNIT NO. 2 & 3 SOUTH SIDE	1ST LIFT	85.70	25.68	92.75		TRANS. 6"
E	UNIT NO. 2 & 3 SOUTH SIDE (RETEST)	1ST LIFT	87.24	25.20	94.42		TRANS. 6"

REPORT NO. 011

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

PO BOX 10872 SAN JUAN PR 00922-0872 * TEL. (787) 792-2626

2097-011.XLS

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/17/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-2922-81
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, TRACE SAND, YELLOWISH BROWN (1LP)		92.40	23.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
A	UNIT NO. 1 WEST SIDE	11TH LIFT	89.33	24.15	96.68		TRANS. 6"
B	UNIT NO. 1 EAST SIDE	11TH LIFT	88.61	21.40	95.90		TRANS. 6"
C	UNIT NO. 2 & 3 NORTH SIDE	2ND LIFT	88.38	23.28	95.65		TRANS. 6"
D	UNIT NO. 2 & 3 SOUTH SIDE	2ND LIFT	90.71	25.33	98.17		TRANS. 6"

REPORT NO. 013

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

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2097-013.XLS

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN : 12/18/97
JOB NO. : 2097-97
PROJECT : RECRA CLOSURE
LOCATION : PENUELAS, PR
TEST METHOD : ASTM-D-2922-81
TECHNICIAN : JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, TRACE SAND, YELLOWISH BROWN (7LP)		91.00	22.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
A	UNIT NO. 1	12TH LIFT	89.00	20.13	97.80		TRANS. 6"
B	UNIT NO. 1	12TH LIFT	88.98	24.20	97.78		TRANS. 6"
C	UNIT NO. 2 & 3	3RD LIFT	89.40	20.86	98.24		TRANS. 6"
D	UNIT NO. 2 & 3	3RD LIFT	88.69	21.35	97.46		TRANS. 6"
E	UNIT NO. 2 & 3	3RD LIFT	87.55	22.68	96.21		TRANS. 6"

REPORT NO. 015

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/19/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-2922-81
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, TRACE SAND, YELLOWISH BROWN (7LP)		91.00	22.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
A	UNIT NO. 1	13TH LIFT	87.32	19.74	95.96		TRANS. 6"
B	UNIT NO. 1	13TH LIFT	88.57	21.49	97.33		TRANS. 6"
C	UNIT NO. 2 & 3	4TH LIFT	88.79	21.77	97.57		TRANS. 6"
D	UNIT NO. 2 & 3	4TH LIFT	87.62	21.05	96.29		TRANS. 6"

REPORT NO. 017

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN : 1/9/98
JOB NO. : 2097-97
PROJECT : RECRA CLOSURE
LOCATION : PENUELAS, PR
TEST METHOD : ASTM-D-2922-81
TECHNICIAN : JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, TRACE SAND, YELLOWISH BROWN (8LP)	A-2-4	91.70	25.20	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
1	UNIT NO. 1	14TH LIFT	88.73	26.83	96.76		TRANS. 6"
2	UNIT NO. 1	14TH LIFT	95.48	22.33	104.12		TRANS. 6"
3	UNIT NO. 1	14TH LIFT	88.63	26.08	96.65		TRANS. 6"
4	UNIT NO. 2 & 3	4TH LIFT	87.55	24.64	95.47		TRANS. 6"
5	UNIT NO. 2 & 3	4TH LIFT	90.34	25.58	98.52		TRANS. 6"
6	UNIT NO. 2 & 3	4TH LIFT	90.03	25.03	98.18		TRANS. 6"

REPORT NO. 019

SUBMITTED BY: R. Dávila
ROLANDO DAVILA
LABORATORY MANAGER

PO BOX 10872 SAN JUAN PR 00922-0872 * TEL. (787) 792-2626

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN : 1/12/98
JOB NO. : 2097-97
PROJECT : RECRA CLOSURE
LOCATION : PENUELAS, PR
TEST METHOD : ASTM-D-2922-81
TECHNICIAN : JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, TRACE SAND, YELLOWISH BROWN (10LP)	A-2-4	91.70	25.20	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
7	UNIT NO. 1	15TH LIFT	90.56	26.51	98.76		TRANS. 6"
8	UNIT NO. 1	15TH LIFT	88.69	25.41	96.72		TRANS. 6"
9	UNIT NO. 1	15TH LIFT	89.50	25.85	97.60		TRANS. 6"
10	UNIT NO. 2 & 3	5TH LIFT	93.53	22.82	102.00		TRANS. 6"
11	UNIT NO. 2 & 3	5TH LIFT	92.17	20.58	100.51		TRANS. 6"
12	UNIT NO. 1	5TH LIFT	93.17	21.90	101.60		TRANS. 6"
13	UNIT NO. 1	16TH LIFT	91.60	20.86	99.89		TRANS. 6"
14	UNIT NO. 1	16TH LIFT	92.46	21.60	100.83		TRANS. 6"

REPORT NO. 021

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN : 1/13/98
JOB NO. : 2097-97
PROJECT : RECRA CLOSURE
LOCATION : PENUELAS, PR
TEST METHOD : ASTM-D-2922-81
TECHNICIAN : JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, TRACE SAND, YELLOWISH BROWN (7LP)	A-2-4	91.70	25.20	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
15	UNIT NO. 1	17TH LIFT	89.49	23.49	97.59		TRANS. 6"
16	UNIT NO. 1	17TH LIFT	89.98	21.00	98.12		TRANS. 6"
17	UNIT NO. 2 & 3	7TH LIFT	91.49	19.26	99.77		TRANS. 6"
18	UNIT NO. 2 & 3	7TH LIFT	85.44	23.30	93.17		TRANS. 6"
18R	UNIT NO. 2 & 3	7TH LIFT	89.76	24.84	97.88		TRANS. 6"

REPORT NO. 023

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	1/23/98
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-2922-81
TECHNICIAN	:	D. DIAZ

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOW		104.30	16.90	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
32	UNIT NO. 2 & 3 NORTH SIDE SLOPE	9TH LIFT	98.55	13.97	94.49		TRANS. 6"
33	UNIT NO. 2 & 3 NORTH SIDE SLOPE	9TH LIFT	97.43	14.02	93.41		TRANS. 6"
34	UNIT NO. 2 & 3 NORTH SIDE SLOPE	9TH LIFT	97.93	13.14	93.89		TRANS. 6"

REPORT NO. 030

SUBMITTED BY:
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LABORATORY MANAGER

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2097-030.XLS

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	1/21/98
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-2922-81
TECHNICIAN	:	D. DIAZ

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOW		96.80	21.00	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
29	UNIT NO. 2 & 3 SLOPE	9TH LIFT	99.90	17.49	103.20		TRANS. 6"
30	UNIT NO. 2 & 3 SLOPE	9TH LIFT	100.74	18.35	104.07		TRANS. 6"
31	UNIT NO. 2 & 3 SLOPE	9TH LIFT	98.74	19.73	102.00		TRANS. 6"

REPORT NO. 029

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	1/16/98
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-2922-81
TECHNICIAN	:	D. DIAZ

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOW		96.80	21.00	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
24	UNIT NO. 2 & 3 SLOPE	9TH LIFT	97.32	20.45	100.54		TRANS. 6"
25	UNIT NO. 2 & 3 SLOPE	9TH LIFT	96.54	19.50	99.73		TRANS. 6"
26	UNIT NO. 2 & 3 SLOPE	9TH LIFT	98.65	21.08	101.91		TRANS. 6"
27	UNIT NO. 2 & 3 SLOPE	9TH LIFT	102.86	19.91	106.26		TRANS. 6"
28	UNIT NO. 2 & 3 SLOPE	9TH LIFT	97.86	18.94	101.10		TRANS. 6"

REPORT NO. 028

SUBMITTED BY: R. Davila
ROLANDO DAVILA
LABORATORY MANAGER

PO BOX 10872 SAN JUAN PR 00922-0872 * TEL. (787) 792-2626

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN : 1/15/98
JOB NO. : 2097-97
PROJECT : RECRA CLOSURE
LOCATION : PENUELAS, PR
TEST METHOD : ASTM-D-2922-81
TECHNICIAN : JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, TRACE SAND, YELLOWISH BROWN (3LP)		91.00	22.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
22	UNIT NO. 2 & 3 SLOPE	9TH LIFT	88.18	21.95	96.90		TRANS. 6"
23	UNIT NO. 2 & 3 SLOPE	9TH LIFT	87.86	20.27	96.55		TRANS. 6"

REPORT NO. 027

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES

FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	1/23/98
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	D. DIAZ

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, SOME SAND, YELLOW		94.30	16.90	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
	UNIT NO. 2 & 3 TEST NO. 33	9TH LIFT	94.80	16.09	100.53		

REPORT NO. 026

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST REPORT

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN : 1/14/98
JOB NO. : 2097-97
PROJECT : RECRA CLOSURE
LOCATION : PENUELAS, PR
TEST METHOD : ASTM-D-2922-81
TECHNICIAN : JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, TRACE SAND, YELLOWISH BROWN (3LP)		96.80	21.00	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
19	UNIT NO. 2 & 3 SLOPE	8TH LIFT	93.03	20.37	96.11		TRANS. 6"
20	UNIT NO. 2 & 3 SLOPE	8TH LIFT	93.51	21.78	96.60		TRANS. 6"
21	UNIT NO. 2 & 3 SLOPE	8TH LIFT	92.05	24.40	95.09		TRANS. 6"
21R	UNIT NO. 2 & 3 SLOPE	8TH LIFT	92.19	22.30	95.24		TRANS. 6"

REPORT NO. 025

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

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2097-025.XLS

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES

FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	1/15/98
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY, SOME SAND, YELLOWISH BROWN (7LP)		91.00	22.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
4SC	UNIT NO. 2 & 3 TEST NO. 22	9TH LIFT	90.40	24.40	99.34		

REPORT NO. 024

SUBMITTED BY:
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2097-024.XLS

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	1/13/98
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (7LP)		91.00	22.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
3SC	UNIT NO. 2 & 3 TEST NO. 16	17TH LIFT	89.90	22.50	98.79		

REPORT NO. 022

SUBMITTED BY: R. Dávila
ROLANDO DAVILA
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PO BOX 10872 SAN JUAN PR 00922-0872 * TEL. (787) 792-2626

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES

FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	1/12/98
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (10LP)		94.80	20.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
2SC	UNIT NO. 2 & 3 TEST NO. 11	6TH LIFT	94.00	21.00	99.16		

REPORT NO. 020

SUBMITTED BY: R. Davila
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	1/9/98
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (8LP)		91.70	25.20	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
1SC	UNIT NO. 2 & 3 TEST NO. 5	5TH LIFT	88.20	26.48	96.18		

REPORT NO. 018

SUBMITTED BY: R. Dávila
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES

FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN : 12/17/97
JOB NO. : 2097-97
PROJECT : RECRA CLOSURE
LOCATION : PENUELAS, PR
TEST METHOD : ASTM-D-1556
TECHNICIAN : JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (1LP)		92.40	23.10	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
9A	UNIT NO. 2 & 3 SOUTH SIDE	2ND LIFT	95.70	25.70	103.57		

REPORT NO. 014

SUBMITTED BY:
ROLANDO DAVILA
LABORATORY MANAGER

GEO CIM, INC.

GEOTECHNICAL TESTING SERVICES
FIELD DENSITY TEST - SAND CONE METHOD

PROTECO
C/O LAW ENVIRONMENTAL
PO BOX 850
PEÑUELAS, PR 00624

DATE TEST TAKEN	:	12/16/97
JOB NO.	:	2097-97
PROJECT	:	RECRA CLOSURE
LOCATION	:	PENUELAS, PR
TEST METHOD	:	ASTM-D-1556
TECHNICIAN	:	JOE COTTO

SOIL DESCRIPTION:	CLASSIFI-CATION	MAXIMUM DRY DENSTIY (PCF)	OPTIMUM MOISTURE %	ASTM:
CLAY TRACE SAND, YELLOWISH BROWN (8LP)		91.70	25.20	

TEST NO.	LOCATION	ELEVA-TION	DRY DENSITY (PCF)	MOISTURE CONTENT PERCENT	PERCENT COMPACTION	SOIL TYPE	REMARKS
8A	UNIT NO. 2 & 3 NORTH SIDE	1ST LIFT	89.70	23.30	97.82		

REPORT NO. 012

SUBMITTED BY: R. Dávila
ROLANDO DAVILA
LABORATORY MANAGER

LAW ENVIRONMENTAL / CARIBE

1225 POUNCE de LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: PROTECO

JOB NO.: 12000-7-0221

PROJECT: PROTECO
PENUELAS, PUERTO RICO

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 02/11/98			
1	22.8	93.8	4	96	95	3	2"
2	21.8	94.8	4	97	95	3	2"
3	19.7	95.7	4	98	95	3	BS
4	27.8	90.7	4	92 <<	95	3	BS

TEST LOCATIONS:

1 South end of Unit 17.
2 South end of Unit 17.
3 North end of Unit 17.
4 North end of Unit 17.

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
4	98.1	20.4

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

<< Denotes Less than Specified Compaction

RESPECTFULLY SUBMITTED:

Jeffery D. Engels CET.

LAW ENVIRONMENTAL / CARIBE

1225 POUNCE de LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: PROTECO

JOB NO.: 12000-7-0221

PROJECT: PROTECO
PENUELAS, PUERTO RICO

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 02/18/98			
13	16.1	94.6	4	96	95	3	328.9
13	20.0	97.0	4	99	95	3	328.9
14	15.8	95.6	4	97	95	3	328.9
14	20.4	96.3	4	98	95	3	328.9
15	20.4	96.2	4	98	95	3	328.9
16	24.6	97.7	4	100	95	3	328.9

TEST LOCATIONS:

13	UNIT NO.17-STRUCTURAL FILL 2nd LIFT
13	UNIT NO.17 STRUCTURAL FILL 2nd LIFT-RETEST
14	UNIT NO.17 STRUCTURAL FILL 2nd LIFT
14	UNIT NO.17 STRUCTURAL FILL 2nd LIFT-RETEST
15	UNIT NO.17-STRUCTURAL FILL 2nd LIFT
16	UNIT NO.17-STRUCTURAL FILL 2nd LIFT

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
4	98.1	20.4

REMARKS:
Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 POUNCE de LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: PROTECO

JOB NO.: 12000-7-0221

PROJECT: PROTECO
PENUELAS, PUERTO RICO

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 02/19/98			
17	22.2	96.8	2	103	95	3	329.2
18	24.1	94.5	2	101	95	3	329.1
19	22.3	97.5	2	104	95	3	329.2
20	23.5	95.9	2	102	95	3	329.2
21	24.0	93.5	2	100	95	3	329.2

TEST LOCATIONS:

17	UNIT NO.17 3rd.LIFT
18	UNIT NO.17 3rd LIFT
19	UNIT NO.17 3rd LIFT
20	UNIT NO.17 3rd LIFT
21	UNIT NO.17 3rd LIFT

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
2	93.7	23.4

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 POUNCE de LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: PROTECO

JOB NO.: 12000-7-0221

PROJECT: PROTECO
PENUELAS, PUERTO RICO

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 02/20/98			
22	18.6	95.7	5	99	95	3	329.5
23	18.4	98.2	5	102	95	3	329.5
24	18.6	95.6	5	99	95	3	329.5
25	19.7	92.8	5	96	95	3	329.5
26	22.6	95.9	5	99	95	3	329.8
27	23.6	95.6	5	99	95	3	329.9
28	24.0	97.2	5	101	95	3	329.8
29	22.9	96.3	5	100	95	3	329.8

TEST LOCATIONS:

22	UNIT NO.17 SOUTH END
23	UNIT NO.17 WEST END
24	UNIT NO.17 CENTER
25	UNIT NO.17 EAST END
26	UNIT NO.17 NORTH END
27	UNIT NO.17 WEST END
28	UNIT NO.17 EAST END
29	UNIT NO.17 CENTER

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
5	96.4	21.3

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 POUNCE de LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: PROTECO

JOB NO.: 12000-7-0221

PROJECT: PROTECO
PENUELAS, PUERTO RICO

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 02/24/98			
30	22.8	95.9	4	98	95	3	330.1
31	22.0	94.6	4	96	95	3	330.1
32	20.3	95.4	4	97	95	3	330.1
33	22.4	93.5	4	95	95	3	330.1
34	19.8	97.2	4	99	95	3	F.G.
35	22.4	94.9	4	97	95	3	F.G.
36	23.1	95.7	4	98	95	3	F.G.
37	19.6	95.6	4	97	95	3	F.G.

TEST LOCATIONS:

30	UNIT NO.17 SOUTH END
31	UNIT NO.17 WEST END
32	UNIT NO.17 NORTH END
33	UNIT NO.17 CENTER
34	UNIT NO.17 WEST END
35	UNIT NO.17 EAST END
36	UNIT NO.17 SOUTH END
37	UNIT NO.17 CENTER

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
4	98.1	20.4

REMARKS: Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO: 2000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests Performed on 03/16/98					
38	21.5	99.1	6	102		3	4"
39	21.5	96.5	6	100		3	4"
40	22.7	93.7	6	97		3	4"
41	21.4	98.5	6	102		3	4"
42	21.1	94.9	6	98		3	4"
43	21.2	94.6	6	98		3	4"
44	19.9	96.9	6	100		3	4"
45	20.3	100.7	6	104		3	4"
46	18.6	99.8	6	103		3	4"

TEST LOCATIONS:

38	RETENTION POND-SOUTH BERM-ELEV.238'.0
39	RETENTION POND-SOUTH BERM-ELEV.238'.0
40	RETENTION POND-SOUTH BERM-ELEV.238'.0
41	RETENTION POND-SOUTH BERM-ELEV.238'.0
42	RETENTION POND-SOUTH BERM-ELEV.239'.0
43	RETENTION POND-SOUTH BERM-ELEV.239'.0
44	RETENTION POND-SOUTH BERM-ELEV.240'.0
45	RETENTION POND-SOUTH BERM-ELEV.240'.0
46	RETENTION POND-SOUTH BERM-240'.0

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
6	96.7	20.8

REMARKS: Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests Performed on 03/18/98					
47	20.0	94.2	5	97		3	4"
48	20.4	95.5	5	99		3	4"
49	21.9	99.7	5	103		3	4"
49	20.1	98.5	5	102	95	2	6"
50	19.4	96.8	5	100		3	4"
51	22.2	98.6	5	102		3	4"
52	21.4	100.9	5	105		3	4"

TEST LOCATIONS:

47	RETENTION POND-SOUTH BERM-ELEV.241'.0
48	RETENTION POND-SOUTH BERM-ELEV.242'.0
49	RETENTION POND-SOUTH BERM-ELEV.241'.0
49	RETENTION POND-SOUTH BERM-ELEV.241'.0
50	RETENTION POND-SOUTH BERM-ELEV.242'.0
51	RETENTION POND-SOUTH BERM-ELEV.242'.0
52	RETENTION POND-SOUTH BERM-ELEV.242'.0

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
5	96.4	21.3

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

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LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 03/23/98			
53	22.3	97.2	4	99		3	6"
54	22.8	96.5	4	98		3	6"
55	22.5	95.1	4	97		3	6"
55	21.9	95.7	4	98	95	2	6"
56	21.4	96.8	4	99		3	6"
57	24.2	93.7	4	96		3	6"
57	22.2	96.8	4	99		3	6"
58	23.8	96.2	4	98		3	6"
58	22.4	95.8	4	98		3	6"

TEST LOCATIONS:

53	RETENTION POND-SOUTH BERM-243'.0
54	RETENTION POND-SOUTH BERM-ELEV.243'.0
55	RETENTION POND-SOUTH BERM-ELEV.243'.0
55	RETENTION POND-SOUTH BERM-243'.0
56	RETENTION POND-SOUTH BERM-ELEV.244'.0
57	RETENTION POND-SOUTH BERM-ELEV.244'.0
57	RETENTION POND-SOUTH BERM-ELEV.244'.0-RETEST
58	RETENTION POND-SOUTH BERM-ELEV.244'.0
58	RETENTION POND-SOUTH BERM-ELEV.244'.0-RETEST

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
4	98.1	20.4

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 03/24/98			
59	20.7	99.2	6	103		3	4"
60	21.2	99.1	6	102		3	4"
61	22.5	96.9	6	100		3	4"
62	20.6	98.0	6	101		3	4"
63	22.8	96.2	6	99		3	4"
64	23.3	96.5	6	100		3	4"
65	22.6	96.4	6	100		3	4"
65	22.7	95.2	6	98	95	2	6"
66	22.4	97.0	6	100		3	4":
67	20.5	98.1	6	101		3	4"

TEST LOCATIONS:

59	RETENTION POND-SOUTH BERM-ELEV.245'
60	RETENTION POND-SOUTH BERM "
61	RETENTION POND-SOUTH BERM "
62	RETENTION POND-SOUTH BERM-ELEV.246'.0 "
63	RETENTION POND-SOUTH BERM "
64	RETENTION POND-SOUTH BERM "
65	RETENTION POND-SOUTH BERM-ELEV.247'.0
65	RETENTION POND-SOUTH BERM-247'.0
66	RETENTION POND-SOUTH BERM "-
67	RETENTION POND-SOUTH BERM "

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
6	96.7	20.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 03/26/98			
68	22.4	97.6	4	99		3	4"
69	19.7	97.1	4	99		3	4"
70	22.5	96.6	4	98		3	4"
71	21.5	98.4	4	100		3	4"
72	18.8	97.3	4	99		3	4"
73	22.5	96.8	4	99		3	4"
73	20.2	96.7	6	100	95	2	6"
74	20.3	95.6	4	97		3	4"
75	21.9	98.8	4	101		3	4"

TEST LOCATIONS:

68	RETENTION POND-SOUTH BERM-ELEV.248'
69	RETENTION POND-SOUTH BERM "
70	RETENTION POND-SOUTH BERM-ELEV.249'.0
71	RETENTION POND-SOUTH BERM "
72	RETENTION POND-SOUTH BERM-ELEV.250'.0
73	RETENTION POND-SOUTH BERM "
73	RETENTION POND-SOUTH BERM-ELEV.250'.0
74	RETENTION POND-SOUTH BERM-ELEV.251'.0
75	RETENTION POND-SOUTH BERM "

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
4	98.1	20.4
6	96.7	20.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

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SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 03/27/98			
74	24.2	89.4	2	95	95	2	6"
76	22.6	93.8	2	100		3	4"
77	22.5	95.4	2	102		3	4"
78	24.6	89.3	2	95		3	4"
79	24.8	90.9	2	97		3	4"
79	24.2	89.4	2	95	95	2	6"
80	22.1	94.7	2	101		3	4"
81	21.9	95.3	2	102		3	4"
82	22.9	93.9	2	100		3	4"
83	25.9	92.5	2	99		3	4"

TEST LOCATIONS:

74	RETENTION POND- SOUTH BERM-ELEV.253'.0
76	RETENTION POND-SOUTH BERM-ELEV.252'.0
77	RETENTION POND-SOUTH BERM "
78	RETENTION POND-SOUTH BERM-ELEV.253'.0
79	RETENTION POND-SOUTH BERM "
79	RETENTION POND-SOUTH BERM-ELEV.253'.0
80	RETENTION POND-SOUTH BERM-ELEV.254'.0
81	RETENTION POND-SOUTH BERM "
82	RETENTION POND-SOUTH BERM-ELEV.255'.0
83	RETENTION POND-SOUTH BERM "

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
2	93.7	23.4

REMARKS:

Performed In General Accordance With:
2 - ASTM D1556
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 05/08/98			
84	17.7	94.5	5	98		3	6"
85	19.2	92.1	5	96		3	6"
86	18.1	88.4	5	92		3	6
87	19.1	89.7	5	93		3	6"
88	20.3	86.9	5	90		3	6"
88	22.5	92.9	5	96	95	2	6"
89	20.0	93.8	5	97		3	6"

TEST LOCATIONS:

84	UNIT 9 FINAL COVER ELEV-383.80
85	UNIT 9 FINAL COVER ELEV-383.84
86	UNIT 9 FINAL COVER ELEV-383.75
87	UNIT 9 FINAL COVER ELEV-381.73
88	UNIT 9 FINAL COVER ELEV-373.43
88	UNIT NO.1 FINAL COVER-ELEV.383.84'
89	UNIT 9 FINAL COVER ELEV-373.29

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
5	96.4	21.3

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

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LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 05/13/98			
90	21.7	94.8	7	97	95	3	4"
91	20.8	96.6	7	99	95	3	4"
92	19.5	95.8	7	98	95	3	4"
93	22.3	95.9	7	98	95	3	4"
94	19.9	96.9	7	99	95	3	4"
95	22.6	94.3	7	97	95	3	4"
96	20.3	96.2	7	98	95	3	4"
97	21.7	95.7	7	98	95	3	4"
98	21.3	95.5	7	98	95	3	4"

TEST LOCATIONS:

90	UNIT 9	SOUTHWEST	1ST LIFT
91	"	"	"
92	"	"	"
93	UNIT 9	SOUTHWEST	2ND LIFT
94	"	"	"
95	"	"	"
96	UNIT 9	SOUTHWEST	3RD LIFT
97	"	"	"
98	"	"	"

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
7	97.7	21.2

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

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LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 05/14/98			
99	21.1	94.7	7	97	95	3	4"
100	20.1	97.0	7	99	95	3	4"
101	22.7	93.8	7	96	95	3	4"
102	21.6	96.1	7	98	95	3	4"
103	20.2	100.6	7	99	95	3	4"
104	21.3	96.5	7	99	95	3	4"
105	22.0	94.6	7	97	95	3	4"
106	20.3	95.4	7	98	95	3	4"
107	21.4	98.4	7	101	95	3	4"
108	21.9	94.8	7	97	95	3	4"
109	22.9	93.6	7	96	95	3	4"
TEST LOCATIONS:							
99	UNIT 9	SOUTHWEST	4TH LIFT				
100	"	"	"				
101	"	"	"				
102	UNIT 9	SOUTHWEST	5TH LIFT				
103	"	"	"				
104	UNIT 9	SOUTHWEST	6TH LIFT				
105	"	"	"				
106	"	"	"				
107	UNIT 9	SOUTHWEST	7TH LIFT				
108	"	"					
109	"	"	"				

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOITURE (%)
7	97.7	21.2

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 05/15/98			
110	22.5	96.0	7	98	95	3	4"
111	20.5	95.5	7	98	95	3	4"
112	19.2	96.5	7	99	95	3	4"
113	22.3	95.1	7	97	95	3	4"
114	21.2	96.9	7	99	95	3	4"
115	22.4	96.9	7	99	95	3	4"
116	23.0	94.0	7	96	95	3	4"
117	22.8	96.2	7	98	95	3	4"

TEST LOCATIONS:

110	UNIT 9	SOUTHWEST	8TH LIFT
111	"	"	"
112	"	"	"
113	UNIT 9	SOUTHWEST	9TH LIFT
114	"	"	"
115	UNIT 9	SOUTHWEST	10TH LIFT
116	"	"	"
117	"	"	"

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
7	97.7	21.2

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 05/20/98			
118	20.1	93.7	6	97	90	3	4"
119	18.6	91.0	6	94 <<	95	3	"
120	19.2	95.0	6	98	95	3	"
121	20.2	93.0	6	96	95	3	"
121	19.6	92.2	6	95	95	2	6"
122	19.8	96.0	6	99	95	3	"
123	17.9	96.3	6	100	95	3	"
124	19.0	95.9	6	99	95	3	"
125	19.2	94.5	6	98	95	3	"

TEST LOCATIONS:

118	UNIT 5 FINAL COVER
119	" " "
120	" " "
121	" " "
121	UNIT NO.5 FINAL COVER
122	" " "
123	" " "
124	" " "
125	" " "

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOITURE (%)
6	96.7	20.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556
<< Denotes Less than Specified Compaction

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 05/26/98			
126	21.6	92.9	8	98	95	3	2"
127	21.5	90.9	8	96	95	3	"
128	20.0	92.1	8	97	95	3	"
129	20.7	91.1	8	96	95	3	"
130	21.9	90.5	8	95	95	3	"
131	21.3	94.5	8	100	95	3	"
132	22.2	93.5	8	99	95	3	"
133	21.3	96.3	8	101	95	3	"
134	21.9	92.6	8	98	95	3	"

TEST LOCATIONS:

126	UNIT 9	FLOOR SUMP- 1ST LIFT
127	"	"
128	"	"
129	UNIT 9	FLOOR SUMP-2ND LIFT
130	"	"
131	"	"
132	UNIT 9	FLOOR SUMP-3RD LIFT
133	"	"
134	"	"

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 05/27/98			
133	20.5	94.6	8	100	95	2	6"
133	20.5	94.6	8	100	95	2	6"
135	22.7	96.8	8	102	95	3	6"
136	21.9	91.7	8	97	95	3	"
137	21.4	92.6	8	98	95	3	"
138	21.0	99.0	8	104	95	3	"
139	22.2	92.2	8	97	95	3	"
140	21.5	98.4	8	104	95	3	"
141	21.1	96.2	8	101	95	3	"
142	19.1	99.6	8	105	95	3	"
142	20.5	95.5	8	101	95	2	6"

TEST LOCATIONS:

133	UNIT NO.9 FLOOR TRENCH SUMP-3RD LIFT
133	UNIT NO.9 FLOOR TRENCH SUMP-3RD LIFT
135	UNIT 9 FLOOR-1ST LIFT
136	" " "
137	" " "
138	" " "
139	" " "
140	" " "
141	UNIT 9 FLOOR-2ND FLOOR
142	" " "
142	UNIT NO.9-FLOOR-2ND LIFT

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
2 - ASTM D1556
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 05/27/98			
143	20.2	99.4	8	105	95	3	"
144	20.9	99.9	8	105	95	3	"
145	22.1	97.5	8	103	95	3	"
146	22.3	98.3	8	104	95	3	"
TEST LOCATIONS:							
143	"	"	"				
144	"	"	"				
145	"	"	"				
146	"	"	"				

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 05/28/98			
147	22.2	98.2	8	103	95	3	6"
148	19.6	99.3	8	105	95	3	"
148	21.9	91.6	8	97	95	3	"
149	18.8	101.7	8	107	95	3	"
149	22.0	92.2	8	97	95	3	"
150	22.3	92.3	8	97	95	3	"
150	21.3	92.0	8	97	95	2	6"
151	21.9	97.3	8	103	95	3	"
152	22.5	91.7	8	97	95	3	"

TEST LOCATIONS:

147	UNIT 9	FLOOR-3RD	LIFT
148	"	"	"
148	"	"	"
149	"	"	"
149	"	"	"
150	"	"	"
150	UNIT NO.9-FLOOR-3RD LIFT		
151	"	"	"
152	"	"	"

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 06/01/98			
153	22.6	97.7	8	103	95	3	6"
154	22.5	96.8	8	102	95	3	"
155	21.9	95.6	8	101	95	3	"
156	23.2	91.2	8	96	95	3	"
156	23.8	91.5	8	96	95	2	6"
157	22.6	92.3	8	97	95	3	"
158	22.5	96.9	8	102	95	3	"

TEST LOCATIONS:

153	UNIT 9	SLOPE-1ST	LAYER
154	"	"	"
155	"	"	"
156	"	"	"
156	UNIT NO.9-SLOPE-1ST LIFT		
157	"	"	"
158	"	"	"

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 06/02/98			
159	23.6	96.3	8	101	95	3	6"
160	21.4	96.7	8	102	95	3	"
160	22.5	96.2	8	101	95	2	6"
161	22.5	95.1	8	100	95	3	"
162	22.2	96.8	8	102	95	3	"
163	22.8	96.0	8	101	95	3	"
164	22.2	95.9	8	101	95	3	"
165	21.9	95.8	8	101	95	3	"
166	21.0	98.7	8	104	95	3	".
167	23.6	96.1	8	101	95	3	"

TEST LOCATIONS:

159	UNIT 9	SLOPE-1ST	LIFT
160	"	"	"
160	UNIT NO.9-SLOPE-1ST LIFT		
161	"	"	"
162	"	"	"
163	"	"	"
164	"	"	"
165	"	"	"
166	"	"	"
167	"	"	"

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 06/03/98			
168	20.3	93.3	8	98	95	3	6"
169	20.9	96.9	8	102	95	3	"
169	22.6	93.9	8	99	95	2	6"
170	20.8	99.2	8	105	95	3	"
171	20.4	95.5	8	101	95	3	"
172	20.3	94.2	8	99	95	3	"
173	23.3	92.0	8	97	95	3	"
174	20.2	99.0	8	104	95	3	"
175	21.5	96.1	8	101	95	3	"
176	22.5	97.9	8	103	95	3	"
177	22.7	91.7	8	97	95	3	"

TEST LOCATIONS:

168	UNIT 9	SLOPE-2ND	LIFT
169	"	"	"
169	UNIT NO.9-SLOPE-2ND LIFT		
170	"	"	"
171	"	"	"
172	"	"	"
173	"	"	"
174	"	"	"
175	"	"	"
176	"	"	"
177	"	"	"

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 06/03/98			
178	22.5	91.6	8	97	95	3	"
179	20.1	94.2	8	99	95	3	"
180	21.5	97.6	8	103	95	3	"
181	20.3	96.9	8	102	95	3	"
182	20.7	92.2	8	97	95	3	"
190	22.6	93.9	8	99	95	2	6"
TEST LOCATIONS:							
178	"	"					
179	"	"					
180	"	"					
181	"	"					
182	"	"					
190	Unit 9						

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 06/04/98			
183	22.7	93.8	8	99	95	3	6"
184	19.3	100.9	8	106	95	3	"
184	22.4	93.4	8	98	95	3	"
185	23.5	95.7	8	101	95	3	"
186	22.7	93.7	8	99	95	3	"
187	22.7	96.0	8	101	95	3	"
188	22.0	94.9	8	100	95	3	"
189	21.7	94.8	8	100	95	3	"
189	21.3	91.1	8	96	95	2	6"
189	21.3	91.1	8	96	95	2	6"
190	22.9	96.4	8	102	95	3	"
TEST LOCATIONS:							
183	UNIT 9	SLOPE-3RD	LIFT				
184	"	"					
184	"	"					
185	"	"					
186	"	"					
187	"	"					
188	"	"					
189	"	"					
189	Unit 9						
189	UNIT NO.9-SLOPE-3RD LIFT						
190	"	"					

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 06/04/98			
191	21.2	94.6	8	100	95	3	"
192	22.9	96.3	8	101	95	3	"
193	22.2	96.7	8	102	95	3	"
194	20.4	96.2	8	101	95	3	"
195	22.4	95.8	8	101	95	3	"
196	22.4	93.5	8	99	95	3	"
197	21.7	95.2	8	100	95	3	"
198	22.3	95.0	8	100	95	3	"
TEST LOCATIONS:							
191	"	"	"				
192	"	"	"				
193	"	"	"				
194	"	"	"				
195	"	"	"				
196	"	"	"				
197	"	"	"				
198	"	"	"				

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 06/16/98			
199	21.7	95.1	8	100	95	3	6"
200	23.1	94.5	8	100	95	3	"
201	21.9	94.5	8	100	95	3	"

TEST LOCATIONS:

199	UNIT 5	NORTHWEST	FINAL COVER
200	"	"	"
201	"	"	"

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 06/18/98			
202	21.1	96.4	8	102	95	3	6"
203	22.2	96.6	8	102	95	3	"
204	22.5	95.1	8	100	95	3	"
205	21.6	92.4	8	97	95	3	"
206	22.2	92.4	8	97	95	3	"
207	23.2	91.4	8	96	95	3	"

TEST LOCATIONS:

202	UNIT 1	FINAL COVER	
203	"	"	"
204	"	"	"
205	"	"	"
206	"	"	"
207	"	"	"

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 06/19/98			
208	20.3	93.0	8	98	95	3	6"
209	22.4	93.6	8	99	95	3	"
210	21.5	92.5	8	97	95	3	"
211	24.5	92.0	8	97	95	3	"
211	21.8	91.9	8	97	95	3	"
212	20.5	92.2	8	97	95	3	"
213	22.4	92.9	8	98	95	3	"
214	19.1	91.6	8	97	95	3	"
215	22.3	95.5	8	101	95	3	"
216	21.5	93.4	8	98	95	3	"
217	21.6	92.2	8	97	95	3	"
TEST LOCATIONS:							
208	UNIT 9	SLOPE-4TH	LIFT				
209	"	"					
210	"	"					
211	"	"					
211	"	"					
212	"	"					
213	"	"					
214	"	"					
215	"	"					
216	"	"					
217	"	"					

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 06/19/98			
218	22.9	93.4	8	98	95	3	"
219	21.9	93.2	8	98	95	3	"
220	18.9	92.9	8	98	95	3	"
221	21.8	92.4	8	97	95	3	"
222	20.7	91.7	8	97	95	3	"
223	22.2	92.2	8	97	95	3	"
TEST LOCATIONS:							
218	"	"	"				
219	"	"	"				
220	"	"	"				
221	"	"	"				
222	"	"	"				
223	"	"	"				

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 06/29/98			
224	20.6	105.1	7	108	95	3	6"
225	23.6	98.5	7	101	95	3	6"
226	22.7	94.0	7	96	95	3	"
227	19.8	97.7	7	100	95	3	"
228	23.7	96.1	7	98	95	3	"
229	20.5	105.2	7	108	95	3	"
230	20.3	96.1	7	98	95	3	"
231	23.5	97.0	7	99	95	3	"
232	21.8	96.2	7	98	95	2	6"
232	21.8	96.2	7	98	95	2	6"
232	22.0	98.6	7	101	95	3	"
TEST LOCATIONS:							
224	UNIT 2/3-FINAL COVER						
225	"						
226	"						
227	"						
228	"						
229	"						
230	"						
231	"						
232	Unit 2/3						
232	UNIT 2/3						
232	"						

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
7	97.7	21.2

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 06/29/98			
233	20.9	106.6	7	109	95	3	"
234	21.9	95.0	7	97	95	3	"
235	20.9	103.6	7	106	95	3	"
236	21.5	97.7	7	100	95	3	"
237	23.9	92.5	7	95	90	3	"
237	21.7	95.7	7	98	95	3	"
238	20.9	103.3	7	106	95	3	"
TEST LOCATIONS:							
233	"						
234	"						
235	"						
236	"						
237	"						
237	"						
238	"						

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
7	97.7	21.2

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 07/06/98			
239	18.7	98.4	8	104	95	3	6"
240	18.2	99.4	8	105	95	3	"
241	19.7	90.3	8	95	95	2	6"
241	19.7	90.3	8	95	95	2	6"
241	20.7	91.2	8	96	95	3	"
242	20.9	94.7	8	100	95	3	"
243	18.0	97.2	8	102	95	3	"
244	21.8	92.7	8	98	95	3	"
245	18.7	95.8	8	101	95	3	"
246	19.3	96.9	8	102	95	3	"
247	22.3	90.2	8	95	95	3	"

TEST LOCATIONS:

239	UNIT NO.17
240	"
241	Unit Number 17
241	UNIT NO.17
241	"
242	"
243	"
244	"
245	"
246	"
247	"

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 07/06/98			
248	19.5	97.8	8	103	95	3	"
249	20.9	93.3	8	98	95	3	"
250	21.3	91.1	8	96	95	3	"
TEST LOCATIONS:							
248	"						
249	"						
250	"						

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 08/11/98			
251	25.1	92.1	9	99	95	3	6"
252	22.3	91.0	9	98	95	3	6"
253	24.1	90.9	9	98	95	3	6"
254	24.7	91.8	9	99	95	3	6"
254	24.5	89.0	9	96	95	2	6"
255	25.9	92.7	9	100	95	3	6"
256	25.1	89.3	9	96	95	3	6"
257	24.9	91.1	9	98	95	3	6"
258	24.8	90.2	9	97	95	3	6
258	24.8	90.2	9	97	95	3	6"
259	23.1	89.9	9	97	95	3	6"

TEST LOCATIONS:

251	UNIT 13-1ST LIFT
252	
253	
254	
254	UNIT 13 TEST 254 1ST LIFT
255	
256	
257	
258	UNIT 13-2ND LIFT
258	UNIT NO.13-2ND LIFT
259	" "

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
9	93.0	23.0

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 08/11/98			
259	23.1	89.9	9	97	95	3	6"
260	25.6	91.4	9	98	95	3	6"
260	25.6	91.4	9	98	95	3	6'
261	26.7	88.8	9	95	95	3	6"
261	23.3	92.9	9	100	95	3	6"
261	26.7	88.8	9	95	95	3	6"
261	23.3	92.9	9	100	95	3	6"
262	22.4	89.9	9	97	95	3	6"
262	22.4	89.9	9	97	95	3	6"
263	22.8	93.4	9	100	95	3	6"
263	22.8	93.4	9	100	95	3	6"
TEST LOCATIONS:							
259	"						
260	"	"					
260	"	"					
261	"	"					
261	UNIT 13-3RD LIFT						
261	"	"					
261	"	"					
262	"	"					
262	"	"					
263	"	"					
263	"	"					

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
9	93.0	23.0

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 08/11/98			
264	23.3	94.8	9	102	95	3	6"
264	23.3	94.8	9	102	95	3	6"
265	24.9	89.4	9	96	95	3	6"
265	24.9	89.4	9	96	95	3	6"
266	24.1	90.9	9	98	95	3	6"
266	24.1	90.9	9	98	95	3	6"
267	25.7	91.7	9	99	95	3	6"
267	25.7	91.7	9	99	95	3	6"
268	23.1	89.9	9	97	95	3	6"
268	23.1	89.9	9	97	95	3	6"
269	22.3	93.1	9	100	95	3	6"
TEST LOCATIONS:							
264	"	"					
264	"	"					
265	"	"					
265	UNIT NO.13-3RD LIFT						
266	"	"					
266	"	"					
267	"	"					
267	"	"					
268							
268	"	"					
269	"	"					

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
9	93.0	23.0

REMARKS: Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffrey D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 08/11/98			
269	22.3	93.1	9	100	95	3	6"
270	23.8	90.2	9	97	95	3	6"
270	24.6	89.3	9	96	95	2	6"
TEST LOCATIONS:							
269	"	"					
270	"	"					
270	UNIT 13-TEST 270		3RD LIFT				

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
9	93.0	23.0

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 09/11/98			
271	23.9	87.6	9	94	90	3	4"
272	24.8	87.4	9	94	90	3	4"

TEST LOCATIONS:

271 UNIT NO.9-CAMU-1ST LIFT
272 UNIT NO.9-CAMU-1ST LIFT

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
9	93.0	23.0

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 09/14/98			
273	25.3	88.2	2	94	90	3	6"
274	25.3	88.2	2	94	90	3	6"
275	25.3	86.5	2	92	90	3	6"
276	23.3	92.7	2	99	95	3	6"
277	24.5	89.7	2	96	95	3	6"
277	22.8	89.0	2	94 <<	95	2	6"

TEST LOCATIONS:

273	UNIT NO.9-CAMU-2ND LIFT
274	UNIT NO.9-CAMU-2ND LIFT
275	UNIT NO.9-CAMU-2ND LIFT
276	UNIT NO.13-1ST LIFT
277	UNIT NO.13-1ST LIFT
277	UNIT 13-TEST 277

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
2	93.7	23.4

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556
<< Denotes Less than Specified Compaction

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 09/15/98			
278	25.4	89.9	9	97	95	3	6"
279	24.3	89.2	9	96	95	3	6"
280	23.0	93.1	9	100	95	3	6"
281	24.1	91.7	9	99	95	3	6"

TEST LOCATIONS:

278 UNIT NO.13-2ND LIFT
279 UNIT NO.13-2ND LIFT
280 UNIT NO.13-3RD LIFT
281 UNIT NO.13-3RD LIFT

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
9	93.0	23.0

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 09/16/98			
282	24.7	92.8	9	100	95	3	6"
283	21.8	88.6	9	95	95	3	6"
284	23.2	92.3	9	99	95	3	6"
285	23.1	90.1	9	97	95	3	6"

TEST LOCATIONS:

282 UNIT NO.13-4TH LIFT
283 UNIT NO.13-4TH LIFT
284 UNIT NO.13-5TH LIFT
285 UNIT NO.13-5TH LIFT

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
9	93.0	23.0

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 09/17/98			
286	22.5	93.3	9	100	95	3	6"
287	21.6	91.8	9	99	95	3	6"
288	21.8	93.5	9	101	95	3	6"
289	24.9	88.7	9	95	95	3	6"

TEST LOCATIONS:

286 UNIT NO.13-6TH LIFT
287 UNIT NO.13-6TH LIFT
288 UNIT NO.13-7TH LIFT
289 UNIT NO.13-7TH LIFT

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
9	93.0	23.0

REMARKS: Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 09/18/98			
290	22.7	96.6	9	104	95	3	6"
291	24.4	93.3	9	100	95	3	6"
292	28.8	83.7	9	90	90	3	-12"
293	26.0	86.1	9	93	90	3	-24"X
294	27.7	85.7	9	92	90	3	-36"
295	28.8	85.4	9	92	90	3	-48"
296	27.8	84.6	9	91	90	3	-60"
297	27.4	85.0	9	91	90	3	-12"
298	29.9	86.0	9	92	90	3	-24"
299	24.2	85.1	9	92	90	3	-36"
300	30.3	83.9	9	90	90	3	-48"

TEST LOCATIONS:

290	UNIT NO.13-FINAL GRADE
291	UNIT NO.13-FINAL GRADE
292	UNIT NO.9-NORTH TEST PIT
293	UNIT NO.9-NORTH TEST PIT
294	UNIT NO.9-NORTH TEST PIT
295	UNIT NO.9-NORTH TEST PIT
296	UNIT NO.9-NORTH TEST PIT
297	UNIT NO.9-SOUTHEAST TEST PIT
298	UNIT NO.9-SOUTH EAST TEST PIT
299	UNIT NO.9-SOUTHEAST TEST PIT
300	UNIT NO.9-SOUTHEAST TEST PIT

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
9	93.0	23.0

REMARKS:
Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 09/18/98			
301	28.4	87.0	9	94	90	3	-60"
302	24.6	86.1	9	93	90	3	-12"
303	32.9	84.0	9	90	90	3	-24"
304	26.4	88.4	9	95	90	3	-36"
305	29.2	84.9	9	91	90	3	-48"
306	22.2	86.5	9	93	90	3	-60"

TEST LOCATIONS:

301	UNIT 9-TEST PIT SOUTHEAST
302	UNIT 9-TEST PIT SOUTHWEST
303	UNIT 9- TEST PIT SOUTHWEST
304	UNIT 9-TEST PIT SOUTHWEST
305	UNIT 9-TEST PIT SOUTHWEST
306	UNIT 9-TEST PIT SOUTHWEST

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
9	93.0	23.0

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 09/29/98			
307	22.9	93.2	6	96	95	3	6"
308	21.4	94.2	6	97	95	3	6"
309	23.1	93.8	6	97	95	3	6"
309	21.8	93.0	6	96	95	2	6"UNI
310	22.0	95.6	6	99	95	3	6"
311	23.7	93.1	6	96	95	3	6"
312	23.6	95.4	6	99	95	3	6"

TEST LOCATIONS:

307	UNIT 9	PROTECTIVE CAP
308	UNIT 9	PROTECTIVE CAP
309	UNIT 9	PROTECTIVE CAP
309	UNIT 9	CAMU PROTECTIVE CAP
310	UNIT 9	PROTECTIVE CAP
311	UNIT 9	PROTECTIVE CAP
312	UNIT 9	PROTECTIVE CAP

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
6	96.7	20.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 09/30/98			
310	22.1	92.7	6	96	95	2	6"
313	23.3	95.3	6	99	95	3	6"
314	21.4	95.7	6	99	95	3	6"
315	22.4	93.4	6	97	95	3	6"
316	23.0	95.8	6	99	95	3	6"
317	20.4	95.1	6	98	95	3	6"
318	22.5	95.6	6	99	95	3	6"
319	23.5	96.6	6	100	95	3	6"
320	20.6	94.6	6	98	95	3	6"
321	20.9	96.4	6	100	95	3	6"
322	23.1	96.7	6	100	95	3	6"

TEST LOCATIONS:

310	UNIT 9	CAMU SUB-BASE TEST 315
313	UNIT 9	SUB-BASE 1ST LIFT
314	UNIT 9	SUB-BASE
315	UNIT 9	SUB-BASE
316	UNIT 9	SUB-BASE
317	UNIT 9	SUB-BASE
318	UNIT 9	SUB-BASE 2ND LIFT
319	UNIT 9	SUB-BASE
320	UNIT 9	SUB-BASE
321	UNIT 9	SUB-BASE
322	UNIT 9	SUB-BASE

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
6	96.7	20.8

REMARKS:

Performed In General Accordance With:
2 - ASTM D1556
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 10/02/98			
323	23.1	95.7	7	98	95	3	6"
324	21.9	95.5	7	98	95	3	6"
325	22.3	94.3	7	97	95	3	6"
326	23.8	95.6	7	98	95	3	6"
327	23.3	94.8	7	97	95	3	6"
328	21.8	98.0	7	100	95	3	6"
328	23.8	97.5	7	100	95	2	6"
329	22.8	94.7	7	97	95	3	6"
330	21.8	95.8	7	98	95	3	6"
331	24.2	94.3	7	97	95	3	6"
332	22.6	93.7	7	96	95	3	6"

TEST LOCATIONS:

323	UNIT 9 SUB-BASE 3RD LIFT
324	UNIT 9 SUB-BASE
325	UNIT 9 SUB-BASE
326	UNIT 9 SUB-BASE
327	UNIT 9 SUB-BASE
328	UNIT 9 SUB-BASE 4TH LIFT
328	UNIT 9 CAMU SUB-BASE TEST 328
329	UNIT 9 SUB-BASE
330	UNIT 9 SUB-BASE
331	UNIT 9 SUB-BASE
332	UNIT 9 SUB-BASE

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
7	97.7	21.2

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 10/03/98			
333	22.7	94.1	7	96	95	3	6"
334	23.1	96.4	7	99	95	3	6"
335	23.1	93.2	7	95	95	3	6"
336	23.3	95.8	7	98	95	3	6"
337	22.2	93.8	7	96	95	3	6"
337	22.1	96.9	7	99	95	2	6"UNI
338	22.3	95.8	7	98	95	3	6"
339	23.9	93.3	7	95	95	3	6"
340	23.4	97.0	7	99	95	3	6"
341	23.6	93.5	7	96	95	3	6"
342	23.9	95.1	7	97	95	3	6"
TEST LOCATIONS:							
333	UNIT 9	SUB-BASE 5TH LIFT					
334	UNIT 9	SUB-BASE					
335	UNIT 9	SUB-BASE					
336	UNIT 9	SUB-BASE					
337	UNIT 9	SUB-BASE					
337	UNIT 9	CAMU SUB-BASE TEST 337					
338	UNIT 9	SUB-BASE 6TH LIFT					
339	UNIT 9	SUB-BASE					
340	UNIT 9	SUB-BASE					
341	UNIT 9	SUB-BASE					
342	UNIT 9	SUB-BASE					

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
7	97.7	21.2

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 10/07/98			
343	21.0	97.4	8	103	95	3	6"
344	19.8	90.4	8	95	95	3	6"
345	22.3	96.1	8	101	95	3	6"
346	20.4	92.7	8	98	95	3	6"
346	21.6	93.2	8	98	95	2	6"
347	21.0	93.6	8	99	95	3	6"
348	21.4	98.7	8	104	95	3	6"
349	20.6	94.1	8	99	95	3	6"
350	22.5	93.7	8	99	95	3	6"
351	21.8	94.9	8	100	95	3	6"
352	22.7	96.1	8	101	95	3	6"

TEST LOCATIONS:

343	UNIT 12 FINAL SUBGRADE
344	UNIT 12 FINAL SUBGRADE
345	UNIT 12 FINAL SUBGRADE
346	UNIT 12 FINAL SUBGRADE
346	UNIT 12 SUBGRADE TEST 346
347	UNIT 12 FINAL SUBGRADE
348	UNIT 12 FINAL SUBGRADE
349	UNIT 16 FINAL SUBGRADE
350	UNIT 16 FINAL SUBGRADE
351	UNIT 16 FINAL SUBGRADE
352	UNIT 16 FINAL SUBGRADE

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 10/07/98			
353	21.9	95.6	8	101	95	3	6"
353	20.5	93.7	8	99	95	2	6"
354	20.8	92.2	8	97	95	3	6"

TEST LOCATIONS:

353 UNIT 16 FINAL SUBGRADE
353 UNIT 16 SUBGRADE TEST 353
354 UNIT 16 FINAL SUBGRADE

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 10/08/98			
355	21.5	98.2	6	102	95	3	6"
356	23.1	93.1	6	96	95	3	6"
357	21.2	94.7	6	98	95	3	6"
357	22.0	93.5	6	97	95	2	6"
358	22.5	92.3	6	95	95	3	6"
359	20.5	93.5	6	97	95	3	6"
360	21.8	93.7	6	97	95	3	6"
361	20.0	98.8	6	102	95	3	6"

TEST LOCATIONS:

355	UNIT 13 FINAL SUBGRADE
356	UNIT 13 FINAL SUBGRADE
357	UNIT 13 SUBGRADE
357	UNIT 13 SUBGRADE TEST 357
358	UNIT 13 FINAL SUBGRADE
359	UNIT 13 FINAL SUBGRADE
360	UNIT 13 FINAL SUBGRADE
361	UNIT 13 FINAL SUBGRADE

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
6	96.7	20.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 10/09/98			
362	23.9	92.4	2	99	95	3	6"
363	25.7	92.6	2	99	95	3	6"
363	24.7	91.3	2	97	95	2	6"
364	24.2	89.2	2	95	95	3	6"
365	22.8	91.8	2	98	95	3	6"
366	25.3	91.6	2	98	95	3	6"
367	21.8	93.7	2	100	95	3	6"
368	24.1	94.1	2	100	95	3	6"
369	23.3	91.4	2	98	95	3	6"
370	24.5	93.1	2	99	95	3	6"
371	24.1	91.1	2	97	95	3	6"

TEST LOCATIONS:

362	UNIT 10 FINAL SUBGRADE
363	UNIT 10 FINAL SUBGRADE
363	UNIT 10 SUBGRADE TEST 363
364	UNIT 10 FINAL SUBGRADE
365	UNIT 10 FINAL SUBGRADE
366	UNIT 10 FINAL SUBGRADE
367	UNIT 10 FINAL SUBGRADE
368	UNIT 11 FINAL SUBGRADE
369	UNIT 11 FINAL SUBGRADE
370	UNIT 11 FINAL SUBGRADE
371	UNIT 11 FINAL SUBGRADE

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
2	93.7	23.4

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 10/09/98			
372	24.5	93.9	2	100	95	3	6"
372	24.0	93.6	2	100	95	2	6"
373	24.1	90.5	2	97	95	3	6"

TEST LOCATIONS:

372 UNIT 11 FINAL SUBGRADE
372 UNIT 11 SUBGRADE TEST 372
373 UNIT 11 FINAL SUBGRADE

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
2	93.7	23.4

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922
2 - ASTM D1556

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 01/07/99			
374	24.2	89.3	8	94	90	3	6"
375	22.5	88.4	8	93	90	3	6"
376	23.9	87.3	8	92	90	3	6"
377	27.1	88.7	8	93	90	3	6"
378	29.1	86.0	8	91	90	3	6"
379	22.4	89.7	8	95	90	3	6"
380	24.1	88.1	8	93	90	3	6"
381	23.2	87.5	8	92	90	3	6"
382	23.9	85.9	8	91	90	3	6"
383	21.3	88.1	8	93	90	3	6"
384	24.0	89.1	8	94	90	3	6"
TEST LOCATIONS:							
374	UNIT 12/16 FINAL GRADE						
375	UNIT 12/16 FINAL GRADE						
376	UNIT 12/16 FINAL GRADE						
377	UNIT 12/16 FINAL GRADE						
378	UNIT 12/16 FINAL GRADE						
379	UNIT 13 FINAL GRADE						
380	UNIT 13 FINAL GRADE						
381	UNIT 13 FINAL GRADE						
382	UNIT 13 FINAL GRADE						
383	UNIT 13 FINAL GRADE						
384	UNIT 10/11 FINAL GRADE						

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

LAW ENVIRONMENTAL / CARIBE

1225 PONCE DE LEON AVENUE, SUITE 603
SANTURCE, PUERTO RICO 00907

REPORT OF FIELD DENSITY TESTS

CLIENT: Proteco

JOB NO.: 12000-7-0221

PROJECT: Proteco
Penuelas, P.R.

TEST NUMBER	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROCTOR NUMBER	COMPACTION (%)	SPECIFIED COMPACTION (%)	TEST METHOD	ELEVATION OR DEPTH
		Tests	Performed	on 01/07/99			
385	22.0	87.3	8	92	90	3	6"
386	22.4	88.1	8	93	90	3	6"
387	22.0	86.1	8	91	90	3	6"
388	21.1	86.3	8	91	90	3	6"
389	27.5	85.7	8	90	90	3	6"
390	25.8	89.6	8	94	90	3	6"
391	28.6	87.7	8	92	90	3	6"
392	30.9	88.3	8	93	90	3	6"
393	25.7	93.7	8	99	90	3	6"
394	27.8	85.7	8	90	90	3	6"

TEST LOCATIONS:

385	UNIT 10/11 FINAL GRADE
386	UNIT 10/11 FINAL GRADE
387	UNIT 10/11 FINAL GRADE
388	UNIT 10/11 FINAL GRADE
389	UNIT 9 FINAL GRADE
390	UNIT 9 FINAL GRADE
391	UNIT 9 FINAL GRADE
392	UNIT 9 FINAL GRADE
393	UNIT 9 FINAL GRADE
394	UNIT 9 FINAL GRADE

TEST COMPARED TO:

PROCTOR NUMBER	MAXIMUM DRY DENSITY (pcf)	OPTMUM MOITURE (%)
8	94.9	19.8

REMARKS:

Performed In General Accordance With:
3 - ASTM D2922

RESPECTFULLY SUBMITTED:

Jeffery D. Engels, CET.

APPENDIX A.3

Permeability Test Results for the Compacted Clay Liner (CCL)

Turabo Testing, Inc.

LR 160-98
June 16, 1998

LABORATORY REPORT

PROTECO
PO Box 850
Peñuelas, PR 00624-0850

Attention: Mr. José A. Cotto

RE: PROTECO Landfill Closures
Peñuelas, P.R.

Dear Sir:

This report presents the results of hydraulic conductivity (Falling Head) determination performed on two soil samples.

Soil sample no. 1 consisted on a light browniwh yellow clayey silt and sand with occassionally limestone fragments and sample no. 2 consisted on a strong brown silty clay with sand and limestone fragments.

The samples were tested in order to determine its adequacy to be used as cover material at sanitary landfills.

The tests were performed following applicable ASTM specifications and the results, as obtained in our laboratory, are tabulated below:

Table No. 1

Sample No.	Area, cm^2	length, cm	h_1, cm	h_2, cm	t, sec.	k - cm/s
1 - Unit #9 Bottom	39.70	8.74	720.7	720.4	1800	5.09×10^{-8}
2 - Borrow	40.82	11.35	714.0	713.3	15,900	1.43×10^{-8}

PO Box 6705 - Caguas, PR 00726 • Tel. (787) 286-9663 • Fax (787) 286-9667

Sample No. 1 was obtained from a shelby tube undisturbed and sample No. 2 was trimmed of a Stantard Proctor sample (4 in. mold) with particles not greater than 3/8". limestone fragments.

The Hydraulic conductivity was calculated using the following equation:

k= $\mathbf{aL/At \times \ln(h_1/h_2)}$
a= cross sectional area of the reservoir containing the influent permeant
L= Length of specimen
Q= Flow
A= cross sectional area of specimen
h_1= head loss across the specimen at time t_1
h_2= head loss across the specimen at time t_2
t= elapsed time

Respectfully submitted,

Angel R. Salgado, P.E.
Operations Manager

c:\windword\lab\lr160-98

LABORATORY TEST RESULTS

Coefficient of Permeability: Falling Head Method

Client: PROTECO

Project: PROTECO LANDFILL UNITS

Report # : 1

Date of Report: JUNE 19, 1998

Equipment: SOILTEST High Pressure Permeameter Set (Model K-670A)

SAMPLE	LOCATION	DESCRIPTION	K (cm/sec)
1	UNIT #9, FIRST LIFT	YELLOW CLAY, FINE GRAVEL TRACES	ND
2	UNIT #9, SECOND LIFT	YELLOW CLAY, FINE GRAVEL TRACES	4.26E-05
3	UNIT #9, THIRD LIFT	YELLOW CLAY, FINE GRAVEL TRACES	1.79E-07

REMARKS: E = EXPONENT BASE 10

ND = NO WATER FLOW THROUGH THE SOIL MATRIX WAS DETECTED FOR A PERIOD OF 72-HOURS AT 50 PSI OF AIR PRESSURE.

TESTED BY: Raúl Santiago

CERTIFIED BY: Eng. José L. Irizarry

PONCE I & M ENGINEERING LABORATORY INC.

JOSE L. IRIZARRY ROSA
INGENIERO LICENCIADO
LIC. 15434
EXPIRA
29 JUL 2001
PUERTO RICO

LABORATORY TEST RESULTS

Coefficient of Permeability: Falling Head Method

Client: PROTECO

Project: PROTECO LANDFILL UNITS

Report # : 2

Date of Report: JULY 1, 1998

Equipment: SOILTEST High Pressure Permeameter Set (Model K-670A)

SAMPLE	LOCATION	DESCRIPTION	K (cm/sec)
1	RETEST UNIT #9, SECOND LIFT	YELLOW CLAY, FINE GRAVEL TRACES	8.80E-08

REMARKS: E = EXPONENT BASE 10

TESTED BY: Raúl Santiago

CERTIFIED BY: Eng. José L. Irizarry

PONCE I & M ENGINEERING LABORATORY INC.

JOSE L. IRIZARRY ROSA
INGENIERO LICENCIADO
LIC. 15434
EXPIRA
29 JUL 2001
PUERTO RICO

APPENDIX B

Approval Letter From EPA for Minor Modification

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - REGION II
290 BROADWAY
NEW YORK, NEW YORK 10007-1866

MAR 16 1998

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Sy Gruza, Esq.
Beveridge & Diamond, P.C.
477 Madison Avenue, 15th Floor
New York, N.Y. 10022-5802

Re: Proteco, Peñuelas, PR
Closure Plan Modification to Use GCL
EPA ID Number PRD091018622

Dear Mr. Gruza:

The U.S. Environmental Protection Agency (EPA) has reviewed your March 3, 1998 submittal, made on behalf of Proteco, requesting modification of Proteco's approved closure plan. In that submittal, Proteco requested approval to utilize a geocomposite clay liner (GCL) under the geomembrane as a substitute for the two feet of compacted clay liner (CCL) specified in the approved closure plan. Proteco's submittal included the modified quality assurance and quality control procedures (QA/QC) fitting utilization of a GCL.

Pursuant to 40 C.F.R. §§ 265.112(c) and 270.42(d), Proteco requested EPA to review and approve the requested changes as similar to a Class 1 permit modification, as described under 40 C.F.R. §270.42(a).

EPA has reviewed Proteco's proposed modifications and the supporting information. The use of a GCL in the cover and liner systems as described in Proteco's March 3 submittal meets, or exceeds, the performance standards specified in Proteco's approved closure plan. The requested modifications are changes

which do not reduce the facility's capacity to protect human health or the environment and as such will be viewed as a Class 1 Modification.

EPA hereby approves Proteco's requested modification as a Class 1 Modification. The terms set forth in Proteco's March 3, 1998 submittal are hereby incorporated into Proteco's closure plan (which was approved on September 29, 1997), substituting the approved CCL requirements. This approved modification includes the QA/QC procedures for the GCL set forth in Proteco's March 3 submittal. Proteco must send notice of the modifications to all appropriate parties pursuant 40 C.F.R. § 270.42(a)(ii).

If you have any question on this matter, please contact Clifford Ng, at (212) 637-4113.

Sincerely yours,

Kathleen Callahan

Kathleen Callahan
Director
Division of Environmental Planning and Protection

cc: Carl Axel-Soderberg, EPA-CFO
Israel Torres, PREQB
Dr. Jorge Fernandez, Proteco

APPENDIX C

QA/QC Documents for Geosynthetic Materials

APPENDIX C.1

Manufacturer's Quality Control Data Package
Geosynthetic Clay Liner (GCL)

CETCO
COLLOID ENVIRONMENTAL TECHNOLOGIES COMPANY
234 Gordon Street • Fairmount, GA 30139 • USA
(706) 337-5316 • Fax (706) 337-7334

20-Mar-98

Mr. Steve Youngs
Law Engineering &
Environmental Systems, Inc.
112 Town Park Dr.
Kennesaw, GA 30144

Dear Mr. Youngs:

Please find enclosed the MQA/MQC Data Package for Geosynthetic Clay Liner (GCL) shipments to Proteco - RCRA LF Cap, Penuelas, PR. These shipments left our CETCO - Fairmount, GA, plant from 3/19/98.

If you have any questions regarding the enclosed QA/QC information, please contact Mr. Derek Reece @ 1-800-220-2536.

Sincerely,

Cynthia Willix

Cynthia Willix
Quality Assurance Coordinator

CETCO

GEOSYNTHETIC CLAY LINER

MANUFACTURING QA/QC DATA PACKAGE

PROJECT NAME: Proteco - RCRA LF Cap

PREPARED FOR:

Mr. Steve Youngs
Law Engineering &
Environmental Systems, Inc.
112 Town Park Dr.
Kennesaw, GA 30144

PREPARED BY:

Cynthia Willix
CETCO
P. O. Box 88
234 Gordon Street
Fairmount, GA 30139

Telephone # (706) 337-5316
Fax # (706) 337-2215

CETCO

GEOSYNTHETIC CLAY LINER

DAILY MANUFACTURING QA/QC DATA

FOR ALL GCL MANUFACTURED ON:

PROTECO - RCRA LF CAP
PENUELAS, PR
CUSTOMER PO# PROTECO 001
ORDER# 78745,78749-78750,79351

CONTENTS:

1. **DAILY GCL PRODUCTION CERTIFICATION**
2. **GCL MANUFACTURING CERTIFICATON AND TEST RESULTS**
3. **GCL MQA TRACKING FORM**

CETCO

DAILY GEOSYNTHETIC CLAY LINER PRODUCTION CERTIFICATION

CETCO

GEOSYNTHETIC CLAY LINER MANUFACTURING CERTIFICATION

CETCO JOB:	PROTECO - RCRA LF CAP
DATE:	MARCH 19, 1998
ORDER NUMBER:	78745,78749-78750,79351
PRODUCT:	CLAYMAX 200RW AND BENTOMAT ST

Colloid Environmental Technologies Company (CETCO) hereby affirms and certifies that all of the Geosynthetic Clay Liner (GCL) manufactured in this lot achieves the physical and chemical criteria listed on the attached analysis sheets.

Cynthia Willix

Cynthia Willix
Quality Assurance Coordinator
CETCO

Subscribed and sworn to before me this 20th day of March, 1998.

Judy Hall

Notary Public

OFFICIAL SEAL
JUDY HALL
Notary Public, Georgia
GORDON COUNTY
My Commission Expires
Jan. 7, 2002

CETCO

BENTOMAT ST
MANUFACTURING CERTIFICATION

TO: Mr. Steve Youngs
Law Engineering &
Environmental Systems, Inc.
112 Town Park Dr.
Kennesaw, GA 30144

PROJECT: Proteco - RCRA LF Cap

ORDER #: 78749-78750,79351

CETCO hereby affirms and certifies that Bentomat ST material supplied to this project will meet the physical and chemical criteria listed below:

PROPERTY	TEST METHOD	MINIMUM VALUE
Finished Product		
Bentonite Mass/Area	ASTM D 5993*	0.75 lb/sq.ft. min.
Grab Strength	ASTM D 4632	90 lbs. MARV
Peel Strength	ASTM D 4632(modified)	15 lbs. min.
Permeabilty	ASTM D 5084	max. 5 x 10(-9) cm/sec

Cynthia Willis
Colloid Environmental Technologies Co. (CETCO)

Subscribed and sworn to before me this 20th day of March 19 98

Judy Hall
Notary Public

* Reported at 0% moisture content.

OFFICIAL SEAL
JUDY HALL
Notary Public, Georgia
GORDON COUNTY
My Commission Expires
Jan. 7, 2002

CETCO

CLAYMAX 200RW
MANUFACTURING CERTIFICATION

TO: Mr. Steve Youngs
Law Engineering &
Environmental Systems, Inc.
112 Town Park Dr.
Kennesaw, GA 30144

PROJECT: Proteco - RCRA LF Cap

ORDER # 78745,79351

CETCO hereby affirms and certifies that Claymax 200RW material supplied to this project will meet the physical and chemical criteria listed below:

PROPERTY	TEST METHOD	MINIMUM VALUE
Finished Product		
Bentonite Mass/Area	ASTM D 5993(modified)	0.75 lb/sq.ft. min.
Grab Strength	ASTM D 4632	90 lbs. MARV
Permeabilty	ASTM D 5084	max. 5 x 10(-9) cm/sec

Cynthia Willis
Colloid Environmental Technologies Co. (CETCO)

Subscribed and sworn to before me this 20th day of March 1992.

Judy Hall
Notary Public

OFFICIAL SEAL
JUDY HALL
Notary Public, Georgia
GORDON COUNTY
My Commission Expires
Jan. 7, 2000

* Reported at 0% moisture content.

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE [illegible]

CARRIER NAME: PLANT TO ARRANGE
CONSIGNED TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
RT. 385 Km 4.5

PENUELAS PR 00624
PHONE: 787-836-2058
SOLDTO: 2543 **SHIPTO:** 01
CONSIGNED P.O.#: PROTECO 001
CAR/VEHICLE#:

DELIVERING CARRIER:
DEL DATE: 3/23/98 SHIPPER'S NO: 000078745
SHIP DATE: [redacted] 3/18/98
SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPING PLANT: FAIRMOUNT, GA
P.O. BOX 88
FAIRMOUNT GA 30139

ROUTING/CONTRACT:
BKing
CIA 28652550

ORDER COMMENTS ORDER IS FOR 166,000 SF CLAYMAX 200R STD

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
~~[illegible]~~ 29050		CLAYMAX 200 RW NEW 200R	[redacted]
14 Rolls-150'			

GROSS: .00 TARE: .00 NET: 41531 [redacted]

Container NO MSCU 4909439

Seal NO 2773

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
COLLOID ENVIRONMENTAL TEC
(Signature of Consignor)

If charges are to be prepaid, write or stamp here, "Prepaid."
PREPAID

Shipper liable for line haul charges only.
COD charges to be paid by: Consignee

***MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of s[illegible] route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms ar[illegible]ions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, o[illegible]e applicable motor carrier classification or tariff if this is a motor carrier shipment.
Sh[illegible] hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER: Dennis Green

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.
Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☐ NO—FURNISHED BY CARRIER
DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
'LINGTON HEIGHTS IL 60004

ORDER NO:.. 000078745
ORDER DATE: 3/10/98
SHIP DATE:. 3/19/98

SOLD TO: 2543
LAW ENGINEERING ENV.SVC. INC.
112 TOWN PARK DR.

KENNESAW GA 30144

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. PLANT TO ARRANGE

SHIP TO: 01
RUSTY KNOWLES, WESI
C/O PROTECO LF
RT. 385 Km 4.5

PENUELAS PR 00624

PO: PROTECO 001

PRODUCT	SIZE U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-CLAYMAX200RW	SFT SF	199811030	00000322	150.0	13.8	2075.0	3048
030-CLAYMAX200RW	SFT SF	199811030	00000323	150.0	13.8	2075.0	2845
030-CLAYMAX200RW	SFT SF	199811030	00000324	150.0	13.8	2075.0	3060
030-CLAYMAX200RW	SFT SF	199811030	00000325	150.0	13.8	2075.0	3134
030-CLAYMAX200RW	SFT SF	199811030	00000343	150.0	13.8	2075.0	2940
030-CLAYMAX200RW	SFT SF	199811030	00000344	150.0	13.8	2075.0	2854
030-CLAYMAX200RW	SFT SF	199811030	00000353	150.0	13.8	2075.0	2933
030-CLAYMAX200RW	SFT SF	199811030	00000354	150.0	13.8	2075.0	2939
030-CLAYMAX200RW	SFT SF	199811030	00000371	150.0	13.8	2075.0	2998
030-CLAYMAX200RW	SFT SF	199811030	00000372	150.0	13.8	2075.0	2972
030-CLAYMAX200RW	SFT SF	199811030	00000373	150.0	13.8	2075.0	2963
030-CLAYMAX200RW	SFT SF	199811030	00000374	150.0	13.8	2075.0	2958
030-CLAYMAX200RW	SFT SF	199812030	00000629	150.0	13.8	2075.0	2931
030-CLAYMAX200RW	SFT SF	199812030	00000631	150.0	13.8	2075.0	2956

ORDER TOTALS.....	======== 29050.0	======= 41531.
TOTAL ITEMS..... 14		

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE 11MM1

CARRIER NAME: PLANT TO ARRANGE
CONSIGNED TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
RT. 385 Km 4.5

PENUELAS PR 00624
PHONE: 787-836-2058
SOLDTO: 2543 **SHIPTO:** 01
CONSIGNED P.O.#: PROTECO 001
CAR/VEHICLE#:

DELIVERING CARRIER:
DEL DATE: 3/19/98 SHIPPER'S NO: 000078749
SHIP DATE: 3/19/98
SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPING PLANT: FAIRMOUNT, GA
P.O. BOX 88
FAIRMOUNT GA 30139

ROUTING/CONTRACT:
Bking
CA 28652550

ORDER COMMENTS ORDER IS FOR 146,250 SF BENTOMAT ST WITH 65 BAGS
ORDER COMMENTS ONE SPREADER ASSY AND ONE STINGER ASSY

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
~~[illegible]~~ 000	31,500	BENTOMAT ST	~~37,527.7500~~
14 Rolls-150'		CLOTH, SYNTHETIC FIBRE, NOT WOVEN, KNITTED NOR STITCHED	
~~[illegible]~~		~~CG 50 SEAMING CLAY (10902/021)~~	~~[illegible]~~
		~~CLAY BENTONITE-GROUND (CLASS 50) 3295232~~	

GROSS: .00 TARE: .00 NET: 40857 ~~[illegible]~~

Container NO TEXU5023857

Seal No 2774

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.	If charges are to be prepaid, write or stamp here, "Prepaid."
COLLOID ENVIRONMENTAL TEC	PREPAID
(Signature of Consignor)	Shipper liable for line haul charges only. COD charges to be paid by: Consignee

***MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of [illegible]ute to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms [illegible]tions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, [illegible]he applicable motor carrier classification or tarrif if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tarrif which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER: Grey Brantley

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☐ NO—FURNISHED BY CARRIER
DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
RLINGTON HEIGHTS IL 60004

ORDER NO:.. 000078749
ORDER DATE: 3/10/98
SHIP DATE:. 3/19/98

SOLD TO: 2543
LAW ENGINEERING ENV.SVC. INC.
112 TOWN PARK DR.

KENNESAW GA 30144

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. PLANT TO ARRANGE

SHIP TO: 01
RUSTY KNOWLES, WESI
C/O PROTECO LF
RT. 385 Km 4.5

PENUELAS PR 00624

PO: PROTECO 001

PRODUCT	SIZE U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-BENTOMAT ST	SFT SF	199811030	00001165	150.0	15.0	2250.0	2851
030-BENTOMAT ST	SFT SF	199811030	00001167	150.0	15.0	2250.0	2861
030-BENTOMAT ST	SFT SF	199811030	00001168	150.0	15.0	2250.0	2966
030-BENTOMAT ST	SFT SF	199811030	00001169	150.0	15.0	2250.0	2972
030-BENTOMAT ST	SFT SF	199811030	00001181	150.0	15.0	2250.0	2933
030-BENTOMAT ST	SFT SF	199811030	00001202	150.0	15.0	2250.0	2881
030-BENTOMAT ST	SFT SF	199811030	00001208	150.0	15.0	2250.0	2985
030-BENTOMAT ST	SFT SF	199811030	00001214	150.0	15.0	2250.0	2891
030-BENTOMAT ST	SFT SF	199811030	00001215	150.0	15.0	2250.0	2927
030-BENTOMAT ST	SFT SF	199811030	00001219	150.0	15.0	2250.0	2917
030-BENTOMAT ST	SFT SF	199811030	00001229	150.0	15.0	2250.0	2954
030-BENTOMAT ST	SFT SF	199811030	00001253	150.0	15.0	2250.0	2967
030-BENTOMAT ST	SFT SF	199812030	00001331	150.0	15.0	2250.0	2840
030-BENTOMAT ST	SFT SF	199812030	00001535	150.0	15.0	2250.0	2912

ORDER TOTALS..... ======== =======
31500.0 40857.

TOTAL ITEMS..... 14

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE 12PM

CARRIER NAME: PLANT TO ARRANGE
CONSIGNED TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
RT. 385 Km 4.5

PENUELAS PR 00624
PHONE: 787-836-2058
SOLDTO: 2543 **SHIPTO:** 01
CONSIGNED P.O.#: PROTECO 001
CAR/VEHICLE#:

DELIVERING CARRIER:
SHIPPER'S NO: 000078750
DEL DATE: 3/15/98 SHIP DATE: ~~3/10/98~~ 3/19/98
SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPING PLANT: FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

ROUTING/CONTRACT:
Bkins
CA286S2550

ORDER COMMENTS ORDER IS FOR 146,250 SF BENTOMAT ST WITH 65 BAGS
ORDER COMMENTS ONE SPREADER ASSY AND ONE STINGER ASSY

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
29250.0000	31,500	BENTOMAT ST CLOTH, SYNTHETIC FIBRE, NOT WOVEN, KNITTED NOR STITCHED	40586
14 Rolls 150'			
~~13.0000~~		~~CG-50 SEAMING CLAY~~ ~~(16902/024)~~ ~~CLAY-BENTONITE GROUND (CLASS 50)~~ ~~5255292~~	~~650.0000~~

GROSS: .00 TARE: .00 NET: 40586

Container No IRIU9025363

Seal No 2775

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges. COLLOID ENVIRONMENTAL TEC (Signature of Consignor)	**If charges are to be prepaid, write or stamp here, "Prepaid."** PREPAID **Shipper liable for line haul charges only.** **COD charges to be paid by: Consignee**

***MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or the applicable motor carrier classification or tarrif if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tarrif which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER:

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☐ NO—FURNISHED BY CARRIER
DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
`LINGTON HEIGHTS IL 60004

ORDER NO:.. 000078750
ORDER DATE: 3/10/98
SHIP DATE:. 3/19/98

SOLD TO: 2543
LAW ENGINEERING ENV.SVC. INC.
112 TOWN PARK DR.

KENNESAW GA 30144

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. PLANT TO ARRANGE

SHIP TO: 01
RUSTY KNOWLES, WESI
C/O PROTECO LF
RT. 385 Km 4.5

PENUELAS PR 00624

PO: PROTECO 001

PRODUCT	SIZE	U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-BENTOMAT ST		SFT	SF 199811030	00001195	150.0	15.0	2250.0	2947
030-BENTOMAT ST		SFT	SF 199811030	00001201	150.0	15.0	2250.0	2878
030-BENTOMAT ST		SFT	SF 199811030	00001204	150.0	15.0	2250.0	2919
030-BENTOMAT ST		SFT	SF 199811030	00001205	150.0	15.0	2250.0	2900
030-BENTOMAT ST		SFT	SF 199811030	00001207	150.0	15.0	2250.0	2894
030-BENTOMAT ST		SFT	SF 199811030	00001210	150.0	15.0	2250.0	2903
030-BENTOMAT ST		SFT	SF 199811030	00001211	150.0	15.0	2250.0	2970
030-BENTOMAT ST		SFT	SF 199811030	00001212	150.0	15.0	2250.0	2897
030-BENTOMAT ST		SFT	SF 199811030	00001213	150.0	15.0	2250.0	2898
030-BENTOMAT ST		SFT	SF 199811030	00001216	150.0	15.0	2250.0	2888
030-BENTOMAT ST		SFT	SF 199811030	00001217	150.0	15.0	2250.0	2891
030-BENTOMAT ST		SFT	SF 199811030	00001218	150.0	15.0	2250.0	2871
030-BENTOMAT ST		SFT	SF 199811030	00001221	150.0	15.0	2250.0	2866
030-BENTOMAT ST		SFT	SF 199811030	00001222	150.0	15.0	2250.0	2864

	========	=======
ORDER TOTALS.....	31500.0	40586.

TOTAL ITEMS..... 14

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE

CARRIER NAME: Container

DELIVERING CARRIER:

CONSIGNED TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
RT. 385 Km 4.5

PENUELAS PR 00624
PHONE: 787-836-2058

SOLDTO: 2543 SHIPTO: 01

CONSIGNED P.O.#: PROTECO 1

CAR/VEHICLE#:

SHIPPER'S NO: 000079351
DEL DATE: 3/20/98 SHIP DATE: 3/19/98
SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPING PLANT: FAIRMOUNT.GA
P.O. BOX 88
FAIRMOUNT GA 30139

ROUTING/CONTRACT:

Bking No.
CA 28652550

ORDER COMMENTS TOTAL ORDER IS FOR 10375 OF RW AND 20250 OF ST W/ GCL INSTLL

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
10375.0000 5 Rolls-150'		CLAYMAX 200 RW OLD 200RW	~~[illegible]~~
20250.0000 9 Rolls-150'		BENTOMAT ST CLOTH, SYNTHETIC FIBRE, NOT WOVEN, KNITTED NOR STITCHED	40837 ~~[illegible]~~
1.0000 S' ser-special		GCL Installation Equip. MACHINES OR MACHINERY, NOI	400.0000

GROSS: .00 TARE: .00 NET: 41237 ~~[illegible]~~

Container No TEXU5004081

Seal No 2778

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

COLLOID ENVIRONMENTAL TEC

(Signature of Consignor)

If charges are to be prepaid, write or stamp here, "Prepaid."

PREPAID

Shipper liable for line haul charges only.

COD charges to be paid by: Consignee

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said r[illegible] destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and co[illegible] of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) [illegible] plicable motor carrier classification or tarrif if this is a motor carrier shipment.

Shipper [illegible] certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tarrif which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER: [signature]
Fri Coast

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED

☐ YES ☐ NO—FURNISHED BY CARRIER
DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
RLINGTON HEIGHTS IL 60004

ORDER NO:.. 000079351
ORDER DATE: 3/19/98
SHIP DATE:. 3/19/98

SOLD TO: 2543
LAW ENGINEERING ENV.SVC. INC.
112 TOWN PARK DR.

KENNESAW GA 30144

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. NATIONWIDE

SHIP TO: 01
RUSTY KNOWLES, WESI
C/O PROTECO LF
RT. 385 Km 4.5

PENUELAS PR 00624

PO: PROTECO 1

PRODUCT	SIZE U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-BENTOMAT ST	SFT SF	199811030	00001174	150.0	15.0	2250.0	2917
030-BENTOMAT ST	SFT SF	199811030	00001203	150.0	15.0	2250.0	2888
030-BENTOMAT ST	SFT SF	199811030	00001206	150.0	15.0	2250.0	2885
030-BENTOMAT ST	SFT SF	199811030	00001209	150.0	15.0	2250.0	2890
030-BENTOMAT ST	SFT SF	199811030	00001220	150.0	15.0	2250.0	2862
030-BENTOMAT ST	SFT SF	199811030	00001223	150.0	15.0	2250.0	2868
030-BENTOMAT ST	SFT SF	199812030	00001533	150.0	15.0	2250.0	2879
030-BENTOMAT ST	SFT SF	199812030	00001539	150.0	15.0	2250.0	2910
030-BENTOMAT ST	SFT SF	199812030	00001540	150.0	15.0	2250.0	2895
030-CLAYMAX200RW	SFT SF	199811030	00000318	150.0	13.8	2075.0	2831
030-CLAYMAX200RW	SFT SF	199811030	00000326	150.0	13.8	2075.0	2995
030-CLAYMAX200RW	SFT SF	199811030	00000327	150.0	13.8	2075.0	3013
030-CLAYMAX200RW	SFT SF	199811030	00000333	150.0	13.8	2075.0	3024
030-CLAYMAX200RW	SFT SF	199811030	00000355	150.0	13.8	2075.0	2980

ORDER TOTALS.....	======== 30625.0	======= 40837.
TOTAL ITEMS..... 14		

1 Stinger

CETCO

GEOSYNTHETIC CLAY LINER QUALITY TEST RESULTS

QCG#FT2 QCT#FT2
3/20/98 6:49:32

COLLOID ENVIRONMENTAL TECH CO

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
PENUELAS PR

O R D E R # 000078745

MATERIAL	LOT No.	ROLL No	BENTONITE MASS/AREA 0.75 lb/sqft ASTM D 5993	GRAB ELONGATION 12% Typical ASTM D 4632	GRAB STRENGTH 75 lb marv ASTM D 4632
030-CLAYMAX200RW	199812030	00000631	.86	25.60	237.60
030-CLAYMAX200RW	199812030	00000629	.86	25.60	237.60
030-CLAYMAX200RW	199811030	00000374	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000373	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000372	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000371	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000354	.96	27.20	237.00
030-CLAYMAX200RW	199811030	00000353	.96	27.20	237.00
030-CLAYMAX200RW	199811030	00000344	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000343	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000325	.88	27.20	237.00
030-CLAYMAX200RW	199811030	00000324	.88	27.20	237.00
030-CLAYMAX200RW	199811030	00000323	.88	27.20	237.00
030-CLAYMAX200RW	199811030	00000322	.88	27.20	237.00

NOTE:

An asterisk indicates the actual test done on the roll and the roll tested.
If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture content.

*** End of Report ***

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
PENUELAS PR

O R D E R # 000078749

MATERIAL	LOT No.	ROLL No	BENTONITE MASS/AREA 0.75 lb/sqft ASTM D 5993	GRAB ELONGATION 10% Typical ASTM D 4632	GRAB STRENGTH 90 lbs ASTM D 4632	PEEL STRENGTH 15 lbs ASTM D 4632
030-BENTOMAT ST	199812030	00001535	.94	16.00	104.00	29.20
030-BENTOMAT ST	199812030	00001331	.91	16.00	103.00	19.50
030-BENTOMAT ST	199811030	00001253	.93*	16.00	119.80	38.90*
030-BENTOMAT ST	199811030	00001229	.93*	16.00	119.80*	32.60*
030-BENTOMAT ST	199811030	00001219	.88*	16.00	103.40	26.70*
030-BENTOMAT ST	199811030	00001215	.93	16.00	103.40	20.50
030-BENTOMAT ST	199811030	00001214	.93	16.00	103.40	20.50
030-BENTOMAT ST	199811030	00001208	.93	16.00	103.40	28.30
030-BENTOMAT ST	199811030	00001202	.92	16.00	103.40	35.00
030-BENTOMAT ST	199811030	00001181	.91	16.00	103.40	39.50
030-BENTOMAT ST	199811030	00001169	1.04	81.60	332.60	28.20
030-BENTOMAT ST	199811030	00001168	1.04	81.60	332.60	28.20
030-BENTOMAT ST	199811030	00001167	1.04	81.60	332.60	28.20
030-BENTOMAT ST	199811030	00001165	1.04	81.60	332.60	28.20

NOTE:

An asterisk indicates the actual test done on the roll and the roll tested.
If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture content.
Grab Elongation is tested a minimum of every 200,000sf.

*** End of Report ***

QCG#FT2 QCT#FT2
3/20/98 6:50:29

COLLOID ENVIRONMENTAL TECH CO

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
PENUELAS PR

O R D E R # 000078750

MATERIAL	LOT No.	ROLL No	BENTONITE MASS/AREA 0.75 lb/sqft ASTM D 5993	GRAB ELONGATION 10% Typical ASTM D 4632	GRAB STRENGTH 90 lbs ASTM D 4632	PEEL STRENGTH 15 lbs ASTM D 4632
030-BENTOMAT ST	199811030	00001222	.88	16.00	103.40	26.70
030-BENTOMAT ST	199811030	00001221	.88	16.00	103.40	26.70
030-BENTOMAT ST	199811030	00001218	.93	16.00	103.40	20.50
030-BENTOMAT ST	199811030	00001217	.93	16.00	103.40	20.50
030-BENTOMAT ST	199811030	00001216	.93	16.00	103.40	20.50
030-BENTOMAT ST	199811030	00001213	.93	16.00	103.40	20.50
030-BENTOMAT ST	199811030	00001212	.93	16.00	103.40	20.50
030-BENTOMAT ST	199811030	00001211	.93	16.00	103.40	20.50*
030-BENTOMAT ST	199811030	00001210	.93	16.00	103.40	28.30
030-BENTOMAT ST	199811030	00001207	.93	16.00	103.40	28.30
030-BENTOMAT ST	199811030	00001205	.93	16.00	103.40	28.30
030-BENTOMAT ST	199811030	00001204	.93	16.00	103.40	28.30
030-BENTOMAT ST	199811030	00001201	.92	16.00	103.40	35.00
030-BENTOMAT ST	199811030	00001195	.92	16.00	103.40	35.00*

NOTE:

An asterisk indicates the actual test done on the roll and the roll tested.
If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture content.
Grab Elongation is tested a minimum of every 200,000sf.

*** End of Report ***

QCG#FT2 QCT#FT2
3/20/98 6:49:18

COLLOID ENVIRONMENTAL TECH CO

GCL QUALITY DATA

FAIRMOUNT, GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
PENUELAS PR

O R D E R # 000079351

MATERIAL	LOT No.	ROLL No	BENTONITE MASS/AREA 0.75 lb/sqft ASTM D 5993	GRAB ELONGATION 12% Typical ASTM D 4632	GRAB STRENGTH 75 lb marv ASTM D 4632
030-CLAYMAX200RW	199811030	00000355	.96	27.20	237.00
030-CLAYMAX200RW	199811030	00000333	.90*	27.20	237.00
030-CLAYMAX200RW	199811030	00000327	.88	27.20	237.00
030-CLAYMAX200RW	199811030	00000326	.88	27.20	237.00
030-CLAYMAX200RW	199811030	00000318	.88	27.20	237.00

NOTE:

An asterisk indicates the actual test done on the roll and the roll tested.
If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture content.

*** End of Report ***

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
PENUELAS PR

O R D E R # 000079351

MATERIAL	LOT No.	ROLL No	BENTONITE MASS/AREA 0.75 lb/sqft ASTM D 5993	GRAB ELONGATION 10% Typical ASTM D 4632	GRAB STRENGTH 90 lbs ASTM D 4632	PEEL STRENGTH 15 lbs ASTM D 4632
030-BENTOMAT ST	199812030	00001540	.94	16.00	104.00	29.20
030-BENTOMAT ST	199812030	00001539	.94	16.00	104.00	29.20
030-BENTOMAT ST	199812030	00001533	.94	16.00	104.00	29.20
030-BENTOMAT ST	199811030	00001223	.88	16.00	103.40	26.70
030-BENTOMAT ST	199811030	00001220	.88	16.00	103.40	26.70
030-BENTOMAT ST	199811030	00001209	.93	16.00	103.40	28.30
030-BENTOMAT ST	199811030	00001206	.93	16.00	103.40	28.30
030-BENTOMAT ST	199811030	00001203	.93*	16.00	103.40	28.30*
030-BENTOMAT ST	199811030	00001174	.91	16.00	103.40	39.60

NOTE:

An asterisk indicates the actual test done on the roll and the roll tested.
If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture content.
Grab Elongation is tested a minimum of every 200,000sf.

*** End of Report ***

BENTONITE
CERTIFICATE OF ANALYSIS

CETCO
92 HWY 37
LOVELL, WYO. 82431

DATE: 02-Mar-98

TO: **CETCO - CLAYMAX CORP.**
P.O. BOX 88

FAIRMOUNT, GA. 30139

ATTN: **CYNTHIA WILLIX**

Dear Sirs:

A shipment of **CG 50**
left our Lovell, WY plant on **24-Feb-98**
in **BN 453541**
as requested on your order no. **VERBAL**

A sample from this shipment was tested, and gave the following results:

TEST	METHOD	REQ. SPECIFICATION	ACTUAL RESULTS
RET. 10 MESH	ASTM C 136	0% .	0
PASSING 200 MESH	ASTM C 136	1.0 % MAX	0.4
MOISTURE	ASTM D 2216	12.0% MAX.	8.8
FREE SWELL	ASTM D 5890	24 MIN.	24
FLUID LOSS	ASTM D 5891	18.0 MAX.	14

We hereby certify that the results shown above represent this shipment.
Tests were conducted using American Standard Test Methods and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **R.P.**

Approved By: **MOSES BRISENO**

CETCO

In any correspondence regarding this shipment, please refer to our
Order Number **75112**

BENTONITE
CERTIFICATE OF ANALYSIS

CETCO
92 HWY 37
LOVELL, WYO. 82431

DATE: 19-Feb-98

TO: **CETCO - CLAYMAX CORP.**
P.O. BOX 88

FAIRMOUNT, GA. 30139

ATTN: **CYNTHIA WILLIX**

Dear Sirs:

A shipment of **CG 50**
left our Lovell, WY plant on **17-Feb-98**
in **BN 447241**
as requested on your order no. **VERBAL**

A sample from this shipment was tested, and gave the following results:

TEST	METHOD	REQ. SPECIFICATION	ACTUAL RESULTS
RET. 10 MESH	ASTM C 136	0% .	0
PASSING 200 MESH	ASTM C 136	1.0 % MAX	0.8
MOISTURE	ASTM D 2216	12.0% MAX.	7.2
FREE SWELL	ASTM D 5890	24 MIN.	24
FLUID LOSS	ASTM D 5891	18.0 MAX.	13.2

We hereby certify that the results shown above represent this shipment.
Tests were conducted using American Standard Test Methods and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **R.P.**

Approved By: **MOSES BRISENO**

CETCO

In any correspondence regarding this shipment, please refer to our
Order Number **75107**

BENTONITE
CERTIFICATE OF ANALYSIS

CETCO
92 HWY 37
LOVELL, WYO. 82431

DATE: 18-Feb-98

TO: **CETCO - CLAYMAX CORP.**
P.O. BOX 88

FAIRMOUNT, GA. 30139

ATTN: **CYNTHIA WILLIX**

Dear Sirs:

A shipment of **CG 50**
left our Lovell, WY plant on **16-Feb-98**
in **BN 460735**
as requested on your order no. **VERBAL**

A sample from this shipment was tested, and gave the following results:

TEST	METHOD	REQ. SPECIFICATION	ACTUAL RESULTS
RET. 10 MESH	ASTM C 136	0% .	0
PASSING 200 MESH	ASTM C 136	1.0 % MAX	0.4
MOISTURE	ASTM D 2216	12.0% MAX.	7.6
FREE SWELL	ASTM D 5890	24 MIN.	25
FLUID LOSS	ASTM D 5891	18.0 MAX.	14

We hereby certify that the results shown above represent this shipment.
Tests were conducted using American Standard Test Methods and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **C.L.**

Approved By: **MOSES BRISENO**

CETCO

In any correspondence regarding this shipment, please refer to our
Order Number **75106**

BENTONITE
CERTIFICATE OF ANALYSIS

CETCO
92 HWY 37
LOVELL, WYO. 82431

DATE: 12-Feb-98

TO: **CETCO - CLAYMAX CORP.**
P.O. BOX 88

FAIRMOUNT, GA. 30139

ATTN: **CYNTHIA WILLIX**

Dear Sirs:

A shipment of **CG 50**
left our Lovell, WY plant on **09-Feb-98**
in **BN 446185**
as requested on your order no. **VERBAL**

A sample from this shipment was tested, and gave the following results:

TEST	METHOD	REQ. SPECIFICATION	ACTUAL RESULTS
RET. 10 MESH	ASTM C 136	0% .	0
PASSING 200 MESH	ASTM C 136	1.0 % MAX	0.4
MOISTURE	ASTM D 2216	12.0% MAX.	6.4
FREE SWELL	ASTM D 5890	24 MIN.	24
FLUID LOSS	ASTM D 5891	18.0 MAX.	14.4

We hereby certify that the results shown above represent this shipment.
Tests were conducted using American Standard Test Methods and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **R.P.**

Approved By: **MOSES BRISENO**

CETCO

In any correspondence regarding this shipment, please refer to our
Order Number **75100**

BENTONITE
CERTIFICATE OF ANALYSIS

CETCO
92 HWY 37
LOVELL, WYO. 82431

DATE: 29-Jan-98

TO: **CETCO - CLAYMAX CORP.**
P.O. BOX 88

FAIRMOUNT, GA. 30139

ATTN: **CYNTHIA WILLIX**

Dear Sirs:

A shipment of **CG 50**
left our Lovell, WY plant on **27-Jan-98**
in **BN 455861**
as requested on your order no. **VERBAL**

A sample from this shipment was tested, and gave the following results:

TEST	METHOD	REQ. SPECIFICATION	ACTUAL RESULTS
RET. 10 MESH	ASTM C 136	0% .	0
PASSING 200 MESH	ASTM C 136	1.0 % MAX	0.3
MOISTURE	ASTM D 2216	12.0% MAX.	7.2
FREE SWELL	ASTM D 5890	24 MIN.	24
FLUID LOSS	ASTM D 5891	18.0 MAX.	13.2

We hereby certify that the results shown above represent this shipment.
Tests were conducted using American Standard Test Methods and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **R.P.**

Approved By: **MOSES BRISENO**

CETCO

In any correspondence regarding this shipment, please refer to our
Order Number **69152**

BENTONITE
CERTIFICATE OF ANALYSIS

CETCO
92 HWY 37
LOVELL, WYO. 82431

DATE: 02-Mar-98

TO: **CETCO - CLAYMAX CORP.**
P.O. BOX 88

FAIRMOUNT, GA. 30139

ATTN: **CYNTHIA WILLIX**

Dear Sirs:

A shipment of **CG 50**
left our Lovell, WY plant on **25-Feb-98**
in **ATSF 313962**
as requested on your order no. **VERBAL**

A sample from this shipment was tested, and gave the following results:

TEST	METHOD	REQ. SPECIFICATION	ACTUAL RESULTS
RET. 10 MESH	ASTM C 136	0% .	0
PASSING 200 MESH	ASTM C 136	1.0 % MAX	0.4
MOISTURE	ASTM D 2216	12.0% MAX.	8
FREE SWELL	ASTM D 5890	24 MIN.	26
FLUID LOSS	ASTM D 5891	18.0 MAX.	12.6

We hereby certify that the results shown above represent this shipment.
Tests were conducted using American Standard Test Methods and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **D.M.**

Approved By: **MOSES BRISENO**

CETCO

In any correspondence regarding this shipment, please refer to our
Order Number **75114**

CETCO

GEOSYNTHETIC CLAY LINER MQA TRACKING FORMS

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
PENUELAS PR

ORDER NUMBER 000078745

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199811030							
00000322	030-CLAYMAX200RW	150	2075	3048	7261840	7256770	455861
00000323	030-CLAYMAX200RW	150	2075	2845	7261840	7256770	455861
00000324	030-CLAYMAX200RW	150	2075	3060	7261840	7256770	455861
00000325	030-CLAYMAX200RW	150	2075	3134	7261840	7256770	455861
00000343	030-CLAYMAX200RW	150	2075	2940	404477	7256770	455861
00000344	030-CLAYMAX200RW	150	2075	2854	404477	7256770	455861
00000353	030-CLAYMAX200RW	150	2075	2933	404477	7254891	455861
00000354	030-CLAYMAX200RW	150	2075	2939	404477	7254891	455861
00000371	030-CLAYMAX200RW	150	2075	2998	7261849	7254891	455861
00000372	030-CLAYMAX200RW	150	2075	2972	7261849	7254891	455861
00000373	030-CLAYMAX200RW	150	2075	2963	7261849	7254891	455861
00000374	030-CLAYMAX200RW	150	2075	2958	7261849	7254891	455861
LOT# 199812030							
00000629	030-CLAYMAX200RW	150	2075	2931	7261846	7266373	460735
00000631	030-CLAYMAX200RW	150	2075	2956	7261846	7266373	460735

TOTAL SQUARE FEET..... 29,050

TOTAL PAGES 1

QCG#TF1 QCT#TF1
3/20/98 6:50:16

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
PENUELAS PR

ORDER NUMBER 000078749

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199811030									
00001165	030-BENTOMAT ST	150	2250	2851	7245834		199805010	00000222	446185
00001167	030-BENTOMAT ST	150	2250	2861	7249758		199805010	00000222	446185
00001168	030-BENTOMAT ST	150	2250	2966	7249758		199805010	00000222	446185
00001169	030-BENTOMAT ST	150	2250	2972	7249758		199805010	00000222	446185
00001181	030-BENTOMAT ST	150	2250	2933	7249758		199810010	00000528	447241
00001202	030-BENTOMAT ST	150	2250	2881	7255308		199810010	00000510	447241
00001208	030-BENTOMAT ST	150	2250	2985	7245930		199810010	00000510	447241
00001214	030-BENTOMAT ST	150	2250	2891	7245930		199810010	00000525	447241
00001215	030-BENTOMAT ST	150	2250	2927	7245930		199810010	00000525	447241
00001219	030-BENTOMAT ST	150	2250	2917	7245930		199810010	00000525	447241
00001229	030-BENTOMAT ST	150	2250	2954	7229734		199810010	00000509	455861
00001253	030-BENTOMAT ST	150	2250	2967	7238230		199810010	00000530	455861
LOT# 199812030									
00001331	030-BENTOMAT ST	150	2250	2840	7245829		199809010	00000494	455861
00001535	030-BENTOMAT ST	150	2250	2912	7265035		199811010	00000591	453541

TOTAL SQUARE FEET..... 31,500

TOTAL PAGES 1

QCG#TF1 QCT#TF1
3/20/98 6:50:29

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
PENUELAS PR

ORDER NUMBER 000078750

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199811030									
00001195	030-BENTOMAT ST	150	2250	2947	7255308		199810010	00000531	447241
00001201	030-BENTOMAT ST	150	2250	2878	7255308		199810010	00000510	447241
00001204	030-BENTOMAT ST	150	2250	2919	7245930		199810010	00000510	447241
00001205	030-BENTOMAT ST	150	2250	2900	7245930		199810010	00000510	447241
00001207	030-BENTOMAT ST	150	2250	2894	7245930		199810010	00000510	447241
00001210	030-BENTOMAT ST	150	2250	2903	7245930		199810010	00000525	447241
00001211	030-BENTOMAT ST	150	2250	2970	7245930		199810010	00000525	447241
00001212	030-BENTOMAT ST	150	2250	2897	7245930		199810010	00000525	447241
00001213	030-BENTOMAT ST	150	2250	2898	7245930		199810010	00000525	447241
00001216	030-BENTOMAT ST	150	2250	2888	7245930		199810010	00000525	447241
00001217	030-BENTOMAT ST	150	2250	2891	7245930		199810010	00000525	447241
00001218	030-BENTOMAT ST	150	2250	2871	7245930		199810010	00000525	447241
00001221	030-BENTOMAT ST	150	2250	2866	7245930		199810010	00000525	447241
00001222	030-BENTOMAT ST	150	2250	2864	7245930		199810010	00000525	447241

TOTAL SQUARE FEET..... 31,500

TOTAL PAGES 1

QCG#TF1 QCT#TF1
3/20/98 6:49:18

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
PENUELAS PR

ORDER NUMBER 000079351

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199811030							
00000318	030-CLAYMAX200RW	150	2075	2831	7261840	7256770	455861
00000326	030-CLAYMAX200RW	150	2075	2995	7261840	7256770	455861
00000327	030-CLAYMAX200RW	150	2075	3013	7261840	7256770	455861
00000333	030-CLAYMAX200RW	150	2075	3024	7261840	7256770	455861
00000355	030-CLAYMAX200RW	150	2075	2980	404477	7254891	455861

TOTAL SQUARE FEET..... 10,375

TOTAL PAGES 1

QCG#TF1 QCT#TF1
3/20/98 6:54:54

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: RUSTY KNOWLES, WEST
C/O PROTECO LF
PENUELAS PR

ORDER NUMBER 000079351

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199811030									
00001174	030-BENTOMAT ST	150	2250	2917	7249758		199808010	00000419	446185
00001203	030-BENTOMAT ST	150	2250	2888	7255308		199810010	00000510	447241
00001206	030-BENTOMAT ST	150	2250	2885	7245930		199810010	00000510	447241
00001209	030-BENTOMAT ST	150	2250	2890	7245930		199810010	00000525	447241
00001220	030-BENTOMAT ST	150	2250	2862	7245930		199810010	00000525	447241
00001223	030-BENTOMAT ST	150	2250	2868	7245930		199810010	00000525	447241
LOT# 199812030									
00001533	030-BENTOMAT ST	150	2250	2879	7265035		199811010	00000591	453541
00001539	030-BENTOMAT ST	150	2250	2910	7265035		199811010	00000591	453541
00001540	030-BENTOMAT ST	150	2250	2895	7265035		199811010	00000591	453541

TOTAL SQUARE FEET..... 20,250

TOTAL PAGES 1

CETCO
COLLOID ENVIRONMENTAL TECHNOLOGIES COMPANY
234 Gordon Street • Fairmount, GA 30139 • USA
(706) 337-5316 • Fax (706) 337-7334

19-Mar-98

Mr. Lee Powell
SCS Engineer
555 W. Granada Blvd.
Suite E4
Ormond Beach, FL 32174

Dear Mr. Powell:

Please find enclosed the MQA/MQC Data Package for Geosynthetic Clay Liner (GCL) shipments to Tomoka Farms LF, Daytona Beach, FL. These shipments left our CETCO - Fairmount, GA, plant on 3/18/98.

If you have any questions regarding the enclosed QA/QC information, please contact Mr. Derek Reece @ 1-800-220-2536.

Sincerely,

Cynthia Willix

Cynthia Willix
Quality Assurance Coordinator

CETCO

GEOSYNTHETIC CLAY LINER

MANUFACTURING QA/QC DATA PACKAGE

PROJECT NAME: Tomoka Farms LF

PREPARED FOR:

Mr. Lee Powell
SCS Engineer
555 W. Granada Blvd.
Suite E4
Ormond Beach, FL 32174

PREPARED BY:

Cynthia Willix
CETCO
P. O. Box 88
234 Gordon Street
Fairmount, GA 30139

Telephone # (706) 337-5316
Fax # (706) 337-2215

CETCO

GEOSYNTHETIC CLAY LINER

DAILY MANUFACTURING QA/QC DATA

FOR ALL GCL MANUFACTURED ON:

TOMOKA FARMS LF
DAYTONA BEACH, FL
CUSTOMER PO# PA74051
ORDER#67512-67515,67517-67518

CONTENTS:

1. **DAILY GCL PRODUCTION CERTIFICATION**
2. **GCL MANUFACTURING CERTIFICATON AND TEST RESULTS**
3. **GCL MQA TRACKING FORM**

CETCO

DAILY GEOSYNTHETIC CLAY LINER PRODUCTION CERTIFICATION

CETCO

GEOSYNTHETIC CLAY LINER MANUFACTURING CERTIFICATION

CETCO JOB:	TOMOKA FARMS LF
DATE:	MARCH 18, 1998
	67512-67515,67517-67518
PRODUCT:	BENTOMAT ST

Colloid Environmental Technologies Company (CETCO) hereby affirms and certifies that all of the Geosynthetic Clay Liner (GCL) manufactured in this lot achieves the physical and chemical criteria listed on the attached analysis sheets.

Cynthia Willix

Cynthia Willix
Quality Assurance Coordinator
CETCO

Subscribed and sworn to before me this 19th day of March, 1998.

Judy Hall

Notary Public

OFFICIAL SEAL
JUDY HALL
Notary Public, Georgia
GORDON COUNTY
My Commission Expires
Jan. 7, 2002

CETCO

BENTOMAT ST
MANUFACTURING CERTIFICATION

TO: Mr. Lee Powell
SCS Engineer
555 W. Granada Blvd.
Suite E4
Ormond Beach, FL 32174

PROJECT: Tomoka Farms LF

ORDER #: 67512-67515,67517-67518

CETCO hereby affirms and certifies that Bentomat ST material supplied to this project will meet the physical and chemical criteria listed below:

PROPERTY	TEST METHOD	MINIMUM VALUE
Finished Product		
Bentonite Mass/Area	ASTM D 5993*	0.75 lb/sq.ft. min.
Grab Strength	ASTM D 4632	90 lbs. MARV
Peel Strength	ASTM D 4632(modified)	15 lbs. min.
Permeabilty	ASTM D 5084	max. 5 x 10(-9) cm/sec

Cynthia Willis
Colloid Environmental Technologies Co. (CETCO)

Subscribed and sworn to before me this 19th day of March 1998.

Judy Hall
Notary Public

OFFICIAL SEAL
JUDY HALL
Notary Public, Georgia
GORDON COUNTY
My Commission Expires
Jan. 7, 2002

* Reported at 0% moisture content.

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE

CARRIER NAME: NATIONWIDE /Landstar

CONSIGNED TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
TOMOKA FARMS LF

DAYTONA BEACH FL 32114
PHONE: (904) 947 2952

SOLDTO: 607 SHIPTO: 01

CONSIGNED P.O.#: PA74051

CAR/VEHICLE#:

ROUTING/CONTRACT:

DELIVERING CARRIER:

DEL DATE: 3/19/98

SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPER'S NO: 000067512

SHIP DATE: 3/18/98

SHIPPING PLANT: FAIRMOUNT, GA
234 GORDON ST
FAIRMOUNT GA

ORDER COMMENTS ORDER IS FOR 2,297,096 SF BENTOMAT ST AND 1,020 BAGS CG 50
ORDER COMMENTS RELEASE MATERIAL AS NEEDED, SHIP OVER NEXT FOUR MONTHS

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
33750		BENTOMAT ST CLOTH, SYNTHETIC FIBRE, NOT WOVEN, KNITTED NOR STITCHED	43525
15 Rolls-150'			
15 bags		CG-50 SEAMING CLAY (10902/024) CLAY-BENTONITE-GROUND (CLASS 50) 3295232	750

GROSS: .00 TARE: .00 NET: 44275

Must deliver Thursday 3/19/98.

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
OLLOID ENVIRONMENTAL TEC

(Signature of Consignor)

If charges are to be prepaid, write or stamp here, "Prepaid."

PREPAID

Shipper liable for line haul charges only.

COD charges to be paid by: Consignee

1:05

MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its [illegible], otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said [illegible] destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and c[illegible] of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) [illegible] applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER: [illegible]

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED

☐ YES ☐ NO—FURNISHED BY CARRIER

DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
ARLINGTON HEIGHTS IL 60004

ORDER NO:.. 000067512
ORDER DATE: 9/22/97
SHIP DATE:. 3/18/98

SOLD TO: 607
VOLUSIA COUNTY
SOLID WASTE MANAGEMENT
123 W. INDIANA AVE.,2ND FLOOR

DELAND FL 32720-4262

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ABSORBED
SHIP VIA:.. NATIONWIDE

SHIP TO: 01
COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
TOMOKA FARMS LF

DAYTONA BEACH FL 32114

PO: PA74051

PRODUCT	SIZE U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-BENTOMAT ST	SFT SF	199812030	00001408	150.0	15.0	2250.0	2905
030-BENTOMAT ST	SFT SF	199812030	00001409	150.0	15.0	2250.0	2925
030-BENTOMAT ST	SFT SF	199812030	00001410	150.0	15.0	2250.0	2914
030-BENTOMAT ST	SFT SF	199812030	00001411	150.0	15.0	2250.0	2967
030-BENTOMAT ST	SFT SF	199812030	00001412	150.0	15.0	2250.0	2949
030-BENTOMAT ST	SFT SF	199812030	00001414	150.0	15.0	2250.0	2919
030-BENTOMAT ST	SFT SF	199812030	00001415	150.0	15.0	2250.0	2925
030-BENTOMAT ST	SFT SF	199812030	00001416	150.0	15.0	2250.0	2918
030-BENTOMAT ST	SFT SF	199812030	00001417	150.0	15.0	2250.0	2922
030-BENTOMAT ST	SFT SF	199812030	00001418	150.0	15.0	2250.0	2936
030-BENTOMAT ST	SFT SF	199812030	00001419	150.0	15.0	2250.0	2845
030-BENTOMAT ST	SFT SF	199812030	00001421	150.0	15.0	2250.0	2833
030-BENTOMAT ST	SFT SF	199812030	00001423	150.0	15.0	2250.0	2869
030-BENTOMAT ST	SFT SF	199812030	00001424	150.0	15.0	2250.0	2855
030-BENTOMAT ST	SFT SF	199812030	00001425	150.0	15.0	2250.0	2843

ORDER TOTALS.....	======== 33750.0	======= 43525.
TOTAL ITEMS..... 15		

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE PAGE 1 OF

CARRIER NAME: NATIONWIDE / Landstar
CONSIGNED TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
TOMOKA FARMS LF

DAYTONA BEACH FL 32114
PHONE: (904) 947 2952
SOLDTO: 607 SHIPTO: 01
CONSIGNED P.O.#: PA74051
CAR/VEHICLE#:

ROUTING/CONTRACT:

DELIVERING CARRIER:
DEL DATE: 3/19/98 SHIPPER'S NO: 000067513
SHIP DATE: 3/19/98
SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPING PLANT: FAIRMOUNT, GA
234 GORDON ST
FAIRMOUNT GA.

ORDER COMMENTS ORDER IS FOR 2,297,096 SF BENTOMAT ST AND 1,020 BAGS CG 50
ORDER COMMENTS RELEASE MATERIAL AS NEEDED. SHIP OVER NEXT FOUR MONTHS

QUANTITY	HM	DESCRIPTION OF ARTICLES / PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
33750 15 Rolls-150'		BENTOMAT ST CLOTH, SYNTHETIC FIBRE, NOT WOVEN, KNITTED NOR STITCHED	44121
15 bags		CG-50 SEAMING CLAY (10902/024) CLAY-BENTONITE-GROUND (CLASS 50) 3295232	750

GROSS: .00 TARE: .00 NET: 44871

Must deliver Thursday 3/19/98

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.	If charges are to be prepaid, write or stamp here, "Prepaid."
OLLOID ENVIRONMENTAL TEC	PREPAID
(Signature of Consignor)	Shipper liable for line haul charges only. COD charges to be paid by: Consignee

4:10

*MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if [illegible] route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion [illegible] route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms [illegible] conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or [illegible] the applicable motor carrier classification or tarrif if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tarrif which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER: Chuck Watt

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☐ NO—FURNISHED BY CARRIER
DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
`RLINGTON HEIGHTS IL 60004

ORDER NO:.. 000067513
ORDER DATE: 9/22/97
SHIP DATE:. 3/18/98

SOLD TO: 607
VOLUSIA COUNTY
SOLID WASTE MANAGEMENT
123 W. INDIANA AVE.,2ND FLOOR

DELAND FL 32720-4262

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ABSORBED
SHIP VIA:.. NATIONWIDE

SHIP TO: 01
COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
TOMOKA FARMS LF

DAYTONA BEACH FL 32114

PO: PA74051

PRODUCT	SIZE	U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-BENTOMAT ST		SFT	SF 199811030	00001226	150.0	15.0	2250.0	2898
030-BENTOMAT ST		SFT	SF 199811030	00001227	150.0	15.0	2250.0	2896
030-BENTOMAT ST		SFT	SF 199811030	00001228	150.0	15.0	2250.0	2961
030-BENTOMAT ST		SFT	SF 199811030	00001237	150.0	15.0	2250.0	2989
030-BENTOMAT ST		SFT	SF 199811030	00001238	150.0	15.0	2250.0	2944
030-BENTOMAT ST		SFT	SF 199811030	00001239	150.0	15.0	2250.0	2934
030-BENTOMAT ST		SFT	SF 199811030	00001240	150.0	15.0	2250.0	2950
030-BENTOMAT ST		SFT	SF 199811030	00001256	150.0	15.0	2250.0	2932
030-BENTOMAT ST		SFT	SF 199812030	00001397	150.0	15.0	2250.0	2980
030-BENTOMAT ST		SFT	SF 199812030	00001405	150.0	15.0	2250.0	2961
030-BENTOMAT ST		SFT	SF 199812030	00001406	150.0	15.0	2250.0	2942
030-BENTOMAT ST		SFT	SF 199812030	00001407	150.0	15.0	2250.0	2921
030-BENTOMAT ST		SFT	SF 199812030	00001413	150.0	15.0	2250.0	2952
030-BENTOMAT ST		SFT	SF 199812030	00001420	150.0	15.0	2250.0	2933
030-BENTOMAT ST		SFT	SF 199812030	00001472	150.0	15.0	2250.0	2928

	========	=======
ORDER TOTALS.....	33750.0	44121.

TOTAL ITEMS..... 15

15 Bag

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE PAGE[1] OF

CARRIER NAME: NATIONWIDE / Landstar
CONSIGNED TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
TOMOKA FARMS LF

DAYTONA BEACH FL 32114
PHONE: (904) 947 2952
SOLDTO: 607 SHIPTO: 01

CONSIGNED P.O.#: PA74051
CAR/VEHICLE#:

ROUTING/CONTRACT:

DELIVERING CARRIER:
DEL DATE: 3/19/98 [redacted]
SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPER'S NO: 000067514
SHIP DATE: [redacted] 3/18/98

SHIPPING PLANT: FAIRMOUNT, GA
234 GORDON ST
FAIRMOUNT GA .

ORDER COMMENTS ORDER IS FOR 2,297,096 SF BENTOMAT ST AND 1,020 BAGS CG 50
ORDER COMMENTS RELEASE MATERIAL AS NEEDED, SHIP OVER NEXT FOUR MONTHS

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
[redacted] 33750		BENTOMAT ST CLOTH, SYNTHETIC FIBRE, NOT WOVEN, KNITTED NOR STITCHED	43311 [redacted]
15 Rolls-150' [redacted]			
15 bags		CG-50 SEAMING CLAY (10902/024) CLAY-BENTONITE-GROUND (CLASS 50) 3295232	[redacted] 750.-
			44061

GROSS: .00 TARE: .00 NET: [redacted]

Must deliver Thursday 3/19/98.

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
COLLOID ENVIRONMENTAL TEC

(Signature of Consignor)

If charges are to be prepaid, write or stamp here, "Prepaid."

PREPAID

Shipper liable for line haul charges only.
COD charges to be paid by: Consignee

5:05

***MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER:

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED ☐ YES ☐ NO—FURNISHED BY CARRIER
PLACARDS SUPPLIED
DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
ARLINGTON HEIGHTS IL 60004

ORDER NO:.. 000067514
ORDER DATE: 9/22/97
SHIP DATE:. 3/18/98

SOLD TO: 607
VOLUSIA COUNTY
SOLID WASTE MANAGEMENT
123 W. INDIANA AVE.,2ND FLOOR

DELAND FL 32720-4262

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ABSORBED
SHIP VIA:.. NATIONWIDE

SHIP TO: 01
COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
TOMOKA FARMS LF

DAYTONA BEACH FL 32114

PO: PA74051

PRODUCT	SIZE U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-BENTOMAT ST	SFT SF	199812030	00001380	150.0	15.0	2250.0	2808
030-BENTOMAT ST	SFT SF	199812030	00001389	150.0	15.0	2250.0	2917
030-BENTOMAT ST	SFT SF	199812030	00001391	150.0	15.0	2250.0	2901
030-BENTOMAT ST	SFT SF	199812030	00001392	150.0	15.0	2250.0	2922
030-BENTOMAT ST	SFT SF	199812030	00001393	150.0	15.0	2250.0	2951
030-BENTOMAT ST	SFT SF	199812030	00001394	150.0	15.0	2250.0	2945
030-BENTOMAT ST	SFT SF	199812030	00001396	150.0	15.0	2250.0	2947
030-BENTOMAT ST	SFT SF	199812030	00001398	150.0	15.0	2250.0	2946
030-BENTOMAT ST	SFT SF	199812030	00001399	150.0	15.0	2250.0	2961
030-BENTOMAT ST	SFT SF	199812030	00001400	150.0	15.0	2250.0	2945
030-BENTOMAT ST	SFT SF	199812030	00001401	150.0	15.0	2250.0	2946
030-BENTOMAT ST	SFT SF	199812030	00001402	150.0	15.0	2250.0	2940
030-BENTOMAT ST	SFT SF	199812030	00001403	150.0	15.0	2250.0	2978
030-BENTOMAT ST	SFT SF	199812030	00001404	150.0	15.0	2250.0	2252
030-BENTOMAT ST	SFT SF	199812030	00001469	150.0	15.0	2250.0	2952

ORDER TOTALS..... ======== =======
33750.0 43311.

TOTAL ITEMS..... 15

15 Bags

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE

CARRIER NAME: NATIONWIDE / SIE

CONSIGNED TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
TOMOKA FARMS LF

DAYTONA BEACH FL 32114
PHONE: (904) 947 2952

SOLDTO: 607 SHIPTO: 01

CONSIGNED P.O.#: PA74051

CAR/VEHICLE#:

ROUTING/CONTRACT:

DELIVERING CARRIER:

DEL DATE: 3/19/98 SHIPPER'S NO: 000067515

SHIP DATE: 3/18/98

SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPING PLANT: FAIRMOUNT, GA
234 GORDON ST
FAIRMOUNT GA

ORDER COMMENTS ORDER IS FOR 2,297,096 SF BENTOMAT ST AND 1,020 BAGS CG 50
ORDER COMMENTS RELEASE MATERIAL AS NEEDED, SHIP OVER NEXT FOUR MONTHS

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
15 Rolls-150'		BENTOMAT ST CLOTH, SYNTHETIC FIBRE, NOT WOVEN, KNITTED NOR STITCHED	44086
15 bags		CG-50 SEAMING CLAY (10902/024) CLAY-BENTONITE-GROUND (CLASS 50) 3295232	750

GROSS: .00 TARE: .00 NET: 44836

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
COLLOID ENVIRONMENTAL TEC

(Signature of Consignor)

If charges are to be prepaid, write or stamp here, "Prepaid."

PREPAID

Shipper liable for line haul charges only.

COD charges to be paid by: Consignee

3:25

"MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on [illegible] otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of [illegible] to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and [illegible] of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) [illegible] applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tarrif which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER: SIE

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☐ NO—FURNISHED BY CARRIER

DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
RLINGTON HEIGHTS IL 60004

ORDER NO:.. 000067515
ORDER DATE: 9/22/97
SHIP DATE:. 3/18/98

SOLD TO: 607
VOLUSIA COUNTY
SOLID WASTE MANAGEMENT
123 W. INDIANA AVE.,2ND FLOOR

DELAND FL 32720-4262

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ABSORBED
SHIP VIA:.. NATIONWIDE

SHIP TO: 01
COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
TOMOKA FARMS LF

DAYTONA BEACH FL 32114

PO: PA74051

PRODUCT	SIZE U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-BENTOMAT ST	SFT SF	199812030	00001272	150.0	15.0	2250.0	2623
030-BENTOMAT ST	SFT SF	199812030	00001275	150.0	15.0	2250.0	2947
030-BENTOMAT ST	SFT SF	199812030	00001276	150.0	15.0	2250.0	2868
030-BENTOMAT ST	SFT SF	199812030	00001277	150.0	15.0	2250.0	2903
030-BENTOMAT ST	SFT SF	199812030	00001282	150.0	15.0	2250.0	2941
030-BENTOMAT ST	SFT SF	199812030	00001283	150.0	15.0	2250.0	2965
030-BENTOMAT ST	SFT SF	199812030	00001284	150.0	15.0	2250.0	2958
030-BENTOMAT ST	SFT SF	199812030	00001285	150.0	15.0	2250.0	2983
030-BENTOMAT ST	SFT SF	199812030	00001286	150.0	15.0	2250.0	2988
030-BENTOMAT ST	SFT SF	199812030	00001290	150.0	15.0	2250.0	2967
030-BENTOMAT ST	SFT SF	199812030	00001291	150.0	15.0	2250.0	2998
030-BENTOMAT ST	SFT SF	199812030	00001292	150.0	15.0	2250.0	2987
030-BENTOMAT ST	SFT SF	199812030	00001297	150.0	15.0	2250.0	2982
030-BENTOMAT ST	SFT SF	199812030	00001298	150.0	15.0	2250.0	3036
030-BENTOMAT ST	SFT SF	199812030	00001302	150.0	15.0	2250.0	2940

ORDER TOTALS..... ======== =======
33750.0 44086.

TOTAL ITEMS..... 15

15 Bags

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE

CARRIER NAME: NATIONWIDE /TEI

CONSIGNED TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
TOMOKA FARMS LF

DAYTONA BEACH FL 32114
PHONE: (904) 947 2952

SOLDTO: 607 SHIPTO: 01

CONSIGNED P.O.#: PA74051

CAR/VEHICLE#:

ROUTING/CONTRACT:

DELIVERING CARRIER:

DEL DATE: 3/19/98 SHIPPER'S NO: 000067517

SHIP DATE: 3/18/98

SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPING PLANT: FAIRMOUNT, GA
234 GORDON ST
FAIRMOUNT GA .

ORDER COMMENTS ORDER IS FOR 2,297,096 SF BENTOMAT ST AND 1,020 BAGS CG 50
ORDER COMMENTS RELEASE MATERIAL AS NEEDED, SHIP OVER NEXT FOUR MONTHS

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
33150 15 Rolls 150'		BENTOMAT ST CLOTH, SYNTHETIC FIBRE, NOT WOVEN, KNITTED NOR STITCHED	43439
15 bags		CG-50 SEAMING CLAY (10902/024) CLAY-BENTONITE-GROUND (CLASS 50) 3295232	750

GROSS: .00 TARE: .00 NET: 44189

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

COLLOID ENVIRONMENTAL TEC

(Signature of Consignor)

If charges are to be prepaid, write or stamp here, "Prepaid."

PREPAID

Shipper liable for line haul charges only.

COD charges to be paid by: Consignee

***MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER: Pritchett Truckings
L. Thornton

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☐ NO—FURNISHED BY CARRIER

DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
ARLINGTON HEIGHTS IL 60004

ORDER NO:.. 000067517
ORDER DATE: 9/22/97
SHIP DATE:. 3/18/98

SOLD TO: 607
VOLUSIA COUNTY
SOLID WASTE MANAGEMENT
123 W. INDIANA AVE.,2ND FLOOR

DELAND FL 32720-4262

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ABSORBED
SHIP VIA:.. NATIONWIDE

SHIP TO: 01
COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
TOMOKA FARMS LF

DAYTONA BEACH FL 32114

PO: PA74051

PRODUCT	SIZE U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-BENTOMAT ST	SFT SF	199812030	00001281	150.0	15.0	2250.0	2952
030-BENTOMAT ST	SFT SF	199812030	00001296	150.0	15.0	2250.0	3004
030-BENTOMAT ST	SFT SF	199812030	00001303	150.0	15.0	2250.0	2967
030-BENTOMAT ST	SFT SF	199812030	00001305	150.0	15.0	2250.0	2784
030-BENTOMAT ST	SFT SF	199812030	00001306	150.0	15.0	2250.0	2930
030-BENTOMAT ST	SFT SF	199812030	00001309	150.0	15.0	2250.0	2913
030-BENTOMAT ST	SFT SF	199812030	00001310	150.0	15.0	2250.0	2927
030-BENTOMAT ST	SFT SF	199812030	00001311	150.0	15.0	2250.0	2937
030-BENTOMAT ST	SFT SF	199812030	00001312	150.0	15.0	2250.0	2939
030-BENTOMAT ST	SFT SF	199812030	00001313	150.0	15.0	2250.0	2940
030-BENTOMAT ST	SFT SF	199812030	00001317	150.0	15.0	2250.0	2912
030-BENTOMAT ST	SFT SF	199812030	00001318	150.0	15.0	2250.0	2592
030-BENTOMAT ST	SFT SF	199812030	00001322	150.0	15.0	2250.0	2908
030-BENTOMAT ST	SFT SF	199812030	00001323	150.0	15.0	2250.0	2888
030-BENTOMAT ST	SFT SF	199812030	00001326	150.0	15.0	2250.0	2846

ORDER TOTALS..... ======== =======
33750.0 43439.

TOTAL ITEMS..... 15

15 Bags

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE PAGE[1] OF

CARRIER NAME: NATIONWIDE / TEL

CONSIGNED TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
TOMOKA FARMS LF

DAYTONA BEACH FL 32114
PHONE: (904) 947 2962

SOLDTO: 607 SHIPTO: 01

CONSIGNED P.O.#: PA74051
CAR/VEHICLE#:

ROUTING/CONTRACT:

DELIVERING CARRIER:

DEL DATE: 3/19/98 SHIPPER'S NO: 000067518
SHIP DATE: 3/18/98

SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPING PLANT: FAIRMOUNT, GA
234 GORDON ST
FAIRMOUNT GA

ORDER COMMENTS ORDER IS FOR 2,297,096 SF BENTOMAT ST AND 1,020 BAGS CG 50
ORDER COMMENTS RELEASE MATERIAL AS NEEDED, SHIP OVER NEXT FOUR MONTHS

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
33750 15 Rolls - 150'		BENTOMAT ST CLOTH, SYNTHETIC FIBRE, NOT WOVEN, KNITTED NOR STITCHED	41044
15 bags		CG-50 SEAMING CLAY (10902/024) CLAY-BENTONITE-GROUND (CLASS 50) 3295232	750.

GROSS: .00 TARE: .00 NET: 41794

Must deliver Thursday 3/19/98.

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
COLLOID ENVIRONMENTAL TEC

(Signature of Consignor)

If charges are to be prepaid, write or stamp here, "Prepaid."

PREPAID

Shipper liable for line haul charges only.

COD charges to be paid by: Consignee

***MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if [illegible] route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion [illegible] to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms a[illegible]tions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or [illegible] the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER: Stanley Brown

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☐ NO—FURNISHED BY CARRIER

DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
ARLINGTON HEIGHTS IL 60004

ORDER NO:.. 000067518
ORDER DATE: 9/22/97
SHIP DATE:. 3/18/98

SOLD TO: 607
VOLUSIA COUNTY
SOLID WASTE MANAGEMENT
123 W. INDIANA AVE.,2ND FLOOR

DELAND FL 32720-4262

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ABSORBED
SHIP VIA:.. NATIONWIDE

SHIP TO: 01
COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
TOMOKA FARMS LF

DAYTONA BEACH FL 32114

PO: PA74051

PRODUCT	SIZE U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-BENTOMAT ST	SFT SF	199812030	00001278	150.0	15.0	2250.0	2967
030-BENTOMAT ST	SFT SF	199812030	00001279	150.0	15.0	2250.0	2979
030-BENTOMAT ST	SFT SF	199812030	00001280	150.0	15.0	2250.0	2971
030-BENTOMAT ST	SFT SF	199812030	00001287	150.0	15.0	2250.0	39
030-BENTOMAT ST	SFT SF	199812030	00001288	150.0	15.0	2250.0	2976
030-BENTOMAT ST	SFT SF	199812030	00001289	150.0	15.0	2250.0	2971
030-BENTOMAT ST	SFT SF	199812030	00001293	150.0	15.0	2250.0	3013
030-BENTOMAT ST	SFT SF	199812030	00001294	150.0	15.0	2250.0	2994
030-BENTOMAT ST	SFT SF	199812030	00001295	150.0	15.0	2250.0	3020
030-BENTOMAT ST	SFT SF	199812030	00001299	150.0	15.0	2250.0	2986
030-BENTOMAT ST	SFT SF	199812030	00001300	150.0	15.0	2250.0	2922
030-BENTOMAT ST	SFT SF	199812030	00001301	150.0	15.0	2250.0	2931
030-BENTOMAT ST	SFT SF	199812030	00001304	150.0	15.0	2250.0	2921
030-BENTOMAT ST	SFT SF	199812030	00001307	150.0	15.0	2250.0	2912
030-BENTOMAT ST	SFT SF	199812030	00001308	150.0	15.0	2250.0	2442

ORDER TOTALS..... ======== =======
33750.0 41044.

TOTAL ITEMS..... 15

15 Bags

CETCO

GEOSYNTHETIC CLAY LINER QUALITY TEST RESULTS

A Wholly Owned Subsidiary of AMCOL International

Printed on recycled paper.

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

O R D E R # 000067512

MATERIAL	LOT No.	ROLL No	BENTONITE MASS/AREA 0.75 lb/sqft ASTM D 5993	GRAB ELONGATION 10% Typical ASTM D 4632	GRAB STRENGTH 90 lbs ASTM D 4632	PEEL STRENGTH 15 lbs ASTM D 4632
030-BENTOMAT ST	199812030	00001425	.92	16.00	102.00	17.90
030-BENTOMAT ST	199812030	00001424	.92	16.00	102.00	17.90
030-BENTOMAT ST	199812030	00001423	.92	16.00	102.00	17.90
030-BENTOMAT ST	199812030	00001421	.97	16.00	102.00	22.30
030-BENTOMAT ST	199812030	00001419	.97	16.00	102.00	22.30
030-BENTOMAT ST	199812030	00001418	.97	16.00	102.00	22.30
030-BENTOMAT ST	199812030	00001417	.97	16.00	102.00	22.30
030-BENTOMAT ST	199812030	00001416	.97	16.00	102.00	22.30
030-BENTOMAT ST	199812030	00001415	.97	16.00	102.00	22.30
030-BENTOMAT ST	199812030	00001414	.97	16.00	102.00	22.30*
030-BENTOMAT ST	199812030	00001412	.97	16.00	102.00	20.80
030-BENTOMAT ST	199812030	00001411	.97	16.00	102.00	20.80
030-BENTOMAT ST	199812030	00001410	.97	16.00	102.00	20.80
030-BENTOMAT ST	199812030	00001409	.97	16.00	102.00	20.80
030-BENTOMAT ST	199812030	00001408	.97	16.00	102.00	20.80

NOTE:

An asterisk indicates the actual test done on the roll and the roll tested.
If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture content.
Grab Elongation is tested a minimum of every 200,000sf.

*** End of Report ***

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

O R D E R # 000067513

MATERIAL	LOT No.	ROLL No	BENTONITE MASS/AREA 0.75 lb/sqft ASTM D 5993	GRAB ELONGATION 10% Typical ASTM D 4632	PEEL STRENGTH 15 lbs ASTM D 4632	MOISTURE 25% Typical ASTM D 4643	PUNCTURE STRENGTH (lbs) ASTM D 4833	THICKNESS (mm) ASTM D 5199-91
030-BENTOMAT ST	199812030	00001472	.90	16.00	38.50	34.00		6.75
030-BENTOMAT ST	199812030	00001420	.97	16.00	22.30	30.60		7.91
030-BENTOMAT ST	199812030	00001413	.97	16.00	20.80	30.60		7.91
030-BENTOMAT ST	199812030	00001407	.97	16.00	20.80	30.60		7.91
030-BENTOMAT ST	199812030	00001406	.97	16.00	20.80	30.60		7.91
030-BENTOMAT ST	199812030	00001405	.97*	16.00	20.80*	30.60*		7.91*
030-BENTOMAT ST	199812030	00001397	.89	16.00	24.40*	32.40		7.67
030-BENTOMAT ST	199811030	00001256	.93	16.00	38.90	32.20		7.43
030-BENTOMAT ST	199811030	00001240	.91	16.00	40.90	33.20		6.81
030-BENTOMAT ST	199811030	00001239	.91	16.00	40.90	33.20		6.81
030-BENTOMAT ST	199811030	00001238	.91	16.00	40.90	33.20		6.81
030-BENTOMAT ST	199811030	00001237	.91*	16.00	40.90*	33.20*		6.81*
030-BENTOMAT ST	199811030	00001228	.88	16.00	26.70	31.50		6.89
030-BENTOMAT ST	199811030	00001227	.88	16.00	26.70	31.50		6.89
030-BENTOMAT ST	199811030	00001226	.88	16.00	26.70	31.50		6.89

NOTE:

An asterisk indicates the actual test done on the roll and the roll tested.
If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture content.
Grab Elongation is tested a minimum of every 200,000sf.

*** End of Report ***

QCG#FT2 QCT#FT2
3/19/98 7:48:53

COLLOID ENVIRONMENTAL TECH CO

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

O R D E R # 000067514

MATERIAL	LOT No.	ROLL No	PEEL STRENGTH 15 lbs ASTM D 4632	MOISTURE 25% Typical ASTM D 4643	PUNCTURE STRENGTH (lbs) ASTM D 4833	THICKNESS (mm) ASTM D 5199-91
030-BENTOMAT ST	199812030	00001469	38.50*	34.00*		6.75*
030-BENTOMAT ST	199812030	00001404	24.40	32.40		7.67
030-BENTOMAT ST	199812030	00001403	24.40	32.40		7.67
030-BENTOMAT ST	199812030	00001402	24.40	32.40		7.67
030-BENTOMAT ST	199812030	00001401	24.40	32.40		7.67
030-BENTOMAT ST	199812030	00001400	24.40	32.40		7.67
030-BENTOMAT ST	199812030	00001399	24.40	32.40		7.67
030-BENTOMAT ST	199812030	00001398	24.40	32.40		7.67
030-BENTOMAT ST	199812030	00001396	33.30	32.40		7.67
030-BENTOMAT ST	199812030	00001394	33.30	32.40		7.67
030-BENTOMAT ST	199812030	00001393	33.30	32.40		7.67
030-BENTOMAT ST	199812030	00001392	33.30	32.40		7.67
030-BENTOMAT ST	199812030	00001391	33.30	32.40		7.67
030-BENTOMAT ST	199812030	00001389	33.30*	32.40*		7.67*
030-BENTOMAT ST	199812030	00001380	37.70	30.20		7.99

NOTE:

An asterisk indicates the actual test done on the roll and the roll tested.
If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture content.
Grab Elongation is tested a minimum of every 200,000sf.

*** End of Report ***

QCG#FT2 QCT#FT2
3/19/98 7:49:21

COLLOID ENVIRONMENTAL TECH CO

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

O R D E R # 000067515

MATERIAL	LOT No.	ROLL No	PEEL STRENGTH 15 lbs ASTM D 4632	MOISTURE 25% Typical ASTM D 4643	PUNCTURE STRENGTH (lbs) ASTM D 4833	THICKNESS (mm) ASTM D 5199-91
030-BENTOMAT ST	199812030	00001302	27.30	29.90		7.43
030-BENTOMAT ST	199812030	00001298	27.30	29.90		7.43
030-BENTOMAT ST	199812030	00001297	27.30	29.90		7.43
030-BENTOMAT ST	199812030	00001292	37.10	33.10		6.99
030-BENTOMAT ST	199812030	00001291	37.10	33.10		6.99
030-BENTOMAT ST	199812030	00001290	37.10	33.10		6.99
030-BENTOMAT ST	199812030	00001286	38.70	33.10		6.99
030-BENTOMAT ST	199812030	00001285	38.70	33.10		6.99
030-BENTOMAT ST	199812030	00001284	38.70	33.10		6.99
030-BENTOMAT ST	199812030	00001283	38.70	33.10		6.99
030-BENTOMAT ST	199812030	00001282	38.70	33.10		6.99
030-BENTOMAT ST	199812030	00001277	21.50	31.80		7.26
030-BENTOMAT ST	199812030	00001276	21.50	31.80		7.26
030-BENTOMAT ST	199812030	00001275	21.50	31.80		7.26
030-BENTOMAT ST	199812030	00001272	21.50	31.80		7.26

NOTE:

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If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture content.
Grab Elongation is tested a minimum of every 200,000sf.

*** End of Report ***

QCG#FT2 QCT#FT2
3/19/98 7:49:49

COLLOID ENVIRONMENTAL TECH CO

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

O R D E R # 000067517

MATERIAL	LOT No.	ROLL No	PEEL STRENGTH 15 lbs ASTM D 4632	MOISTURE 25% Typical ASTM D 4643	PUNCTURE STRENGTH (lbs) ASTM D 4833	THICKNESS (mm) ASTM D 5199-91
030-BENTOMAT ST	199812030	00001326	24.40	30.90		7.43
030-BENTOMAT ST	199812030	00001323	24.40	30.90		7.43
030-BENTOMAT ST	199812030	00001322	24.40	30.90		7.43
030-BENTOMAT ST	199812030	00001318	17.20	30.90		7.43
030-BENTOMAT ST	199812030	00001317	17.20	30.90		7.43
030-BENTOMAT ST	199812030	00001313	17.20	30.90		7.43
030-BENTOMAT ST	199812030	00001312	17.20	30.90		7.43
030-BENTOMAT ST	199812030	00001311	17.20*	30.90*		7.43*
030-BENTOMAT ST	199812030	00001310	23.40	29.90		7.43
030-BENTOMAT ST	199812030	00001309	23.40	29.90		7.43
030-BENTOMAT ST	199812030	00001306	23.40	29.90		7.43
030-BENTOMAT ST	199812030	00001305	23.40	29.90		7.43
030-BENTOMAT ST	199812030	00001303	23.40*	29.90		7.43
030-BENTOMAT ST	199812030	00001296	27.30	29.90		7.43
030-BENTOMAT ST	199812030	00001281	38.70	33.10		6.99

NOTE:

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If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture content.
Grab Elongation is tested a minimum of every 200,000sf.

*** End of Report ***

QCG#FT2 QCT#FT2
3/19/98 7:50:17

COLLOID ENVIRONMENTAL TECH CO

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

O R D E R # 000067518

MATERIAL	LOT No.	ROLL No	PEEL STRENGTH 15 lbs ASTM D 4632	MOISTURE 25% Typical ASTM D 4643	PUNCTURE STRENGTH (lbs) ASTM D 4833	THICKNESS (mm) ASTM D 5199-91
030-BENTOMAT ST	199812030	00001308	23.40	29.90		7.43
030-BENTOMAT ST	199812030	00001307	23.40	29.90		7.43
030-BENTOMAT ST	199812030	00001304	23.40	29.90		7.43
030-BENTOMAT ST	199812030	00001301	27.30	29.90		7.43
030-BENTOMAT ST	199812030	00001300	27.30	29.90		7.43
030-BENTOMAT ST	199812030	00001299	27.30	29.90		7.43
030-BENTOMAT ST	199812030	00001295	27.30*	29.90*		7.43*
030-BENTOMAT ST	199812030	00001294	37.10	33.10		6.99
030-BENTOMAT ST	199812030	00001293	37.10	33.10		6.99
030-BENTOMAT ST	199812030	00001289	37.10	33.10		6.99
030-BENTOMAT ST	199812030	00001288	37.10	33.10		6.99
030-BENTOMAT ST	199812030	00001287	37.10*	33.10		6.99
030-BENTOMAT ST	199812030	00001280	38.70	33.10		6.99
030-BENTOMAT ST	199812030	00001279	38.70*	33.10*		6.99*
030-BENTOMAT ST	199812030	00001278	21.50	31.80		7.26

NOTE:

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If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture content.
Grab Elongation is tested a minimum of every 200,000sf.

*** End of Report ***

QCG#TF3 QCT#TF3
3/19/98 7:48:07

COLLOID ENVIRONMENTAL TECH CO
GEOTEXTILE QC DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

O R D E R # 000067512

MATERIAL	LOT#	ROLL#	GEOTEXTILE 6.0oz/sy mv ASTM D 5261	GRAB STRENGTH 6.0 lbs marv ASTM D 4632	GRAB ELONGATION 150% marv ASTM D 4632
030-NON-WOVEN	199809010	00000451	6.5	37.4	155.4
030-NON-WOVEN	199809010	00000463	6.2	25.9	167.3
030-NON-WOVEN	199809010	00000466	6.1	37.1	152.4

TOTAL PAGES 1

QCG#TF3 QCT#TF3
3/19/98 7:48:40

COLLOID ENVIRONMENTAL TECH CO
GEOTEXTILE QC DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

O R D E R # 000067513

MATERIAL	LOT#	ROLL#	GEOTEXTILE 6.0oz/sy mv ASTM D 5261	GRAB STRENGTH 6.0 lbs marv ASTM D 4632	GRAB ELONGATION 150% marv ASTM D 4632
030-NON-WOVEN	199809010	00000451	6.5	37.4	155.4
030-NON-WOVEN	199809010	00000466	6.1	37.1	152.4
030-NON-WOVEN	199809010	00000473	6.5	49.3	153.2
030-NON-WOVEN	199810010	00000504	6.5	32.3	149.2
030-NON-WOVEN	199810010	00000509	19.5	162.6	6.3
030-NON-WOVEN	199810010	00000526	34.1	151.6	6.9
030-NON-WOVEN	199810010	00000530	34.1	151.6	6.9

TOTAL PAGES 1

QCG#TF3 QCT#TF3
3/19/98 7:49:09

COLLOID ENVIRONMENTAL TECH CO
GEOTEXTILE QC DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

O R D E R # 000067514

MATERIAL	LOT#	ROLL#	GEOTEXTILE 6.0oz/sy mv ASTM D 5261	GRAB STRENGTH 6.0 lbs marv ASTM D 4632	GRAB ELONGATION 150% marv ASTM D 4632
030-NON-WOVEN	199809010	00000451	6.5	37.4	155.4
030-NON-WOVEN	199809010	00000473	6.5	49.3	153.2
030-NON-WOVEN	199809010	00000478	6.6	23.7	154.5
030-NON-WOVEN	199809010	00000484	6.3	25.7	129.8

TOTAL PAGES 1

QCG#TF3 QCT#TF3
3/19/98 7:50:04

COLLOID ENVIRONMENTAL TECH CO
GEOTEXTILE QC DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

O R D E R # 000067517

MATERIAL	LOT#	ROLL#	GEOTEXTILE 6.0oz/sy mv ASTM D 5261	GRAB STRENGTH 6.0 lbs marv ASTM D 4632	GRAB ELONGATION 150% marv ASTM D 4632
030-NON-WOVEN	199809010	00000450	6.5	37.4	155.4
030-NON-WOVEN	199809010	00000481	6.6	23.7	154.5
030-NON-WOVEN	199809010	00000482	6.6	23.7	154.5
030-NON-WOVEN	199809010	00000493	6.5	41.0	164.6
030-NON-WOVEN	199809010	00000494	6.5	41.0	164.6

TOTAL PAGES 1

QCG#TF3 QCT#TF3
3/19/98 7:50:32

COLLOID ENVIRONMENTAL TECH CO
GEOTEXTILE QC DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

O R D E R # 000067518

MATERIAL	LOT#	ROLL#	GEOTEXTILE 6.0oz/sy mv ASTM D 5261	GRAB STRENGTH 6.0 lbs marv ASTM D 4632	GRAB ELONGATION 150% marv ASTM D 4632
030-NON-WOVEN	199809010	00000481	6.6	23.7	154.5
030-NON-WOVEN	199809010	00000482	6.6	23.7	154.5
030-NON-WOVEN	199809010	00000493	6.5	41.0	164.6
030-NON-WOVEN	199810010	00000539	7.1	32.3	148.1

TOTAL PAGES 1

QCG#TF3 QCT#TF3
3/19/98 7:49:36

COLLOID ENVIRONMENTAL TECH CO
GEOTEXTILE QC DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

O R D E R # 000067515

MATERIAL	LOT#	ROLL#	GEOTEXTILE 6.0oz/sy mv ASTM D 5261	GRAB STRENGTH 6.0 lbs marv ASTM D 4632	GRAB ELONGATION 150% marv ASTM D 4632
030-NON-WOVEN	199809010	00000481	6.6	23.7	154.5
030-NON-WOVEN	199809010	00000482	6.6	23.7	154.5
030-NON-WOVEN	199809010	00000493	6.5	41.0	164.6
030-NON-WOVEN	199810010	00000539	7.1	32.3	148.1

TOTAL PAGES 1

SYNTHETIC INDUSTRIES

Geosynthetic Products Division

ISO 9002 CERTIFIED World Class Quality

January 27, 1998

Cetco-Fairmont
P.O. Box 88
234 Gordon Street
Fairmont, GA 30139

RE: Bill Of Lading #: 169532
PO# 30-2314

This is to certify that Style 82 Tex, a woven polypropylene fabric produced by Synthetic Industries, will meet the following certifiable minimum average values when tested in accordance with the proper ASTM test methods. A minimum average roll value is calculated as the mean minus two standard deviations, yielding a 97.5 percent confidence level.

PHYSICAL PROPERTY	TEST METHOD	U.S. UNITS	S.I. UNITS
MASS PER UNIT AREA	ASTM D-5261	3.2 oz/yd^2	105 g/m^2
TENSILE STRENGTH	ASTM D-4632	135 X 135 LBS	600 X 600 N
ELONGATION	ASTM D-4632	15 X 15 %	
PUNCTURE STRENGTH	ASTM D-4833	70 LBS	310 N
MULLEN BURST	ASTM D-3786	265 PSI	1820 kPa
TRAPEZOIDAL TEAR	ASTM D-4533	40 X 40 LBS	200 X 200 N
A.O.S.	ASTM D-4751	40 US STD SIEVE	0.425 mm
PERMITTIVITY	ASTM D-4491	0.08 SEC^{-1}	
UV RESISTANCE (Strength Retained After 150 Hours Xenon Arc Weatherometer)	ASTM D-4355	90 %	

Sincerely,

Randy Johnson
Technical Manager, Woven Geotextile Products

Seller makes no warranty, express or implied, concerning the product furnished hereunder other than at the time of delivery it shall be of the quality and specifications stated herein. ANY IMPLIED WARRANTY Of FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED AND, TO THE EXTENT THAT IT IS CONTRARY TO THE FOREGOING SENTENCE ANY IMPLIED WARRANTY OF MERCHANTABILITY IS EXPRESSLY EXCLUDED. Any recommendations made by the Seller concerning uses or applications of said product are believed reliable and Seller makes no warranty of results to be obtained. If the product does not meet Synthetic Industries current published specifications, and the Customer gives notice to Synthetic Industries before installing the product, then Synthetic Industries will replace the product without charge or refund the purchase price. This Data Sheet supersedes all previous Data Sheets for this style and is subject to change without notice. The effective date for this product data is 04/19/96.

Synthetic Industries, Inc.
4019 Industry Drive • Post Office Box 22788 • Chattanooga, Tennessee • 37422 • USA
Telephone • 423-899-0444 • Fax • 423-899-7619 • 1-800-621-0444

SYNTHETIC INDUSTRIES

Geosynthetic Products Division

BOL:169532

Style: 82-TEX

ROLL #	ASTM D-4632 GRAB TENSILE (LBS) W x F	ASTM D-4632 ELONGATION (%) W x F	ASTM D-3786 MULLEN BURST PSI	ASTM D-5261 MASS/UNIT AREA OZ/SQ YARD
7183605	153 x 160	25 x 28	335	3.4
7186498	155 x 157	23 x 24	328	3.4
7186499	146 x 146	22 x 22	336	3.4
7186692	153 x 146	25 x 24	343	3.3
7186693	157 x 142	23 x 22	326	3.3
7186921	148 x 142	22 x 24	321	3.3
7186922	157 x 149	24 x 28	311	3.5
7187015	156 x 167	23 x 25	346	3.5
7187016	158 x 170	25 x 28	316	3.5
7187017	157 x 146	23 x 22	323	3.4
7187560	147 x 141	22 x 21	316	3.4
7188241	147 x 152	22 x 23	320	3.4
7189463	154 x 158	23 x 23	336	3.6
7190100	168 x 160	25 x 23	340	3.5
7190101	164 x 162	26 x 27	330	3.5
7190102	162 x 161	26 x 25	340	3.5
7194438	149 x 135	23 x 22	323	3.4
7194439	157 x 149	23 x 23	313	3.5
7194440	146 x 147	22 x 25	296	3.4
7194926	142 x 144	22 x 21	325	3.3
7194927	151 x 143	22 x 26	308	3.4
7194936	150 x 149	23 x 24	323	3.5
7194937	150 x 145	22 x 23	330	3.4
7194938	152 x 137	22 x 21	326	3.5
7197674	164 x 149	24 x 22	330	3.4
7199112	135 x 150	21 x 22	336	3.5
7200936	149 x 144	22 x 23	313	3.4
7200937	172 x 160	25 x 27	310	3.5
7200943	161 x 140	24 x 22	316	3.5
7201319	157 x 139	23 x 22	298	3.3
7201328	136 x 136	20 x 23	295	3.4
7201822	152 x 145	23 x 24	335	3.4
7207879	162 x 155	22 x 24	316	3.4
7208414	154 x 141	22 x 20	311	3.4
7209616	167 x 151	24 x 23	318	3.4
7210645	158 x 155	24 x 24	326	3.5
7213704	144 x 153	22 x 21	322	3.4

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SYNTHETIC INDUSTRIES

Geosynthetic Products Division

BOL:169532

Style: 82-TEX

ROLL #	ASTM D-4632 GRAB TENSILE (LBS) W x F	ASTM D-4632 ELONGATION (%) W x F	ASTM D-3786 MULLEN BURST PSI	ASTM D-5261 MASS/UNIT AREA OZ/SQ YARD
7215621	157 x 145	23 x 25	300	3.3

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SYNTHETIC INDUSTRIES

Geosynthetic Products Division

March 4, 1998

Cetco-Fairmont
P.O. Box 88
234 Gordon Street
Fairmont, GA 30139

RE: Bill Of Lading #: 170666
PO# 0-DH1-1782

This is to certify that Style 82 Tex, a woven polypropylene fabric produced by Synthetic Industries, will meet the following certifiable minimum average values when tested in accordance with the proper ASTM test methods. A minimum average roll value is calculated as the mean minus two standard deviations, yielding a 97.5 percent confidence level.

PHYSICAL PROPERTY	TEST METHOD	U.S. UNITS	S.I. UNITS
MASS PER UNIT AREA	ASTM D-5261	3.2 oz/yd^2	105 g/m^2
TENSILE STRENGTH	ASTM D-4632	135 X 135 LBS	600 X 600 N
ELONGATION	ASTM D-4632	15 X 15 %	
PUNCTURE STRENGTH	ASTM D-4833	70 LBS	310 N
MULLEN BURST	ASTM D-3786	265 PSI	1820 kPa
TRAPEZOIDAL TEAR	ASTM D-4533	45 X 45 LBS	200 X 200 N
A.O.S.	ASTM D-4751	40 US STD SIEVE	0.425 mm
PERMITTIVITY	ASTM D-4491	0.08 SEC^{-1}	
UV RESISTANCE	ASTM D-4355	90 %	

(Strength Retained After 150 Hours Xenon Arc Weatherometer)

Sincerely,

Randy Johnson
Technical Manager, Woven Geotextile Products

Seller makes no warranty, express or implied, concerning the product furnished hereunder other than at the time of delivery it shall be of the quality and specifications stated herein. ANY IMPLIED WARRANTY Of FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED AND, TO THE EXTENT THAT IT IS CONTRARY TO THE FOREGOING SENTENCE ANY IMPLIED WARRANTY OF MERCHANTABILITY IS EXPRESSLY EXCLUDED. Any recommendations made by the Seller concerning uses or applications of said product are believed reliable and Seller makes no warranty of results to be obtained. If the product does not meet Synthetic Industries current published specifications, and the Customer gives notice to Synthetic Industries before installing the product, then Synthetic Industries will replace the product without charge or refund the purchase price. This Data Sheet supersedes all previous Data Sheets for this style and is subject to change without notice. The effective date for this product data is 04/19/96.

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SYNTHETIC INDUSTRIES

Geosynthetic Products Division

ISO 9002 CERTIFIED World Class Quality

BOL: 170666

Style: 82-TEX

ROLL #	ASTM D-4632 GRAB TENSILE (LBS) W x F	ASTM D-4632 ELONGATION (%) W x F	ASTM D-3786 MULLEN BURST PSI	ASTM D-5261 MASS/UNIT AREA OZ/SQ YARD
7208415	154 x 153	25 x 24	323	3.5
7228600	167 x 160	24 x 24	320	3.5
7229733	149 x 140	23 x 22	318	3.4
7233432	159 x 145	24 x 23	326	3.4
7233433	160 x 143	24 x 22	310	3.4
7235336	147 x 139	24 x 25	316	3.4
7235337	154 x 151	23 x 22	323	3.5
7235937	153 x 158	22 x 23	316	3.4
7237507	138 x 146	21 x 23	316	3.4
7237660	162 x 149	23 x 24	308	3.4
7237661	159 x 163	24 x 24	343	3.5
7238230	157 x 169	24 x 25	330	3.6
7238231	167 x 164	24 x 26	335	3.5
7238235	161 x 163	24 x 26	313	3.5
7238723	165 x 171	27 x 27	348	3.6
7238724	160 x 157	23 x 23	335	3.5
7238725	157 x 143	23 x 21	338	3.4
7238729	155 x 157	21 x 22	305	3.7
7238757	155 x 155	23 x 26	328	3.5
7238758	161 x 162	24 x 26	323	3.5
7244952	142 x 143	20 x 22	298	3.5
7245324	155 x 139	22 x 21	295	3.4
7245829	152 x 168	26 x 26	336	3.6
7245833	168 x 160	25 x 22	325	3.6
7245930	150 x 146	25 x 22	320	3.4
7248947	165 x 160	25 x 24	340	3.5
7249225	151 x 150	22 x 21	317	3.5
7249758	164 x 144	24 x 22	298	3.4
7250490	163 x 149	25 x 22	315	3.5
7251488	163 x 149	25 x 24	322	3.5
7251489	157 x 147	24 x 23	314	3.6
7253172	154 x 143	23 x 23	303	3.5
7253173	147 x 139	22 x 22	299	3.5
7254484	151 x 146	23 x 25	299	3.5
7255308	159 x 167	25 x 27	321	3.6

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SYNTHETIC INDUSTRIES

Geosynthetic Products Division

March 17, 1998

Cetco-Fairmont
P.O. Box 88
234 Gordon Street
Fairmont, GA 30139

RE: Bill Of Lading #: 170768
PO# 0-DH1-17024

This is to certify that Style 82 Tex, a woven polypropylene fabric produced by Synthetic Industries, will meet the following certifiable minimum average values when tested in accordance with the proper ASTM test methods. A minimum average roll value is calculated as the mean minus two standard deviations, yielding a 97.5 percent confidence level.

PHYSICAL PROPERTY	TEST METHOD	U.S. UNITS	S.I. UNITS
MASS PER UNIT AREA	ASTM D 5261	3.2 oz/yd^2	105 g/m^2
TENSILE STRENGTH	ASTM D-4632	135 X 135 LBS	600 X 600 N
ELONGATION	ASTM D-4632	15 X 15 %	
PUNCTURE STRENGTH	ASTM D-4833	70 LBS	310 N
MULLEN BURST	ASTM D-3786	265 PSI	1820 kPa
TRAPEZOIDAL TEAR	ASTM D 4533	45 X 45 LBS	200 X 200 N
A.O.S.	ASTM D-4751	40 US STD SIEVE	0.425 mm
PERMITTIVITY	ASTM D-4491	0.08 SEC^{-1}	
UV RESISTANCE	ASTM D-4355	90 %	

(Strength Retained After 150 Hours Xenon Arc Weatherometer)

Sincerely,

Randy Johnson
Technical Manager, Woven Geotextile Products

Seller makes no warranty, express or implied, concerning the product furnished hereunder other than at the time of delivery it shall be of the quality and specifications stated herein. ANY IMPLIED WARRANTY Of FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED AND, TO THE EXTENT THAT IT IS CONTRARY TO THE FOREGOING SENTENCE ANY IMPLIED WARRANTY OF MERCHANTABILITY IS EXPRESSLY EXCLUDED. Any recommendations made by the Seller concerning uses or applications of said product are believed reliable and Seller makes no warranty of results to be obtained. If the product does not meet Synthetic Industries current published specifications, and the Customer gives notice to Synthetic Industries before installing the product, then Synthetic Industries will replace the product without charge or refund the purchase price. This Data Sheet supersedes all previous Data Sheets for this style and is subject to change without notice. The effective date for this product data is 04/19/96.

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SYNTHETIC INDUSTRIES

Geosynthetic Products Division

BOL:170760

Style: 82-TEX

ROLL #	ASTM D-4632 GRAB TENSILE (LBS) W x F	ASTM D-4632 ELONGATION (%) W x F	ASTM D-3786 MULLEN BURST PSI	ASTM D-5261 MASS/UNIT AREA OZ/SQ YARD
7229734	142 x 135	21 x 20	296	3.3
7233434	152 x 141	22 x 21	313	3.4
7237506	142 x 168	21 x 25	316	3.5
7244953	135 x 143	20 x 23	286	3.5
7245834	166 x 165	24 x 25	316	3.6
7245935	151 x 168	22 x 23	317	3.6
7248948	170 x 148	26 x 24	331	3.4
7249226	159 x 153	22 x 23	308	3.6
7249759	149 x 146	23 x 20	286	3.3
7250391	149 x 145	22 x 22	301	3.4
7250491	153 x 135	24 x 23	296	3.4
7253174	148 x 139	22 x 25	293	3.5
7255736	148 x 137	22 x 24	319	3.6

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SYNTHETIC INDUSTRIES

Geosynthetic Products Division

March 18, 1998

Cetco-Fairmont
P.O. Box 88
234 Gordon Street
Fairmont, GA 30139

RE: Bill Of Lading #: 171194
PO# 0-DH1-17912

This is to certify that Style 82 Tex, a woven polypropylene fabric produced by Synthetic Industries, will meet the following certifiable minimum average values when tested in accordance with the proper ASTM test methods. A minimum average roll value is calculated as the mean minus two standard deviations, yielding a 97.5 percent confidence level.

PHYSICAL PROPERTY	TEST METHOD	U.S. UNITS	S.I. UNITS
MASS PER UNIT AREA	ASTM D-5261	3.2 oz/yd^2	105 g/m^2
TENSILE STRENGTH	ASTM D-4632	135 X 135 LBS	600 X 600 N
ELONGATION	ASTM D-4632	15 X 15 %	
PUNCTURE STRENGTH	ASTM D-4833	70 LBS	310 N
MULLEN BURST	ASTM D-3786	265 PSI	1820 kPa
TRAPEZOIDAL TEAR	ASTM D-4533	45 X 45 LBS	200 X 200 N
A.O.S.	ASTM D-4751	40 US STD SIEVE	0.425 mm
PERMITTIVITY	ASTM D-4491	0.08 SEC^{-1}	
UV RESISTANCE (Strength Retained After 150 Hours Xenon Arc Weatherometer)	ASTM D-4355	90 %	

Sincerely,

Randy Johnson
Technical Manager, Woven Geotextile Products

Seller makes no warranty, express or implied, concerning the product furnished hereunder other than at the time of delivery it shall be of the quality and specifications stated herein. ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED AND, TO THE EXTENT THAT IT IS CONTRARY TO THE FOREGOING SENTENCE ANY IMPLIED WARRANTY OF MERCHANTABILITY IS EXPRESSLY EXCLUDED. Any recommendations made by the Seller concerning uses or applications of said product are believed reliable and Seller makes no warranty of results to be obtained. If the product does not meet Synthetic Industries current published specifications, and the Customer gives notice to Synthetic Industries before installing the product, then Synthetic Industries will replace the product without charge or refund the purchase price. This Data Sheet supersedes all previous Data Sheets for this style and is subject to change without notice. The effective date for this product data is 04/19/96.

Synthetic Industries, Inc.
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Telephone • 423-899-0444 • Fax • 423-899-7619 • 1-800-621-0444

SYNTHETIC INDUSTRIES

Geosynthetic Products Division

BOL:171194

Style: 82-TEX

ROLL #	ASTM D-4632 GRAB TENSILE (LBS) W x F	ASTM D-4632 ELONGATION (%) W x F	ASTM D-3786 MULLEN BURST PSI	ASTM D-5261 MASS/UNIT AREA OZ/SQ YARD
7207884	156 x 144	23 x 22	330	3.5
7211855	170 x 157	25 x 26	310	3.5
7217912	140 x 145	23 x 25	326	3.3
7227417	153 x 148	23 x 23	318	3.5
7228606	158 x 142	24 x 24	313	3.3
7238755	158 x 157	24 x 23	326	3.5
7245325	149 x 139	22 x 23	316	3.3
7249303	150 x 140	23 x 22	296	3.4
7249356	150 x 150	22 x 22	312	3.3
7251491	158 x 155	24 x 26	295	3.6
7254977	150 x 151	21 x 22	318	3.5
7255315	153 x 157	22 x 22	325	3.5
7255741	164 x 151	24 x 23	315	3.5
7255743	159 x 155	23 x 24	335	3.6
7257188	144 x 160	23 x 25	315	3.6
7257189	156 x 155	22 x 23	328	3.5
7257267	162 x 143	25 x 24	306	3.5
7257269	148 x 164	22 x 24	326	3.5
7257270	154 x 155	23 x 23	301	3.5
7263238	146 x 148	23 x 23	316	3.6
7263240	151 x 146	24 x 24	318	3.5
7263241	154 x 143	23 x 22	313	3.6
7263248	140 x 135	20 x 21	313	3.4
7263251	145 x 149	21 x 25	326	3.5
7265033	149 x 135	24 x 21	306	3.5
7265035	149 x 145	22 x 23	325	3.5
7266476	167 x 159	26 x 25	340	3.4
7266603	157 x 153	22 x 24	320	3.5
7267513	151 x 142	24 x 22	330	3.5
7267521	165 x 159	24 x 23	318	3.6
7268510	150 x 149	23 x 22	325	3.6
7268595	165 x 160	23 x 24	330	3.7
7268596	163 x 152	24 x 22	326	3.7
7270345	145 x 146	23 x 24	335	4.0

Synthetic Industries, Inc.
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Telephone • 423-899-0444 • Fax • 423-899-7619 • 1-800-621-0444

BENTONITE
CERTIFICATE OF ANALYSIS

CETCO
92 HWY 37
LOVELL, WYO. 82431

DATE: 02-Mar-98

TO: **CETCO - CLAYMAX CORP.**
P.O. BOX 88

FAIRMOUNT, GA. 30139

ATTN: **CYNTHIA WILLIX**

Dear Sirs:

A shipment of **CG 50**
left our Lovell, WY plant on **25-Feb-98**
in **ATSF 313962**
as requested on your order no. **VERBAL**

A sample from this shipment was tested, and gave the following results:

TEST	METHOD	REQ. SPECIFICATION	ACTUAL RESULTS
RET. 10 MESH	ASTM C 136	0% .	0
PASSING 200 MESH	ASTM C 136	1.0 % MAX	0.4
MOISTURE	ASTM D 2216	12.0% MAX.	8
FREE SWELL	ASTM D 5890	24 MIN.	26
FLUID LOSS	ASTM D 5891	18.0 MAX.	12.6

We hereby certify that the results shown above represent this shipment.
Tests were conducted using American Standard Test Methods and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **D.M.**

Approved By: **MOSES BRISENO**

CETCO

In any correspondence regarding this shipment, please refer to our
Order Number **75114**

BENTONITE
CERTIFICATE OF ANALYSIS

CETCO
92 HWY 37
LOVELL, WYO. 82431

DATE: 29-Jan-98

TO: **CETCO - CLAYMAX CORP.**
P.O. BOX 88

FAIRMOUNT, GA. 30139

ATTN: **CYNTHIA WILLIX**

Dear Sirs:

A shipment of **CG 50**
left our Lovell, WY plant on **27-Jan-98**
in **BN 455861**
as requested on your order no. **VERBAL**

A sample from this shipment was tested, and gave the following results:

TEST	METHOD	REQ. SPECIFICATION	ACTUAL RESULTS
RET. 10 MESH	ASTM C 136	0% .	0
PASSING 200 MESH	ASTM C 136	1.0 % MAX	0.3
MOISTURE	ASTM D 2216	12.0% MAX.	7.2
FREE SWELL	ASTM D 5890	24 MIN.	24
FLUID LOSS	ASTM D 5891	18.0 MAX.	13.2

We hereby certify that the results shown above represent this shipment.
Tests were conducted using American Standard Test Methods and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **R.P.**

Approved By: **MOSES BRISENO**

CETCO

In any correspondence regarding this shipment, please refer to our
Order Number **69152**

BENTONITE
CERTIFICATE OF ANALYSIS

CETCO
92 HWY 37
LOVELL, WYO. 82431

DATE: 18-Feb-98

TO: **CETCO - CLAYMAX CORP.**
P.O. BOX 88

FAIRMOUNT, GA. 30139

ATTN: **CYNTHIA WILLIX**

Dear Sirs:

A shipment of **CG 50**
left our Lovell, WY plant on **16-Feb-98**
in **BN 460735**
as requested on your order no. **VERBAL**

A sample from this shipment was tested, and gave the following results:

TEST	METHOD	REQ. SPECIFICATION	ACTUAL RESULTS
RET. 10 MESH	ASTM C 136	0% .	0
PASSING 200 MESH	ASTM C 136	1.0 % MAX	0.4
MOISTURE	ASTM D 2216	12.0% MAX.	7.6
FREE SWELL	ASTM D 5890	24 MIN.	25
FLUID LOSS	ASTM D 5891	18.0 MAX.	14

We hereby certify that the results shown above represent this shipment.
Tests were conducted using American Standard Test Methods and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **C.L.**

Approved By: **MOSES BRISENO**

CETCO

In any correspondence regarding this shipment, please refer to our
Order Number **75106**

CETCO

GEOSYNTHETIC CLAY LINER MQA TRACKING FORMS

A Wholly Owned Subsidiary of AMCOL International

Printed on recycled paper.

QCG#TF1 QCT#TF1
3/19/98 7:48:06

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

ORDER NUMBER 000067512

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199812030									
00001408	030-BENTOMAT ST	150	2250	2905	7257267		199809010	00000451	313962
00001409	030-BENTOMAT ST	150	2250	2925	7257267		199809010	00000451	313962
00001410	030-BENTOMAT ST	150	2250	2914	7257267		199809010	00000451	313962
00001411	030-BENTOMAT ST	150	2250	2967	7257267		199809010	00000451	313962
00001412	030-BENTOMAT ST	150	2250	2949	7257267		199809010	00000451	313962
00001414	030-BENTOMAT ST	150	2250	2919	7257267		199809010	00000451	313962
00001415	030-BENTOMAT ST	150	2250	2925	7257267		199809010	00000466	313962
00001416	030-BENTOMAT ST	150	2250	2918	7263241		199809010	00000466	313962
00001417	030-BENTOMAT ST	150	2250	2922	7263241		199809010	00000466	313962
00001418	030-BENTOMAT ST	150	2250	2936	7263241		199809010	00000466	313962
00001419	030-BENTOMAT ST	150	2250	2845	7263241		199809010	00000466	313962
00001421	030-BENTOMAT ST	150	2250	2833	7263241		199809010	00000466	313962
00001423	030-BENTOMAT ST	150	2250	2869	7263241		199809010	00000466	313962
00001424	030-BENTOMAT ST	150	2250	2855	7263241		199809010	00000466	313962
00001425	030-BENTOMAT ST	150	2250	2843	7263241		199809010	00000463	313962

TOTAL SQUARE FEET..... 33,750

QCG#TF1 QCT#TF1
3/19/98 7:48:19

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

ORDER NUMBER 000067513

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199811030									
00001226	030-BENTOMAT ST	150	2250	2898	7235937		199810010	00000526	455861
00001227	030-BENTOMAT ST	150	2250	2896	7235937		199810010	00000526	455861
00001228	030-BENTOMAT ST	150	2250	2961	7229734		199810010	00000509	455861
00001237	030-BENTOMAT ST	150	2250	2989	7229734		199810010	00000509	455861
00001238	030-BENTOMAT ST	150	2250	2944	7229734		199810010	00000509	455861
00001239	030-BENTOMAT ST	150	2250	2934	7229734		199810010	00000504	455861
00001240	030-BENTOMAT ST	150	2250	2950	7229734		199810010	00000504	455861
00001256	030-BENTOMAT ST	150	2250	2932	7238230		199810010	00000530	455861
LOT# 199812030									
00001397	030-BENTOMAT ST	150	2250	2980	7257267		199809010	00000451	313962
00001405	030-BENTOMAT ST	150	2250	2961	7257267		199809010	00000451	313962
00001406	030-BENTOMAT ST	150	2250	2942	7257267		199809010	00000451	313962
00001407	030-BENTOMAT ST	150	2250	2921	7257267		199809010	00000451	313962
00001413	030-BENTOMAT ST	150	2250	2952	7257267		199809010	00000451	313962
00001420	030-BENTOMAT ST	150	2250	2933	7263241		199809010	00000466	313962
00001472	030-BENTOMAT ST	150	2250	2928	7255315		199809010	00000473	313962

TOTAL SQUARE FEET..... 33,750

QCG#TF1 QCT#TF1
3/19/98 7:48:53

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

ORDER NUMBER 000067514

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199812030									
00001380	030-BENTOMAT ST	150	2250	2808	7210645		199809010	00000478	460735
00001389	030-BENTOMAT ST	150	2250	2917	7257267		199809010	00000484	313962
00001391	030-BENTOMAT ST	150	2250	2901	7257267		199809010	00000484	313962
00001392	030-BENTOMAT ST	150	2250	2922	7257267		199809010	00000484	313962
00001393	030-BENTOMAT ST	150	2250	2951	7257267		199809010	00000451	313962
00001394	030-BENTOMAT ST	150	2250	2945	7257267		199809010	00000451	313962
00001396	030-BENTOMAT ST	150	2250	2947	7257267		199809010	00000451	313962
00001398	030-BENTOMAT ST	150	2250	2946	7257267		199809010	00000451	313962
00001399	030-BENTOMAT ST	150	2250	2961	7257267		199809010	00000451	313962
00001400	030-BENTOMAT ST	150	2250	2945	7257267		199809010	00000451	313962
00001401	030-BENTOMAT ST	150	2250	2946	7257267		199809010	00000451	313962
00001402	030-BENTOMAT ST	150	2250	2940	7257267		199809010	00000451	313962
00001403	030-BENTOMAT ST	150	2250	2978	7257267		199809010	00000451	313962
00001404	030-BENTOMAT ST	150	2250	2252	7257267		199809010	00000451	313962
00001469	030-BENTOMAT ST	150	2250	2952	7255315		199809010	00000473	313962

TOTAL SQUARE FEET..... 33,750

TOTAL PAGES 1

QCG#TF1 QCT#TF1
3/19/98 8:44:25

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

ORDER NUMBER 000067515

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199812030									
00001272	030-BENTOMAT ST	150	2250	2623	7233432		199810010	00000539	455861
00001275	030-BENTOMAT ST	150	2250	2947	7233432		199810010	00000539	455861
00001276	030-BENTOMAT ST	150	2250	2868	7233432		199810010	00000539	455861
00001277	030-BENTOMAT ST	150	2250	2903	7233432		199810010	00000539	455861
00001282	030-BENTOMAT ST	150	2250	2941	7233432		199809010	00000493	455861
00001283	030-BENTOMAT ST	150	2250	2965	7238724		199809010	00000493	455861
00001284	030-BENTOMAT ST	150	2250	2958	7238724		199809010	00000493	455861
00001285	030-BENTOMAT ST	150	2250	2983	7238724		199809010	00000493	455861
00001286	030-BENTOMAT ST	150	2250	2988	7238724		199809010	00000493	455861
00001290	030-BENTOMAT ST	150	2250	2967	7238724		199809010	00000493	455861
00001291	030-BENTOMAT ST	150	2250	2998	7238724		199809010	00000481	455861
00001292	030-BENTOMAT ST	150	2250	2987	7238724		199809010	00000481	455861
00001297	030-BENTOMAT ST	150	2250	2982	7238724		199809010	00000481	455861
00001298	030-BENTOMAT ST	150	2250	3036	7238724		199809010	00000481	455861
00001302	030-BENTOMAT ST	150	2250	2940	7238724		199809010	00000482	455861

TOTAL SQUARE FEET..... 33,750

TOTAL PAGES 1

QCG#TF1 QCT#TF1
3/19/98 8:44:37

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

ORDER NUMBER 000067517

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199812030									
00001281	030-BENTOMAT ST	150	2250	2952	7233432		199809010	00000493	455861
00001296	030-BENTOMAT ST	150	2250	3004	7238724		199809010	00000481	455861
00001303	030-BENTOMAT ST	150	2250	2967	7238724		199809010	00000482	455861
00001305	030-BENTOMAT ST	150	2250	2784	7238724		199809010	00000482	455861
00001306	030-BENTOMAT ST	150	2250	2930	7238724		199809010	00000482	455861
00001309	030-BENTOMAT ST	150	2250	2913	7238724		199809010	00000482	455861
00001310	030-BENTOMAT ST	150	2250	2927	7238724		199809010	00000482	455861
00001311	030-BENTOMAT ST	150	2250	2937	7238724		199809010	00000482	455861
00001312	030-BENTOMAT ST	150	2250	2939	7245324		199809010	00000450	455861
00001313	030-BENTOMAT ST	150	2250	2940	7245324		199809010	00000450	455861
00001317	030-BENTOMAT ST	150	2250	2912	7245324		199809010	00000450	455861
00001318	030-BENTOMAT ST	150	2250	2592	7245324		199809010	00000450	455861
00001322	030-BENTOMAT ST	150	2250	2908	7245324		199809010	00000494	455861
00001323	030-BENTOMAT ST	150	2250	2888	7245324		199809010	00000494	455861
00001326	030-BENTOMAT ST	150	2250	2846	7245324		199809010	00000494	455861

TOTAL SQUARE FEET..... 33,750

TOTAL PAGES 1

QCG#TF1 QCT#TF1
3/19/98 8:44:49

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: COUNTY OF VOLUSIA
1990 TOMOKA FARMS RD.
DAYTONA BEACH FL

ORDER NUMBER 000067518

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199812030									
00001278	030-BENTOMAT ST	150	2250	2967	7233432		199810010	00000539	455861
00001279	030-BENTOMAT ST	150	2250	2979	7233432		199810010	00000539	455861
00001280	030-BENTOMAT ST	150	2250	2971	7233432		199810010	00000539	455861
00001287	030-BENTOMAT ST	150	2250	39	7238724		199809010	00000493	455861
00001288	030-BENTOMAT ST	150	2250	2976	7238724		199809010	00000493	455861
00001289	030-BENTOMAT ST	150	2250	2971	7238724		199809010	00000493	455861
00001293	030-BENTOMAT ST	150	2250	3013	7238724		199809010	00000481	455861
00001294	030-BENTOMAT ST	150	2250	2994	7238724		199809010	00000481	455861
00001295	030-BENTOMAT ST	150	2250	3020	7238724		199809010	00000481	455861
00001299	030-BENTOMAT ST	150	2250	2986	7238724		199809010	00000481	455861
00001300	030-BENTOMAT ST	150	2250	2922	7238724		199809010	00000481	455861
00001301	030-BENTOMAT ST	150	2250	2931	7238724		199809010	00000481	455861
00001304	030-BENTOMAT ST	150	2250	2921	7238724		199809010	00000482	455861
00001307	030-BENTOMAT ST	150	2250	2912	7238724		199809010	00000482	455861
00001308	030-BENTOMAT ST	150	2250	2442	7238724		199809010	00000482	455861

TOTAL SQUARE FEET..... 33,750

TOTAL PAGES 1

CETCO
COLLOID ENVIRONMENTAL TECHNOLOGIES COMPANY
234 Gordon Street • Fairmount, GA 30139 • USA
(706) 337-5316 • Fax (706) 337-7334

18-Mar-98

Mr. Steve Youngs
Law Engineering &
Environmental Systems, Inc.
112 Town Park Dr.
Kennesaw, GA 30144

Dear Mr. Youngs:

Please find enclosed the MQA/MQC Data Package for Geosynthetic Clay Liner (GCL) shipment to Proteco - RCRA LF Cap, Penuelas, PR. This shipment left our CETCO - Fairmount, GA, plant from 3/17/98.

If you have any questions regarding the enclosed QA/QC information, please contact Mr. Derek Reece @ 1-800-220-2536.

Sincerely,

Cynthia Willix

Cynthia Willix
Quality Assurance Coordinator

CETCO

GEOSYNTHETIC CLAY LINER

MANUFACTURING QA/QC DATA PACKAGE

PROJECT NAME: Proteco - RCRA LF Cap

PREPARED FOR: Mr. Steve Youngs
Law Engineering &
Environmental Systems, Inc.
112 Town Park Dr.
Kennesaw, GA 30144

PREPARED BY: Cynthia Willix
CETCO
P. O. Box 88
234 Gordon Street
Fairmount, GA 30139
Telephone # (706) 337-5316
Fax # (706) 337-2215

CETCO

GEOSYNTHETIC CLAY LINER

DAILY MANUFACTURING QA/QC DATA

FOR ALL GCL MANUFACTURED ON:

PROTECO - RCRA LF CAP
PENUELAS, PR
CUSTOMER PO# PROTECO 001
ORDER# 78741

CONTENTS:

1. **DAILY GCL PRODUCTION CERTIFICATION**
2. **GCL MANUFACTURING CERTIFICATON AND TEST RESULTS**
3. **GCL MQA TRACKING FORM**

CETCO

DAILY GEOSYNTHETIC CLAY LINER PRODUCTION CERTIFICATION

CETCO

GEOSYNTHETIC CLAY LINER MANUFACTURING CERTIFICATION

CETCO JOB:	PROTECO - RCRA LF CAP
DATE:	MARCH 17, 1998
ORDER NUMBER:	78741
PRODUCT:	CLAYMAX 200RW

Colloid Environmental Technologies Company (CETCO) hereby affirms and certifies that all of the Geosynthetic Clay Liner (GCL) manufactured in this lot achieves the physical and chemical criteria listed on the attached analysis sheets.

Cynthia Willix

Cynthia Willix
Quality Assurance Coordinator
CETCO

Subscribed and sworn to before me this 18 day of Mar, 19 98.

Diane Hunsucker

Notary Public

OFFICIAL SEAL
DIANE B. HUNSUCKER
Notary Public, Georgia
GORDON COUNTY
My Commission Expires
Jan. 2, 2002

Printed on recycled paper.

CETCO

CLAYMAX 200RW
MANUFACTURING CERTIFICATION

TO: Mr. Steve Youngs
Law Engineering &
Environmental Systems, Inc.
112 Town Park Dr.
Kennesaw, GA 30144

PROJECT: Proteco - RCRA LF Cap

ORDER # 78741

CETCO hereby affirms and certifies that Claymax 200RW material supplied to this project will meet the physical and chemical criteria listed below:

PROPERTY	TEST METHOD	MINIMUM VALUE
Finished Product		
Bentonite Mass/Area	ASTM D 5993(modified)	0.75 lb/sq.ft. min.
Grab Strength	ASTM D 4632	90 lbs. MARV
Permeabilty	ASTM D 5084	max. 5 x 10(-9) cm/sec

Cynthia Willis
Colloid Environmental Technologies Co. (CETCO)

Subscribed and sworn to before me this 18 day of Mar 19 98.

Diane Hunsucker
Notary Public

* Reported at 0% moisture content.

OFFICIAL SEAL
DIANE B. HUNSUCKER
Notary Public, Georgia
GORDON COUNTY
My Commission Expires
Jan. 2, 2002

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE

CARRIER NAME: PLANT TO ARRANGE
CONSIGNED TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
RT. 385 Km 4.5

PENUELAS PR 00624
PHONE: 787-836-2058

SOLDTO: 2543 **SHIPTO:** 01
CONSIGNED P.O.#: PROTECO 001
CAR/VEHICLE#:

ROUTING/CONTRACT:
BKING-
CA28652550

DELIVERING CARRIER:

SHIPPER'S NO: 000078741
DEL DATE: 3/15/98 **SHIP DATE:** 3/10/98
SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPING PLANT: FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

ORDER COMMENTS ORDER IS FOR 166,000 SF CLAYMAX 200R STD

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
[redacted] 14 Rolls 29,050		CLAYMAX 200 RW NEW 200RW	[redacted]

GROSS: .00 TARE: .00 NET: 41312 [redacted]

Container No PRMU6006256
Seal No 2754

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
COLLOID ENVIRONMENTAL TEC
(Signature of Consignor)

If charges are to be prepaid, write or stamp here, "Prepaid."
PREPAID

Shipper liable for line haul charges only.
COD charges to be paid by: Consignee

***MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER: Roy Burnett

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.
Per

PLACARDS REQUIRED **PLACARDS SUPPLIED** ☐ YES ☐ NO—FURNISHED BY CARRIER
DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
ARLINGTON HEIGHTS IL 60004

ORDER NO:.. 000078741
ORDER DATE: 3/10/98
SHIP DATE:. 3/17/98

SOLD TO: 2543
LAW ENGINEERING ENV.SVC. INC.
112 TOWN PARK DR.

KENNESAW GA 30144

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. PLANT TO ARRANGE

SHIP TO: 01
RUSTY KNOWLES, WESI
C/O PROTECO LF
RT. 385 Km 4.5

PENUELAS PR 00624

PO: PROTECO 001

PRODUCT	SIZE U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-CLAYMAX200RW	SFT SF	199811030	00000315	150.0	13.8	2075.0	2981
030-CLAYMAX200RW	SFT SF	199811030	00000316	150.0	13.8	2075.0	3053
030-CLAYMAX200RW	SFT SF	199811030	00000329	150.0	13.8	2075.0	2958
030-CLAYMAX200RW	SFT SF	199811030	00000337	150.0	13.8	2075.0	2946
030-CLAYMAX200RW	SFT SF	199811030	00000338	150.0	13.8	2075.0	2900
030-CLAYMAX200RW	SFT SF	199811030	00000339	150.0	13.8	2075.0	2930
030-CLAYMAX200RW	SFT SF	199811030	00000346	150.0	13.8	2075.0	2929
030-CLAYMAX200RW	SFT SF	199811030	00000350	150.0	13.8	2075.0	2888
030-CLAYMAX200RW	SFT SF	199811030	00000357	150.0	13.8	2075.0	2952
030-CLAYMAX200RW	SFT SF	199811030	00000358	150.0	13.8	2075.0	2941
030-CLAYMAX200RW	SFT SF	199811030	00000377	150.0	13.8	2075.0	2981
030-CLAYMAX200RW	SFT SF	199811030	00000378	150.0	13.8	2075.0	2977
030-CLAYMAX200RW	SFT SF	199811030	00000379	150.0	13.8	2075.0	2952
030-CLAYMAX200RW	SFT SF	199811030	00000381	150.0	13.8	2075.0	2924

ORDER TOTALS.....	======== 29050.0	======= 41312.
TOTAL ITEMS..... 14		

CETCO

GEOSYNTHETIC CLAY LINER QUALITY TEST RESULTS

A Wholly Owned Subsidiary of AMCOL International

Printed on recycled paper.

QCG#FT2 QCT#FT2
3/18/98 7:33:59

COLLOID ENVIRONMENTAL TECH CO

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
PENUELAS PR

O R D E R # 000078741

MATERIAL	LOT No.	ROLL No	BENTONITE MASS/AREA 0.75 lb/sqft ASTM D 5993	GRAB ELONGATION 12% Typical ASTM D 4632	GRAB STRENGTH 75 lb marv ASTM D 4632
030-CLAYMAX200RW	199811030	00000381	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000379	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000378	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000377	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000358	.96	27.20	237.00
030-CLAYMAX200RW	199811030	00000357	.96	27.20	237.00
030-CLAYMAX200RW	199811030	00000350	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000346	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000339	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000338	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000337	.90	27.20	237.00
030-CLAYMAX200RW	199811030	00000329	.88	27.20	237.00
030-CLAYMAX200RW	199811030	00000316	.88	27.20	237.00
030-CLAYMAX200RW	199811030	00000315	.88*	27.20*	237.00*

NOTE:

An asterisk indicates the actual test done on the roll and the roll tested.
If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture content.

*** End of Report ***

BENTONITE
CERTIFICATE OF ANALYSIS

CETCO
92 HWY 37
LOVELL, WYO. 82431

DATE: 29-Jan-98

TO: **CETCO - CLAYMAX CORP.**
P.O. BOX 88

FAIRMOUNT, GA. 30139

ATTN: **CYNTHIA WILLIX**

Dear Sirs:

A shipment of **CG 50**
left our Lovell, WY plant on **27-Jan-98**
in **BN 455861**
as requested on your order no. **VERBAL**

A sample from this shipment was tested, and gave the following results:

TEST	METHOD	REQ. SPECIFICATION	ACTUAL RESULTS
RET. 10 MESH	ASTM C 136	0% .	0
PASSING 200 MESH	ASTM C 136	1.0 % MAX	0.3
MOISTURE	ASTM D 2216	12.0% MAX.	7.2
FREE SWELL	ASTM D 5890	24 MIN.	24
FLUID LOSS	ASTM D 5891	18.0 MAX.	13.2

We hereby certify that the results shown above represent this shipment.
Tests were conducted using American Standard Test Methods and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **R.P.**

Approved By: **MOSES BRISENO**

CETCO

In any correspondence regarding this shipment, please refer to our
Order Number **69152**

CETCO
COLLOID ENVIRONMENTAL TECHNOLOGIES COMPANY
234 Gordon Street • Fairmount, GA 30139 • USA
(706) 337-5316 • Fax (706) 337-7334

GEOSYNTHETIC CLAY LINER MQA TRACKING FORMS

A Wholly Owned Subsidiary of AMCOL International
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QCG#TF1 QCT#TF1
3/18/98 7:33:59

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: RUSTY KNOWLES, WESI
C/O PROTECO LF
PENUELAS PR

ORDER NUMBER 000078741

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199811030									
00000315	030-CLAYMAX200RW	150	2075	2981			7256770		455861
00000316	030-CLAYMAX200RW	150	2075	3053			7256770		455861
00000329	030-CLAYMAX200RW	150	2075	2958			7256770		455861
00000337	030-CLAYMAX200RW	150	2075	2946			7256770		455861
00000338	030-CLAYMAX200RW	150	2075	2900			7256770		455861
00000339	030-CLAYMAX200RW	150	2075	2930			7256770		455861
00000346	030-CLAYMAX200RW	150	2075	2929			7254891		455861
00000350	030-CLAYMAX200RW	150	2075	2888			7254891		455861
00000357	030-CLAYMAX200RW	150	2075	2952			7254891		455861
00000358	030-CLAYMAX200RW	150	2075	2941			7254891		455861
00000377	030-CLAYMAX200RW	150	2075	2981			7254891		455861
00000378	030-CLAYMAX200RW	150	2075	2977			7254891		455861
00000379	030-CLAYMAX200RW	150	2075	2952			7254891		455861
00000381	030-CLAYMAX200RW	150	2075	2924			7256772		455861

TOTAL SQUARE FEET..... 29,050

TOTAL PAGES 1

CETCO
COLLOID ENVIRONMENTAL TECHNOLOGIES COMPANY
234 Gordon Street • Fairmount, GA 30139 • USA
(706) 337-5316 • Fax (706) 337-7334

20-Nov-98

Mr. Richard Soto
Law Engineering &
Environmental Systems, Inc.
Box 850
Penuelas, PR 00624

Dear Mr. Soto:

Please find enclosed the MQA/MQC Data Package for Geosynthetic Clay Liner (GCL) shipments to Proteco LF, Penuelas, PR. These shipments left our CETCO - Fairmount, GA, plant from 11/18/98.

If you have any questions regarding the enclosed QA/QC information, please contact Mr. Derek Reece @ 1-800-220-2536.

Sincerely,

Cynthia Willix

Cynthia Willix
Quality Assurance Coordinator

CETCO

GEOSYNTHETIC CLAY LINER

MANUFACTURING QA/QC DATA PACKAGE

PROJECT NAME: Proteco LF

PREPARED FOR: Mr. Richard Soto
Law Engineering &
Environmental Systems, Inc.
Box 850
Penuelas, PR 00624

PREPARED BY: Cynthia Willix
CETCO
P. O. Box 88
234 Gordon Street
Fairmount, GA 30139
Telephone # (706) 337-5316
Fax # (706) 337-2215

CETCO

GEOSYNTHETIC CLAY LINER

DAILY MANUFACTURING QA/QC DATA

FOR ALL GCL MANUFACTURED ON:

PROTECO LF
PENUELAS, PR
CUSTOMER PO# 0999
ORDER# 96590-96592

CONTENTS:

1. **DAILY GCL PRODUCTION CERTIFICATION**
2. **GCL MANUFACTURING CERTIFICATON AND TEST RESULTS**
3. **GCL MQA TRACKING FORM**

CETCO

DAILY GEOSYNTHETIC CLAY LINER PRODUCTION CERTIFICATION

CETCO

GEOSYNTHETIC CLAY LINER MANUFACTURING CERTIFICATION

CETCO JOB:	PROTECO LF
DATE:	NOVEMBER 18, 1998
ORDER NUMBER:	96590-96592
PRODUCT:	BENTOMAT ST

Colloid Environmental Technologies Company (CETCO) hereby affirms and certifies that all of the Geosynthetic Clay Liner (GCL) manufactured in this lot achieves the physical and chemical criteria listed on the attached analysis sheets.

Cynthia Willix

Cynthia Willix
Quality Assurance Coordinator
CETCO

Subscribed and sworn to before me this 20th day of Nov, 19 98.

Judy Hall

Notary Public

OFFICIAL SEAL
JUDY HALL
Notary Public, Georgia
GORDON COUNTY
My Commission Expires
Jan. 7, 2002

CETCO

BENTOMAT ST
MANUFACTURING CERTIFICATION

TO: Mr. Richard Soto
Law Engineering &
Environmental Systems, Inc.
Box 850
Penuelas, PR 00624

PROJECT: Proteco LF

ORDER #: 96590-96592

CETCO hereby affirms and certifies that Bentomat ST material supplied to this project will meet the physical criteria listed below:

PROPERTY	TEST METHOD	MINIMUM VALUE
Finished Product		
Bentonite Mass/Area	ASTM D 5993*	0.75 lb/sq.ft. min.
Grab Strength	ASTM D 4632	90 lbs. MARV
Grab Elongation	ASTM D 4632	15% typical
Index Flux	ASTM D 5887	1 x 10(-8) m3/m2/sec (max.)
Peel Strength	ASTM D 4632(modified)	15 lbs. min.
Permeabilty	ASTM D 5084	max. 5 x 10(-9) cm/sec

* Reported at 0% moisture content.

GAI Lab Accredited Test Methods were followed during confromance testing for :
ASTM D 5993 - Bentonite Mass/Area
ASTM D 4632 - Grab Strength and Grab Elongation

Cynthia Collins
Colloid Environmental Technologies Co. (CETCO)

Subscribed and sworn to before me this 20th day of Nov 1998.

Judy Hall
Notary Public

OFFICIAL SEAL
JUDY HALL
Notary Public, Georgia
GORDON COUNTY
My Commission Expires
Jan. 7, 2002

RESEARCH
EDUCATION
INFORMATION
GEOSYNTHETIC INSTITUTE (GSI)
ACCREDITATION
CERTIFICATION

STRAIGHT BILL OF LADING—ORIGINAL—NOT NEGOTIABLE REPRINT **PAGE** 1 **OF**

CARRIER NAME: ~~PLANT TO ARRANGE~~ Blue Dolphin EXP.

DELIVERING CARRIER:

CONSIGNED TO: PROTECO LANDFILL
ROAD #385 KM. 4.5 BO TALLABOA

PENUELAS PR 00624
PHONE: 787-836-2058

SOLDTO: 3069 SHIPTO: 01

CONSIGNED P.O.#: 0999
CAR/VEHICLE#:

ROUTING/CONTRACT:

SHIPPER'S NO: 000096590
DEL DATE: 11/15/98 SHIP DATE: 11/18/98
SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPING PLANT: FAIRMOUNT, GA
P.O. BOX 88
FAIRMOUNT GA 30139

LINE COMMENTS ALL BAGGED SHIPMENTS LOADED ON FLATBED OR OPEN TOP TRAILERS MUST BE COVERED WITH ADEQUATE TARPAULIN PRIOR TO HIGHWAY MOVEMENT. CARRIER WILL BE HELD FULLY RESPONSIBLE FOR LOSS OR DAMAGE OCCURRING TO UNPROTECTED LOADS.

ORDER COMMENTS TOTAL ORDER IS FOR 75,000 SF BENTOMAT ST WITH 33 BAGS

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
24750		BENTOMAT ST	36780 32,075.0000
		CLOTH, SYNTHETIC FIBRE, NOT WOVEN, KNITTED NOR STITCHED	
Rolls 150' 11.0000		CG-50 SEAMING CLAY (10902/024)	550 650.0000
11 Bags		CLAY-BENTONITE-GROUND (CLASS 50) 3295232	

GROSS: .00 TARE: .00 NET: 37330

Container # SBGU3010285
Seal # 2870

Consign To: Ocean Track
C/o C-STAR
5860 William Mills St
Blunt Island Terminal
Jacksonville FIA 32227

Book # 4271502
Vessel - M/V EL Yungwe V921
C/o Nov 19 1998

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

COLLOID ENVIRONMENTAL TEC

(Signature of Consignor)

If charges are to be prepaid, write or stamp here, "Prepaid."

PREPAID

Shipper liable for line haul charges only.

COD charges to be paid by: Consignee

***MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS**

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion [illegible] route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms [illegible] ditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, [illegible] the applicable motor carrier classification or tarrif if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tarrif which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER: [signature]

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☐ NO—FURNISHED BY CARRIER
DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
ARLINGTON HEIGHTS IL 60004

ORDER NO:.. 000096590
ORDER DATE: 10/30/98
SHIP DATE:. 11/18/98

SOLD TO: 3069
RESOURCE MANAGEMENT, INC.
BOX 850

PENUELAS PR 00624

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. PLANT TO ARRANGE

SHIP TO: 01
PROTECO LANDFILL
ROAD #385 KM. 4.5 BO TALLABOA

PENUELAS PR 00624

PO: 0999

PRODUCT	SIZE U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-BENTOMAT ST	SFT SF	199847030	00017729	150.0	15.0	2250.0	3357
030-BENTOMAT ST	SFT SF	199847030	00017738	150.0	15.0	2250.0	3351
030-BENTOMAT ST	SFT SF	199847030	00017749	150.0	15.0	2250.0	3334
030-BENTOMAT ST	SFT SF	199847030	00017750	150.0	15.0	2250.0	3340
030-BENTOMAT ST	SFT SF	199847030	00017753	150.0	15.0	2250.0	3348
030-BENTOMAT ST	SFT SF	199847030	00017754	150.0	15.0	2250.0	3361
030-BENTOMAT ST	SFT SF	199847030	00017755	150.0	15.0	2250.0	3380
030-BENTOMAT ST	SFT SF	199847030	00017756	150.0	15.0	2250.0	3356
030-BENTOMAT ST	SFT SF	199847030	00017757	150.0	15.0	2250.0	3301
030-BENTOMAT ST	SFT SF	199847030	00017759	150.0	15.0	2250.0	3332
030-BENTOMAT ST	SFT SF	199847030	00017762	150.0	15.0	2250.0	3320

ORDER TOTALS..... ======== =======
24750.0 36780.

TOTAL ITEMS..... 11

11/13/98

STRAIGHT BILL OF LADING—ORIGINAL—~~NOT~~ NEGOTIABLE

PAGE 1 C

CARRIER NAME: ~~PLANT TO ARRANGE~~ Blue Dolphin EXPRESS

CONSIGNED TO: PROTECO LANDFILL
ROAD #385 KM. 4.5 BO TALLABOA

PENUELAS PR 00624
PHONE: 787-836-2058

SOLDTO: 3069 SHIPTO: 01

CONSIGNED P.O.#: 0999
CAR/VEHICLE#:

ROUTING/CONTRACT:

DELIVERING CARRIER:

SHIPPER'S NO: 000096591
DEL DATE: 11/~~15~~/98 SHIP DATE: 11/~~05~~/98 18
SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPING PLANT: FAIRMOUNT, GA
P.O. BOX 88
FAIRMOUNT GA 30139

LINE COMMENTS ALL BAGGED SHIPMENTS LOADED ON FLATBED OR OPEN TOP TRAILERS MUST BE COVERED WITH ADEQUATE TARPAULIN PRIOR TO HIGHWAY MOVEMENT. CARRIER WILL BE HELD FULLY RESPONSIBLE FOR LOSS OR DAMAGE OCCURRING TO UNPROTECTED LOADS.

ORDER COMMENTS TOTAL ORDER IS FOR 75,000 SF BENTOMAT ST WITH 33 BAGS

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
24750 ~~25000.0000~~ 11 ROLLS		BENTOMAT ST CLOTH, SYNTHETIC FIBRE, NOT WOVEN, KNITTED NOR STITCHED	36642 ~~[illegible].075.0000~~
~~[illegible]~~ 11 Bags CG50		~~[illegible]~~ ~~[illegible]~~ ~~[illegible]~~ ~~[illegible]~~	550 ~~[illegible]~~.0000

GROSS: .00 TARE: .00 NET: 37192 ~~[illegible].575.00~~

Container # SCZU7687966
Seal # 2866

Consign To: Ocean Track
c/o C-Star
5860 William Mills St.
Blunt Island Terminal
Jacksonville, FL 32227
Booking #4271502
Vessel M/V EL Yunque V. 921
c/o Nov. 19, 1998

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

COLLOID ENVIRONMENTAL TEC

(Signature of Consignor)

If charges are to be prepaid, write or stamp here, "Prepaid."

PREPAID

Shipper liable for line haul charges only.

COD charges to be paid by: Consignee

*MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion [illegible] route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms [illegible]ditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, [illegible] the applicable motor carrier classification or tarrif if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tarrif which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER:

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED

☐ YES ☐ NO—FURNISHED BY CARRIER
DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
`RLINGTON HEIGHTS IL 60004

ORDER NO:.. 000096591
ORDER DATE: 10/30/98
SHIP DATE:. 11/18/98

SOLD TO: 3069
RESOURCE MANAGEMENT, INC.
BOX 850

PENUELAS PR 00624

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. PLANT TO ARRANGE

SHIP TO: 01
PROTECO LANDFILL
ROAD #385 KM. 4.5 BO TALLABOA

PENUELAS PR 00624

PO: 0999

PRODUCT	SIZE U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-BENTOMAT ST	SFT SF	199847030	00017742	150.0	15.0	2250.0	3351
030-BENTOMAT ST	SFT SF	199847030	00017743	150.0	15.0	2250.0	3348
030-BENTOMAT ST	SFT SF	199847030	00017744	150.0	15.0	2250.0	3063
030-BENTOMAT ST	SFT SF	199847030	00017746	150.0	15.0	2250.0	3380
030-BENTOMAT ST	SFT SF	199847030	00017747	150.0	15.0	2250.0	3383
030-BENTOMAT ST	SFT SF	199847030	00017748	150.0	15.0	2250.0	3353
030-BENTOMAT ST	SFT SF	199847030	00017751	150.0	15.0	2250.0	3343
030-BENTOMAT ST	SFT SF	199847030	00017752	150.0	15.0	2250.0	3366
030-BENTOMAT ST	SFT SF	199847030	00017758	150.0	15.0	2250.0	3324
030-BENTOMAT ST	SFT SF	199847030	00017760	150.0	15.0	2250.0	3380
030-BENTOMAT ST	SFT SF	199847030	00017761	150.0	15.0	2250.0	3351

ORDER TOTALS..... ======== ======= 24750.0 36642.

TOTAL ITEMS..... 11

11 Bags

STRAIGHT BILL OF LADING—ORIGINAL—~~NOT NEGOTIABLE~~

PAGE 1 OF

CARRIER NAME: ~~PLANT TO ARRANGE~~ Blue Dolphin EXPRESS

CONSIGNED TO: PROTECO LANDFILL
ROAD #385 KM. 4.5 BO TALLABOA

PENUELAS PR 00624
PHONE: 787-836-2058

SOLDTO: 3069 SHIPTO: 01

CONSIGNED P.O.#: 0999

CAR/VEHICLE#:

ROUTING/CONTRACT:

DELIVERING CARRIER:

SHIPPER'S NO: 000096592

DEL DATE: 11/~~15~~/98 SHIP DATE: 11/~~05~~/98 18

SHIPPER: CETCO
1350 W SHURE DR.
ARLINGTON HGTS IL 60004

SHIPPING PLANT: FAIRMOUNT, GA
P.O. BOX 88
FAIRMOUNT GA 30139

LINE COMMENTS ALL BAGGED SHIPMENTS LOADED ON FLATBED OR OPEN TOP TRAILERS MUST BE COVERED WITH ADEQUATE TARPAULIN PRIOR TO HIGHWAY MOVEMENT. CARRIER WILL BE HELD FULLY RESPONSIBLE FOR LOSS OR DAMAGE OCCURRING TO UNPROTECTED LOADS.

ORDER COMMENTS TOTAL ORDER IS FOR 75,000 SF BENTOMAT ST WITH 33 BAGS

QUANTITY	HM	DESCRIPTION OF ARTICLES PROD DESCRIPTION	WEIGHT (SUBJECT TO CORRECTION)
24750 ~~25000.0000~~		BENTOMAT ST	37024 ~~[illegible].075.0000~~
11 ROLLS		CLOTH, SYNTHETIC FIBRE, NOT WOVEN, KNITTED NOR STITCHED	
~~[illegible]~~		~~[illegible] SEAMING CLAY~~ ~~([illegible])~~	550 ~~[illegible].0000~~
11 BAGS		~~CLAY BENTONITE GROUND (CLASS 50)~~ ~~[illegible]~~ CG-50	

GROSS: .00 TARE: .00 NET: 37574 ~~[illegible].575.00~~

Containe # SBGU3010053

Seal # 2867

Consigned To: Ocean Track
c/o C-Star
5860 William Mills St.
Blunt Island Terminal
Jacksonville, FL 32227

Booking # 4271502
Vessel-M/V EL Yunque V. 921
C/O Nov. 19, 1998

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges. COLLOID ENVIRONMENTAL TEC (Signature of Consignor)	If charges are to be prepaid, write or stamp here, "Prepaid." PREPAID Shipper liable for line haul charges only. COD charges to be paid by: Consignee

*MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIALS AS DEFINED IN TITLE 49 OF THE CODE OF FEDERAL REGULATIONS

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of [illegible] route to destination, and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms [illegible]itions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, [illegible] the applicable motor carrier classification or tarrif if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tarrif which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CARRIER: Ricky Page

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Per _____

PLACARDS REQUIRED

PLACARDS SUPPLIED ☐ YES ☐ NO—FURNISHED BY CARRIER

DRIVERS SIGNATURE:

ORIGINAL

PACKING LIST

COLLOID ENVIRONMENTAL TECH CO
1350 WEST SHURE DRIVE
ARLINGTON HEIGHTS IL 60004

ORDER NO:.. 000096592
ORDER DATE: 10/30/98
SHIP DATE:. 11/18/98

SOLD TO: 3069
RESOURCE MANAGEMENT, INC.
BOX 850

PENUELAS PR 00624

SHIP FROM:. FAIRMOUNT,GA
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. PLANT TO ARRANGE

SHIP TO: 01
PROTECO LANDFILL
ROAD #385 KM. 4.5 BO TALLABOA

PENUELAS PR 00624

PO: 0999

PRODUCT	SIZE	U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGH
030-BENTOMAT ST		SFT	SF 199847030	00017730	150.0	15.0	2250.0	3367
030-BENTOMAT ST		SFT	SF 199847030	00017731	150.0	15.0	2250.0	3359
030-BENTOMAT ST		SFT	SF 199847030	00017732	150.0	15.0	2250.0	3363
030-BENTOMAT ST		SFT	SF 199847030	00017733	150.0	15.0	2250.0	3326
030-BENTOMAT ST		SFT	SF 199847030	00017734	150.0	15.0	2250.0	3364
030-BENTOMAT ST		SFT	SF 199847030	00017735	150.0	15.0	2250.0	3366
030-BENTOMAT ST		SFT	SF 199847030	00017736	150.0	15.0	2250.0	3379
030-BENTOMAT ST		SFT	SF 199847030	00017737	150.0	15.0	2250.0	3441
030-BENTOMAT ST		SFT	SF 199847030	00017739	150.0	15.0	2250.0	3354
030-BENTOMAT ST		SFT	SF 199847030	00017740	150.0	15.0	2250.0	3375
030-BENTOMAT ST		SFT	SF 199847030	00017745	150.0	15.0	2250.0	3330

ORDER TOTALS..... ======== ======= 24750.0 37024.

TOTAL ITEMS..... 11

11 Bags

CETCO

GEOSYNTHETIC CLAY LINER QUALITY TEST RESULTS

A Wholly Owned Subsidiary of AMCOL International

Printed on recycled paper.

QCG#FT2 QCT#FT2
11/20/98 7:13:36

COLLOID ENVIRONMENTAL TECH CO

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: PROTECO LANDFILL
ROAD #385 KM. 4.5 BO TALLABOA
PENUELAS PR

O R D E R # 000096590

MATERIAL	LOT No.	ROLL No	BENTONITE MASS/AREA 0.75 lb/sqft ASTM D 5993	GRAB ELONGATION 10% Typical ASTM D 4632	GRAB STRENGTH 90 lbs ASTM D 4632	PEEL STRENGTH 15 lbs ASTM D 4632
030-BENTOMAT ST	199847030	00017762	1.10*	12.00	95.20	34.40*
030-BENTOMAT ST	199847030	00017759	1.07	12.00	95.20	33.80
030-BENTOMAT ST	199847030	00017757	1.07	12.00	95.20	33.80
030-BENTOMAT ST	199847030	00017756	1.07	12.00	95.20	33.80
030-BENTOMAT ST	199847030	00017755	1.07	12.00	95.20	33.80
030-BENTOMAT ST	199847030	00017754	1.07	12.00	95.20	33.80*
030-BENTOMAT ST	199847030	00017753	1.07	12.00	95.20	31.40
030-BENTOMAT ST	199847030	00017750	1.07	12.00	95.20	31.40
030-BENTOMAT ST	199847030	00017749	1.07	12.00	95.20	31.40
030-BENTOMAT ST	199847030	00017738	1.11	12.00	95.20	33.00
030-BENTOMAT ST	199847030	00017729	1.11*	12.00	95.20	35.50*

NOTE:

An asterisk indicates the actual test done on the roll and the roll tested.
If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture cont ent.
Grab Elongation is tested a minimum of every 200,000sf.

*** End of Report ***

QCG#FT2 QCT#FT2
11/20/98 7:14:47

COLLOID ENVIRONMENTAL TECH CO

GCL QUALITY DATA

FAIRMOUNT,GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: PROTECO LANDFILL
ROAD #385 KM. 4.5 BO TALLABOA
PENUELAS PR

O R D E R # 000096591

MATERIAL	LOT No.	ROLL No	BENTONITE MASS/AREA 0.75 lb/sqft ASTM D 5993	GRAB ELONGATION 10% Typical ASTM D 4632	GRAB STRENGTH 90 lbs ASTM D 4632	PEEL STRENGTH 15 lbs ASTM D 4632
030-BENTOMAT ST	199847030	00017761	1.07	12.00	95.20	33.80
030-BENTOMAT ST	199847030	00017760	1.07	12.00	95.20	33.80
030-BENTOMAT ST	199847030	00017758	1.07	12.00	95.20	33.80
030-BENTOMAT ST	199847030	00017752	1.07	12.00	95.20	31.40
030-BENTOMAT ST	199847030	00017751	1.07	12.00	95.20	31.40
030-BENTOMAT ST	199847030	00017748	1.07	12.00	95.20	31.40
030-BENTOMAT ST	199847030	00017747	1.07	12.00	95.20	31.40
030-BENTOMAT ST	199847030	00017746	1.07*	12.00	95.20	31.40*
030-BENTOMAT ST	199847030	00017744	1.11	12.00	95.20	33.00
030-BENTOMAT ST	199847030	00017743	1.11	12.00	95.20	33.00
030-BENTOMAT ST	199847030	00017742	1.11	12.00	95.20	33.00

NOTE:

An asterisk indicates the actual test done on the roll and the roll tested.
If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture cont ent.
Grab Elongation is tested a minimum of every 200,000sf.

*** End of Report ***

QCG#FT2 QCT#FT2
11/20/98 7:16:06

COLLOID ENVIRONMENTAL TECH CO

GCL QUALITY DATA

FAIRMOUNT, GA
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: PROTECO LANDFILL
ROAD #385 KM. 4.5 BO TALLABOA
PENUELAS PR

O R D E R # 000096592

MATERIAL	LOT No.	ROLL No	BENTONITE MASS/AREA 0.75 lb/sqft ASTM D 5993	GRAB ELONGATION 10% Typical ASTM D 4632	GRAB STRENGTH 90 lbs ASTM D 4632	PEEL STRENGTH 15 lbs ASTM D 4632
030-BENTOMAT ST	199847030	00017745	1.11	12.00	95.20	33.00
030-BENTOMAT ST	199847030	00017740	1.11	12.00	95.20	33.00
030-BENTOMAT ST	199847030	00017739	1.11	12.00	95.20	33.00
030-BENTOMAT ST	199847030	00017737	1.11	12.00	95.20	33.00*
030-BENTOMAT ST	199847030	00017736	1.11	12.00	95.20	35.50
030-BENTOMAT ST	199847030	00017735	1.11	12.00	95.20	35.50
030-BENTOMAT ST	199847030	00017734	1.11	12.00	95.20	35.50
030-BENTOMAT ST	199847030	00017733	1.11	12.00	95.20	35.50
030-BENTOMAT ST	199847030	00017732	1.11	12.00	95.20	35.50
030-BENTOMAT ST	199847030	00017731	1.11	12.00	95.20	35.50
030-BENTOMAT ST	199847030	00017730	1.11	12.00	95.20	35.50

NOTE:

An asterisk indicates the actual test done on the roll and the roll tested.
If an asterisk is not present, test results are based on the previous roll tested.
Mass Area and Moisture content are tested a minimum of every 40,000sf.
Grab Strength is tested a minimum of every 200,000sf.
Bentonite Mass/Area is reported at 0% moisture cont ent.
Grab Elongation is tested a minimum of every 200,000sf.

*** End of Report ***

BENTONITE
CERTIFICATE OF ANALYSIS

CETCO
92 HWY 37
LOVELL, WYO. 82431

DATE: 04-Nov-98

TO: **CETCO - CLAYMAX CORP.**
P.O. BOX 88

FAIRMOUNT, GA. 30139

ATTN: **CYNTHIA WILLIX**

Dear Sirs:

A shipment of **CG 50**
left our Lovell, WY plant on **27-Oct-98**
in **BN 454295**
as requested on your order no. **VERBAL**

A sample from this shipment was tested, and gave the following results:

TEST	METHOD	REQ. SPECIFICATION	ACTUAL RESULTS
RET. 10 MESH	ASTM C 136	0% .	0
PASSING 200 MESH	ASTM C 136	1.0 % MAX	0.6
MOISTURE	ASTM D 2216	12.0% MAX.	10.8
FREE SWELL	ASTM D 5890	24 MIN.	24
FLUID LOSS	ASTM D 5891	18.0 MAX.	13

We hereby certify that the results shown above represent this shipment.
Tests were conducted using American Standard Test Methods and/or customer approved laboratory procedures.
Product made in the U.S.A.

Tests Conducted By: **J.M.**

Approved By: **MOSES BRISENO**

CETCO

In any correspondence regarding this shipment, please refer to our
Order Number **95930**

CETCO

GEOSYNTHETIC CLAY LINER MQA TRACKING FORMS

QCG#TF1 QCT#TF1
11/20/98 7:13:36

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: PROTECO LANDFILL
ROAD #385 KM. 4.5 BO TALLABOA
PENUELAS PR

ORDER NUMBER 000096590

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199847030									
00017729	030-BENTOMAT ST	150	2250	3357	7528301		199845010	00002570	454295
00017738	030-BENTOMAT ST	150	2250	3351	7528301		199845010	00002565	454295
00017749	030-BENTOMAT ST	150	2250	3334	291948		199845010	00002574	454295
00017750	030-BENTOMAT ST	150	2250	3340	291948		199845010	00002574	454295
00017753	030-BENTOMAT ST	150	2250	3348	291948		199845010	00002574	454295
00017754	030-BENTOMAT ST	150	2250	3361	291948		199845010	00002574	454295
00017755	030-BENTOMAT ST	150	2250	3380	291948		199846010	00002539	454295
00017756	030-BENTOMAT ST	150	2250	3356	291948		199846010	00002539	454295
00017757	030-BENTOMAT ST	150	2250	3301	291948		199846010	00002539	454295
00017759	030-BENTOMAT ST	150	2250	3332	291948		199846010	00002539	454295
00017762	030-BENTOMAT ST	150	2250	3320	291948		199846010	00002539	454295

TOTAL SQUARE FEET..... 24,750

TOTAL PAGES 1

QCG#TF1 QCT#TF1
11/20/98 7:14:47

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: PROTECO LANDFILL
ROAD #385 KM. 4.5 BO TALLABOA
PENUELAS PR

ORDER NUMBER 000096591

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199847030									
00017742	030-BENTOMAT ST	150	2250	3351	7528301		199845010	00002565	454295
00017743	030-BENTOMAT ST	150	2250	3348	291948		199845010	00002565	454295
00017744	030-BENTOMAT ST	150	2250	3063	291948		199845010	00002565	454295
00017746	030-BENTOMAT ST	150	2250	3380	291948		199845010	00002565	454295
00017747	030-BENTOMAT ST	150	2250	3383	291948		199845010	00002574	454295
00017748	030-BENTOMAT ST	150	2250	3353	291948		199845010	00002574	454295
00017751	030-BENTOMAT ST	150	2250	3343	291948		199845010	00002574	454295
00017752	030-BENTOMAT ST	150	2250	3366	291948		199845010	00002574	454295
00017758	030-BENTOMAT ST	150	2250	3324	291948		199846010	00002539	454295
00017760	030-BENTOMAT ST	150	2250	3380	291948		199846010	00002539	454295
00017761	030-BENTOMAT ST	150	2250	3351	291948		199846010	00002539	454295

TOTAL SQUARE FEET..... 24.750

TOTAL PAGES 1

QCG#TF1 QCT#TF1
11/20/98 7:16:06

COLLOID ENVIRONMENTAL TECH CO
GCL MQA/MQC TRACKING FORM

CETCO FAIRMOUNT PLANT
P.O. BOX 88
FAIRMOUNT GA 30139

SHIP TO: PROTECO LANDFILL
ROAD #385 KM. 4.5 BO TALLABOA
PENUELAS PR

ORDER NUMBER 000096592

ROLL#	MATERIAL	ROLL LENGTH	SQUARE FEET	ROLL WEIGHT	GEOSYNTHETIC TOP LOT#	GEOSYNTHETIC TOP ROLL#	GEOSYNTHETIC BOTTOM LOT#	GEOSYNTHETIC BOTTOM ROLL#	CLAY LOT#
LOT# 199847030									
00017730	030-BENTOMAT ST	150	2250	3367	7528301		199845010	00002570	454295
00017731	030-BENTOMAT ST	150	2250	3359	7528301		199845010	00002570	454295
00017732	030-BENTOMAT ST	150	2250	3363	7528301		199845010	00002570	454295
00017733	030-BENTOMAT ST	150	2250	3326	7528301		199845010	00002570	454295
00017734	030-BENTOMAT ST	150	2250	3364	7528301		199845010	00002570	454295
00017735	030-BENTOMAT ST	150	2250	3366	7528301		199845010	00002570	454295
00017736	030-BENTOMAT ST	150	2250	3379	7528301		199845010	00002570	454295
00017737	030-BENTOMAT ST	150	2250	3441	7528301		199845010	00002565	454295
00017739	030-BENTOMAT ST	150	2250	3354	7528301		199845010	00002565	454295
00017740	030-BENTOMAT ST	150	2250	3375	7528301		199845010	00002565	454295
00017745	030-BENTOMAT ST	150	2250	3330	291948		199845010	00002565	454295

TOTAL SQUARE FEET..... 24.750

TOTAL PAGES 1

APPENDIX C.2

Conformance Test Results for GCL

Precision Geosynthetic Laboratories

May 18, 1998

Mr. Jeff D. Engels
LAW ENGINEERING
P.O. Box 850
Penuelas, Puerto Rico 00624

Dear Mr. Engels: **RE: PROTECO 12000-7-0221**

Thank you for consulting Precision Geosynthetic Laboratories for your material testing needs.

Enclosed is the laboratory report for the testing of three (3) GCL samples (Roll #318, Roll #626 and Roll #1172) received April 16, 1998.

It should be noted that the test specimen and test sample used for this report were believed to be representative of the material produced under the designation herein stated. However, these results are indicative of only the specimen that were actually tested. The testing herein is based upon accepted industry practice as well as the test method listed. Precision Geosynthetic Laboratories neither accepts responsibility for nor makes claims to the final use and purpose of the material.

By accepting the data and results represented on this report, Client agrees to limit the liability of Precision Geosynthetic Laboratories from Client and all other parties for claims arising out of the use of this data to the cost for the respective test(s) represented in this report, and Client agrees to indemnify and hold harmless Precision Geosynthetic Laboratories from and against all liability in excess of the aforementioned limit.

It is specifically requested that this document is considered proprietary information and should not be disclosed outside your organization in whole or in part without express consent of the author or the reviewer.

If you have any questions or if we may be of further service, please do not hesitate to call at 800-522-4599.

Sincerely,

PRECISION GEOSYNTHETIC LABORATORIES

Cora B. Queja
Quality Assurance

Ronald E. Belanger
Technical Director

Enclosure: (Job No. 980205)

1742 West Katella, Suite #4, Orange, CA 92867 • (714) 744-4599 FAX (714) 744-0357

Precision Geosynthetic Laboratories

May 18, 1998

VERIFICATION OF MATERIAL PROPERTIES
Geosynthetic Clay Liner
PROTECO 12000-7-0221

FOR: LAW ENGINEERING
(Reference: PGL Job No. 980205)

MATERIAL DESCRIPTION: GCL
2- Claymax and 1- Bentomax

No. of MATERIALS: (3)

ORIGIN OF MATERIAL: LAW ENGINEERING / Penuelas, Puerto Rico

DATE RECEIVED: April 16, 1998

SHIPPER: Federal Express.

SAMPLE IDENTIFICATIONS:

SAMPLE ID	PRECISION CONTROL NUMBER
Roll #318 Lot #199811030	C #27098
Roll #626 Lot #199812030	C #27099
Roll #1172 Lot #199811030	C #27100

TESTS REQUIRED:

DESCRIPTION	TEST METHOD
Mass Per Unit Area	ASTM D5993
Hydraulic Conductivity	ASTM D5084
Internal Shear	ASTM D5321

TEST CONDITIONS: The samples were conditioned for a minimum one hour in the laboratory at 23 ± 2°C (73.1 ± 3.6°F) and at 60 ± 10% relative humidity prior to test.

TEST RESULTS:

The test results are summarized in Tables 1 through 3. The units in which the data are reported are included on the tables.

PRECISION GEOSYNTHETIC LABORATORIES

Cora B. Queja
Quality Assurance

R. Belanger
Ronald E. Belanger
Technical Director

1742 West Katella, Suite #4, Orange, CA 92867 • (714) 744-4599 FAX (714) 744-0357

TABLE 1.

MATERIAL PROPERTIES

Geosynthetic Clay Liner, Claymax

PROTECO 12000-7-0221

FOR: LAW ENGINEERING

Date Received : **4/16/98**

Client Sample ID : **Roll #318 Lot #199811030**

Date Reported : **5/18/98**

PGL Job No. : **980205**

PGL Control No. : **27098**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Proj. Specs.
ASTM D5084	Hydraulic Conductivity (cm./ sec.) *(Confining Stress = 5 psi)*	**2.3E-09**										**2.3E-09**		
ASTM D5993	Mass per Unit Area of the GCL (grams/ m.^{2})	**5,284**	**4,426**	**4,506**								**4,739**	**474**	
ASTM D5321	Internal Shear Strength *(Final Moisture Content = 134.9%, Shear Rate = 0.04"/ minute)*													
	**Normal Stress (psf)*	**500**			**Peak (psf)*	**323**		**Residual (psf)*	**150**					

Precision Geosynthetic Laboratories

TABLE 2.

MATERIAL PROPERTIES

Geosynthetic Clay Liner, Claymax

PROTECO 12000-7-0221

FOR: LAW ENGINEERING

Date Received : **4/16/98**

Client Sample ID : **Roll #626 Lot #199812030**

Date Reported : **5/18/98**

PGL Job No. : **980205**

PGL Control No. : **27099**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Proj. Specs.
ASTM D5084	Hydraulic Conductivity (cm./ sec.) *(Confining Stress = 5 psi)*	**1.4E-09**										**1.4E-09**		
ASTM D5993	Mass per Unit Area of the GCL (grams/ m.^{2})	**4,329**	**4,874**	**4,062**								**4,422**	**414**	
ASTM D5321	Internal Shear Strength *(Final Moisture Content = 127.6%, Shear Rate = 0.04"/ minute)*													
	**Normal Stress (psf)*	**500**			**Peak (psf)* **302**			**Residual (psf)* **158**						

Precision Geosynthetic Laboratories

TABLE 3.

MATERIAL PROPERTIES

Geosynthetic Clay Liner, Bentomax

PROTECO 12000-7-0221

FOR: LAW ENGINEERING

Date Received : **4/16/98**

Client Sample ID : **Roll #1172 Lot #199811030**

Date Reported : **5/18/98**

PGL Job No. : **980205**

PGL Control No. : **27100**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Proj. Specs.
ASTM D5084	Hydraulic Conductivity (cm./ sec.) *(Confining Stress = 5 psi)*	**1.9E-09**										**1.9E-09**		
ASTM D5993	Mass per Unit Area of the GCL (grams/ m.^{2})	**4,188**	**4,339**	**4,284**								**4,270**	**76**	
ASTM D5321	Internal Shear Strength *(Final Moisture Content = 108.6%, Shear Rate = 0.04"/ minute)*													
	**Normal Stress (psf)*	**500**			**Peak (psf)*	**600**		**Residual (psf)*	**519**					

Precision Geosynthetic Laboratories

1742 W... Katella, Suite #4
Orange, California 92867
(800) 522-4599

PRECISION GEOSYN... ETIC LABORATORIES
GEOSYNTHETIC CHAIN OF CUSTODY

PROJECT NAME: [illegible]

CLIENT PROJECT NUMBER: [illegible]

PROJECT LOCATION: [illegible]

SAMPLE ID	DESCRIPTION	Thickness (D1593)	Tensile (D638)	Carbon Content (D1603)	Carbon Disp. (D3015)	Density (D1505)	[illegible]	[illegible]	Thickness (D1777)	Mass/Area (D3776)	Grab Tensile (D4632)	Puncture (D4833)	Mullen Burst (D3786)	Trap Tear (D4533)	AOS (D4751)	[illegible]		Seam Strength (D3083,751,4437)	PEEL (D413/D4437)	REMARKS	LAB ID
LOT # [illegible] Roll# [illegible]	Pentomax						X	X								X					1
LOT # [illegible] Roll# [illegible]	Claymax						X	X								X					2
LOT # [illegible] Roll# [illegible]	Claymax						X	X								X					3

REPORT TO:
ATTN: [illegible]
COMPANY: [illegible]
ADDRESS: [illegible]
[illegible]
TEL NO: [illegible]
FAX REPORT TO:
FAX NO: [illegible]
SHIPPED VIA: X FEDEX ○ UPS ○ US POSTAL
○ AIRBORNE ○ HANDCARRIED ○ OTHERS

RELEASED BY:
NAME: [illegible]
COMPANY: [illegible]
DATE: [illegible]
TIME: [illegible]

RELEASED BY:
NAME:
COMPANY:
DATE:
TIME:

SPECIAL INSTRUCTIONS:

White - REPORT, Yellow - LAB, Pink - CLIENT

Precision Geosynthetic Laboratories

December 2, 1998

Mr. Jeff D. Engels
LAW ENGINEERING
P.O. Box 850
Penuelas, Puerto Rico 00624

Dear Mr. Engels: **RE: PROTECO 12000-7-0221**

Thank you for consulting Precision Geosynthetic Laboratories for your material testing needs.

Enclosed is the laboratory report for the testing of one (1) GCL sample (Roll #17729) received November 24, 1998.

It should be noted that the test specimen and test sample used for this report were believed to be representative of the material produced under the designation herein stated. However, these results are indicative of only the specimen that were actually tested. The testing herein is based upon accepted industry practice as well as the test method listed. Precision Geosynthetic Laboratories neither accepts responsibility for nor makes claims to the final use and purpose of the material.

By accepting the data and results represented on this report, Client agrees to limit the liability of Precision Geosynthetic Laboratories from Client and all other parties for claims arising out of the use of this data to the cost for the respective test(s) represented in this report, and Client agrees to indemnify and hold harmless Precision Geosynthetic Laboratories from and against all liability in excess of the aforementioned limit.

The test data and all associated project information shall be held in confidence and disclosed to other parties only with the authorization of Client or Precision Geosynthetic Laboratories.

If you have any questions or if we may be of further service, please do not hesitate to call at 800-522-4599.

Sincerely,

PRECISION GEOSYNTHETIC LABORATORIES

Cora B. Queja
Quality Assurance

Ronald E. Belanger
Technical Director

Enclosure: (Job No. 981944)

1742 West Katella, Suite #4, Orange, CA 92867 TEL : (714) 744-4599 FAX : (714) 744-0357

Precision Geosynthetic Laboratories

December 2, 1998

VERIFICATION OF MATERIAL PROPERTIES
Geosynthetic Clay Liner
PROTECO 12000-7-0221

FOR: LAW ENGINEERING
(Reference: PGL Job No. 981944)

MATERIAL DESCRIPTION: GCL

No. of MATERIALS: (1)

ORIGIN OF MATERIAL: CETCO / Fairmount, Georgia

DATE RECEIVED: November 24, 1998

SHIPPER: UPS.

SAMPLE IDENTIFICATIONS:

SAMPLE ID	PRECISION CONTROL NUMBER
Roll #17729 Lot #199847030	C #35441

TESTS REQUIRED:

DESCRIPTION	TEST METHOD
Mass Per Unit Area	ASTM D5993
Hydraulic Conductivity	ASTM D5084
Internal Shear	ASTM D5321

TEST CONDITIONS: The sample was conditioned for a minimum one hour in the laboratory at 23 ± 2°C (73.1 ± 3.6°F) and at 60 ± 10% relative humidity prior to test.

TEST RESULTS:

The test results are summarized in Table 1. The units in which the data are reported are included on the table.

PRECISION GEOSYNTHETIC LABORATORIES

Cora B. Queja
Quality Assurance

Ronald E. Belanger
Technical Director

1742 West Katella, Suite #4, Orange, CA 92867 TEL : (714) 744-4599 FAX : (714) 744-0357

TABLE 1.

MATERIAL PROPERTIES

Geosynthetic Clay Liner

PROTECO 12000-7-0221

FOR: LAW ENGINEERING

Date Received : **11/24/98**

Client Sample ID : **Roll #17729 Lot #199847030**

Date Reported : **12/2/98**

PGL Job No. : **981944**

PGL Control No. : **35441**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Proj. Specs.
ASTM D5084	Hydraulic Conductivity (cm./ sec.) *(Confining Stress = 5 psi)*	**2.5E-09**										**2.5E-09**		
ASTM D5993	Mass per Unit Area of the GCL (grams/ m.^{2})	**5,555**	**5,235**	**5,901**								**5,563**	**333**	
ASTM D5321	Internal Shear Strength *(Moisture Content = 99.6%, Shear Rate = 0.04"/ minute)*													
	**Normal Stress (psf)*	**500**												
	**Peak (psf)*	**898**												
	**Residual (psf)*	**622**												

Precision Geosynthetic Laboratories

APPENDIX C.3

Manufacturer's Quality Control Data Package
Geomembrane

01/21/98

NSC

POLYETHYLENE CERTIFICATE OF ANALYSIS

Customer: Waste Tech, Inc.

Resin Type: Chevron

Project Name: Puerto Rico

Project Number: 3156-100

Bill of Lading: 15024 & 15025

We hereby certify that the polyethylene resin for the above identified shipment, meets or exceeds National Seal Company's specifications. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238 Condition 190/2.16. Density was determined according to ASTM D 1505. Where appropriate, carbon black content was determined according to ASTM D 4218. The average test results are listed in the table below.

RESIN PROPERTIES

BLEND NUMBER	MELT FLOW INDEX (g/10 min)	DENSITY (g/cm3)	CARBON BLACK CONTENT (%)
508E	0.33	0.938	

Jane Allen
Quality Control Manager

1-21-98
Date:

Note: When no carbon black content value is listed, the resin contained no carbon black.

This Certificate of Analysis shall not be reproduced except in full, without the written approval of the laboratory.
National Seal Company - 1255 Monmouth Blvd. - Galesburg, IL - 61401

01/23/98

NSC

POLYETHYLENE CERTIFICATE OF ANALYSIS

Customer: Waste Tech, Inc.

Resin Type: Chevron

Project Name: Puerto Rico

Project Number: 3156-100

Bill of Lading: 15051

We hereby certify that the polyethylene resin for the above identified shipment, meets or exceeds National Seal Company's specifications. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238 Condition 190/2.16. Density was determined according to ASTM D 1505. Where appropriate, carbon black content was determined according to ASTM D 4218. The average test results are listed in the table below.

RESIN PROPERTIES

BLEND NUMBER	MELT FLOW INDEX (g/10 min)	DENSITY (g/cm3)	CARBON BLACK CONTENT (%)
508E	0.33	0.938	

Jane Allen
Quality Control Manager

1-23-98
Date:

Note: When no carbon black content value is listed the resin contained no carbon black.

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National Seal Company - 1255 Monmouth Blvd. - Galesburg, IL - 61401

NSC

January 21, 1998

CERTIFICATION

Customer: Waste Tech, Inc.

Project Name: Puerto Rico

Project Number: 3156-100

I certify, the 40 mil HDPE geomembrane shipped to the above mentioned project will meet or exceed the following specification when tested for Low Temperature Brittleness according to ASTM D 746:

PROPERTY	TEST METHOD	VALUE
Low Temperature Brittleness	ASTM D 746	<112° F

NATIONAL SEAL COMPANY

Jane Allen

Jane Allen
Quality Control Manager

NSC

GEOMEMBRANE CERTIFICATE OF ANALYSIS

Customer: Waste Tech, Inc.

Number of Rolls Shipped: 18

Project Name: Puerto Rico

Nominal Thickness: 40 mil

Project Number: 3156-100

Bill of Lading: 15024 & 15025

We hereby certify that the polyethylene geomembrane for the above identified shipment meets or exceeds National Seal Company's specifications, below. Testing was performed at the frequency indicated.

The raw polymeric material is first quality polyethylene resin containing no more than two percent clean re-worked plastic by weight. Thickness was measured according to ASTM D 5199. Tensile properties were determined in accordance with ASTM D 638, using Type IV dumbell specimens, a strain rate of two inches per minute, and grip movement for strain determinations. Carbon black dispersion slides were prepared according to ASTM D 5596 and rated according to the ASTM D 5596 dispersion classification chart under 100X magnification. Carbon black content was determined according to ASTM D 4218. Dimensional stability was determined according to ASTM D 1204 at 100°C for one hour. Puncture resistance was determined according to FTMS 01, 2065. Tear Resistance was determined according to ASTM D 1004. Density was determined according to ASTM D 1505.

A database listing of all test values follows.

GEOMEMBRANE SPECIFICATIONS

Thickness	40 mil Minimum Average	at least every 100000 ft²
Stress at Yield	2200 psi Minimum Average	at least every 100000 ft²
Stress at Break	3800 psi Minimum Average	at least every 100000 ft²
Strain at Yield	13% Minimum Average	at least every 100000 ft²
Strain at Break	700% Minimum Average	at least every 100000 ft²
Carbon Black Dispersion	Category 1 or 2	at least every 100000 ft²
Carbon Black Content	2% to 3%	at least every 100000 ft²
Dimensional Stability	+/- 2%	at least once per shift
Puncture Resistance	52 lbs Minimum Average	at least every 100000 ft²
Tear Resistance	30 lbs Minimum Average	at least every 100000 ft²
Density	0.940 g/cm³ Minimum Average	at least every 100000 ft²

NATIONAL SEAL COMPANY

Jane Allen

Jane Allen
Quality Control Manager

1-21-98
Date

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GEOMEMBRANE STANDARD TESTING

Date: 01/21/98

Page: 1

Bill(s) of Lading: 15024 & 15025

ROLL NUMBER	THICK (mil)	STRESS AT YIELD (psi) MD	STRESS AT YIELD (psi) TD	STRESS AT BREAK (psi) MD	STRESS AT BREAK (psi) TD	STRAIN AT YIELD (%) MD	STRAIN AT YIELD (%) TD	STRAIN AT BREAK (%) MD	STRAIN AT BREAK (%) TD	CARB DISP	CARB CONT (%)	DENSITY (g/cm3)	DIMESIONAL STABILITY MD	DIMESIONAL STABILITY TD	TEAR RESIS (ppi) MD	TEAR RESIS (ppi) TD
E04L508E-98A200000102G	41.2	2490	2650	5080	4960	17.3	16.3	861	922	1	2.46	0.946	-0.3	0.2	35	34
E04L508E-98A200000302G	41.1	2560	2700	5510	5080	17.3	16.5	934	930	1	2.54	0.946	.	.		
E04L508E-98A200000502G	41.1	2630	2640	4980	4950	16.1	15.0	818	883	1	2.56	0.947	.	.	35	35
E04L508E-98A200000702G	41.2	2470	2590	5120	5100	17.5	16.6	839	899	1	2.48	0.947	.	.		
E04L508E-98A200000902G	41.2	2440	2540	5390	5210	18.2	16.7	912	956	1	2.48	0.947	.	.	35	34
E04L508E-98A200001102G	41.0	2430	2490	5270	4930	17.7	17.2	891	920	1	2.48	0.947	-0.4	0.2		
E04L508E-98A200001302G	41.2	2480	2550	5360	5120	17.8	15.9	876	944	1	2.56	0.947	.	.	34	34
E04L508E-98A200001502G	41.2	2480	2570	5200	4980	16.5	15.6	860	909	1	2.55	0.947	.	.		
E04L508E-98A200001702G	41.3	2520	2620	5170	5170	16.9	15.3	856	910	1	2.53	0.947	.	.	34	33
E04L508E-98A210000102G	41.0	2510	2570	5040	5190	16.5	15.5	852	953	1	2.58	0.947	-0.4	0.2		
E04L508E-98A210000302G	41.3	2480	2580	5220	5360	17.2	15.5	877	971	1	2.54	0.947	.	.	34	33
E04L508E-98A210000502G	41.1	2400	2510	5420	5220	18.0	16.4	910	951	1	2.56	0.947	.	.		
E04L508E-98A210000702G	41.4	2440	2550	5460	5160	17.9	17.1	892	930	1	2.60	0.947	.	.		

Jane Allen

Jane Allen
Quality Control Manager

1-21-98
Date

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GEOMEMBRANE STANDARD TESTING

Date: 01/21/98

Page: 1

Bill(s) of Lading: 15024 & 15025

ROLL NUMBER	THICK (mil)	STRESS AT YIELD (psi) MD	STRESS AT YIELD (psi) TD	STRESS AT BREAK (psi) MD	STRESS AT BREAK (psi) TD	STRAIN AT YIELD (%) MD	STRAIN AT YIELD (%) TD	STRAIN AT BREAK (%) MD	STRAIN AT BREAK (%) TD	DENSITY (g/cm3)	CARB DISP	CARB CONT (%)	DIMENSIONAL STABILITY MD	DIMENSIONAL STABILITY TD	PTMS PUNCT (lbs)
E04L508E-98A200000102G	41.2	2490	2650	5080	4960	17.3	16.3	861	922	0.946	1	2.46	-0.3	0.2	59
E04L508E-98A200000302G	41.1	2560	2700	5510	5080	17.3	16.5	934	930	0.946	1	2.54			
E04L508E-98A200000502G	41.1	2630	2640	4980	4950	16.1	15.0	818	883	0.947	1	2.56			64
E04L508E-98A200000702G	41.2	2470	2590	5120	5100	17.5	16.6	839	899	0.947	1	2.48			
E04L508E-98A200000902G	41.2	2440	2540	5390	5210	18.2	18.7	912	956	0.947	1	2.48			60
E04L508E-98A200001102G	41.0	2430	2490	5270	4930	17.7	17.2	891	920	0.947	1	2.48	-0.4	0.2	
E04L508E-98A200001302G	41.2	2480	2550	5360	5120	17.8	15.9	876	944	0.947	1	2.56			59
E04L508E-98A200001502G	41.2	2480	2570	5200	4980	16.5	15.6	860	909	0.947	1	2.55			
E04L508E-98A200001702G	41.3	2520	2620	5170	5170	16.9	15.3	856	910	0.947	1	2.53			62
E04L508E-98A210000102G	41.0	2510	2570	5040	5190	16.5	15.5	852	953	0.947	1	2.58	-0.4	0.2	
E04L508E-98A210000302G	41.3	2480	2580	5220	5360	17.2	15.5	877	971	0.947	1	2.54			66
E04L508E-98A210000502G	41.1	2400	2510	5420	5220	18.0	16.4	910	951	0.947	1	2.56			
E04L508E-98A210000702G	41.4	2440	2550	5460	5160	17.9	17.1	892	930	0.947	1	2.60			

Jane Allen
Quality Control Manager

1-21-98
Date

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01/23/98

POLYETHYLENE CERTIFICATE OF ANALYSIS

Customer: Waste Tech, Inc.

Resin Type: Solvay

Project Name: Puerto Rico

Project Number: 3656-100

Bill of Lading: 15051

We hereby certify that the polyethylene resin for the above identified shipment, meets or exceeds National Seal Company's specifications. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238 Condition 190/2.16. Density was determined according to ASTM D 1505. Where appropriate, carbon black content was determined according to ASTM D 4218. The average test results are listed in the table below.

RESIN PROPERTIES

BLEND NUMBER	MELT FLOW INDEX (g/10 min)	DENSITY (g/cm3)	CARBON BLACK CONTENT (%)
017A	0.25	0.946	2.39

Jane Allen
Quality Control Manager

1-23-98
Date:

Note: When no carbon black content value is listed, the resin contained no carbon black.

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January 23, 1998

CERTIFICATION

Customer: Waste Tech, Inc.

Project Name: Puerto Rico

Project Number: 3156-100

I certify, the 60 mil HDPE geomembrane shipped to the above mentioned project will meet or exceed the following specification when tested for Low Temperature Brittleness according to ASTM D 746:

PROPERTY	TEST METHOD	VALUE
Low Temperature Brittleness	ASTM D 746	<112° F

NATIONAL SEAL COMPANY

Jane Allen

Jane Allen
Quality Control Manager

NSC

GEOMEMBRANE CERTIFICATE OF ANALYSIS

Customer: Waste Tech, Inc.

Number of Rolls Shipped: 6

Project Name: Puerto Rico

Nominal Thickness: 60 mil

Project Number: 3E56-100

Bill of Lading: 15051

We hereby certify that the polyethylene geomembrane for the above identified shipment meets or exceeds National Seal Company's specifications, below. Testing was performed at the frequency indicated.

The raw polymeric material is first quality polyethylene resin containing no more than two percent clean re-worked plastic by weight. Thickness was measured according to ASTM D 5199. Tensile properties were determined in accordance with ASTM D 638, using Type IV dumbell specimens, a strain rate of two inches per minute, and grip movement for strain determinations. Carbon black dispersion slides were prepared according to ASTM D 5596 and rated according to the ASTM D 5596 dispersion classification chart under 100X magnification. Carbon black content was determined according to ASTM D 4218. Dimensional stability was determined according to ASTM D 1204 at 100°C for one hour. Puncture resistance was determined according to FTMS 01, 2065. Tear Resistance was determined according to ASTM D 1004. Density was determined according to ASTM D 1505.

A database listing of all test values follows.

GEOMEMBRANE SPECIFICATIONS

Thickness	60 mil Minimum Average	at least every 100000 ft²
Stress at Yield	2200 psi Minimum Average	at least every 100000 ft²
Stress at Break	3800 psi Minimum Average	at least every 100000 ft²
Strain at Yield	13% Minimum Average	at least every 100000 ft²
Strain at Break	700% Minimum Average	at least every 100000 ft²
Carbon Black Dispersion	Category 1 or 2	at least every 100000 ft²
Carbon Black Content	2% to 3%	at least every 100000 ft²
Dimensional Stability	+/- 2%	at least once per shift
Puncture Resistance	78 lbs Minimum Average	at least every 100000 ft²
Tear Resistance	45 lbs Minimum Average	at least every 100000 ft²
Density	0.940 g/cm³ Minimum Average	at least every 100000 ft²

NATIONAL SEAL COMPANY

Jane Allen

Jane Allen
Quality Control Manager

1-23-98
Date

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GEOMEMBRANE STANDARD TESTING

Date: 01/23/98

Page: 1

Bill(s) of Lading: 15051

ROLL NUMBER	THICK (mil)	STRESS AT YIELD (psi) MD	STRESS AT YIELD (psi) TD	STRESS AT BREAK (psi) MD	STRESS AT BREAK (psi) TD	STRAIN AT YIELD (%) MD	STRAIN AT YIELD (%) TD	STRAIN AT BREAK (%) MD	STRAIN AT BREAK (%) TD	CARB DISP	CARB CONT (%)	DENSITY (g/cm3)	DIMESIONAL STABILITY MD	DIMESIONAL STABILITY TD	TEAR RESIS (ppi) MD	TEAR RESIS (ppi) TD
S06L017A-7K2000032	61.2	2370	2360	5150	5000	18.1	16.6	949	953	1	2.48	0.947	-0.3	0.1		
S06L017A-7K2000062													.	.		
S06L017A-7K2000072	61.4	2350	2510	4680	5170	17.6	16.0	862	995	1	2.48	0.946	.	.		
S06L017A-7K2000112	61.1	2320	2430	5160	4930	17.4	16.0	933	955	1	2.50	0.946	-0.1	0.2	49	48
S06L018B-7K2000152	61.7	2370	2450	5070	5100	17.5	16.6	929	992	1	2.40	0.946	.	.		

Jane Allen

Jane Allen
Quality Control Manager

1-23-98
Date

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01/21/98

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POLYETHYLENE CERTIFICATE OF ANALYSIS

Customer: Waste Tech, Inc.

Resin Type: Chevron Extrusion Rod

Project Name: Puerto Rico

Project Number: 3156-100

Bill of Lading: 15024

We hereby certify that the polyethylene resin for the above identified shipment, meets or exceeds National Seal Company's specifications. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238 Condition 190/2.16. Density was determined according to ASTM D 1505. Carbon black content was determined according to ASTM D 4218.
The average test results are listed in the table below.

RESIN PROPERTIES

BLEND NUMBER	MELT FLOW INDEX (g/10 min)	DENSITY (g/cm3)	CARBON BLACK CONTENT (%)
693E	0.30	0.937	

Jane Allen
Quality Control Manager

1-21-98
Date:

Note: When no carbon black content value is listed, the resin contained no carbon black.

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GEOMEMBRANE CERTIFICATE OF ANALYSIS

Customer: Waste-Tech, Inc.

Number of Rolls Shipped: 1

Project Name: Penuelas, PR

Nominal Thickness: 60 mil

Project Number: 3191-100

Bill of Lading: 15364

We hereby certify that the polyethylene geomembrane for the above identified shipment meets or exceeds National Seal Company's specifications, below. Testing was performed at the frequency indicated.

The raw polymeric material is first quality polyethylene resin containing no more than two percent clean re-worked plastic by weight. Thickness was measured according to ASTM D 5199. Tensile properties were determined in accordance with ASTM D 638, using Type IV dumbell specimens, a strain rate of two inches per minute, and grip movement for strain determinations. Carbon black dispersion slides were prepared according to ASTM D 5596 and rated according to the ASTM D 5596 dispersion classification chart under 100X magnification. Carbon black content was determined according to ASTM D 4218. Dimensional stability was determined according to ASTM D 1204 at 100°C for one hour. Puncture resistance was determined according to FTMS 01, 2065. Tear Resistance was determined according to ASTM D 1004. Density was determined according to ASTM D 1505.

A database listing of all test values follows.

GEOMEMBRANE SPECIFICATIONS

Thickness	60 mil Minimum Average	at least every 50,000 ft^2
Stress at Yield	2200 psi Minimum Average	at least every 50,000 ft^2
Stress at Break	3800 psi Minimum Average	at least every 50,000 ft^2
Strain at Yield	13% Minimum Average	at least every 50,000 ft^2
Strain at Break	700% Minimum Average	at least every 50,000 ft^2
Carbon Black Dispersion	Category 1 or 2	at least every 50,000 ft^2
Carbon Black Content	2% to 3%	at least every 50,000 ft^2
Dimensional Stability	+/- 2%	at least once per shift
Puncture Resistance	1300 ppi Minimum Average	at least every 50,000 ft^2
Tear Resistance	750 ppi Minimum Average	at least every 50,000 ft^2
Density	0.940 g/cm^3 Minimum Average	at least every 50,000 ft^2

NATIONAL SEAL COMPANY

Jane Allen

Jane Allen
Quality Control Manager

4-10-98
Date

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GEOMEMBRANE STANDARD TESTING

Date: 04/10/98

Page: 1

Bill(s) of Lading: 15364

ROLL NUMBER	THICK (mil)	STRESS AT YIELD (psi) MD	STRESS AT YIELD (psi) TD	STRESS AT BREAK (psi) MD	STRESS AT BREAK (psi) TD	STRAIN AT YIELD (%) MD	STRAIN AT YIELD (%) TD	STRAIN AT BREAK (%) MD	STRAIN AT BREAK (%) TD	DENSITY (g/cm3)	CARB DISP	CARB CONT (%)	DIMENSIONAL STABILITY MD	DIMENSIONAL STABILITY TD	FTHS PUNCT (ppi)
S06L116A-98B120000202G	61.2	2360	2480	4840	5370	17.5	16.7	856	999	0.945	1	2.34	-0.4	0.1	
S06L116A-98B120000602G	61.0	2320	2390	5140	4850	18.7	17.6	891	942	0.945	1	2.36			
S06L116A-98B120001002G	60.5	2440	2540	4890	4880	17.8	16.4	871	914	0.945	1	2.36	-0.3	0.2	1590
S06L116A-98B120001402G	60.6	2430	2440	5120	4930	18.2	17.2	905	930	0.945	1	2.34			
S06L116A-98B120001802G	60.5	2410	2490	4550	5040	18.2	16.4	830	951	0.945	1	2.35			
S06L116A-98B130000402G	60.3	2410	2490	5210	5240	18.0	17.1	922	974	0.946	1	2.30	-0.3	0.3	
S06L116A-98B130000802G	60.4	2360	2470	4870	5400	18.0	16.6	866	992	0.946	1	2.34			
S06L116A-98B130001202G	60.2	2340	2390	5060	5020	18.4	17.5	889	938	0.945	1	2.33	-0.5	0.2	
S06L116A-98B130001602G	60.5	2420	2520	5240	4860	17.9	16.9	909	925	0.945	1	2.29			

Jane Allen

Jane Allen
Quality Control Manager

4-10-98
Date

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GEOMEMBRANE STANDARD TESTING

Date: 04/10/98

Page: 1

Bill(s) of Lading: 15364

ROLL NUMBER	THICK (mil)	STRESS AT YIELD (psi) MD	STRESS AT YIELD (psi) TD	STRESS AT BREAK (psi) MD	STRESS AT BREAK (psi) TD	STRAIN AT YIELD (%) MD	STRAIN AT YIELD (%) TD	STRAIN AT BREAK (%) MD	STRAIN AT BREAK (%) TD	CARB DISP	CARB CONT (%)	DENSITY (g/cm3)	DIMENSIONAL STABILITY MD	DIMENSIONAL STABILITY TD	TEAR RESIS (ppf) MD	TEAR RESIS (ppf) TD
S06L116A-98B120000202G	61.2	2360	2480	4840	5370	17.5	16.7	856	999	1	2.34	0.945	-0.4	0.1		
S06L116A-98B120000602G	61.0	2320	2390	5140	4850	18.7	17.6	891	942	1	2.36	0.945	.	.		
S06L116A-98B120001002G	60.5	2440	2540	4890	4880	17.8	16.4	871	914	1	2.36	0.945	-0.3	0.2	802	775
S06L116A-98B120001402G	60.6	2430	2440	5120	4930	18.2	17.2	905	930	1	2.34	0.945	.	.		
S06L116A-98B120001802G	60.5	2410	2490	4550	5040	18.2	16.4	830	931	1	2.35	0.945	.	.		
S06L116A-98B130000402G	60.3	2410	2490	5210	5240	18.0	17.1	922	974	1	2.30	0.946	-0.3	0.3		
S06L116A-98B130000802G	60.4	2360	2470	4870	5400	18.0	16.6	866	992	1	2.34	0.946	.	.		
S06L116A-98B130001202G	60.2	2340	2390	5060	5020	18.4	17.5	889	938	1	2.33	0.945	-0.5	0.2		
S06L116A-98B130001602G	60.5	2420	2520	5240	4860	17.9	16.9	909	925	1	2.29	0.945	.	.		

Jane Allen

Jane Allen
Quality Control Manager

4-10-98
Date

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04/10/98

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POLYETHYLENE CERTIFICATE OF ANALYSIS

Customer: Waste-Tech, Inc.

Resin Type: Chevron

Project Name: Penuelas, PR

Project Number: 3191-100

Bill of Lading: 15364

We hereby certify that the polyethylene resin for the above identified shipment, meets or exceeds National Seal Company's specifications. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238 Condition 190/2.16. Density was determined according to ASTM D 1505. Where appropriate, carbon black content was determined according to ASTM D 4218. The average test results are listed in the table below.

RESIN PROPERTIES

BLEND NUMBER	MELT FLOW INDEX (g/10 min)	DENSITY (g/cm3)	CARBON BLACK CONTENT (%)
530E	0.28	0.937	
554E	0.28	0.937	

Jane Allen

Jane Allen
Quality Control Manager

4-10-98
Date:

Note: When no carbon black content value is listed, the resin contained no carbon black.

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TEXTURED GEOMEMBRANE CERTIFICATE OF ANALYSIS

Customer: Waste-Tech, Inc.

Number of Rolls Shipped: 4

Project Name: Penuelas, PR

Nominal Thickness: 40 mil

Project Number: 3191-100

Bill of Lading: 15364

We hereby certify that the polyethylene geomembrane for the above identified shipment meets or exceeds National Seal Company's specifications, below. Testing was performed at the frequency indicated.

The raw polymeric material used to manufacture the base sheet is first quality polyethylene resin containing no more than two percent clean reworked plastic by weight. Tensile properties were determined in accordance with ASTM D 638, using Type IV dumbell specimens, a strain rate of two inches per minute, and grip movement for strain determinations. Thickness was determined according to ASTM D 5199. Carbon black dispersion slides were prepared according to ASTM D 5596 and rated according to the ASTM D 5596 dispersion classification chart when viewed under 100X magnification. Carbon black content was determined according to ASTM D 4218. Dimensional stability was determined according to ASTM D 1204 at 100°C for one hour. Density was determined according to ASTM D 1505. Puncture resistance was determined according to FTMS 101, 2065. Tear resistance was determined according to ASTM D 1004. A database listing of all test values follows.

GEOMEMBRANE SPECIFICATIONS

Thickness (Base Sheet)	40 mil Minimum Average	at least every 50,000 ft^2
Stress at Yield	2200 psi Minimum Average	at least every 50,000 ft2
Stress at Break	2200 psi Minimum Average	at least every 50,000 ft^2
Strain at Yield	13% Minimum Average	at least every 50,000 ft^2
Strain at Break	200% Minimum Average	at least every 50,000 ft^2
Carbon Black Dispersion (Base Sheet)	Category 1 or 2	at least every 50,000 ft^2
Carbon Black Content (Base Sheet)	2% to 3%	at least every 50,000 ft^2
Dimensional Stability (Base Sheet)	+/- 2%	at least once per shift
Density (Base Sheet)	0.940 g/cm^3 Minimum Average	at least every 50,000 ft^2
Puncture Resistance	1300 ppi Minimum Average	at least every 50,000 ft^2
Tear Resistance	750 ppi Minimum Average	at least every 50,000 ft^2

NATIONAL SEAL COMPANY

Jane Allen

Jane Allen
Quality Control Manager

4-10-98
Date

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TEXTURED GEOMEMBRANE STANDARD TESTING

Date: 04/10/98

Page: 1

Bill(s) of Lading: 15364

ROLL NUMBER	STRESS AT YIELD (psi) MD	STRESS AT YIELD (psi) TD	STRESS AT BREAK (psi) MD	STRESS AT BREAK (psi) TD	STRAIN AT YIELD (%) MD	STRAIN AT YIELD (%) TD	STRAIN AT BREAK (%) MD	STRAIN AT BREAK (%) TD	TEAR RES(ppi) MD	TEAR RES(ppi) TD	FTMS PUNCT (ppi)	BASE SHEET ROLL NUMBER
E04F530E-98A26003AA03G	2810	2770	3660	2800	16.3	15.7	560	446				E04L530E-98A2500001020
E04F530E-98A26006AA03G	2770	2750	3910	2520	16.5	15.4	662	380				E04L530E-98A2400005020
E04F554E-98A27001AA03G	2660	2850	3700	2510	16.6	15.2	625	374				E04L554E-98A2600002020
E04F530E-98A27004AA03G	2780	2850	4250	2780	16.3	15.6	691	441	915	891	1830	E04L530E-98A2400019020
E04F530E-98A27007AA03G	2690	2770	3250	2370	15.9	15.5	557	269				E04L530E-98A2400012020

Jane Allen

Jane Allen
Quality Control Manager

4-10-98
Date

This Certificate of Analysis shall not be reproduced except in full, without the written approval of the laboratory.
National Seal Company - 1255 Monmouth Blvd. - Galesburg, IL - 61401

NSC

BASE SHEET TEST RESULTS FOR TEXTURED GEOMEMBRANE

Date: 04/10/98

Page: 1

Bill(s) of Lading: 15364

BASE SHEET ROLL NUMBER	THICKNESS (mils)	CARBON BLACK DISPERSION (category)	DENSITY (g/cm^3)	CARBON BLACK CONTENT (%)	DIMENSIONAL STABILITY MD (% change)	TD
E04L530E-98A2400002020	41.5	1	0.946	2.48	-0.4	0.2
E04L530E-98A2400005020	41.7	1	0.947	2.46		
E04L530E-98A2400008020	41.5	1	0.947	2.51		
E04L530E-98A2400012020	41.0	1	0.947	2.50	-0.2	0.1
E04L530E-98A2400015020	41.2	1	0.947	2.42		
E04L530E-98A2400018020	41.4	1	0.947	2.44		
E04L530E-98A2500002020	41.5	1	0.947	2.45	-0.2	0.2
E04L530E-98A2500006020	41.2	1	0.947	2.42		
E04L530E-98A2500008020	41.1	1	0.947	2.54	-0.2	0.2
E04L530E-98A2500010020	40.8	1	0.947	2.49		
E04L530E-98A2500012020	40.9	1	0.947	2.48		
E04L530E-98A2500014020	41.0	1	0.948	2.58	-0.4	0.2
E04L554E-98A2600002020	41.5	1	0.947	2.54		
E04L554E-98A2600004020	41.2	1	0.947	2.58		
E06L554E-98A2600006020	60.6	1	0.947	2.54	-0.4	0.2
E06L554E-98A2600009020	61.0	1	0.947	2.52	-0.4	0.2
E06L554E-98A2600012020	61.1	1	0.947	2.54		

Jane Allen

Jane Allen
Quality Control Manager

4-10-98
Date

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APPENDIX C.4

Laboratory Destructive Seam Test Results

SUMMARY OF SEAM TESTS

COMPANY: **LAW ENGINEERING**
ADDRESS: Road 385, KM 4.5
Penuelas, Puerto Rico 00624

PROJECT NAME: Proteco 12000-7-0221
PROJECT MANAGER: Mr. Jeff D. Engels

MATERIAL DESCRIPTION: **40 MIL and 60 MIL POLYETHYLENE SEAMS**

			Test Methods	ASTM D1593		ASTM D4437		ASTM D4437			
			Descriptions	Thickness		Seam Strength		Seam Peel Adhesion			
			No. of Specimens	*3*	*3*	*5*		*5*		*5*	
			Conditions	Top	Bottom	Shear Strength	Break Type	Inner Track Load	Break Type	Outer Track Load	Break Type
			UNITS	(mils)	(mils)	(lbs/in.)		(lbs/in.)		(lbs/in.)	
			Project Specs								
Date Tested	**Client Sample ID**	**PGL Control No.**	**PGL Job No.**	***AVERAGE TEST RESULTS***							
2-Mar-98	DS- 57/ 58A	26719	980104	42.1	41.5	112	FTB	99	FTB	78	FTB
2-Mar-98	DS- 67/ 68A	26720	980104	41.1	41.1	112	FTB	93	FTB	81	FTB
2-Mar-98	DS- 48/ 49A	26721	980104	41.2	40.5	108	FTB	89	FTB	78	FTB
2-Mar-98	DS- 60/ 62A	26722	980104	41.5	40.4	109	FTB	78	FTB	86	FTB
4-Mar-98	DS- 68/ 72A	26743	980108	41.6	41.5	105	FTB	87	FTB	85	FTB
4-Mar-98	DS- 69/ 79A	26744	980108	43.2	42.3	107	FTB	81	FTB	*EXTRUSION WELD.*	
5-Mar-98	DS- 3/ 4A	26748	980111	42.3	40.3	118	FTB	76	FTB, Peel	92	FTB
5-Mar-98	DS- 9/ 11A	26749	980111	42.3	40.5	117	FTB	98	FTB	88	FTB
5-Mar-98	DS- 12/ 17A	26750	980111	41.5	40.5	115	FTB	92	FTB	87	FTB
5-Mar-98	DS- 20/ 5A	26751	980111	42.0	41.9	115	FTB	85	FTB	84	FTB
5-Mar-98	DS- 23/ 24A	26752	980111	41.0	40.5	115	FTB	95	FTB	84	FTB
5-Mar-98	DS- 26/ 28A	26753	980111	42.1	41.0	115	FTB	90	FTB	78	FTB
5-Mar-98	DS- 30/ 32AA	26754	980111	40.9	40.1	112	FTB	91	FTB	79	FTB
5-Mar-98	DS- 36/ 34A	26755	980111	43.1	41.3	114	FTB	91	FTB	81	FTB
5-Mar-98	DS- 38/ 40A	26756	980111	41.1	40.7	113	FTB	95	FTB	84	FTB
5-Mar-98	DS- 42/ 44A	26757	980111	41.6	40.6	113	FTB	89	FTB	79	FTB
30-Apr-98	DS- 2/ 4A - Unit 5	27327	980255	41.4	42.2	113	FTB	98	FTB	88	FTB
30-Apr-98	DS- 5/ 7A - Unit 5	27328	980255	41.5	40.8	110	FTB	96	FTB	95	FTB
30-Apr-98	DS- 3/ 4A - Unit 1	27329	980255	41.6	41.4	110	FTB	93	FTB	93	FTB
30-Apr-98	DS- 7/ 8A - Unit 1	27330	980255	41.4	41.4	107	FTB	94	FTB	94	FTB

Precision Geosynthetic Laboratories

SUMMARY OF SEAM TESTS

COMPANY: **LAW ENGINEERING**
ADDRESS: Road 385, KM 4.5
Penuelas, Puerto Rico 00624

PROJECT NAME: Proteco 12000-7-0221
PROJECT MANAGER: Mr. Jeff D. Engels

MATERIAL DESCRIPTION: **40 MIL and 60 MIL POLYETHYLENE SEAMS**

			Test Methods	ASTM D1593		ASTM D4437		ASTM D4437			
			Descriptions	Thickness		Seam Strength		Seam Peel Adhesion			
			No. of Specimens	*3*	*3*	*5*		*5*		*5*	
			Conditions	Top	Bottom	Shear Strength	Break Type	Inner Track Load	Break Type	Outer Track Load	Break Type
			UNITS	(mils)	(mils)	(lbs/in.)		(lbs/in.)		(lbs/in.)	
			Project Specs								
Date Tested	**Client Sample ID**	**PGL Control No.**	**PGL Job No.**	***AVERAGE TEST RESULTS***							
30-Apr-98	TS-4-28-98 - Unit 5	27331	980255	40.8	40.3	103	FTB	104	FTB	*EXTRUSION WELD.*	
30-Apr-98	DS- 4/ 5A - Unit 2/ 3	27332	980255	41.4	41.1	104	FTB	89	FTB	93	FTB
1-May-98	DS- 13/ 14A - Unit 2/ 3	27400	980266	42.6	41.1	111	FTB	87	FTB	92	FTB
1-May-98	DS- 9/ 10A - Unit 2/ 3	27401	980266	41.0	42.0	114	FTB	91	FTB	88	FTB
1-May-98	JG Mach # / Trial Seam Unit 5	27402	980266	42.6	41.5	110	FTB	81	FTB	*EXTRUSION WELD.*	
1-May-98	DS- 18/ 19A - Unit 2/ 3	27403	980266	42.0	41.8	114	FTB	93	FTB	95	FTB
6-May-98	TS- 1 - Unit 2/ 3	27447	980283	40.9	41.7	118	FTB	72	FTB	*EXTRUSION WELD.*	
6-May-98	DS- 23/ 25A - Unit 2/ 3	27448	980283	41.3	41.1	109	FTB	85	FTB	92	FTB
6-May-98	DS- 19/ 22A - Unit 2/ 3	27449	980283	42.2	41.8	118	FTB	76	FTB	*EXTRUSION WELD.*	
6-May-98	DS- 28/ 29 - Unit 2/ 3	27450	980283	41.7	40.7	111	FTB	88	FTB	92	FTB
7-May-98	DS- 35/ 36A	27474	980288	42.0	40.8	112	FTB	96	FTB	78	FTB
7-May-98	DS- 36/ 37A	27475	980288	40.9	40.9	113	FTB	95	FTB	93	FTB
12-May-98	DS 28/ 36 - Unit 2/ 3	27612	980322	41.1	41.4	112	FTB	79	FTB, Peel	*EXTRUSION WELD.*	
14-May-98	DS- 21/ 22 - Unit 17	27673	980342	41.9	41.6	115	FTB	92	FTB	86	FTB
14-May-98	DS- 17/ 18 - Unit 17	27674	980342	41.4	41.7	110	FTB	93	FTB	93	FTB
14-May-98	DS- 19/ 20 - Unit 17	27675	980342	40.8	41.3	109	FTB	85	FTB	89	FTB
14-May-98	DS- 5/ 17 - Unit 17	27676	980342	41.4	41.7	112	FTB	76	FTB	*EXTRUSION WELD.*	
2-Jul-98	DS- 8/ 9A CAMU	29031	980637	60.5	61.6	158	FTB	108	FTB	127	FTB
2-Jul-98	DS- 12/ 16A CAMU	29032	980637	62.2	63.3	165	FTB	137	FTB	133	FTB
2-Jul-98	DS- 20/ 23A CAMU	29033	980637	63.1	61.6	161	FTB	125	FTB	113	FTB

Precision Geosynthetic Laboratories

SUMMARY OF SEAM TESTS

COMPANY: **LAW ENGINEERING**
ADDRESS: Road 385, KM 4.5
Penuelas, Puerto Rico 00624

PROJECT NAME: Proteco 12000-7-0221
PROJECT MANAGER: Mr. Jeff D. Engels

MATERIAL DESCRIPTION: **40 MIL and 60 MIL POLYETHYLENE SEAMS**

			Test Methods	ASTM D1593		ASTM D4437		ASTM D4437			
			Descriptions	Thickness		Seam Strength		Seam Peel Adhesion			
			No. of Specimens	*3*	*3*	*5*		*5*		*5*	
			Conditions	Top	Bottom	Shear Strength	Break Type	Inner Track Load	Break Type	Outer Track Load	Break Type
			UNITS	(mils)	(mils)	(lbs/in.)		(lbs/in.)		(lbs/in.)	
			Project Specs								
Date Tested	**Client Sample ID**	**PGL Control No.**	**PGL Job No.**	***AVERAGE TEST RESULTS***							
8-Jul-98	DS- 18/ 42A	29156	980667	65.7	64.4	158	FTB	133	FTB	115	FTB
8-Jul-98	DS- 31/ 29A	29157	980667	62.1	61.5	159	FTB	130	FTB	123	FTB
8-Jul-98	DS- 35/ 36A	29158	980667	62.2	61.2	158	FTB	115	FTB	132	FTB
8-Jul-98	DS- 36/ 37A	29159	980667	62.4	61.3	159	FTB	125	FTB	110	FTB
8-Jul-98	DS- 51/ 58A	29160	980667	62.5	61.8	157	FTB	131	FTB	120	FTB
8-Jul-98	DS- 59/ 64A	29161	980667	62.4	63.6	160	FTB	130	FTB	113	FTB
10-Jul-98	DS- 42/ 44A CAMU	29224	980681	62.8	61.2	152	FTB	128	FTB	121	FTB
10-Jul-98	DS- 43/ 44A CAMU	29225	980681	62.1	63.1	156	FTB	131	FTB	128	FTB
10-Jul-98	DS- 57/ 60A CAMU	29226	980681	62.1	63.0	155	FTB	128	FTB	129	FTB
14-Jul-98	DS- 67/ 68A CAMU	29369	980708	62.3	61.7	156	FTB	97	FTB, Peel	*EXTRUSION WELD.*	
17-Jul-98	DS- 66/ 68	29552	980744	61.9	61.6	153	FTB	108	FTB	*EXTRUSION WELD.*	
12-Nov-98	DS- 3/ 4A Unit 13	35251	981896	41.6	41.0	110	FTB	84	FTB	100	FTB
12-Nov-98	DS- 5/ 6A Unit 13	35252	981896	41.3	40.9	108	FTB	96	FTB	93	FTB
24-Nov-98	DS- 5/ 6 Unit 10-11	35448	981946	41.0	41.1	109	FTB	87	FTB	89	FTB
24-Nov-98	DS- 4/ 5 Unit 10-11	35449	981946	40.8	41.1	109	FTB	88	FTB	95	FTB
24-Nov-98	DS- 7/ 8A Unit 12&16	35450	981946	42.0	41.3	108	FTB	99	FTB	95	FTB
2-Dec-98	DS- 11/ 18 Unit 12/ 16	35528	981970	42.0	42.8	112	FTB	96	FTB	93	FTB
2-Dec-98	DS- 19/ 20 Unit 12/ 16	35529	981970	42.6	40.1	111	FTB	89	FTB	82	FTB, Peel
2-Dec-98	DS- 20/ 22 Unit 12/ 16	35530	981970	41.3	42.2	112	FTB	92	FTB	93	FTB
2-Dec-98	DS- 11/ 12 Unit 12/ 16	35531	981970	40.6	42.1	110	FTB	85	FTB	84	FTB

Precision Geosynthetic Laboratories

SUMMARY OF SEAM TESTS

COMPANY: **LAW ENGINEERING**
ADDRESS: Road 385, KM 4.5
Penuelas, Puerto Rico 00624

PROJECT NAME: Proteco 12000-7-0221
PROJECT MANAGER: Mr. Jeff D. Engels

MATERIAL DESCRIPTION: **40 MIL and 60 MIL POLYETHYLENE SEAMS**

			Test Methods	ASTM D1593		ASTM D4437		ASTM D4437			
			Descriptions	Thickness		Seam Strength		Seam Peel Adhesion			
			No. of Specimens	*3*	*3*	*5*		*5*		*5*	
			Conditions	Top	Bottom	Shear Strength	Break Type	Inner Track Load	Break Type	Outer Track Load	Break Type
			UNITS	(mils)	(mils)	(lbs/in.)		(lbs/in.)		(lbs/in.)	
			Project Specs								
Date Tested	**Client Sample ID**	**PGL Control No.**	**PGL Job No.**	***AVERAGE TEST RESULTS***							
2-Dec-98	DS- 13/ 14A Unit 12/ 16	35532	981970	40.7	41.1	109	FTB	98	FTB	88	FTB
2-Dec-98	DS- 18/ 19 Unit 12/ 16	35533	981970	41.5	40.6	109	FTB	91	FTB	90	FTB
2-Dec-98	DS- 14/ 15 Unit 12/ 16	35534	981970	40.3	41.2	109	FTB	88	FTB	94	FTB
4-Dec-98	DS- 25/ 26 Unit 12/ 16	35582	981981	42.3	42.6	110	FTB	84	FTB, Peel	91	FTB
7-Dec-98	DS- 28/ 29E Unit 12/ 16	35583	981983	42.2	40.9	121	FTB	93	FTB	85	FTB, Peel
7-Dec-98	DS- 19/ 20F Unit 12/ 16	35584	981983	41.9	40.2	123	FTB	90	FTB	97	FTB
8-Dec-98	DS- 25/ 26A Unit 12/ 16	35621	981994	41.5	41.1	112	FTB	80	FTB	95	FTB
8-Dec-98	DS- 25/ 26B Unit 12/ 16	35622	981994	41.1	41.3	113	FTB	81	FTB	93	FTB
9-Dec-98	DS- 28/ 29F Unit 12/ 16	35626	981998	42.5	41.7	112	FTB	92	FTB	85	FTB, Peel
9-Dec-98	DS- 5/ 6 Unit 9	35627	981998	41.9	40.0	100	FTB	83	FTB	90	FTB
9-Dec-98	DS- 8/ 9 Unit 9	35628	981998	42.1	40.0	101	FTB	82	FTB	85	FTB, Peel
9-Dec-98	DS- 11/ 12 Unit 9	35629	981998	40.0	41.3	102	FTB	86	FTB	86	FTB
10-Dec-98	DS- 15/ 16 Unit 9	35642	982003	38.4	42.4	99	FTB	76	FTB	88	FTB
10-Dec-98	DS- 25/ 26 Unit 9	35643	982003	39.8	41.5	100	FTB	75	FTB	81	FTB
10-Dec-98	DS- 19/ 20 Unit 9	35644	982003	39.2	41.6	97	FTB	76	FTB	84	FTB
14-Dec-98	DS- 30/ 31 Unit 9	35654	982009	41.4	42.1	113	FTB	82	FTB	90	FTB
15-Dec-98	DS- 8/ 9A Unit 9	35657	982012	42.1	40.0	101	FTB	84	FTB	86	FTB
15-Dec-98	DS- 9/ 10A Unit 9	35658	982012	42.2	39.5	100	FTB	88	FTB	85	FTB
15-Dec-98	DS- 26/ 27A Unit 9	35659	982012	41.6	43.6	102	FTB	83	FTB	91	FTB

Precision Geosynthetic Laboratories

APPENDIX C.5

Manufacturer's Quality Control Test Results
Geotextile

Date: 05/12/1997

SYNTHETIC INDUSTRIES
309 Lafayette Road
Chickamauga, GA 30707

Attn: Mark Ralston 1-706-375-8429
cc:Jeannie Clayton 1-706-375-6953
cc:Sue Van Pelt
cc:Pam Gallahar
Lisa Albe
cc:Keith Woods
Bob Miller

FINA POLYPROPYLENE SHIPMENT DATA

Fina Type: 3564
Fina Lot No. 22980
Fina Order No.: 35920
Cust PO No. 136922

Date Shipped: 5/9/97
Car No.: UTCX 49736
Net Weight: 190,250
Destination: GA

Property	Range	Value
Hunter Color 'b'	0 Max.	-1.6
Melt Flow (g/10 Min @ 230 deg C)	7-9	7.0
Pellet Size, gptp		21
Produced on train		6
Xylene Solubles, Wt. %	0-4	1.6

Fina Oil and Chemical Company
La Porte Plant • P.O. Box 888 • Deer Park, Texas 77536-0888 • (713) 476-3700

Attachment # 1
Attachment Rev Date:6/20/97
Doc. No.:01-600-1.00 OP

Controlled Copy #1

Synthetic Industries
Quality Control
Incoming Resin Analysis

Date: 8-6-97

Tech: [illegible]

Resin Type	CONTROL Phillips	EOD96-39 Fina	315 Lyondell	3564 Fina			
Car #	030	GPLX 75602	ACFX 40462	UTEX 49736			
Lot #	Control	23715	77997	22980			
Time	Std.	Std.	Std.	Std.	Std.	Std.	Std.
Melt Flow	36 ± .2						
Compartment 1	7002 / 3.501	6752 / 3.376	7380 / 3.690	7424 / 7.4			
2							
3							
4							
Average Flow	3.5	3.4	3.7	7.4			
Standard Pellet Size							
Random Pellet Size		.63	.60	.64			
Small Pellet Size		.45	.46	.54			
Large Pellet Size		.87	.76	.76			
Visual Observation		H	H	H			
Contamination		N	N	N			
Discoloration							
Strings							
Tails							
Fines							
Dust							
IS THIS LOT ACCEPTED FOR USE? Yes / No							

Remarks:

Extrusion Mgr.
Technical Dir.

SYNTHETIC INDUSTRIES

Geosynthetic Products Division

April 6, 1998

National Seal Company Inc.
Maxine Prange
1245 Corporate Blvd. Suite 300
Aurora, IL 60504
Bol: 622811 PO 3191/1S

This is to certify that Product GEOTEX™ 1701, a nonwoven polypropylene geotextile produced by Synthetic Industries will meet the following certifiable minimum average roll values when tested in accordance with the proper ASTM test methods. A minimum average roll value is calculated as the mean minus two standard deviations, yielding a 97.5 percent confidence level. This geotextile has been continuously inspected for the presence of needles and none were detected

PHYSICAL PROPERTY	TEST METHOD	MARV	S.I.
Weight	ASTM D-5261	16.0 oz/yd²	540 g/m²
Thickness	ASTM D-5199	165 mils	4.1 mm
Tensile Strength	ASTM D-4632	390 lbs	1735 N
Elongation	ASTM D-4632	50 %	50 %
Trapezoidal Tear	ASTM D-4533	150 lbs	665 N
Mullen Burst	ASTM D-3786	800 psi	5515 Kpa
Puncture Strength	ASTM D-4833	250 lbs	1110 N
AOS	ASTM D-4751	100 US Standard Sieve	0.150 mm
Permittivity	ASTM D-4491	0.7 sec⁻¹	0.7 sec⁻¹
Permeability	ASTM D-4491	0.27 cm/sec	0.27 cm/sec
Flow Rate	ASTM D-4491	50 gpm/ft²	2035 lpm/m²
U V Resistance	ASTM D-4355	70 %	70 %

Strength Retained after 500 hours exposure in Xenon Arc Weathermeter

Sincerely,

Sid Weiser
Technical Manager
Performance Nonwovens Division

Wendy O'Neal
Notary Public, Walker County, Georgia
My Commission Expires Dec. 29, 2001

Seller makes no warranty, express or implied, concerning the product furnished hereunder other than at the time of delivery it shall be of the quality and specifications stated herein. ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED AND, TO THE EXTENT THAT IT IS CONTRARY TO THE FOREGOING SENTENCE ANY IMPLIED WARRANTY OF MERCHANTABILITY IS EXPRESSLY EXCLUDED. Any recommendations made by the Seller concerning uses or applications of said product are believed reliable and Seller makes no warranty of results to be obtained. If the product does not meet the specifications stated herein Seller's liability is limited to replacing the product without charge or refunding the purchase price. This Data Sheet supersedes all previous Data Sheets for this style and is subject to change without notice. The effective date of this product data is October

Synthetic Industries, Inc.
4019 Industry Drive • Chattanooga, Tennessee • 37416 • USA
Telephone • 423-899-0444 • Fax • 423-899-7619 • 1-800-621-0444

01/06/98 05:57 Page 1

Synthetic Industries
Individual Roll Data
Bill of Lading 622811

Roll Number	Style	Batch Number	Mass/ Area Osy D5261	Lab Thick mils D5199	Tensile (MD) lbs D4632	Tensile (XMD) lbs D4632	Elongation (MD) % D4632	Elongation (XMD) % D4632	Trap Tear (MD) lbs D4533	Trap Tear (XMD) lbs D4533	Mullen Burst psi D3786	Punct Resist lbs D4833	AOS mm D4751	Permit sec-1 D4491
4118560A	1701	40879	16.8	183	486	693	79	69	192	311	890	299		
4118570A	1701	40879	16.2	182	435	652	77	69	173	279	873	281		

Wendy Neal
Notary Public, Walker County, Georgia
My Commission Expires Dec. 29, 2001

Synthetic Industries' current standard manufacturing quality control (MQC) testing frequency for GEOTEX nonwoven geotextiles one (1) test per 90,000 sf (8,360 sm) for index properties (mass per unit area, thickness, grab tensile and elongation, trapezoidal ar, mullen burst and puncture resistance) for styles heavier than 601 and one (1) test per 162,000 sf (15,000 sm) for index properties r style 601 and lighter. Although we strive to test our nonwoven geotextiles for apparent opening size (AOS) and rmittivity/permeability/water flow rate approximately once every 540,000 sf (50,160 sm), the actual frequency of testing for rformance properties will vary depending upon production schedules, product availability, customer requirements, job ecifications or other agreements arranged with Synthetic Industries prior to the time of purchase. If additional testing is needed to t higher frequencies required by the project specifications, it is the purchaser's responsibility to notify Synthetic Industries ask for assistance in calculating the costs for the additional tests.

Once rolls of nonwoven geotextiles are produced, inspected and the test results from the frequency stated above indicates that aterials produced during the production run meets our published minimum average roll values, approved rolls are shipped for rage until an order requires the material to be shipped. Since rolls are loaded at the warehouse independent of production sequence results listed above may include data from rolls which were not shipped. However, the data provided is from the same duction run as the rolls actually shipped on this bill of lading.

APPENDIX C.6

Conformance Test Results for Geotextile

COMPANY : / ENGINEERING

ADDRESS : P.O. Box 860

Penuelas, Puerto Rico 00624

SUMMARY OF TEST RESULTS

Nonwov Geotextile

PROJECT NAME: Proteco J-7-0221

PROJECT MANAGER: Mr. Jeff D. Engels

			Test Method		ASTM D1777	ASTM D1777	ASTM D3776	ASTM D4632		ASTM D4632	
			Description		Thickness	Thickness	Mass per Unit Area	Grab Tensile Strength		Grab Tensile Strength	
			No. of Specimens		*10*	*10*	*3*	*10*	*10*	*10*	*10*
			Special Conditions								
			UNITS		(mils)	(mm)	(oz/yd.^{2})	(lbs)	(lbs)	(N)	(N)
			Material Direction					*MD*	*TD*	*MD*	*TD*
			Project Specifications: MARV		*185*	*4.69*		*390* / *500*		*1,736* / *2,223*	
Date Received	Date Reported	Client Sample I.D.	PGL Control No.	PGL Job No.							
23-Feb-98	26-Mar-98	4103118A Batch #40787	26668	980093	198.5	5.04	*NO TEST.*	411	660	1,830	2,936
23-Feb-98	26-Mar-98	4103087A Batch #40787	26669	980093	192.8	4.90	*NO TEST.*	378	683	1,681	3,037
23-Feb-98	26-Mar-98	4102946A Batch #40785E	26670	980093	194.3	4.93	*NO TEST.*	394	686	1,753	3,055
23-Feb-98	26-Mar-98	4099387A Batch #40763	26671	980093	195.7	4.97	*NO TEST.*	431	680	1,917	3,027
23-Feb-98	26-Mar-98	4095263A Batch #40726	26672	980093	198.3	5.04	*NO TEST.*	401	590	1,785	2,623
30-Apr-98	4-May-98	4103088A	27379	980263	*NO TEST.*	*NO TEST.*	*NO TEST.*	431	663	1,916	2,952
30-Apr-98	4-May-98	4103084A	27380	980263	*NO TEST.*	*NO TEST.*	*NO TEST.*	434	630	1,931	2,804
30-Apr-98	8-May-98	IA	27451	980284	*NO TEST.*	*NO TEST.*	*NO TEST.*	407	694	1,810	3,089
6-May-98	8-May-98	IB	27452	980284	*NO TEST.*	*NO TEST.*	*NO TEST.*	461	588	2,051	2,615
6-May-98	8-May-98	P2	27453	980284	*NO TEST.*	*NO TEST.*	*NO TEST.*	404	659	1,798	2,933
6-May-98	8-May-98	P3	27454	980284	*NO TEST.*	*NO TEST.*	*NO TEST.*	408	589	1,817	2,620
6-May-98	8-May-98	P4	27455	980284	*NO TEST.*	*NO TEST.*	*NO TEST.*	409	618	1,821	2,752
6-May-98	6-May-98	P5	27456	980284	*NO TEST.*	*NO TEST.*	*NO TEST.*	419	680	1,863	3,026
6-May-98	8-May-98	P6	27457	980285	*NO TEST.*	*NO TEST.*	*NO TEST.*	414	640	1,842	2,847
6-May-98	8-May-98	P7	27458	980285	*NO TEST.*	*NO TEST.*	*NO TEST.*	420	579	1,870	2,578
6-May-98	8-May-98	P8	27459	980285	*NO TEST.*	*NO TEST.*	*NO TEST.*	429	549	1,907	2,443
6-May-98	8-May-98	P9	27460	980285	*NO TEST.*	*NO TEST.*	*NO TEST.*	421	629	1,875	2,801
6-May-98	8-May-98	P10	27461	980285	*NO TEST.*	*NO TEST.*	*NO TEST.*	429	569	1,911	2,534
7-May-98	8-May-98	Roll # 4118557A	27480	980290	197.1	*NO TEST.*	12.1	449	638	*NO TEST.*	*NO TEST.*

Precision Geosynthetic Laboratories

COMPAN \W ENGINEERING
ADDRESS : P.O. Box 860
Penuelas, Puerto Rico 00624

SUMMARY OF TEST RESULTS
Nonwov Geotextile

PROJECT NAME: Proteco 12 -0221
PROJECT MANAGER: Mr. Jeff D. Engels

			Test Method Description		ASTM D4632 Elongation at Peak		ASTM D4833 Puncture Resistance	ASTM D4833 Puncture Resistance	ASTM D3786 Mullen Burst Strength	ASTM D3786 Mullen Burst Strength	ASTM D4751 A.O.S.
			No. of Specimens		*10*	*10*	*15*	*15*	*10*	*10*	*5*
			Special Conditions								
			UNITS		(percent)	(percent)	(lbs)	(N)	(psi)	(kPa)	(Sieve No.)
			Material Direction		*MD*	*TD*					
			Project Specifications: MARV		*70*	*70*	*195*	*867*	*780*	*5,377*	*100 to 120*
Date Received	Date Reported	Client Sample I.D.	PGL Control No.	PGL Job No.							
23-Feb-98	26-Mar-98	4103118A Batch #40787	26668	980093	86	78	298	1,325	999	6,880	120-140
23-Feb-98	26-Mar-98	4103087A Batch #40787	26669	980093	85	81	308	1,369	1,002	6,904	100-120
23-Feb-98	26-Mar-98	4102946A Batch #40785E	26670	980093	94	82	297	1,320	1,002	6,904	100-120
23-Feb-98	26-Mar-98	4099387A Batch #40763	26671	980093	99	91	329	1,464	1,022	7,038	100-120
23-Feb-98	26-Mar-98	4095263A Batch #40726	26672	980093	85	79	292	1,300	976	6,725	100
30-Apr-98	4-May-98	4103088A	27379	980263	80	62	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
30-Apr-98	4-May-98	4103084A	27380	980263	77	66	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
30-Apr-98	8-May-98	IA	27451	980284	90	68	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	IB	27452	980284	79	79	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P2	27453	980284	83	76	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P3	27454	980284	95	77	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P4	27455	980284	94	79	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	6-May-98	P5	27456	980284	91	77	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P6	27457	980285	91	73	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P7	27458	980285	83	68	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P8	27459	980285	85	68	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P9	27460	980285	87	68	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P10	27461	980285	84	72	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
7-May-98	8-May-98	Roll # 4118557A	27480	980290	83	77	295	NO TEST.	872	NO TEST.	120-140

Precision Geosynthetic Laboratories

COMPANY : LAW ENGINEERING

ADDRESS : P.O. Box 860

Penuelas, Puerto Rico 00624

SUMMARY OF TEST RESULTS

Nonwov. Geotextile

PROJECT NAME: Proteco 12000-7-0221

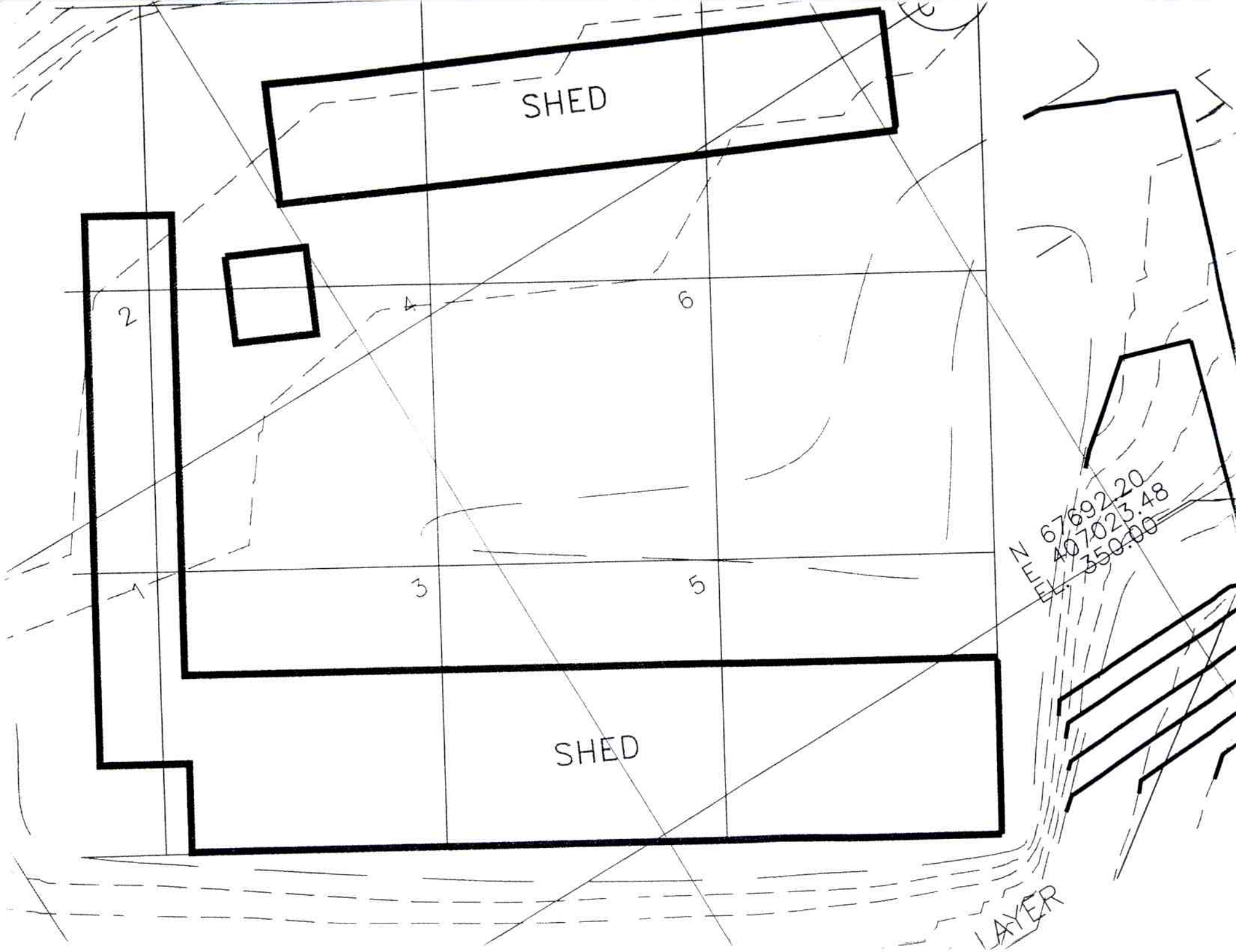
PROJECT MANAGER: Mr. Jeff D. Engels

			Test Method		ASTM D4751	ASTM D4491	ASTM D4355		
			Description		A.O.S.	Permeability	UV Resistance		
							Grab Tensile Tested After		
			No. of Specimens		5	4	5	5	5
			Special Conditions						
			UNITS		(mm)	(cm./ sec.)	(lbs)	(N)	(percent)
			Material Direction				MD		MD
		Project Specifications: MARV			0.149 to 0.125	0.25			70
Date Received	Date Reported	Client Sample I.D.	PGL Control No.	PGL Job No.					
23-Feb-98	26-Mar-98	4103118A Batch #40787	26668	980093	0.121	0.61	393	1,749	89
23-Feb-98	26-Mar-98	4103087A Batch #40787	26669	980093	0.135	0.60	380	1,693	92
23-Feb-98	26-Mar-98	4102946A Batch #40785E	26670	980093	0.135	0.61	412	1,833	98
23-Feb-98	26-Mar-98	4099387A Batch #40763	26671	980093	0.145	0.61	424	1,887	95
23-Feb-98	26-Mar-98	4095263A Batch #40726	26672	980093	0.150	0.62	413	1,837	90
30-Apr-98	4-May-98	4103088A	27379	980263	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
30-Apr-98	4-May-98	4103084A	27380	980263	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
30-Apr-98	8-May-98	IA	27451	980284	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	IB	27452	980284	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P2	27453	980284	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P3	27454	980284	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P4	27455	980284	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	6-May-98	P5	27456	980284	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P6	27457	980285	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P7	27458	980285	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P8	27459	980285	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P9	27460	980285	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
6-May-98	8-May-98	P10	27461	980285	NO TEST.	NO TEST.	NO TEST.	NO TEST.	NO TEST.
7-May-98	8-May-98	Roll # 4118557A	27480	980290	0.120	NO TEST.	NO TEST.	NO TEST.	NO TEST.

Precision Geosynthetic Laboratories

APPENDIX D

Unit 4 Conformation Test Results


SHED
2
4
6
1
3
5
N 67692.20
E 407023.48
EL. 350.00
SHED
LAYER

SAMPLE DELIVERY SLIP

DELIVERY SLIP No.	EQL W.O. No.	P.O. No.
97 12931	513-01-16y	120001-7-0021

CLIENT: Law Environmental PROTECO PROJECT

SAMPLING POINT: TRIP Blank

TOXIC OR HAZARDOUS ☐ No ☐ Yes ☐ Unknown
If yes, identify material and special handling.

SAMPLE DESCRIPTION

☒ WATER: ☐ Surface/stream ☐ Underground ☐ Sea ☐ Process ☐ Drinking PWSID No ____
CHLORINATED ☐ Yes ☐ No

☐ WASTE WATER: ☐ Domestic ☐ Industrial ☐ Raw ☐ In-Plant ☐ Treated

☐ OTHER: ☐ Liquid ☐ Solid ☐ Sediment ☐ Emulsion ☐ Sludge ☐ Suspension ☐ Other DI
☐ Oil ☒ Soil ☐ Air

CONTAINER CODE: S - Sterile, G - Glass, A - Amber Glass, T - Charcoal Tube, WP - Whirlpack, O - Other ____, C - Cubitainer, P - Plastic, V - VOA Vial, TEF - Teflon

CHAIN OF CUSTODY

EQL SAMPLE No.	SAMPLING Date	Time	pH	Temp	Source	CONTAINER Code	Qty.	Size	Preservative	GRAB	COMP	ANALYSIS REQUESTED
9712539.01	12.9.97	415		✓	PR-TB-1	A	1	1 lt.	Coo/	X		TCL
"	12.9.97	415			PR-TB-1		1	1 lt.	Coo/	X		TCL
"	12.9.97	415			PR-TB-1		1	250ml	HNO_3	X		TAL
9712540.01	12.9.97	415		✓	PR-TB-2		1	1 lt.	Coo/	X		TCL
"	12.9.97	415			PR-TB-2		1	1 lt.	Coo/	X		TCL
"	12.9.97	415			PR-TB-2	A	1	250ml	HNO_3	X		TAL
9712541.01	12.10.97	1240		✓	PR-EB-Unit4	G	2	1 lt.	Coo/	X		TCL
"	12.10.97	1240			PR-EB-Unit4	G	1	500ml	HNO_3	X		TAL

CUSTODY RECORD	Signature	Date / Time
Collected in field by	E Sanchez / R. Soto	
Fixed in field by	E Sanchez	
Released to EQL by	[illegible]	12.10.97 6:15 pm
Received by		
Received by Lab.	[illegible]	12/10/97 6:50 pm
SAMPLE FOUND TO BE TOXIC OR HAZARDOUS. ☐ YES ☐ NO		
Returned to Client		
Received by Client		

COMMENTS / SPECIAL INSTRUCTIONS

3°C

Signature: ____

EQ Lab's General Terms and Conditions on reverse side of this document

SAMPLE DELIVERY SLIP

DELIVERY SLIP No.	EQL W.O. No.	~~P.O. No.~~ PROJ. NO
97 12865	513-01-16	120001-7-0021

CLIENT Law Environmental
PROTECO PROJECT

SAMPLING POINT PR-4-1

TOXIC OR HAZARDOUS ☐ No ☐ Yes ☐ Unknown
If yes, identify material and special handling.

SAMPLE DESCRIPTION

☑ WATER ☐ Surface/stream ☐ Underground ☐ Sea ☐ Process ☐ Drinking PWSID No _____
☐ WASTE WATER ☐ Domestic ☐ Industrial ☐ Raw ☐ In-Plant ☐ Treated
CHLORINATED ☐ Yes ☐ No
☐ OTHER ☐ Liquid ☐ Solid ☐ Sediment ☐ Emulsion ☐ Sludge ☐ Suspension ☑ Other Oil
☐ Oil ~~☐ Soil~~ ☐ Air
CONTAINER CODE: ~~S - Sterile~~ ~~B - Glass~~ A - Amber Glass T - Charcoal Tube WP - Whirlpack O - Other _____ C - Cubitainer P - Plastic V - VOA Vial TEF - Teflon

CHAIN OF CUSTODY

EQL SAMPLE No.	SAMPLING Date	Time	pH	Temp	Source	CONTAINER Code	Qty.	Size	Preservative	GRAB	COMP	ANALYSIS REQUESTED
9712518.01	12.10.97	1020		✓	PR-4-1-1	G	1	4 oz	Cool	X		TCL
"	12.10.97	1020			PR-4-1-1	G	1	4 oz	Cool	X		TAL
9712519.01	12.10.97	1030			PR-4-1-2	G	1	4 oz	Cool	X		TCL
"	12.10.97	1030			PR-4-1-2	G	1	4 oz	Cool	X		TAL
9712520.01	12.10.97	1040			PR-4-1-3	G	1	4 oz	Cool	X		TCL
"	12.10.97	1040			PR-4-1-3	G	1	4 oz	Cool	X		TAL
9712521.01	12.10.97	315		✓	PR-FB-UNIT4	A	1	1lt.	Cool	X		TCL
"	12.10.97	315			PR-FB-Unit4	A	1	1lt.	Cool	X		TCL
"	12.10.97	315			PR-FB-Unit4	A	1	500 ml	HNO_3	X		TAL
"	12.10.95	3:15			PR-FB-Unit4	G	2	40ml	Cool	X		Vol TCLP

CUSTODY RECORD	Signature	Date / Time
Collected in field by	E Sanchez / R Soto	
Fixed in field by	E Sanchez	
Released to EQL by	[illegible]	12/10/97 615
Received by		
Received by Lab.	[illegible]	12/10/97 6:50 pm
SAMPLE FOUND TO BE TOXIC OR HAZARDOUS. ☐ YES ☐ NO		
Returned to Client		
Received by Client		

COMMENTS / SPECIAL INSTRUCTIONS

3°C

Signature: _____

EQ Lab's General Terms and Conditions on reverse side of this document.

SAMPLE DELIVERY SLIP

DELIVERY SLIP No.	EQL W.O. No.	~~P.O. No.~~ PROJ No.
97 12923	513-01-16	120001-7-0021

CLIENT Law Environmental PROTECO PROTER

SAMPLING POINT PR-4-2

TOXIC OR HAZARDOUS ☐ No ☐ Yes ☐ Unknown
If yes, identify material and special handling.

SAMPLE DESCRIPTION

☐ WATER: ☐ Surface/stream ☐ Underground ☐ Sea ☐ Process ☐ Drinking PWSID No _____
CHLORINATED ☐ Yes ☐ No

☐ WASTE WATER: ☐ Domestic ☐ Industrial ☐ Raw ☐ In-Plant ☐ Treated

☐ OTHER: ☐ Liquid ☐ Solid ☐ Sediment ☐ Emulsion ☐ Sludge ☐ Suspension ☐ Other _____ ☐ Oil ~~☐ Soil~~ ☐ Air

CONTAINER CODE: S - Sterile, ~~G - Glass~~, A - Amber Glass, T - Charcoal Tube, WP - Whirlpack, O - Other _____, C - Cubitainer, P - Plastic, V - VOA Vial, TEF - Teflon

CHAIN OF CUSTODY

EQL SAMPLE No.	SAMPLING Date	Time	pH	Temp	Source	CONTAINER Code	Qty.	Size	Preservative	GRAB	COMP	ANALYSIS REQUESTED
9712522-01	12-10-97	1055		✓	PR-4-2-1	G	1	4oz	Cool	X		TCL
"		1055			PR-4-2-1	G	1		Cool	X		TAL
9712523-01		1100			PR-4-2-2	G	1		Cool	X		TCL
"		1100			PR-4-2-2	G	1		Cool	X		TAL
9712524.01		1110			PR-4-2-3	G	1		Cool	X		TCL
"		1110			PR-4-2-3	G	1		Cool	X		TAL
9712525..01		1115			PR-4-2-4D	G	1		Cool	X		TCL
"	12-10-97	1115			PR-4-2-4D	G	1	4oz	Cool	X		TAL

CUSTODY RECORD	Signature	Date / Time
Collected in field by	E Sanchez / R Soto	
Fixed in field by	E Sanchez	
Released to EQL by	[illegible]	12/10/97 6:15
Received by		
Received by Lab.	[illegible]	12/10/97 6:52p
SAMPLE FOUND TO BE TOXIC OR HAZARDOUS. ☐ YES ☐ NO		
Returned to Client		
Received by Client		

COMMENTS / SPECIAL INSTRUCTIONS

3°C

Signature: _____

EQ Lab's General Terms and Conditions on reverse side of this document.

SAMPLE DELIVERY SLIP

DELIVERY SLIP No.	EQL W.O. No.	Proj. No. ~~P.O. No.~~
97 129	513-01-16	120001-7-0021

CLIENT Law Environmental PROTECO PROJEC

SAMPLING POINT PR-4-4

TOXIC OR HAZARDOUS ☐ No ☐ Yes ☐ Unknown
If yes, identify material and special handling.

SAMPLE DESCRIPTION

☐ WATER ☐ Surface/stream ☐ Underground ☐ Sea ☐ Process ☐ Drinking PWSID No _____
CHLORINATED ☐ Yes ☐ No

☐ WASTE WATER ☐ Domestic ☐ Industrial ☐ Raw ☐ In-Plant ☐ Treated

☐ OTHER ☐ Liquid ☐ Solid ☐ Sediment ☐ Emulsion ☐ Sludge ☐ Suspension ☐ Other _____ ☐ Oil ☒ Soil ☐ Air

CONTAINER CODE
S - Sterile, G - Glass, A - Amber Glass, T - Charcoal Tube, WP - Whirlpack, O - Other _____, C - Cubitainer, P - Plastic, V - VOA Vial, TEF - Teflon

CHAIN OF CUSTODY

EQL SAMPLE No.	SAMPLING Date	Time	pH	Temp	Source	CONTAINER Code	Qty.	Size	Preservative	GRAB	COMP	ANALYSIS REQUESTED
9712529.01	12.10.97	130		✓	PR-4-4-1	G	1	4 oz	Cool	X		TCL
"	12.10.97	130			PR-4-4-1	G	1	↓	↓	X		TAL
9712530.01	↓	135			PR-4-4-2	G	1	↓	↓	X		TCL
"	↓	135			PR-4-4-2	G	1	↓	↓	X		TAL
9712531.01	↓	140			PR-4-4-3	G	1	↓	↓	X		TCL
"	12.10.97	140			PR-4-4-3	G	1	4 oz	Cool	X		TAL

CUSTODY RECORD	Signature	Date / Time
Collected in field by	E Sanchez / R Soto	
Fixed in field by	E Sanchez	
Released to EQL by	[signature]	12/10/97 615
Received by		
Received by Lab.	[signature]	12/10/97 6:50pm
SAMPLE FOUND TO BE TOXIC OR HAZARDOUS. ☐ YES ☐ NO		
Returned to Client		
Received by Client		

COMMENTS / SPECIAL INSTRUCTIONS

3C

Signature: _____

EQ Lab's General Terms and Conditions on reverse side of this document.

ENVIRONMENTAL QUALITY LABORATORIES, INC. P.O.BOX 11458, SANTURCE, P.R. 00910-1458, TELS. 725-5333, 725-3708

SAMPLE DELIVERY SLIP

DELIVERY SLIP No.	EQL W.O. No.	Proj. No ~~P.O. No.~~
97 12931	518-01-16	120001-7-0021

CLIENT Law Environmental PROTECO PROJECT

SAMPLING POINT PR-4-5

TOXIC OR HAZARDOUS ☐ No ☐ Yes ☐ Unknown
If yes, identify material and special handling.

SAMPLE DESCRIPTION

☐ WATER: ☐ Surface/stream ☐ Underground ☐ Sea ☐ Process ☐ Drinking PWSID No ____
☐ WASTE WATER: ☐ Domestic ☐ Industrial ☐ Raw ☐ In-Plant ☐ Treated
CHLORINATED ☐ Yes ☐ No
☐ OTHER: ☐ Liquid ☐ Solid ☐ Sediment ☐ Emulsion ☐ Sludge ☐ Suspension ☐ Other ____ ☐ Oil ☐ Soil ☐ Air

CONTAINER CODE: S - Sterile, G - Glass, A - Amber Glass, T - Charcoal Tube, WP - Whirlpack, O - Other ____, C - Cubitainer, P - Plastic, V - VOA Vial, TEF - Teflon

CHAIN OF CUSTODY

EQL SAMPLE No.	SAMPLING Date	Time	pH	Temp	Source	CONTAINER Code	Qty.	Size	Preservative	GRAB	COMP	ANALYSIS REQUESTED
9712532 01	12.10.97	200		✓	PR-4-5-1	G	1	4oz	Cool	X		TCL
"		200			PR-4-5-1	G	1			X		TAL
9712533 01		215			PR-4-5-2	G	1			X		TAL
"		215			PR-4-5-2	G	1			X		TCL
9712534 .01		220			PR-4-5-3	G	1			X		TCL
"		220			PR-4-5-3	G	1			X		TAL
9712535.01		225			PR-4-5-4	G	1			X		TCL
"	12.10.97	215			PR-4-5-4	G	1	4oz	Cool	X		TAL

CUSTODY RECORD	Signature	Date / Time
Collected in field by	E Sampling / R Soto	
Fixed in field by	E Sampling	
Released to EQL by	[signature]	12/10/97 6:15
Received by		
Received by Lab.	[signature]	12/10/97 6:50pm

SAMPLE FOUND TO BE TOXIC OR HAZARDOUS. ☐ YES ☐ NO

Returned to Client		
Received by Client		

COMMENTS / SPECIAL INSTRUCTIONS

3

Signature: ____

EQ Lab's General Terms and Conditions on reverse side of this document.

SAMPLE DELIVERY SLIP

DELIVERY SLIP No.	EQL W.O. No.	P.O. No.
97 1297	573-01-16	120001-7-0021

CLIENT: Law Environmental

SAMPLING POINT: PR-4-6

TOXIC OR HAZARDOUS ☐ No ☐ Yes ☐ Unknown
If yes, identify material and special handling.

SAMPLE DESCRIPTION

☐ WATER
☐ Surface/stream
☐ Underground
☐ Sea
☐ Process
☐ Drinking PWSID No _____

☐ WASTE WATER
☐ Domestic
☐ Industrial
☐ Raw
☐ In-Plant
☐ Treated

CHLORINATED ☐ Yes ☐ No

☐ OTHER
☐ Liquid
☐ Solid
☐ Sediment
☐ Emulsion
☐ Sludge
☐ Suspension
☐ Other _____

☐ Oil
☐ Soil
☐ Air

CONTAINER CODE
S - Sterile
G - Glass
A - Amber Glass
T - Charcoal Tube
WP - Whirlpack
O - Other _____
C - Cubitainer
P - Plastic
V - VOA Vial
TEF - Teflon

CHAIN OF CUSTODY

EQL SAMPLE No.	SAMPLING Date	Time	pH	Temp	Source	CONTAINER Code	Qty.	Size	Preservative	GRAB	COMP	ANALYSIS REQUESTED
9712536.01	12-10-97	245		✓	PR-4-6-1	G	1	4 oz	Cool	X		TCL
"		245			PR-4-6-1	G	1			X		TAL
9712537.01		255			PR-4-6-2	G	1			X		TCL
"		255			PR-4-6-2	G	1			X		TAL
9712538.01		300			PR-4-6-3	G	1			X		TCL
"	12-10-97	300			PR-4-6-3	G	1	4 oz	Cool	X		TAL

CUSTODY RECORD	Signature	Date / Time
Collected in field by	E Sandy / R Soto	
Fixed in field by	E Sandy	
Released to EQL by	[illegible]	12/10/97 6:15
Received by		
Received by Lab.	[illegible]	12/10/97 6:50 pm
SAMPLE FOUND TO BE TOXIC OR HAZARDOUS. ☐ YES ☐ NO		
Returned to Client		
Received by Client		

COMMENTS / SPECIAL INSTRUCTIONS

Signature: _____

EQ Lab's General Terms and Conditions on reverse side of this document.

LAW ENVIRONMENTAL CARIBE
1225 Ponce De León Ave.
Caso Bldg. Suite 603
Santurce, P.R. 00907
Attn: MR. CARLOS SOLIS
Invoice Number:

Order #: 97-12-539
Date: 01/12/98 08:57
Work ID: D.I. Water - Grab
Date Received: 12/10/97
Date Completed: 01/10/98
Client Code: 513_01_

DS #: 97-12934
Samples collected by Client
Limit = Detection Limit
Fac. Proteco Project

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	PR - TB - 1

Sample Number	Sample Description

Certified By
Maggie Dávila

MAGGIE I. DAVILA LOPEZ
Químico Licenciado
Estado Libre Asociado de Puerto Rico
LICENCIA NUM. 2948
A 495235

TEST RESULTS BY SAMPLE

Sample: 01A PR - TB - 1 **Collected: 12/09/98**
Job: 01-16C D.I. Water - Grab

Test Description	Result	Limit	Units	Analyzed	By
Metals:					
Total Aluminum	<10	10	µg/L	12/26/97	NAS
Total Antimony	<3.0	3.0	µg/L	01/08/98	NAS
Total Arsenic	<1.0	1.0	µg/L	01/08/98	NAS
Total Barium	<100	100	µg/L	12/26/97	NAS
Total Beryllium	<4.0	4.0	µg/L	12/26/97	NAS
Total Cadmium	<2.0	2.0	µg/L	12/26/97	NAS
Total Calcium	<10	10	µg/L	12/26/97	NAS
Total Chromium	<2.0	2.0	µg/L	12/26/97	NAS
Total Cobalt	<20	20	µg/L	12/26/97	NAS
Total Copper	<10	10	µg/L	12/26/97	NAS
Total Iron	<20	20	µg/L	12/26/97	NAS
Total Lead	<5.0	5.0	µg/L	12/26/97	NAS
Total Magnesium	<10	10	µg/L	12/26/97	NAS
Total Manganese	<10	10	µg/L	12/26/97	NAS
Total Mercury	<0.2	0.20	µg/L	01/08/98	NAS
Total Nickel	<20	20	µg/L	12/26/97	NAS
Total Potassium	<10	10	µg/L	12/26/97	NAS
Total Selenium	<10	10	µg/L	01/08/98	NAS
Total Silver	<1.0	1.0	µg/L	12/26/97	NAS
Total Sodium	<10	10	µg/L	12/26/97	NAS
Total Thallium	<1.0	1.0	µg/L	12/26/97	NAS
Total Vanadium	<5.0	5.0	µg/L	12/26/97	NAS
Total Zinc	<5.0	5.0	µg/L	12/26/97	NAS

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
Pesticides & PCB's					
Method 8080			µg/L	12/18/97	LG
Aldrin	<0.05	0.050	µg/L	12/18/97	LG
Chlordane	<0.5	0.50	µg/L	12/18/97	LG
alpha-BHC	<0.05	0.050	µg/L	12/18/97	LG
beta-BHC	<0.05	0.050	µg/L	12/18/97	LG
gamma-BHC	<0.05	0.050	µg/L	12/18/97	LG
delta-BHC	<0.05	0.050	µg/L	12/18/97	LG
4,4'-DDT	<0.10	0.10	µg/L	12/18/97	LG
4,4'-DDE	<0.10	0.10	µg/L	12/18/97	LG
4,4-DDD	<0.10	0.10	µg/L	12/18/97	LG
Dieldrin	<0.10	0.10	µg/L	12/18/97	LG
Alpha Endosulfan	<0.05	0.050	µg/L	12/18/97	LG
Beta Endosulfan	<0.10	0.10	µg/L	12/18/97	LG
Endosulfan Sulfate	<0.10	0.10	µg/L	12/18/97	LG
Endrin	<0.10	0.10	µg/L	12/18/97	LG
Endrin Aldehyde	<0.10	0.10	µg/L	12/18/97	LG
Heptachlor	<0.05	0.050	µg/L	12/18/97	LG
Heptachlor Epoxide	<0.05	0.050	µg/L	12/18/97	LG
Toxaphene	<1.0	1.0	µg/L	12/18/97	LG
Methoxychlor	<0.5	0.50	µg/L	12/18/97	LG
Arochlor-1016	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1221	<10	10	µg/L	12/18/97	LG
Arochlor-1232	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1242	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1248	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1254	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1260	<1.0	1.0	µg/L	12/18/97	LG
Extraction Date			on	12/13/97	HC
Semi-Vol. Org. Compounds					
Method 8270			µg/L	12/19/97	IPM
Acenaphthylene	<10	10	µg/L	12/19/97	IPM
2,4-Dinitrophenol	<50	50	µg/L	12/19/97	IPM
4-Nitrophenol	<50	50	µg/L	12/19/97	IPM
2,4-Dinitrotoluene	<10	10	µg/L	12/19/97	IPM
Diethylphthalate	<10	10	µg/L	12/19/97	IPM
4-Chlorophenyl-phenylether	<10	10	µg/L	12/19/97	IPM
Fluorene	<10	10	µg/L	12/19/97	IPM
4,6-Dinitro-o-cresol	<50	50	µg/L	12/19/97	IPM
N-Nitrosodiphenylamine	<10	10	µg/L	12/19/97	IPM
4-Bromophenyl-phenylether	<10	10	µg/L	12/19/97	IPM
Hexachlorobenzene	<10	10	µg/L	12/19/97	IPM
Pentachlorophenol	<50	50	µg/L	12/19/97	IPM
Phenanthrene	<10	10	µg/L	12/19/97	IPM
Anthracene	<10	10	µg/L	12/19/97	IPM
Di-n-Butyl Phthalate	<10	10	µg/L	12/19/97	IPM
Fluoranthene	<10	10	µg/L	12/19/97	IPM
Pyrene	<10	10	µg/L	12/19/97	IPM
Butylbenzylphthalate	<10	10	µg/L	12/19/97	IPM
3,3-Dichlorobenzidine	<20	20	µg/L	12/19/97	IPM

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Benzoanthracene	<10	10	µg/L	12/19/97	IPM
Chrysene	<10	10	µg/L	12/19/97	IPM
Bis(2-ethylhexyl)phthalate	<10	10	µg/L	12/19/97	IPM
Di-n-octylphthalate	<10	10	µg/L	12/19/97	IPM
3,4-Benzofluoranthene	<10	10	µg/L	12/19/97	IPM
11,12-Benzofluoranthene	<10	10	µg/L	12/19/97	IPM
N-Nitrosodimethylamine	<10	10	µg/L	12/19/97	IPM
Phenol	<10	10	µg/L	12/19/97	IPM
Bis(2-chloroethyl)ether	<10	10	µg/L	12/19/97	IPM
2-Chlorophenol	<10	10	µg/L	12/19/97	IPM
1,2-Diphenylhydrazine	<10	10	µg/L	12/19/97	IPM
1,3-Dichlorobenzene	<10	10	µg/L	12/19/97	IPM
1,4-Dichlorobenzene	<10	10	µg/L	12/19/97	IPM
1,2-Dichlorobenzene	<10	10	µg/L	12/19/97	IPM
Bis(2-chloroisopropyl)ether	<10	10	µg/L	12/19/97	IPM
N-Nitroso-di-n-propylamine	<10	10	µg/L	12/19/97	IPM
Hexachloroethane	<10	10	µg/L	12/19/97	IPM
Nitrobenzene	<10	10	µg/L	12/19/97	IPM
Isophorone	<10	10	µg/L	12/19/97	IPM
2-Nitrophenol	<10	10	µg/L	12/19/97	IPM
2,4-Dimethylphenol	<10	10	µg/L	12/19/97	IPM
Bis(2-chloroethoxy)methane	<10	10	µg/L	12/19/97	IPM
2,4-Dichlorophenol	<10	10	µg/L	12/19/97	IPM
1,2,4-Trichlorobenzene	<10	10	µg/L	12/19/97	IPM
Naphthalene	<10	10	µg/L	12/19/97	IPM
Hexachlorobutadiene	<10	10	µg/L	12/19/97	IPM
p-Chloro-3-methylphenol	<10	10	µg/L	12/19/97	IPM
Hexachlorocyclopentadiene	<10	10	µg/L	12/19/97	IPM
2,4,6-Trichlorophenol	<10	10	µg/L	12/19/97	IPM
2-Chloronaphthalene	<10	10	µg/L	12/19/97	IPM
Dimethyl phthalate	<10	10	µg/L	12/19/97	IPM
Acenaphthene	<10	10	µg/L	12/19/97	IPM
Benzidine	<50	50	µg/L	12/19/97	IPM
2,6-Dinitrotoluene	<10	10	µg/L	12/19/97	IPM
Benzo(a)pyrene	<10	10	µg/L	12/19/97	IPM
Indeno(1,2,3CD)Pyrene	<10	10	µg/L	12/19/97	IPM
1,2,5,6 Dibenzoanthracene	<10	10	µg/L	12/19/97	IPM
Benzo (g,h,i) Perylene	<10	10	µg/L	12/19/97	IPM
2,3,7,8-TCDD (Note #1)	<10	10	µg/L	12/19/97	IPM
Extraction Date			on	12/10/97	JFD
Total Cyanide	<0.005	0.005	mg/L	12/16/97	CL
Volatiles Org. Compounds:					
Method 8260					
Vinyl Chloride	<5.0	5.0	µg/L	12/23/97	SL
1,1-Dichloroethene	<5.0	5.0	µg/L	12/23/97	SL
1,1,1-Trichloroethane	<5.0	5.0	µg/L	12/23/97	SL
Carbon Tetrachloride	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dichloroethane	<5.0	5.0	µg/L	12/23/97	SL
Trichloroethene	<5.0	5.0	µg/L	12/23/97	SL
Benzene	<5.0	5.0	µg/L	12/23/97	SL

Test Description	Result	Limit	Units	Analyzed	By
1,4-Dichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
Chloroform	<5.0	5.0	µg/L	12/23/97	SL
Bromodichloromethane	<5.0	5.0	µg/L	12/23/97	SL
Chlorodibromomethane	<5.0	5.0	µg/L	12/23/97	SL
Bromoform	<5.0	5.0	µg/L	12/23/97	SL
Methylene Chloride	<5.0	5.0	µg/L	12/23/97	SL
1,1,2,2-Tetrachloroethane	<5.0	5.0	µg/L	12/23/97	SL
Trans-1,2-Dichloroethene	<5.0	5.0	µg/L	12/23/97	SL
1,1-Dichloropropene	<5.0	5.0	µg/L	12/23/97	SL
1,1-Dichloroethane	<5.0	5.0	µg/L	12/23/97	SL
2,2-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
cis-1,2-Dichloroethene	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Chloromethane	<5.0	5.0	µg/L	12/23/97	SL
Dibromomethane	<5.0	5.0	µg/L	12/23/97	SL
cis-1,3-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Trans-1,3-Dichloropropene	<5.0	5.0	µg/L	12/23/97	SL
1,1,2-Trichloroethane	<5.0	5.0	µg/L	12/23/97	SL
1,3-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Tetrachloroethene	<5.0	5.0	µg/L	12/23/97	SL
Bromomethane	<5.0	5.0	µg/L	12/23/97	SL
Chloroethane	<5.0	5.0	µg/L	12/23/97	SL
Toluene	<5.0	5.0	µg/L	12/23/97	SL
Chlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
1,1,1,2-Tetrachloroethane	<5.0	5.0	µg/L	12/23/97	SL
Ethylbenzene	<5.0	5.0	µg/L	12/23/97	SL
m,p-Xylenes	<5.0	5.0	µg/L	12/23/97	SL
o-Xylene	<5.0	5.0	µg/L	12/23/97	SL
Styrene	<5.0	5.0	µg/L	12/23/97	SL
1,3-Dichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
1,2,3-Trichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Bromobenzene	<5.0	5.0	µg/L	12/23/97	SL
2-Chlorotoluene	<5.0	5.0	µg/L	12/23/97	SL
4-Chlorotoluene	<5.0	5.0	µg/L	12/23/97	SL
Bromochloromethane	<5.0	5.0	µg/L	12/23/97	SL
N-Propylbenzene	<5.0	5.0	µg/L	12/23/97	SL
1,3,5-Trimethylbenzene	<5.0	5.0	µg/L	12/23/97	SL
tert-Butylbenzene	<5.0	5.0	µg/L	12/23/97	SL
1,2,4-Trimethylbenzene	<5.0	5.0	µg/L	12/23/97	SL
sec-Butylbenzene	<5.0	5.0	µg/L	12/23/97	SL
P-Isopropyltoluene	<5.0	5.0	µg/L	12/23/97	SL
Isopropylbenzene	<5.0	5.0	µg/L	12/23/97	SL
Trichlorofluoromethane	<5.0	5.0	µg/L	12/23/97	SL
N-Butylbenzene	<5.0	5.0	µg/L	12/23/97	SL
Dichlorodifluoromethane	<5.0	5.0	µg/L	12/23/97	SL
1,2,4-Trichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
Hexachlorobutadiene	<5.0	5.0	µg/L	12/23/97	SL
Naphthalene	<5.0	5.0	µg/L	12/23/97	SL
1,2,3-Trichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Dibromoethane	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dibromo-3-Chloropropane	<5.0	5.0	µg/L	12/23/97	SL
Acetone	<50	50	µg/L	12/23/97	SL
2-Butanone	<50	50	µg/L	12/23/97	SL
Carbon Disulfide	<10	10	µg/L	12/23/97	SL
2-Hexanone	<10	10	µg/L	12/23/97	SL
4-Methyl-2-pentanone	<10	10	µg/L	12/23/97	SL
Vinyl Acetate	<10	10	µg/L	12/23/97	SL
Indomethane	<10	10	µg/L	12/23/97	SL
2-Chloro ethyl Vinyl Ether	<10	10	µg/L	12/23/97	SL
Acrolein	<50	50	µg/L	12/23/97	SL
Acrylonitrile	<50	50	µg/L	12/23/97	SL

REPORT COMMENTS

Source: PR - TB - 1

Notes:

1. Not detected in a qualitative screening.

LAW ENVIRONMENTAL CARIBE
1225 Ponce De León Ave.
Caso Bldg. Suite 603
Santurce, P.R. 00907
Attn: MR. CARLOS SOLIS
Invoice Number:

Order #: 97-12-540
Date: 01/12/98 08:57
Work ID: D.I. Water - Grab
Date Received: 12/10/97
Date Completed: 01/10/98
Client Code: 513_01_

DS #: 97-12934
Samples collected by Client
Limit = Detection Limit
Fac. Proteco Project

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	PR - TB - 2

Sample Number	Sample Description

Certified By
Maggie Dávila

MAGGIE I. DAVILA LOPEZ
Químico Licenciado
Estado Libre Asociado de Puerto Rico
LICENCIA NUM. 2948
A 495234

TEST RESULTS BY SAMPLE

Sample: 01A PR - TB - 2 **Collected: 12/09/98**
Job: 01-16C D.I. Water - Grab

Test Description	Result	Limit	Units	Analyzed	By
Metals:					
Total Aluminum	<10	10	µg/L	12/26/97	NAS
Total Antimony	<3.0	3.0	µg/L	01/08/98	NAS
Total Arsenic	<1.0	1.0	µg/L	01/08/98	NAS
Total Barium	<100	100	µg/L	12/26/97	NAS
Total Beryllium	<4.0	4.0	µg/L	12/26/97	NAS
Total Cadmium	<2.0	2.0	µg/L	12/26/97	NAS
Total Calcium	<10	10	µg/L	12/26/97	NAS
Total Chromium	<2.0	2.0	µg/L	12/26/97	NAS
Total Cobalt	<20	20	µg/L	12/26/97	NAS
Total Copper	<10	10	µg/L	12/26/97	NAS
Total Iron	<20	20	µg/L	12/26/97	NAS
Total Lead	<5.0	5.0	µg/L	12/26/97	NAS
Total Magnesium	<10	10	µg/L	12/26/97	NAS
Total Manganese	<10	10	µg/L	12/26/97	NAS
Total Mercury	<0.2	0.20	µg/L	01/08/98	NAS
Total Nickel	<20	20	µg/L	12/26/97	NAS
Total Potassium	<10	10	µg/L	12/26/97	NAS
Total Selenium	<10	10	µg/L	12/26/97	NAS
Total Silver	<1.0	1.0	µg/L	12/26/97	NAS
Total Sodium	<10	10	µg/L	12/26/97	NAS
Total Thallium	<1.0	1.0	µg/L	12/26/97	NAS
Total Vanadium	<5.0	5.0	µg/L	12/26/97	NAS
Total Zinc	<5.0	5.0	µg/L	12/26/97	NAS

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
Pesticides & PCB's					
Method 8080					
Aldrin	<0.05	0.050	µg/L	12/18/97	LG
Chlordane	<0.5	0.50	µg/L	12/18/97	LG
alpha-BHC	<0.05	0.050	µg/L	12/18/97	LG
beta-BHC	<0.05	0.050	µg/L	12/18/97	LG
gamma-BHC	<0.05	0.050	µg/L	12/18/97	LG
delta-BHC	<0.05	0.050	µg/L	12/18/97	LG
4,4'-DDT	<0.10	0.10	µg/L	12/18/97	LG
4,4'-DDE	<0.10	0.10	µg/L	12/18/97	LG
4,4-DDD	<0.10	0.10	µg/L	12/18/97	LG
Dieldrin	<0.10	0.10	µg/L	12/18/97	LG
Alpha Endosulfan	<0.05	0.050	µg/L	12/18/97	LG
Beta Endosulfan	<0.10	0.10	µg/L	12/18/97	LG
Endosulfan Sulfate	<0.10	0.10	µg/L	12/18/97	LG
Endrin	<0.10	0.10	µg/L	12/18/97	LG
Endrin Aldehyde	<0.10	0.10	µg/L	12/18/97	LG
Heptachlor	<0.05	0.050	µg/L	12/18/97	LG
Heptachlor Epoxide	<0.05	0.050	µg/L	12/18/97	LG
Toxaphene	<1.0	1.0	µg/L	12/18/97	LG
Methoxychlor	<0.5	0.50	µg/L	12/18/97	LG
Arochlor-1016	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1221	<10	10	µg/L	12/18/97	LG
Arochlor-1232	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1242	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1248	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1254	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1260	<1.0	1.0	µg/L	12/18/97	LG
Extraction Date			on	12/13/97	HC
Semi-Vol. Org. Compounds					
Method 8270					
Acenaphthylene	<10	10	µg/L	12/19/97	IPM
2,4-Dinitrophenol	<50	50	µg/L	12/19/97	IPM
4-Nitrophenol	<50	50	µg/L	12/19/97	IPM
2,4-Dinitrotoluene	<10	10	µg/L	12/19/97	IPM
Diethylphthalate	<10	10	µg/L	12/19/97	IPM
4-Chlorophenyl-phenylether	<10	10	µg/L	12/19/97	IPM
Fluorene	<10	10	µg/L	12/19/97	IPM
4,6-Dinitro-o-cresol	<50	50	µg/L	12/19/97	IPM
N-Nitrosodiphenylamine	<10	10	µg/L	12/19/97	IPM
4-Bromophenyl-phenylether	<10	10	µg/L	12/19/97	IPM
Hexachlorobenzene	<10	10	µg/L	12/19/97	IPM
Pentachlorophenol	<50	50	µg/L	12/19/97	IPM
Phenanthrene	<10	10	µg/L	12/19/97	IPM
Anthracene	<10	10	µg/L	12/19/97	IPM
Di-n-Butyl Phthalate	<10	10	µg/L	12/19/97	IPM
Fluoranthene	<10	10	µg/L	12/19/97	IPM
Pyrene	<10	10	µg/L	12/19/97	IPM
Butylbenzylphthalate	<10	10	µg/L	12/19/97	IPM
3,3-Dichlorobenzidine	<20	20	µg/L	12/19/97	IPM

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Benzoanthracene	<10	10	µg/L	12/19/97	IPM
Chrysene	<10	10	µg/L	12/19/97	IPM
Bis(2-ethylhexyl)phthalate	<10	10	µg/L	12/19/97	IPM
Di-n-octylphthalate	<10	10	µg/L	12/19/97	IPM
3,4-Benzofluoranthene	<10	10	µg/L	12/19/97	IPM
11,12-Benzofluoranthene	<10	10	µg/L	12/19/97	IPM
N-Nitrosodimethylamine	<10	10	µg/L	12/19/97	IPM
Phenol	<10	10	µg/L	12/19/97	IPM
Bis(2-chloroethyl)ether	<10	10	µg/L	12/19/97	IPM
2-Chlorophenol	<10	10	µg/L	12/19/97	IPM
1,2-Diphenylhydrazine	<10	10	µg/L	12/19/97	IPM
1,3-Dichlorobenzene	<10	10	µg/L	12/19/97	IPM
1,4-Dichlorobenzene	<10	10	µg/L	12/19/97	IPM
1,2-Dichlorobenzene	<10	10	µg/L	12/19/97	IPM
Bis(2-chloroisopropyl)ether	<10	10	µg/L	12/19/97	IPM
N-Nitroso-di-n-propylamine	<10	10	µg/L	12/19/97	IPM
Hexachloroethane	<10	10	µg/L	12/19/97	IPM
Nitrobenzene	<10	10	µg/L	12/19/97	IPM
Isophorone	<10	10	µg/L	12/19/97	IPM
2-Nitrophenol	<10	10	µg/L	12/19/97	IPM
2,4-Dimethylphenol	<10	10	µg/L	12/19/97	IPM
Bis(2-chloroethoxy)methane	<10	10	µg/L	12/19/97	IPM
2,4-Dichlorophenol	<10	10	µg/L	12/19/97	IPM
1,2,4-Trichlorobenzene	<10	10	µg/L	12/19/97	IPM
Naphthalene	<10	10	µg/L	12/19/97	IPM
Hexachlorobutadiene	<10	10	µg/L	12/19/97	IPM
p-Chloro-3-methylphenol	<10	10	µg/L	12/19/97	IPM
Hexachlorocyclopentadiene	<10	10	µg/L	12/19/97	IPM
2,4,6-Trichlorophenol	<10	10	µg/L	12/19/97	IPM
2-Chloronaphthalene	<10	10	µg/L	12/19/97	IPM
Dimethyl phthalate	<10	10	µg/L	12/19/97	IPM
Acenaphthene	<10	10	µg/L	12/19/97	IPM
Benzidine	<50	50	µg/L	12/19/97	IPM
2,6-Dinitrotoluene	<10	10	µg/L	12/19/97	IPM
Benzo(a)pyrene	<10	10	µg/L	12/19/97	IPM
Indeno(1,2,3CD)Pyrene	<10	10	µg/L	12/19/97	IPM
1,2,5,6 Dibenzoanthracene	<10	10	µg/L	12/19/97	IPM
Benzo (g,h,i) Perylene	<10	10	µg/L	12/19/97	IPM
2,3,7,8-TCDD (Note #1)	<10	10	µg/L	12/19/97	IPM
Extraction Date			on	12/10/97	JFD
Total Cyanide	<0.005	0.005	mg/L	12/16/97	CL
Volatiles Org. Compounds:					
Method 8260			µg/L	12/23/97	SL
Vinyl Chloride	<5.0	5.0	µg/L	12/23/97	SL
1,1-Dichloroethene	<5.0	5.0	µg/L	12/23/97	SL
1,1,1-Trichloroethane	<5.0	5.0	µg/L	12/23/97	SL
Carbon Tetrachloride	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dichloroethane	<5.0	5.0	µg/L	12/23/97	SL
Trichloroethene	<5.0	5.0	µg/L	12/23/97	SL
Benzene	<5.0	5.0	µg/L	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,4-Dichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
Chloroform	<5.0	5.0	µg/L	12/23/97	SL
Bromodichloromethane	<5.0	5.0	µg/L	12/23/97	SL
Chlorodibromomethane	<5.0	5.0	µg/L	12/23/97	SL
Bromoform	<5.0	5.0	µg/L	12/23/97	SL
Methylene Chloride	<5.0	5.0	µg/L	12/23/97	SL
1,1,2,2-Tetrachloroethane	<5.0	5.0	µg/L	12/23/97	SL
Trans-1,2-Dichloroethene	<5.0	5.0	µg/L	12/23/97	SL
1,1-Dichloropropene	<5.0	5.0	µg/L	12/23/97	SL
1,1-Dichloroethane	<5.0	5.0	µg/L	12/23/97	SL
2,2-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
cis-1,2-Dichloroethene	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Chloromethane	<5.0	5.0	µg/L	12/23/97	SL
Dibromomethane	<5.0	5.0	µg/L	12/23/97	SL
cis-1,3-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Trans-1,3-Dichloropropene	<5.0	5.0	µg/L	12/23/97	SL
1,1,2-Trichloroethane	<5.0	5.0	µg/L	12/23/97	SL
1,3-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Tetrachloroethene	<5.0	5.0	µg/L	12/23/97	SL
Bromomethane	<5.0	5.0	µg/L	12/23/97	SL
Chloroethane	<5.0	5.0	µg/L	12/23/97	SL
Toluene	<5.0	5.0	µg/L	12/23/97	SL
Chlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
1,1,1,2-Tetrachloroethane	<5.0	5.0	µg/L	12/23/97	SL
Ethylbenzene	<5.0	5.0	µg/L	12/23/97	SL
m,p-Xylenes	<5.0	5.0	µg/L	12/23/97	SL
o-Xylene	<5.0	5.0	µg/L	12/23/97	SL
Styrene	<5.0	5.0	µg/L	12/23/97	SL
1,3-Dichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
1,2,3-Trichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Bromobenzene	<5.0	5.0	µg/L	12/23/97	SL
2-Chlorotoluene	<5.0	5.0	µg/L	12/23/97	SL
4-Chlorotoluene	<5.0	5.0	µg/L	12/23/97	SL
Bromochloromethane	<5.0	5.0	µg/L	12/23/97	SL
N-Propylbenzene	<5.0	5.0	µg/L	12/23/97	SL
1,3,5-Trimethylbenzene	<5.0	5.0	µg/L	12/23/97	SL
tert-Butylbenzene	<5.0	5.0	µg/L	12/23/97	SL
1,2,4-Trimethylbenzene	<5.0	5.0	µg/L	12/23/97	SL
sec-Butylbenzene	<5.0	5.0	µg/L	12/23/97	SL
P-Isopropyltoluene	<5.0	5.0	µg/L	12/23/97	SL
Isopropylbenzene	<5.0	5.0	µg/L	12/23/97	SL
Trichlorofluoromethane	<5.0	5.0	µg/L	12/23/97	SL
N-Butylbenzene	<5.0	5.0	µg/L	12/23/97	SL
Dichlorodifluoromethane	<5.0	5.0	µg/L	12/23/97	SL
1,2,4-Trichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
Hexachlorobutadiene	<5.0	5.0	µg/L	12/23/97	SL
Naphthalene	<5.0	5.0	µg/L	12/23/97	SL
1,2,3-Trichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Dibromoethane	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dibromo-3-Chloropropane	<5.0	5.0	µg/L	12/23/97	SL
Acetone	<50	50	µg/L	12/23/97	SL
2-Butanone	<50	50	µg/L	12/23/97	SL
Carbon Disulfide	<10	10	µg/L	12/23/97	SL
2-Hexanone	<10	10	µg/L	12/23/97	SL
4-Methyl-2-pentanone	<10	10	µg/L	12/23/97	SL
Vinyl Acetate	<10	10	µg/L	12/23/97	SL
Indomethane	<10	10	µg/L	12/23/97	SL
2-Chloro ethyl Vinyl Ether	<10	10	µg/L	12/23/97	SL
Acrolein	<50	50	µg/L	12/23/97	SL
Acrylonitrile	<50	50	µg/L	12/23/97	SL

REPORT COMMENTS

Source: PR - TB - 2

Notes:

1. Not detected in a qualitative screening.

LAW ENVIRONMENTAL CARIBE
1225 Ponce De León Ave.
Caso Bldg. Suite 603
Santurce, P.R. 00907
Attn: MR. CARLOS SOLIS
Invoice Number:

Order #: 97-12-521
Date: 01/12/98 08:56
Work ID: D.I. Water - Grab
Date Received: 12/10/97
Date Completed: 01/10/98
Client Code: 513_01_

DS #: 97-12862
Samples collected by Client
Limit = Detection Limit
Fac. Proteco Project

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	PR - FB - Unit 4

Sample Number	Sample Description

Certified By
Maggie Dávila

MAGGIE I. DAVILA LOPEZ
Químico Licenciado
Estado Libre Asociado de Puerto Rico
LICENCIA NUM. 2548

TEST RESULTS BY SAMPLE

Sample: 01A PR - FB - Unit 4 **Collected: 12/10/97**
Job: 01-16C D.I. Water - Grab

Test Description	Result	Limit	Units	Analyzed	By
Metals:					
Total Aluminum	<10	10	µg/L	12/26/97	NAS
Total Antimony	<3.0	3.0	µg/L	01/02/98	NAS
Total Arsenic	<1.0	1.0	µg/L	01/02/98	NAS
Total Barium	<100	100	µg/L	12/26/97	NAS
Total Beryllium	<4.0	4.0	µg/L	12/26/97	NAS
Total Cadmium	<2.0	2.0	µg/L	12/26/97	NAS
Total Calcium	<10	10	µg/L	12/26/97	NAS
Total Chromium	<2.0	2.0	µg/L	12/26/97	NAS
Total Cobalt	<20	20	µg/L	12/26/97	NAS
Total Copper	<10	10	µg/L	12/26/97	NAS
Total Iron	<20	20	µg/L	12/26/97	NAS
Total Lead	<5.0	5.0	µg/L	12/26/97	NAS
Total Magnesium	<10	10	µg/L	12/26/97	NAS
Total Manganese	<10	10	µg/L	12/26/97	NAS
Total Mercury	<0.2	0.20	µg/L	01/05/98	NAS
Total Nickel	<20	20	µg/L	12/26/97	NAS
Total Potassium	<10	10	µg/L	12/26/97	NAS
Total Selenium	<10	10	µg/L	01/02/98	NAS
Total Silver	<1.0	1.0	µg/L	12/26/97	NAS
Total Sodium	<10	10	µg/L	12/26/97	NAS
Total Thallium	<1.0	1.0	µg/L	12/26/97	NAS
Total Vanadium	<5.0	5.0	µg/L	12/26/97	NAS
Total Zinc	<5.0	5.0	µg/L	12/26/97	NAS

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
Pesticides & PCB's					
Method 8080					
Aldrin	<0.05	0.050	µg/L	12/18/97	LG
Chlordane	<0.5	0.50	µg/L	12/18/97	LG
alpha-BHC	<0.05	0.050	µg/L	12/18/97	LG
beta-BHC	<0.05	0.050	µg/L	12/18/97	LG
gamma-BHC	<0.05	0.050	µg/L	12/18/97	LG
delta-BHC	<0.05	0.050	µg/L	12/18/97	LG
4,4'-DDT	<0.10	0.10	µg/L	12/18/97	LG
4,4'-DDE	<0.10	0.10	µg/L	12/18/97	LG
4,4-DDD	<0.10	0.10	µg/L	12/18/97	LG
Dieldrin	<0.10	0.10	µg/L	12/18/97	LG
Alpha Endosulfan	<0.05	0.050	µg/L	12/18/97	LG
Beta Endosulfan	<0.10	0.10	µg/L	12/18/97	LG
Endosulfan Sulfate	<0.10	0.10	µg/L	12/18/97	LG
Endrin	<0.10	0.10	µg/L	12/18/97	LG
Endrin Aldehyde	<0.10	0.10	µg/L	12/18/97	LG
Heptachlor	<0.05	0.050	µg/L	12/18/97	LG
Heptachlor Epoxide	<0.05	0.050	µg/L	12/18/97	LG
Toxaphene	<1.0	1.0	µg/L	12/18/97	LG
Methoxychlor	<0.5	0.50	µg/L	12/18/97	LG
Arochlor-1016	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1221	<10	10	µg/L	12/18/97	LG
Arochlor-1232	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1242	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1248	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1254	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1260	<1.0	1.0	µg/L	12/18/97	LG
Extraction Date			on	12/14/98	HC
Semi-Vol. Org. Compounds					
Method 8270					
Acenaphthylene	<10	10	µg/L	12/18/97	IPM
2,4-Dinitrophenol	<50	50	µg/L	12/18/97	IPM
4-Nitrophenol	<50	50	µg/L	12/18/97	IPM
2,4-Dinitrotoluene	<10	10	µg/L	12/18/97	IPM
Diethylphthalate	<10	10	µg/L	12/18/97	IPM
4-Chlorophenyl-phenylether	<10	10	µg/L	12/18/97	IPM
Fluorene	<10	10	µg/L	12/18/97	IPM
4,6-Dinitro-o-cresol	<50	50	µg/L	12/18/97	IPM
N-Nitrosodiphenylamine	<10	10	µg/L	12/18/97	IPM
4-Bromophenyl-phenylether	<10	10	µg/L	12/18/97	IPM
Hexachlorobenzene	<10	10	µg/L	12/18/97	IPM
Pentachlorophenol	<50	50	µg/L	12/18/97	IPM
Phenanthrene	<10	10	µg/L	12/18/97	IPM
Anthracene	<10	10	µg/L	12/18/97	IPM
Di-n-Butyl Phthalate	<10	10	µg/L	12/18/97	IPM
Fluoranthene	<10	10	µg/L	12/18/97	IPM
Pyrene	<10	10	µg/L	12/18/97	IPM
Butylbenzylphthalate	<10	10	µg/L	12/18/97	IPM
3,3-Dichlorobenzidine	<20	20	µg/L	12/18/97	IPM

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Benzoanthracene	<10	10	µg/L	12/18/97	IPM
Chrysene	<10	10	µg/L	12/18/97	IPM
Bis(2-ethylhexyl)phthalate	<10	10	µg/L	12/18/97	IPM
Di-n-octylphthalate	<10	10	µg/L	12/18/97	IPM
3,4-Benzofluoranthene	<10	10	µg/L	12/18/97	IPM
11,12-Benzofluoranthene	<10	10	µg/L	12/18/97	IPM
N-Nitrosodimethylamine	<10	10	µg/L	12/18/97	IPM
Phenol	<10	10	µg/L	12/18/97	IPM
Bis(2-chloroethyl)ether	<10	10	µg/L	12/18/97	IPM
2-Chlorophenol	<10	10	µg/L	12/18/97	IPM
1,2-Diphenylhydrazine	<10	10	µg/L	12/18/97	IPM
1,3-Dichlorobenzene	<10	10	µg/L	12/18/97	IPM
1,4-Dichlorobenzene	<10	10	µg/L	12/18/97	IPM
1,2-Dichlorobenzene	<10	10	µg/L	12/18/97	IPM
Bis(2-chloroisopropyl)ether	<10	10	µg/L	12/18/97	IPM
N-Nitroso-di-n-propylamine	<10	10	µg/L	12/18/97	IPM
Hexachloroethane	<10	10	µg/L	12/18/97	IPM
Nitrobenzene	<10	10	µg/L	12/18/97	IPM
Isophorone	<10	10	µg/L	12/18/97	IPM
2-Nitrophenol	<10	10	µg/L	12/18/97	IPM
2,4-Dimethylphenol	<10	10	µg/L	12/18/97	IPM
Bis(2-chloroethoxy)methane	<10	10	µg/L	12/18/97	IPM
2,4-Dichlorophenol	<10	10	µg/L	12/18/97	IPM
1,2,4-Trichlorobenzene	<10	10	µg/L	12/18/97	IPM
Naphthalene	<10	10	µg/L	12/18/97	IPM
Hexachlorobutadiene	<10	10	µg/L	12/18/97	IPM
p-Chloro-3-methylphenol	<10	10	µg/L	12/18/97	IPM
Hexachlorocyclopentadiene	<10	10	µg/L	12/18/97	IPM
2,4,6-Trichlorophenol	<10	10	µg/L	12/18/97	IPM
2-Chloronaphthalene	<10	10	µg/L	12/18/97	IPM
Dimethyl phthalate	<10	10	µg/L	12/18/97	IPM
Acenaphthene	<10	10	µg/L	12/18/97	IPM
Benzidine	<10	10	µg/L	12/18/97	IPM
2,6-Dinitrotoluene	<50	50	µg/L	12/18/97	IPM
Benzo(a)pyrene	<10	10	µg/L	12/18/97	IPM
Indeno(1,2,3CD)Pyrene	<10	10	µg/L	12/18/97	IPM
1,2,5,6 Dibenzoanthracene	<10	10	µg/L	12/18/97	IPM
Benzo (g,h,i) Perylene	<10	10	µg/L	12/18/97	IPM
2,3,7,8-TCDD (Note #1)	<10	10	µg/L	12/18/97	IPM
Extraction Date			on	12/10/97	JFD
Total Cyanide	<0.005	0.005	mg/L	12/16/97	CL
Volatiles Org. Compounds:					
Method 8260					
Vinyl Chloride	<5.0	5.0	µg/L	12/23/97	SL
1,1-Dichloroethene	<5.0	5.0	µg/L	12/23/97	SL
1,1,1-Trichloroethane	<5.0	5.0	µg/L	12/23/97	SL
Carbon Tetrachloride	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dichloroethane	<5.0	5.0	µg/L	12/23/97	SL
Trichloroethene	<5.0	5.0	µg/L	12/23/97	SL
Benzene	<5.0	5.0	µg/L	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,4-Dichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
Chloroform	<5.0	5.0	µg/L	12/23/97	SL
Bromodichloromethane	<5.0	5.0	µg/L	12/23/97	SL
Chlorodibromomethane	<5.0	5.0	µg/L	12/23/97	SL
Bromoform	<5.0	5.0	µg/L	12/23/97	SL
Methylene Chloride	<5.0	5.0	µg/L	12/23/97	SL
1,1,2,2-Tetrachloroethane	<5.0	5.0	µg/L	12/23/97	SL
Trans-1,2-Dichloroethene	<5.0	5.0	µg/L	12/23/97	SL
1,1-Dichloropropene	<5.0	5.0	µg/L	12/23/97	SL
1,1-Dichloroethane	<5.0	5.0	µg/L	12/23/97	SL
2,2-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
cis-1,2-Dichloroethene	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Chloromethane	<5.0	5.0	µg/L	12/23/97	SL
Dibromomethane	<5.0	5.0	µg/L	12/23/97	SL
cis-1,3-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Trans-1,3-Dichloropropene	<5.0	5.0	µg/L	12/23/97	SL
1,1,2-Trichloroethane	<5.0	5.0	µg/L	12/23/97	SL
1,3-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Tetrachloroethene	<5.0	5.0	µg/L	12/23/97	SL
Bromomethane	<5.0	5.0	µg/L	12/23/97	SL
Chloroethane	<5.0	5.0	µg/L	12/23/97	SL
Toluene	<5.0	5.0	µg/L	12/23/97	SL
Chlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
1,1,1,2-Tetrachloroethane	<5.0	5.0	µg/L	12/23/97	SL
Ethylbenzene	<5.0	5.0	µg/L	12/23/97	SL
m,p-Xylenes	<5.0	5.0	µg/L	12/23/97	SL
o-Xylene	<5.0	5.0	µg/L	12/23/97	SL
Styrene	<5.0	5.0	µg/L	12/23/97	SL
1,3-Dichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
1,2,3-Trichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Bromobenzene	<5.0	5.0	µg/L	12/23/97	SL
2-Chlorotoluene	<5.0	5.0	µg/L	12/23/97	SL
4-Chlorotoluene	<5.0	5.0	µg/L	12/23/97	SL
Bromochloromethane	<5.0	5.0	µg/L	12/23/97	SL
N-Propylbenzene	<5.0	5.0	µg/L	12/23/97	SL
1,3,5-Trimethylbenzene	<5.0	5.0	µg/L	12/23/97	SL
tert-Butylbenzene	<5.0	5.0	µg/L	12/23/97	SL
1,2,4-Trimethylbenzene	<5.0	5.0	µg/L	12/23/97	SL
sec-Butylbenzene	<5.0	5.0	µg/L	12/23/97	SL
P-Isopropyltoluene	<5.0	5.0	µg/L	12/23/97	SL
Isopropylbenzene	<5.0	5.0	µg/L	12/23/97	SL
Trichlorofluoromethane	<5.0	5.0	µg/L	12/23/97	SL
N-Butylbenzene	<5.0	5.0	µg/L	12/23/97	SL
Dichlorodifluoromethane	<5.0	5.0	µg/L	12/23/97	SL
1,2,4-Trichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
Hexachlorobutadiene	<5.0	5.0	µg/L	12/23/97	SL
Naphthalene	<5.0	5.0	µg/L	12/23/97	SL
1,2,3-Trichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Dibromoethane	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dibromo-3-Chloropropane	<5.0	5.0	µg/L	12/23/97	SL
Acetone	<50	50	µg/L	12/23/97	SL
2-Butanone	<50	50	µg/L	12/23/97	SL
Carbon Disulfide	<10	10	µg/L	12/23/97	SL
2-Hexanone	<10	10	µg/L	12/23/97	SL
4-Methyl-2-pentanone	<10	10	µg/L	12/23/97	SL
Vinyl Acetate	<10	10	µg/L	12/23/97	SL
Indomethane	<10	10	µg/L	12/23/97	SL
2-Chloro ethyl Vinyl Ether	<10	10	µg/L	12/23/97	SL
Acrolein	<50	50	µg/L	12/23/97	SL
Acrylonitrile	<50	50	µg/L	12/23/97	SL

REPORT COMMENTS

Source: PR - FB - 4

Notes:

1. Not detected in a qualitative screening.

LAW ENVIRONMENTAL CARIBE
1225 Ponce De León Ave.
Caso Bldg. Suite 603
Santurce, P.R. 00907
Attn: MR. CARLOS SOLIS
Invoice Number:

Order #: 97-12-541
Date: 01/12/98 08:57
Work ID: D.I. Water - Grab
Date Received: 12/10/97
Date Completed: 01/10/98
Client Code: 513_01_

DS #: 97-12934
Samples collected by Client
Limit = Detection Limit
Fac. Proteco Project

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	PR - EB - Unit 4

Sample Number	Sample Description

Certified By
Maggie Dávila

Estado Libre Asociado de Puerto Rico
LICENCIA NUM. 2948
A 495232

Sample: 01A PR - EB - Unit 4 **Collected: 12/10/97**
Job: 01-16C D.I. Water - Grab

Test Description	Result	Limit	Units	Analyzed	By
Metals:					
Total Aluminum	<10	10	µg/L	12/26/97	NAS
Total Antimony	<3.0	3.0	µg/L	01/08/98	NAS
Total Arsenic	<1.0	1.0	µg/L	01/02/98	NAS
Total Barium	<100	100	µg/L	12/26/97	NAS
Total Beryllium	<4.0	4.0	µg/L	12/26/97	NAS
Total Cadmium	<2.0	2.0	µg/L	12/26/97	NAS
Total Calcium	<10	10	µg/L	12/26/97	NAS
Total Chromium	<2.0	2.0	µg/L	12/26/97	NAS
Total Cobalt	<20	20	µg/L	12/26/97	NAS
Total Copper	<10	10	µg/L	12/26/97	NAS
Total Iron	<20	20	µg/L	12/26/97	NAS
Total Lead	<5.0	5.0	µg/L	12/26/97	NAS
Total Magnesium	<10	10	µg/L	12/26/97	NAS
Total Manganese	<10	10	µg/L	12/26/97	NAS
Total Mercury	<0.2	0.20	µg/L	01/08/98	NAS
Total Nickel	<20	20	µg/L	12/26/97	NAS
Total Potassium	<10	10	µg/L	12/26/97	NAS
Total Selenium	<10	10	µg/L	01/02/98	NAS
Total Silver	<1.0	1.0	µg/L	12/26/97	NAS
Total Sodium	<10	10	µg/L	12/26/97	NAS
Total Thallium	<1.0	1.0	µg/L	12/26/97	NAS
Total Vanadium	<5.0	5.0	µg/L	12/26/97	NAS
Total Zinc	<5.0	5.0	µg/L	12/26/97	NAS

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
Pesticides & PCB's					
Method 8080					
Aldrin	<0.05	0.050	µg/L	12/18/97	LG
Chlordane	<0.5	0.50	µg/L	12/18/97	LG
alpha-BHC	<0.05	0.050	µg/L	12/18/97	LG
beta-BHC	<0.05	0.050	µg/L	12/18/97	LG
gamma-BHC	<0.05	0.050	µg/L	12/18/97	LG
delta-BHC	<0.05	0.050	µg/L	12/18/97	LG
4,4'-DDT	<0.10	0.10	µg/L	12/18/97	LG
4,4'-DDE	<0.10	0.10	µg/L	12/18/97	LG
4,4-DDD	<0.10	0.10	µg/L	12/18/97	LG
Dieldrin	<0.10	0.10	µg/L	12/18/97	LG
Alpha Endosulfan	<0.05	0.050	µg/L	12/18/97	LG
Beta Endosulfan	<0.10	0.10	µg/L	12/18/97	LG
Endosulfan Sulfate	<0.10	0.10	µg/L	12/18/97	LG
Endrin	<0.10	0.10	µg/L	12/18/97	LG
Endrin Aldehyde	<0.10	0.10	µg/L	12/18/97	LG
Heptachlor	<0.05	0.050	µg/L	12/18/97	LG
Heptachlor Epoxide	<0.05	0.050	µg/L	12/18/97	LG
Toxaphene	<1.0	1.0	µg/L	12/18/97	LG
Methoxychlor	<0.5	0.50	µg/L	12/18/97	LG
Arochlor-1016	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1221	<10	10	µg/L	12/18/97	LG
Arochlor-1232	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1242	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1248	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1254	<1.0	1.0	µg/L	12/18/97	LG
Arochlor-1260	<1.0	1.0	µg/L	12/18/97	LG
Extraction Date			on	12/13/97	HC
Semi-Vol. Org. Compounds					
Method 8270					
Acenaphthylene	<10	10	µg/L	12/19/97	IPM
2,4-Dinitrophenol	<50	50	µg/L	12/19/97	IPM
4-Nitrophenol	<50	50	µg/L	12/19/97	IPM
2,4-Dinitrotoluene	<10	10	µg/L	12/19/97	IPM
Diethylphthalate	<10	10	µg/L	12/19/97	IPM
4-Chlorophenyl-phenylether	<10	10	µg/L	12/19/97	IPM
Fluorene	<10	10	µg/L	12/19/97	IPM
4,6-Dinitro-o-cresol	<50	50	µg/L	12/19/97	IPM
N-Nitrosodiphenylamine	<10	10	µg/L	12/19/97	IPM
4-Bromophenyl-phenylether	<10	10	µg/L	12/19/97	IPM
Hexachlorobenzene	<10	10	µg/L	12/19/97	IPM
Pentachlorophenol	<50	50	µg/L	12/19/97	IPM
Phenanthrene	<10	10	µg/L	12/19/97	IPM
Anthracene	<10	10	µg/L	12/19/97	IPM
Di-n-Butyl Phthalate	<10	10	µg/L	12/19/97	IPM
Fluoranthene	<10	10	µg/L	12/19/97	IPM
Pyrene	<10	10	µg/L	12/19/97	IPM
Butylbenzylphthalate	<10	10	µg/L	12/19/97	IPM
3,3-Dichlorobenzidine	<20	20	µg/L	12/19/97	IPM

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Benzoanthracene	<10	10	µg/L	12/19/97	IPM
Chrysene	<10	10	µg/L	12/19/97	IPM
Bis(2-ethylhexyl)phthalate	<10	10	µg/L	12/19/97	IPM
Di-n-octylphthalate	<10	10	µg/L	12/19/97	IPM
3,4-Benzofluoranthene	<10	10	µg/L	12/19/97	IPM
11,12-Benzofluoranthene	<10	10	µg/L	12/19/97	IPM
N-Nitrosodimethylamine	<10	10	µg/L	12/19/97	IPM
Phenol	<10	10	µg/L	12/19/97	IPM
Bis(2-chloroethyl)ether	<10	10	µg/L	12/19/97	IPM
2-Chlorophenol	<10	10	µg/L	12/19/97	IPM
1,2-Diphenylhydrazine	<10	10	µg/L	12/19/97	IPM
1,3-Dichlorobenzene	<10	10	µg/L	12/19/97	IPM
1,4-Dichlorobenzene	<10	10	µg/L	12/19/97	IPM
1,2-Dichlorobenzene	<10	10	µg/L	12/19/97	IPM
Bis(2-chloroisopropyl)ether	<10	10	µg/L	12/19/97	IPM
N-Nitroso-di-n-propylamine	<10	10	µg/L	12/19/97	IPM
Hexachloroethane	<10	10	µg/L	12/19/97	IPM
Nitrobenzene	<10	10	µg/L	12/19/97	IPM
Isophorone	<10	10	µg/L	12/19/97	IPM
2-Nitrophenol	<10	10	µg/L	12/19/97	IPM
2,4-Dimethylphenol	<10	10	µg/L	12/19/97	IPM
Bis(2-chloroethoxy)methane	<10	10	µg/L	12/19/97	IPM
2,4-Dichlorophenol	<10	10	µg/L	12/19/97	IPM
1,2,4-Trichlorobenzene	<10	10	µg/L	12/19/97	IPM
Naphthalene	<10	10	µg/L	12/19/97	IPM
Hexachlorobutadiene	<10	10	µg/L	12/19/97	IPM
p-Chloro-3-methylphenol	<10	10	µg/L	12/19/97	IPM
Hexachlorocyclopentadiene	<10	10	µg/L	12/19/97	IPM
2,4,6-Trichlorophenol	<10	10	µg/L	12/19/97	IPM
2-Chloronaphthalene	<10	10	µg/L	12/19/97	IPM
Dimethyl phthalate	<10	10	µg/L	12/19/97	IPM
Acenaphthene	<10	10	µg/L	12/19/97	IPM
Benzidine	<50	50	µg/L	12/19/97	IPM
2,6-Dinitrotoluene	<10	10	µg/L	12/19/97	IPM
Benzo(a)pyrene	<10	10	µg/L	12/19/97	IPM
Indeno(1,2,3CD)Pyrene	<10	10	µg/L	12/19/97	IPM
1,2,5,6 Dibenzoanthracene	<10	10	µg/L	12/19/97	IPM
Benzo (g,h,i) Perylene	<10	10	µg/L	12/19/97	IPM
2,3,7,8-TCDD (Note #1)	<10	10	µg/L	12/19/97	IPM
Extraction Date			on	12/10/97	JFD
Total Cyanide	<0.005	0.005	mg/L	12/16/97	CL
Volatiles Org. Compounds:					
Method 8260			µg/L	12/23/97	SL
Vinyl Chloride	<5.0	5.0	µg/L	12/23/97	SL
1,1-Dichloroethene	<5.0	5.0	µg/L	12/23/97	SL
1,1,1-Trichloroethane	<5.0	5.0	µg/L	12/23/97	SL
Carbon Tetrachloride	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dichloroethane	<5.0	5.0	µg/L	12/23/97	SL
Trichloroethene	<5.0	5.0	µg/L	12/23/97	SL
Benzene	<5.0	5.0	µg/L	12/23/97	SL

Test Description	Result	Limit	Units	Analyzed	By
1,4-Dichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
Chloroform	<5.0	5.0	µg/L	12/23/97	SL
Bromodichloromethane	<5.0	5.0	µg/L	12/23/97	SL
Chlorodibromomethane	<5.0	5.0	µg/L	12/23/97	SL
Bromoform	<5.0	5.0	µg/L	12/23/97	SL
Methylene Chloride	<5.0	5.0	µg/L	12/23/97	SL
1,1,2,2-Tetrachloroethane	<5.0	5.0	µg/L	12/23/97	SL
Trans-1,2-Dichloroethene	<5.0	5.0	µg/L	12/23/97	SL
1,1-Dichloropropene	<5.0	5.0	µg/L	12/23/97	SL
1,1-Dichloroethane	<5.0	5.0	µg/L	12/23/97	SL
2,2-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
cis-1,2-Dichloroethene	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Chloromethane	<5.0	5.0	µg/L	12/23/97	SL
Dibromomethane	<5.0	5.0	µg/L	12/23/97	SL
cis-1,3-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Trans-1,3-Dichloropropene	<5.0	5.0	µg/L	12/23/97	SL
1,1,2-Trichloroethane	<5.0	5.0	µg/L	12/23/97	SL
1,3-Dichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Tetrachloroethene	<5.0	5.0	µg/L	12/23/97	SL
Bromomethane	<5.0	5.0	µg/L	12/23/97	SL
Chloroethane	<5.0	5.0	µg/L	12/23/97	SL
Toluene	<5.0	5.0	µg/L	12/23/97	SL
Chlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
1,1,1,2-Tetrachloroethane	<5.0	5.0	µg/L	12/23/97	SL
Ethylbenzene	<5.0	5.0	µg/L	12/23/97	SL
m,p-Xylenes	<5.0	5.0	µg/L	12/23/97	SL
o-Xylene	<5.0	5.0	µg/L	12/23/97	SL
Styrene	<5.0	5.0	µg/L	12/23/97	SL
1,3-Dichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
1,2,3-Trichloropropane	<5.0	5.0	µg/L	12/23/97	SL
Bromobenzene	<5.0	5.0	µg/L	12/23/97	SL
2-Chlorotoluene	<5.0	5.0	µg/L	12/23/97	SL
4-Chlorotoluene	<5.0	5.0	µg/L	12/23/97	SL
Bromochloromethane	<5.0	5.0	µg/L	12/23/97	SL
N-Propylbenzene	<5.0	5.0	µg/L	12/23/97	SL
1,3,5-Trimethylbenzene	<5.0	5.0	µg/L	12/23/97	SL
tert-Butylbenzene	<5.0	5.0	µg/L	12/23/97	SL
1,2,4-Trimethylbenzene	<5.0	5.0	µg/L	12/23/97	SL
sec-Butylbenzene	<5.0	5.0	µg/L	12/23/97	SL
P-Isopropyltoluene	<5.0	5.0	µg/L	12/23/97	SL
Isopropylbenzene	<5.0	5.0	µg/L	12/23/97	SL
Trichlorofluoromethane	<5.0	5.0	µg/L	12/23/97	SL
N-Butylbenzene	<5.0	5.0	µg/L	12/23/97	SL
Dichlorodifluoromethane	<5.0	5.0	µg/L	12/23/97	SL
1,2,4-Trichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL
Hexachlorobutadiene	<5.0	5.0	µg/L	12/23/97	SL
Naphthalene	<5.0	5.0	µg/L	12/23/97	SL
1,2,3-Trichlorobenzene	<5.0	5.0	µg/L	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Dibromoethane	<5.0	5.0	µg/L	12/23/97	SL
1,2-Dibromo-3-Chloropropane	<5.0	5.0	µg/L	12/23/97	SL
Acetone	<50	50	µg/L	12/23/97	SL
2-Butanone	<50	50	µg/L	12/23/97	SL
Carbon Disulfide	<10	10	µg/L	12/23/97	SL
2-Hexanone	<10	10	µg/L	12/23/97	SL
4-Methyl-2-pentanone	<10	10	µg/L	12/23/97	SL
Vinyl Acetate	<10	10	µg/L	12/23/97	SL
Indomethane	<10	10	µg/L	12/23/97	SL
2-Chloro ethyl Vinyl Ether	<10	10	µg/L	12/23/97	SL
Acrolein	<50	50	µg/L	12/23/97	SL
Acrylonitrile	<50	50	µg/L	12/23/97	SL

Source: PR - EB - Unit 4

Notes:

1. Not detected in a qualitative screening.

LAW ENVIRONMENTAL CARIBE
1225 Ponce De León Ave.
Caso Bldg. Suite 603
Santurce, P.R. 00907
Attn: MR. CARLOS SOLIS
Invoice Number:

Order #: 97-12-518
Date: 01/12/98 08:57
Work ID: Soil - Grab
Date Received: 12/10/97
Date Completed: 01/10/98
Client Code: 513_01_

DS #: 97-12862
Samples collected by Client
Limit = Detection Limit
Fac. Proteco Project

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	PR - 4 - 1 - 1

Sample Number	Sample Description

Certified By
Maggie Dávila

MAGGIE DAVILA LOPEZ
Químico Licenciado
Estado Libre Asociado de Puerto Rico
LICENCIA NUM. 2948
A 495242

TEST RESULTS BY SAMPLE

Sample: 01A PR - 4 - 1 - 1 **Collected: 12/10/97**
Job: 01-16B Soil - Grab

Test Description	Result	Limit	Units	Analyzed	By
Metals:					
Total Aluminum	8,350	5.0	mg/kg	12/26/97	NAS
Total Antimony	<0.15	0.15	mg/kg	01/05/98	NAS
Total Arsenic	4.0	0.050	mg/kg	01/02/98	NAS
Total Barium	35.3	5.0	mg/kg	12/26/97	NAS
Total Beryllium	0.25	0.20	mg/kg	12/26/97	NAS
Total Cadmium	0.40	0.10	mg/kg	12/26/97	NAS
Total Calcium	51,342	0.50	mg/kg	12/26/97	NAS
Total Chromium	10.5	0.10	mg/kg	12/26/97	NAS
Total Cobalt	1.49	1.0	mg/kg	12/26/97	NAS
Total Copper	14.9	1.0	mg/kg	12/26/97	NAS
Total Iron	7,455	1.0	mg/kg	12/26/97	NAS
Total Lead	<0.25	0.25	mg/kg	12/26/97	NAS
Total Magnesium	2,147	0.50	mg/kg	12/26/97	NAS
Total Manganese	205	0.50	mg/kg	12/26/97	NAS
Total Mercury	<0.1	0.10	mg/kg	01/05/98	NAS
Total Nickel	16.9	1.0	mg/kg	12/26/97	NAS
Total Potassium	1,764	0.50	mg/kg	12/26/97	NAS
Total Selenium	<0.05	0.050	mg/kg	01/02/98	NAS
Total Silver	0.15	0.050	mg/kg	12/26/97	NAS
Total Sodium	492	0.50	mg/kg	12/26/97	NAS
Total Thallium	0.80	0.050	mg/kg	12/26/97	NAS
Total Vanadium	16.1	0.25	mg/kg	12/26/97	NAS
Total Zinc	11.8	0.25	mg/kg	12/26/97	NAS

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
Pesticides & PCB's					
Method 8080					
Aldrin	<5.0	5.0	µg/kg	12/24/97	LG
Chlordane	<50	50	µg/kg	12/24/97	LG
alpha-BHC	<5.0	5.0	µg/kg	12/24/97	LG
beta-BHC	<5.0	5.0	µg/kg	12/24/97	LG
gamma-BHC	<5.0	5.0	µg/kg	12/24/97	LG
delta-BHC	<5.0	5.0	µg/kg	12/24/97	LG
4,4'-DDT	<10	10	µg/kg	12/24/97	LG
4,4'-DDE	<10	10	µg/kg	12/24/97	LG
4,4-DDD	<10	10	µg/kg	12/24/97	LG
Methoxychlor	<50	50	µg/kg	12/24/97	LG
Dieldrin	<10	10	µg/kg	12/24/97	LG
Alpha Endosulfan	<5.0	5.0	µg/kg	12/24/97	LG
Beta Endosulfan	<10	10	µg/kg	12/24/97	LG
Endosulfan Sulfate	<10	10	µg/kg	12/24/97	LG
Endrin	<10	10	µg/kg	12/24/97	LG
Endrin Aldehyde	<10	10	µg/kg	12/24/97	LG
Heptachlor	<5.0	5.0	µg/kg	12/24/97	LG
Heptachlor Epoxide	<5.0	5.0	µg/kg	12/24/97	LG
Toxaphene	<100	100	µg/kg	12/24/97	LG
Arochlor-1016	<10	10	µg/kg	12/24/97	LG
Arochlor-1221	<100	100	µg/kg	12/24/97	LG
Arochlor-1232	<10	10	µg/kg	12/24/97	LG
Arochlor-1242	<10	10	µg/kg	12/24/97	LG
Arochlor-1248	<10	10	µg/kg	12/24/97	LG
Arochlor-1254	<10	10	µg/kg	12/24/97	LG
Arochlor-1260	<10	10	µg/kg	12/24/97	LG
Extraction Date			on	12/14/97	CD
Semi-Vol. Org. Compounds					
Method 8270					
Acenaphthylene	<100	100	µg/kg	12/18/97	IPM
2,4-Dinitrophenol	<500	500	µg/kg	12/18/97	IPM
4-Nitrophenol	<500	500	µg/kg	12/18/97	IPM
2,4-Dinitrotoluene	<100	100	µg/kg	12/18/97	IPM
Diethylphthalate	<100	100	µg/kg	12/18/97	IPM
4-Chlorophenyl-phenylether	<100	100	µg/kg	12/18/97	IPM
Fluorene	<100	100	µg/kg	12/18/97	IPM
4,6-Dinitro-o-cresol	<500	500	µg/kg	12/18/97	IPM
N-Nitrosodiphenylamine	<100	100	µg/kg	12/18/97	IPM
4-Bromophenyl-phenylether	<100	100	µg/kg	12/18/97	IPM
Hexachlorobenzene	<100	100	µg/kg	12/18/97	IPM
Pentachlorophenol	<500	500	µg/kg	12/18/97	IPM
Phenanthrene	<100	100	µg/kg	12/18/97	IPM
Anthracene	<100	100	µg/kg	12/18/97	IPM
Di-n-Butyl Phthalate	<100	100	µg/kg	12/18/97	IPM
Fluoranthene	<100	100	µg/kg	12/18/97	IPM
Pyrene	<100	100	µg/kg	12/18/97	IPM
Butylbenzylphthalate	<100	100	µg/kg	12/18/97	IPM
3,3-Dichlorobenzidine	<200	200	µg/kg	12/18/97	IPM

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Benzoanthracene	<100	100	µg/kg	12/18/97	IPM
Chrysene	<100	100	µg/kg	12/18/97	IPM
Bis(2-ethylhexyl)phthalate	<100	100	µg/kg	12/18/97	IPM
Di-n-octylphthalate	<100	100	µg/kg	12/18/97	IPM
3,4-Benzofluoranthene	<100	100	µg/kg	12/18/97	IPM
11,12-Benzofluoranthene	<100	100	µg/kg	12/18/97	IPM
N-Nitrosodimethylamine	<100	100	µg/kg	12/18/97	IPM
Phenol	<100	100	µg/kg	12/18/97	IPM
Bis(2-chloroethyl)ether	<100	100	µg/kg	12/18/97	IPM
2-Chlorophenol	<100	100	µg/kg	12/18/97	IPM
1,2-Diphenylhydrazine	<100	100	µg/kg	12/18/97	IPM
1,3-Dichlorobenzene	<100	100	µg/kg	12/18/97	IPM
1,4-Dichlorobenzene	<100	100	µg/kg	12/18/97	IPM
1,2-Dichlorobenzene	<100	100	µg/kg	12/18/97	IPM
Bis(2-chloroisopropyl)ether	<100	100	µg/kg	12/18/97	IPM
N-Nitroso-di-n-propylamine	<100	100	µg/kg	12/18/97	IPM
Hexachloroethane	<100	100	µg/kg	12/18/97	IPM
Nitrobenzene	<100	100	µg/kg	12/18/97	IPM
Isophorone	<100	100	µg/kg	12/18/97	IPM
2-Nitrophenol	<100	100	µg/kg	12/18/97	IPM
2,4-Dimethylphenol	<100	100	µg/kg	12/18/97	IPM
Bis(2-chloroethoxy)methane	<100	100	µg/kg	12/18/97	IPM
2,4-Dichlorophenol	<100	100	µg/kg	12/18/97	IPM
1,2,4-Trichlorobenzene	<100	100	µg/kg	12/18/97	IPM
Naphthalene	<100	100	µg/kg	12/18/97	IPM
Hexachlorobutadiene	<100	100	µg/kg	12/18/97	IPM
p-Chloro-3-methylphenol	<100	100	µg/kg	12/18/97	IPM
Hexachlorocyclopentadiene	<100	100	µg/kg	12/18/97	IPM
2,4,6-Trichlorophenol	<100	100	µg/kg	12/18/97	IPM
2-Chloronaphthalene	<100	100	µg/kg	12/18/97	IPM
Dimethyl phthalate	<100	100	µg/kg	12/18/97	IPM
Acenaphthene	<100	100	µg/kg	12/18/97	IPM
Benzidine	<500	500	µg/kg	12/18/97	IPM
2,6-Dinitrotoluene	<100	100	µg/kg	12/18/97	IPM
Benzo(a)pyrene	<100	100	µg/kg	12/18/97	IPM
Indeno(1,2,3CD)Pyrene	<100	100	µg/kg	12/18/97	IPM
1,2,5,6 Dibenzoanthracene	<100	100	µg/kg	12/18/97	IPM
Benzo (g,h,i) Perylene	<100	100	µg/kg	12/18/97	IPM
2,3,7,8-TCDD (Note #1)	<100	100	µg/kg	12/18/97	IPM
Extraction Date			on	12/10/97	JFD
Total Cyanide	<0.30	0.30	mg/kg	12/16/97	CL
Volatiles Org. Compounds					
Method 8260					
Vinyl Chloride	<25	25	µg/kg	12/23/97	SL
1,1-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,1,1-Trichloroethane	<25	25	µg/kg	12/23/97	SL
Carbon Tetrachloride	<25	25	µg/kg	12/23/97	SL
1,2-Dichloroethane	<25	25	µg/kg	12/23/97	SL
Trichloroethene	<25	25	µg/kg	12/23/97	SL
Benzene	<25	25	µg/kg	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,4-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
Chloroform	<25	25	µg/kg	12/23/97	SL
Bromodichloromethane	<25	25	µg/kg	12/23/97	SL
Chlorodibromomethane	<25	25	µg/kg	12/23/97	SL
Bromoform	<25	25	µg/kg	12/23/97	SL
Methylene Chloride	<25	25	µg/kg	12/23/97	SL
1,1,2,2-Tetrachloroethane	<25	25	µg/kg	12/23/97	SL
Trans-1,2-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,1-Dichloropropene	<25	25	µg/kg	12/23/97	SL
1,1-Dichloroethane	<25	25	µg/kg	12/23/97	SL
2,2-Dichloropropane	<25	25	µg/kg	12/23/97	SL
cis-1,2-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,2-Dichloropropane	<25	25	µg/kg	12/23/97	SL
Chloromethane	<25	25	µg/kg	12/23/97	SL
Dibromomethane	<25	25	µg/kg	12/23/97	SL
cis-1,3-Dichloropropene	<25	25	µg/kg	12/23/97	SL
Trans-1,3-Dichloropropene	<25	25	µg/kg	12/23/97	SL
1,1,2-Trichloroethane	<25	25	µg/kg	12/23/97	SL
1,3-Dichloropropane	<25	25	µg/kg	12/23/97	SL
Tetrachloroethene	<25	25	µg/kg	12/23/97	SL
Bromomethane	<25	25	µg/kg	12/23/97	SL
Chloroethane	<25	25	µg/kg	12/23/97	SL
Toluene	<25	25	µg/kg	12/23/97	SL
Chlorobenzene	<25	25	µg/kg	12/23/97	SL
1,1,1,2-Tetrachloroethane	<25	25	µg/kg	12/23/97	SL
Ethyl Benzene	<25	25	µg/kg	12/23/97	SL
M,P-Xylenes	<25	25	µg/kg	12/23/97	SL
O-Xylene	<25	25	µg/kg	12/23/97	SL
Styrene	<25	25	µg/kg	12/23/97	SL
1,3-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
1,2-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
1,2,3-Trichloropropane	<25	25	µg/kg	12/23/97	SL
Bromobenzene	<25	25	µg/kg	12/23/97	SL
2-Chlorotoluene	<25	25	µg/kg	12/23/97	SL
4-Chlorotoluene	<25	25	µg/kg	12/23/97	SL
Bromochloromethane	<25	25	µg/kg	12/23/97	SL
N-Propylbenzene	<25	25	µg/kg	12/23/97	SL
1,3,5-Trimethylbenzene	<25	25	µg/kg	12/23/97	SL
tert-Butylbenzene	<25	25	µg/kg	12/23/97	SL
1,2,4-Trimethylbenzene	<25	25	µg/kg	12/23/97	SL
sec-Butylbenzene	<25	25	µg/kg	12/23/97	SL
P-Isopropyl Toluene	<25	25	µg/kg	12/23/97	SL
Isopropyl Benzene	<25	25	µg/kg	12/23/97	SL
Trichlorofluoromethane	<25	25	µg/kg	12/23/97	SL
N-Butylbenzene	<25	25	µg/kg	12/23/97	SL
Dichlorodifluoromethane	<25	25	µg/kg	12/23/97	SL
1,2,4-Trichlorobenzene	<25	25	µg/kg	12/23/97	SL
Hexachlorobutadiene	<25	25	µg/kg	12/23/97	SL
Naphthalene	<25	25	µg/kg	12/23/97	SL
1,2,3-Trichlorobenzene	<25	25	µg/kg	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Dibromoethane	<25	25	µg/kg	12/23/97	SL
1,2-Dibromo-3-Chloropropane	<25	25	µg/kg	12/23/97	SL
Acetone	<250	250	µg/kg	12/23/97	SL
2-Butanone	<250	250	µg/kg	12/23/97	SL
Carbon Disulfide	<50	50	µg/kg	12/23/97	SL
2-Hexanone	<50	50	µg/kg	12/23/97	SL
4-Methyl-2-pentanone	<50	50	µg/kg	12/23/97	SL
Vinyl Acetate	<50	50	µg/kg	12/23/97	SL
Iodomethane	<50	50	µg/kg	12/23/97	SL
2-Chloroethyl Vinyl Ether	<50	50	µg/kg	12/23/97	SL
Acrolein	<250	250	µg/kg	12/23/97	SL
Acrylonitrile	<250	250	µg/kg	12/23/97	SL

REPORT COMMENTS

Source: PR - 4 - 1 - 1

Notes:

1. Not detected in a qualitative screening.

LAW ENVIRONMENTAL CARIBE
1225 Ponce De León Ave.
Caso Bldg. Suite 603
Santurce, P.R. 00907
Attn: MR. CARLOS SOLIS
Invoice Number:

Order #: 97-12-522
Date: 01/12/98 08:56
Work ID: Soil - Grab
Date Received: 12/10/97
Date Completed: 01/10/98
Client Code: 513_01_

DS #: 97-12928
Samples collected by Client
Limit = Detection Limit
Fac. Proteco Project

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	PR - 4 - 2 - 1

Sample Number	Sample Description

Certified By
Maggie Davila

MAGGIE I. DAVILA LOPEZ
Químico Licenciado
Estado Libre Asociado de Puerto Rico
LICENCIA NUM. 2948
A 495244

TEST RESULTS BY SAMPLE

Sample: 01A PR - 4 - 4 - 1 **Collected: 12/10/97**
Job: 01-16B Soil - Grab

Test Description	Result	Limit	Units	Analyzed	By
Metals:					
Total Aluminum	7,582	5.0	mg/kg	12/26/97	NAS
Total Antimony	<0.15	0.15	mg/kg	01/05/98	NAS
Total Arsenic	2.1	0.050	mg/kg	01/02/98	NAS
Total Barium	35.5	5.0	mg/kg	12/26/97	NAS
Total Beryllium	0.25	0.20	mg/kg	12/26/97	NAS
Total Cadmium	0.39	0.10	mg/kg	12/26/97	NAS
Total Calcium	30,921	0.50	mg/kg	12/26/97	NAS
Total Chromium	12.2	0.10	mg/kg	12/26/97	NAS
Total Cobalt	1.0	1.0	mg/kg	12/26/97	NAS
Total Copper	11.8	1.0	mg/kg	12/26/97	NAS
Total Iron	8,026	1.0	mg/kg	12/26/97	NAS
Total Lead	<0.25	0.25	mg/kg	12/26/97	NAS
Total Magnesium	2,260	0.50	mg/kg	12/26/97	NAS
Total Manganese	170	0.50	mg/kg	12/26/97	NAS
Total Mercury	0.1	0.10	mg/kg	01/05/98	NAS
Total Nickel	19.2	1.0	mg/kg	12/26/97	NAS
Total Potassium	1,177	0.50	mg/kg	12/26/97	NAS
Total Selenium	<0.05	0.050	mg/kg	01/02/98	NAS
Total Silver	0.10	0.050	mg/kg	12/26/97	NAS
Total Sodium	601	0.50	mg/kg	12/26/97	NAS
Total Thallium	<0.05	0.050	mg/kg	12/26/97	NAS
Total Vanadium	14.3	0.25	mg/kg	12/26/97	NAS
Total Zinc	16.3	0.25	mg/kg	12/26/97	NAS

TEST RESULTS BY SAMPLE

Sample: 01A PR - 4 - 2 - 1 **Collected: 12/10/97**
Job: 01-16B Soil - Grab

Test Description	Result	Limit	Units	Analyzed	By
Metals:					
Total Aluminum	4,327	5.0	mg/kg	12/26/97	NAS
Total Antimony	<0.15	0.15	mg/kg	01/05/98	NAS
Total Arsenic	3.5	0.050	mg/kg	01/02/98	NAS
Total Barium	54.4	5.0	mg/kg	12/26/97	NAS
Total Beryllium	<0.2	0.20	mg/kg	12/26/97	NAS
Total Cadmium	<0.1	0.10	mg/kg	12/26/97	NAS
Total Calcium	81,256	0.50	mg/kg	12/26/97	NAS
Total Chromium	7.62	0.10	mg/kg	12/26/97	NAS
Total Cobalt	<1.0	1.0	mg/kg	12/26/97	NAS
Total Copper	12.9	1.0	mg/kg	12/26/97	NAS
Total Iron	4,703	1.0	mg/kg	12/26/97	NAS
Total Lead	<0.25	0.25	mg/kg	12/26/97	NAS
Total Magnesium	1,573	0.50	mg/kg	12/26/97	NAS
Total Manganese	63.8	0.50	mg/kg	12/26/97	NAS
Total Mercury	<0.1	0.10	mg/kg	01/05/98	NAS
Total Nickel	16.3	1.0	mg/kg	12/26/97	NAS
Total Potassium	1,029	0.50	mg/kg	12/26/97	NAS
Total Selenium	<0.05	0.050	mg/kg	12/26/97	NAS
Total Silver	<0.05	0.050	mg/kg	12/26/97	NAS
Total Sodium	1,474	0.50	mg/kg	12/26/97	NAS
Total Thallium	<0.05	0.050	mg/kg	12/26/97	NAS
Total Vanadium	12.8	0.25	mg/kg	12/26/97	NAS
Total Zinc	4.35	0.25	mg/kg	12/26/97	NAS

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
Pesticides & PCB's					
Method 8080			µg/kg	12/24/97	LG
Aldrin	<5.0	5.0	µg/kg	12/24/97	LG
Chlordane	<50	50	µg/kg	12/24/97	LG
alpha-BHC	<5.0	5.0	µg/kg	12/24/97	LG
beta-BHC	<5.0	5.0	µg/kg	12/24/97	LG
gamma-BHC	<5.0	5.0	µg/kg	12/24/97	LG
delta-BHC	<5.0	5.0	µg/kg	12/24/97	LG
4,4'-DDT	<10	10	µg/kg	12/24/97	LG
4,4'-DDE	<10	10	µg/kg	12/24/97	LG
4,4-DDD	<10	10	µg/kg	12/24/97	LG
Methoxychlor	<50	50	µg/kg	12/24/97	LG
Dieldrin	<10	10	µg/kg	12/24/97	LG
Alpha Endosulfan	<5.0	5.0	µg/kg	12/24/97	LG
Beta Endosulfan	<10	10	µg/kg	12/24/97	LG
Endosulfan Sulfate	<10	10	µg/kg	12/24/97	LG
Endrin	<10	10	µg/kg	12/24/97	LG
Endrin Aldehyde	<10	10	µg/kg	12/24/97	LG
Heptachlor	<5.0	5.0	µg/kg	12/24/97	LG
Heptachlor Epoxide	<5.0	5.0	µg/kg	12/24/97	LG
Toxaphene	<100	100	µg/kg	12/24/97	LG
Arochlor-1016	<10	10	µg/kg	12/24/97	LG
Arochlor-1221	<100	100	µg/kg	12/24/97	LG
Arochlor-1232	<10	10	µg/kg	12/24/97	LG
Arochlor-1242	<10	10	µg/kg	12/24/97	LG
Arochlor-1248	<10	10	µg/kg	12/24/97	LG
Arochlor-1254	<10	10	µg/kg	12/24/97	LG
Arochlor-1260	<10	10	µg/kg	12/24/97	LG
Extraction Date			on	12/14/97	CD
Semi-Vol. Org. Compounds					
Method 8270			µg/kg	12/18/97	IPM
Acenaphthylene	<100	100	µg/kg	12/18/97	IPM
2,4-Dinitrophenol	<500	500	µg/kg	12/18/97	IPM
4-Nitrophenol	<500	500	µg/kg	12/18/97	IPM
2,4-Dinitrotoluene	<100	100	µg/kg	12/18/97	IPM
Diethylphthalate	<100	100	µg/kg	12/18/97	IPM
4-Chlorophenyl-phenylether	<100	100	µg/kg	12/18/97	IPM
Fluorene	<100	100	µg/kg	12/18/97	IPM
4,6-Dinitro-o-cresol	<500	500	µg/kg	12/18/97	IPM
N-Nitrosodiphenylamine	<100	100	µg/kg	12/18/97	IPM
4-Bromophenyl-phenylether	<100	100	µg/kg	12/18/97	IPM
Hexachlorobenzene	<100	100	µg/kg	12/18/97	IPM
Pentachlorophenol	<500	500	µg/kg	12/18/97	IPM
Phenanthrene	<100	100	µg/kg	12/18/97	IPM
Anthracene	<100	100	µg/kg	12/18/97	IPM
Di-n-Butyl Phthalate	<100	100	µg/kg	12/18/97	IPM
Fluoranthene	<100	100	µg/kg	12/18/97	IPM
Pyrene	<100	100	µg/kg	12/18/97	IPM
Butylbenzylphthalate	<100	100	µg/kg	12/18/97	IPM
3,3-Dichlorobenzidine	<200	200	µg/kg	12/18/97	IPM

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Benzoanthracene	<100	100	µg/kg	12/18/97	IPM
Chrysene	<100	100	µg/kg	12/18/97	IPM
Bis(2-ethylhexyl)phthalate	<100	100	µg/kg	12/18/97	IPM
Di-n-octylphthalate	<100	100	µg/kg	12/18/97	IPM
3,4-Benzofluoranthene	<100	100	µg/kg	12/18/97	IPM
11,12-Benzofluoranthene	<100	100	µg/kg	12/18/97	IPM
N-Nitrosodimethylamine	<100	100	µg/kg	12/18/97	IPM
Phenol	<100	100	µg/kg	12/18/97	IPM
Bis(2-chloroethyl)ether	<100	100	µg/kg	12/18/97	IPM
2-Chlorophenol	<100	100	µg/kg	12/18/97	IPM
1,2-Diphenylhydrazine	<100	100	µg/kg	12/18/97	IPM
1,3-Dichlorobenzene	<100	100	µg/kg	12/18/97	IPM
1,4-Dichlorobenzene	<100	100	µg/kg	12/18/97	IPM
1,2-Dichlorobenzene	<100	100	µg/kg	12/18/97	IPM
Bis(2-chloroisopropyl)ether	<100	100	µg/kg	12/18/97	IPM
N-Nitroso-di-n-propylamine	<100	100	µg/kg	12/18/97	IPM
Hexachloroethane	<100	100	µg/kg	12/18/97	IPM
Nitrobenzene	<100	100	µg/kg	12/18/97	IPM
Isophorone	<100	100	µg/kg	12/18/97	IPM
2-Nitrophenol	<100	100	µg/kg	12/18/97	IPM
2,4-Dimethylphenol	<100	100	µg/kg	12/18/97	IPM
Bis(2-chloroethoxy)methane	<100	100	µg/kg	12/18/97	IPM
2,4-Dichlorophenol	<100	100	µg/kg	12/18/97	IPM
1,2,4-Trichlorobenzene	<100	100	µg/kg	12/18/97	IPM
Naphthalene	<100	100	µg/kg	12/18/97	IPM
Hexachlorobutadiene	<100	100	µg/kg	12/18/97	IPM
p-Chloro-3-methylphenol	<100	100	µg/kg	12/18/97	IPM
Hexachlorocyclopentadiene	<100	100	µg/kg	12/18/97	IPM
2,4,6-Trichlorophenol	<100	100	µg/kg	12/18/97	IPM
2-Chloronaphthalene	<100	100	µg/kg	12/18/97	IPM
Dimethyl phthalate	<100	100	µg/kg	12/18/97	IPM
Acenaphthene	<100	100	µg/kg	12/18/97	IPM
Benzidine	<500	500	µg/kg	12/18/97	IPM
2,6-Dinitrotoluene	<100	100	µg/kg	12/18/97	IPM
Benzo(a)pyrene	<100	100	µg/kg	12/18/97	IPM
Indeno(1,2,3CD)Pyrene	<100	100	µg/kg	12/18/97	IPM
1,2,5,6 Dibenzoanthracene	<100	100	µg/kg	12/18/97	IPM
Benzo (g,h,i) Perylene	<100	100	µg/kg	12/18/97	IPM
2,3,7,8-TCDD (Note #1)	<100	100	µg/kg	12/18/97	IPM
Extraction Date			on	12/10/97	JFD
Total Cyanide	<0.30	0.30	mg/kg	12/16/97	CL
Volatiles Org. Compounds					
Method 8260			µg/kg	12/23/97	SL
Vinyl Chloride	<25	25	µg/kg	12/23/97	SL
1,1-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,1,1-Trichloroethane	<25	25	µg/kg	12/23/97	SL
Carbon Tetrachloride	<25	25	µg/kg	12/23/97	SL
1,2-Dichloroethane	<25	25	µg/kg	12/23/97	SL
Trichloroethene	<25	25	µg/kg	12/23/97	SL
Benzene	<25	25	µg/kg	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,4-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
Chloroform	<25	25	µg/kg	12/23/97	SL
Bromodichloromethane	<25	25	µg/kg	12/23/97	SL
Chlorodibromomethane	<25	25	µg/kg	12/23/97	SL
Bromoform	<25	25	µg/kg	12/23/97	SL
Methylene Chloride	<25	25	µg/kg	12/23/97	SL
1,1,2,2-Tetrachloroethane	<25	25	µg/kg	12/23/97	SL
Trans-1,2-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,1-Dichloropropene	<25	25	µg/kg	12/23/97	SL
1,1-Dichloroethane	<25	25	µg/kg	12/23/97	SL
2,2-Dichloropropane	<25	25	µg/kg	12/23/97	SL
cis-1,2-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,2-Dichloropropane	<25	25	µg/kg	12/23/97	SL
Chloromethane	<25	25	µg/kg	12/23/97	SL
Dibromomethane	<25	25	µg/kg	12/23/97	SL
cis-1,3-Dichloropropene	<25	25	µg/kg	12/23/97	SL
Trans-1,3-Dichloropropene	<25	25	µg/kg	12/23/97	SL
1,1,2-Trichloroethane	<25	25	µg/kg	12/23/97	SL
1,3-Dichloropropane	<25	25	µg/kg	12/23/97	SL
Tetrachloroethene	<25	25	µg/kg	12/23/97	SL
Bromomethane	<25	25	µg/kg	12/23/97	SL
Chloroethane	<25	25	µg/kg	12/23/97	SL
Toluene	<25	25	µg/kg	12/23/97	SL
Chlorobenzene	<25	25	µg/kg	12/23/97	SL
1,1,1,2-Tetrachloroethane	<25	25	µg/kg	12/23/97	SL
Ethyl Benzene	<25	25	µg/kg	12/23/97	SL
M,P-Xylenes	<25	25	µg/kg	12/23/97	SL
O-Xylene	<25	25	µg/kg	12/23/97	SL
Styrene	<25	25	µg/kg	12/23/97	SL
1,3-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
1,2-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
1,2,3-Trichloropropane	<25	25	µg/kg	12/23/97	SL
Bromobenzene	<25	25	µg/kg	12/23/97	SL
2-Chlorotoluene	<25	25	µg/kg	12/23/97	SL
4-Chlorotoluene	<25	25	µg/kg	12/23/97	SL
Bromochloromethane	<25	25	µg/kg	12/23/97	SL
N-Propylbenzene	<25	25	µg/kg	12/23/97	SL
1,3,5-Trimethylbenzene	<25	25	µg/kg	12/23/97	SL
tert-Butylbenzene	<25	25	µg/kg	12/23/97	SL
1,2,4-Trimethylbenzene	<25	25	µg/kg	12/23/97	SL
sec-Butylbenzene	<25	25	µg/kg	12/23/97	SL
P-Isopropyl Toluene	<25	25	µg/kg	12/23/97	SL
Isopropyl Benzene	<25	25	µg/kg	12/23/97	SL
Trichlorofluoromethane	<25	25	µg/kg	12/23/97	SL
N-Butylbenzene	<25	25	µg/kg	12/23/97	SL
Dichlorodifluoromethane	<25	25	µg/kg	12/23/97	SL
1,2,4-Trichlorobenzene	<25	25	µg/kg	12/23/97	SL
Hexachlorobutadiene	<25	25	µg/kg	12/23/97	SL
Naphthalene	<25	25	µg/kg	12/23/97	SL
1,2,3-Trichlorobenzene	<25	25	µg/kg	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Dibromoethane	<25	25	µg/kg	12/23/97	SL
1,2-Dibromo-3-Chloropropane	<25	25	µg/kg	12/23/97	SL
Acetone	<250	250	µg/kg	12/23/97	SL
2-Butanone	<250	250	µg/kg	12/23/97	SL
Carbon Disulfide	<50	50	µg/kg	12/23/97	SL
2-Hexanone	<50	50	µg/kg	12/23/97	SL
4-Methyl-2-pentanone	<50	50	µg/kg	12/23/97	SL
Vinyl Acetate	<50	50	µg/kg	12/23/97	SL
Iodomethane	<50	50	µg/kg	12/23/97	SL
2-Chloroethyl Vinyl Ether	<50	50	µg/kg	12/23/97	SL
Acrolein	<250	250	µg/kg	12/23/97	SL
Acrylonitrile	<250	250	µg/kg	12/23/97	SL

REPORT COMMENTS

Source: PR - 4 - 2 - 1

Notes:

1. Not detected in a qualitative screening.

LAW ENVIRONMENTAL CARIBE
1225 Ponce De León Ave.
Caso Bldg. Suite 603
Santurce, P.R. 00907
Attn: MR. CARLOS SOLIS
Invoice Number:

Order #: 97-12-526
Date: 01/12/98 08:56
Work ID: Soil - Grab
Date Received: 12/10/97
Date Completed: 01/10/98
Client Code: 513_01_

DS #: 97-12929
Samples collected by Client
Limit = Detection Limit
Fac. Proteco Project

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	PR - 4 - 3 - 1

Sample Number	Sample Description

Certified By
Maggie Dávila

Estado Libre Asociado de Puerto Rico
LICENCIA NUM. 2948
A 495245

TEST RESULTS BY SAMPLE

Sample: 01A PR - 4 - 3 - 1 **Collected: 12/10/97**
Job: 01-16B Soil - Grab

Test Description	Result	Limit	Units	Analyzed	By
Metals:					
Total Aluminum	5,045	5.0	µg/kg	12/26/97	NAS
Total Antimony	0.19	0.15	µg/kg	01/05/98	NAS
Total Arsenic	3.4	0.050	µg/kg	01/02/98	NAS
Total Barium	34.1	5.0	µg/kg	12/26/97	NAS
Total Beryllium	0.20	0.20	µg/kg	12/26/97	NAS
Total Cadmium	<0.1	0.10	µg/kg	12/26/97	NAS
Total Calcium	76,060	0.50	µg/kg	12/26/97	NAS
Total Chromium	9.40	0.10	µg/kg	12/26/97	NAS
Total Cobalt	<1.0	1.0	µg/kg	12/26/97	NAS
Total Copper	9.89	1.0	µg/kg	12/26/97	NAS
Total Iron	6,133	1.0	µg/kg	12/26/97	NAS
Total Lead	<0.25	0.25	µg/kg	12/26/97	NAS
Total Magnesium	2,283	0.50	µg/kg	12/26/97	NAS
Total Manganese	60.8	0.50	µg/kg	12/26/97	NAS
Total Mercury	<0.1	0.10	µg/kg	01/05/98	NAS
Total Nickel	17.9	1.0	µg/kg	12/26/97	NAS
Total Potassium	578	0.50	µg/kg	12/26/97	NAS
Total Selenium	<0.05	0.050	µg/kg	01/02/98	NAS
Total Silver	0.30	0.050	µg/kg	12/26/97	NAS
Total Sodium	877	0.50	µg/kg	12/26/97	NAS
Total Thallium	0.60	0.050	µg/kg	12/26/97	NAS
Total Vanadium	14.8	0.25	µg/kg	12/26/97	NAS
Total Zinc	5.48	0.25	µg/kg	12/26/97	NAS

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
Pesticides & PCB's					
Method 8080					
Aldrin	<5.0	5.0	µg/kg	12/24/97	LG
Chlordane	<50	50	µg/kg	12/24/97	LG
alpha-BHC	<5.0	5.0	µg/kg	12/24/97	LG
beta-BHC	<5.0	5.0	µg/kg	12/24/97	LG
gamma-BHC	<5.0	5.0	µg/kg	12/24/97	LG
delta-BHC	<5.0	5.0	µg/kg	12/24/97	LG
4,4'-DDT	<10	10	µg/kg	12/24/97	LG
4,4'-DDE	<10	10	µg/kg	12/24/97	LG
4,4-DDD	<10	10	µg/kg	12/24/97	LG
Methoxychlor	<50	50	µg/kg	12/24/97	LG
Dieldrin	<10	10	µg/kg	12/24/97	LG
Alpha Endosulfan	<5.0	5.0	µg/kg	12/24/97	LG
Beta Endosulfan	<10	10	µg/kg	12/24/97	LG
Endosulfan Sulfate	<10	10	µg/kg	12/24/97	LG
Endrin	<10	10	µg/kg	12/24/97	LG
Endrin Aldehyde	<10	10	µg/kg	12/24/97	LG
Heptachlor	<5.0	5.0	µg/kg	12/24/97	LG
Heptachlor Epoxide	<5.0	5.0	µg/kg	12/24/97	LG
Toxaphene	<100	100	µg/kg	12/24/97	LG
Arochlor-1016	<10	10	µg/kg	12/24/97	LG
Arochlor-1221	<100	100	µg/kg	12/24/97	LG
Arochlor-1232	<10	10	µg/kg	12/24/97	LG
Arochlor-1242	<10	10	µg/kg	12/24/97	LG
Arochlor-1248	<10	10	µg/kg	12/24/97	LG
Arochlor-1254	<10	10	µg/kg	12/24/97	LG
Arochlor-1260	<10	10	µg/kg	12/24/97	LG
Extraction Date			on	12/14/97	CD
Semi-Vol. Org. Compounds					
Method 8270					
Acenaphthylene	<100	100	µg/kg	12/19/97	IPM
2,4-Dinitrophenol	<500	500	µg/kg	12/19/97	IPM
4-Nitrophenol	<500	500	µg/kg	12/19/97	IPM
2,4-Dinitrotoluene	<100	100	µg/kg	12/19/97	IPM
Diethylphthalate	<100	100	µg/kg	12/19/97	IPM
4-Chlorophenyl-phenylether	<100	100	µg/kg	12/19/97	IPM
Fluorene	<100	100	µg/kg	12/19/97	IPM
4,6-Dinitro-o-cresol	<500	500	µg/kg	12/19/97	IPM
N-Nitrosodiphenylamine	<100	100	µg/kg	12/19/97	IPM
4-Bromophenyl-phenylether	<100	100	µg/kg	12/19/97	IPM
Hexachlorobenzene	<100	100	µg/kg	12/19/97	IPM
Pentachlorophenol	<500	500	µg/kg	12/19/97	IPM
Phenanthrene	<100	100	µg/kg	12/19/97	IPM
Anthracene	<100	100	µg/kg	12/19/97	IPM
Di-n-Butyl Phthalate	<100	100	µg/kg	12/19/97	IPM
Fluoranthene	<100	100	µg/kg	12/19/97	IPM
Pyrene	<100	100	µg/kg	12/19/97	IPM
Butylbenzylphthalate	<100	100	µg/kg	12/19/97	IPM
3,3-Dichlorobenzidine	<200	200	µg/kg	12/19/97	IPM

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Benzoanthracene	<100	100	µg/kg	12/19/97	IPM
Chrysene	<100	100	µg/kg	12/19/97	IPM
Bis(2-ethylhexyl)phthalate	<100	100	µg/kg	12/19/97	IPM
Di-n-octylphthalate	<100	100	µg/kg	12/19/97	IPM
3,4-Benzofluoranthene	<100	100	µg/kg	12/19/97	IPM
11,12-Benzofluoranthene	<100	100	µg/kg	12/19/97	IPM
N-Nitrosodimethylamine	<100	100	µg/kg	12/19/97	IPM
Phenol	<100	100	µg/kg	12/19/97	IPM
Bis(2-chloroethyl)ether	<100	100	µg/kg	12/19/97	IPM
2-Chlorophenol	<100	100	µg/kg	12/19/97	IPM
1,2-Diphenylhydrazine	<100	100	µg/kg	12/19/97	IPM
1,3-Dichlorobenzene	<100	100	µg/kg	12/19/97	IPM
1,4-Dichlorobenzene	<100	100	µg/kg	12/19/97	IPM
1,2-Dichlorobenzene	<100	100	µg/kg	12/19/97	IPM
Bis(2-chloroisopropyl)ether	<100	100	µg/kg	12/19/97	IPM
N-Nitroso-di-n-propylamine	<100	100	µg/kg	12/19/97	IPM
Hexachloroethane	<100	100	µg/kg	12/19/97	IPM
Nitrobenzene	<100	100	µg/kg	12/19/97	IPM
Isophorone	<100	100	µg/kg	12/19/97	IPM
2-Nitrophenol	<100	100	µg/kg	12/19/97	IPM
2,4-Dimethylphenol	<100	100	µg/kg	12/19/97	IPM
Bis(2-chloroethoxy)methane	<100	100	µg/kg	12/19/97	IPM
2,4-Dichlorophenol	<100	100	µg/kg	12/19/97	IPM
1,2,4-Trichlorobenzene	<100	100	µg/kg	12/19/97	IPM
Naphthalene	<100	100	µg/kg	12/19/97	IPM
Hexachlorobutadiene	<100	100	µg/kg	12/19/97	IPM
p-Chloro-3-methylphenol	<100	100	µg/kg	12/19/97	IPM
Hexachlorocyclopentadiene	<100	100	µg/kg	12/19/97	IPM
2,4,6-Trichlorophenol	<100	100	µg/kg	12/19/97	IPM
2-Chloronaphthalene	<100	100	µg/kg	12/19/97	IPM
Dimethyl phthalate	<100	100	µg/kg	12/19/97	IPM
Acenaphthene	<100	100	µg/kg	12/19/97	IPM
Benzidine	<500	500	µg/kg	12/19/97	IPM
2,6-Dinitrotoluene	<100	100	µg/kg	12/19/97	IPM
Benzo(a)pyrene	<100	100	µg/kg	12/19/97	IPM
Indeno(1,2,3CD)Pyrene	<100	100	µg/kg	12/19/97	IPM
1,2,5,6 Dibenzoanthracene	<100	100	µg/kg	12/19/97	IPM
Benzo (g,h,i) Perylene	<100	100	µg/kg	12/19/97	IPM
2,3,7,8-TCDD (Note #1)	<100	100	µg/kg	12/19/97	IPM
Extraction Date			on	12/10/97	JFD
Total Cyanide	<0.30	0.30	mg/kg	12/16/97	CL
Volatiles Org. Compounds					
Method 8260			µg/kg	12/23/97	SL
Vinyl Chloride	<25	25	µg/kg	12/23/97	SL
1,1-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,1,1-Trichloroethane	<25	25	µg/kg	12/23/97	SL
Carbon Tetrachloride	<25	25	µg/kg	12/23/97	SL
1,2-Dichloroethane	<25	25	µg/kg	12/23/97	SL
Trichloroethene	<25	25	µg/kg	12/23/97	SL
Benzene	<25	25	µg/kg	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,4-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
Chloroform	<25	25	µg/kg	12/23/97	SL
Bromodichloromethane	<25	25	µg/kg	12/23/97	SL
Chlorodibromomethane	<25	25	µg/kg	12/23/97	SL
Bromoform	<25	25	µg/kg	12/23/97	SL
Methylene Chloride	<25	25	µg/kg	12/23/97	SL
1,1,2,2-Tetrachloroethane	<25	25	µg/kg	12/23/97	SL
Trans-1,2-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,1-Dichloropropene	<25	25	µg/kg	12/23/97	SL
1,1-Dichloroethane	<25	25	µg/kg	12/23/97	SL
2,2-Dichloropropane	<25	25	µg/kg	12/23/97	SL
cis-1,2-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,2-Dichloropropane	<25	25	µg/kg	12/23/97	SL
Chloromethane	<25	25	µg/kg	12/23/97	SL
Dibromomethane	<25	25	µg/kg	12/23/97	SL
cis-1,3-Dichloropropene	<25	25	µg/kg	12/23/97	SL
Trans-1,3-Dichloropropene	<25	25	µg/kg	12/23/97	SL
1,1,2-Trichloroethane	<25	25	µg/kg	12/23/97	SL
1,3-Dichloropropane	<25	25	µg/kg	12/23/97	SL
Tetrachloroethene	<25	25	µg/kg	12/23/97	SL
Bromomethane	<25	25	µg/kg	12/23/97	SL
Chloroethane	<25	25	µg/kg	12/23/97	SL
Toluene	<25	25	µg/kg	12/23/97	SL
Chlorobenzene	<25	25	µg/kg	12/23/97	SL
1,1,1,2-Tetrachloroethane	<25	25	µg/kg	12/23/97	SL
Ethyl Benzene	<25	25	µg/kg	12/23/97	SL
M,P-Xylenes	<25	25	µg/kg	12/23/97	SL
O-Xylene	<25	25	µg/kg	12/23/97	SL
Styrene	<25	25	µg/kg	12/23/97	SL
1,3-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
1,2-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
1,2,3-Trichloropropane	<25	25	µg/kg	12/23/97	SL
Bromobenzene	<25	25	µg/kg	12/23/97	SL
2-Chlorotoluene	<25	25	µg/kg	12/23/97	SL
4-Chlorotoluene	<25	25	µg/kg	12/23/97	SL
Bromochloromethane	<25	25	µg/kg	12/23/97	SL
N-Propylbenzene	<25	25	µg/kg	12/23/97	SL
1,3,5-Trimethylbenzene	<25	25	µg/kg	12/23/97	SL
tert-Butylbenzene	<25	25	µg/kg	12/23/97	SL
1,2,4-Trimethylbenzene	<25	25	µg/kg	12/23/97	SL
sec-Butylbenzene	<25	25	µg/kg	12/23/97	SL
P-Isopropyl Toluene	<25	25	µg/kg	12/23/97	SL
Isopropyl Benzene	<25	25	µg/kg	12/23/97	SL
Trichlorofluoromethane	<25	25	µg/kg	12/23/97	SL
N-Butylbenzene	<25	25	µg/kg	12/23/97	SL
Dichlorodifluoromethane	<25	25	µg/kg	12/23/97	SL
1,2,4-Trichlorobenzene	<25	25	µg/kg	12/23/97	SL
Hexachlorobutadiene	<25	25	µg/kg	12/23/97	SL
Naphthalene	<25	25	µg/kg	12/23/97	SL
1,2,3-Trichlorobenzene	<25	25	µg/kg	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Dibromoethane	<25	25	µg/kg	12/23/97	SL
1,2-Dibromo-3-Chloropropane	<25	25	µg/kg	12/23/97	SL
Acetone	<250	250	µg/kg	12/23/97	SL
2-Butanone	<250	250	µg/kg	12/23/97	SL
Carbon Disulfide	<50	50	µg/kg	12/23/97	SL
2-Hexanone	<50	50	µg/kg	12/23/97	SL
4-Methyl-2-pentanone	<50	50	µg/kg	12/23/97	SL
Vinyl Acetate	<50	50	µg/kg	12/23/97	SL
Iodomethane	<50	50	µg/kg	12/23/97	SL
2-Chloroethyl Vinyl Ether	<50	50	µg/kg	12/23/97	SL
Acrolein	<250	250	µg/kg	12/23/97	SL
Acrylonitrile	<250	250	µg/kg	12/23/97	SL

REPORT COMMENTS

Source: PR - 4 - 3 - 1

Notes:

1. Not detected in a qualitative screening.

LAW ENVIRONMENTAL CARIBE
1225 Ponce De León Ave.
Caso Bldg. Suite 603
Santurce, P.R. 00907
Attn: MR. CARLOS SOLIS
Invoice Number:

Order #: 97-12-529
Date: 01/12/98 08:56
Work ID: Soil - Grab
Date Received: 12/10/97
Date Completed: 01/10/98
Client Code: 513_01_

DS #: 97-12930
Samples collected by Client
Limit = Detection Limit
Fac. Proteco Project

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	PR - 4 - 4 - 1

Sample Number	Sample Description

Certified By
Maggie Dávila

MAGGIE I. DAVILA LOPEZ
Químico Licenciado
Estado Libre Asociado de Puerto Rico
LICENCIA NUM. 2948

A 495213

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
Pesticides & PCB's					
Method 8080			µg/kg	12/24/97	LG
Aldrin	<5.0	5.0	µg/kg	12/24/97	LG
Chlordane	<50	50	µg/kg	12/24/97	LG
alpha-BHC	<5.0	5.0	µg/kg	12/24/97	LG
beta-BHC	<5.0	5.0	µg/kg	12/24/97	LG
gamma-BHC	<5.0	5.0	µg/kg	12/24/97	LG
delta-BHC	<5.0	5.0	µg/kg	12/24/97	LG
4,4'-DDT	<10	10	µg/kg	12/24/97	LG
4,4'-DDE	<10	10	µg/kg	12/24/97	LG
4,4-DDD	<10	10	µg/kg	12/24/97	LG
Methoxychlor	<50	50	µg/kg	12/24/97	LG
Dieldrin	<10	10	µg/kg	12/24/97	LG
Alpha Endosulfan	<5.0	5.0	µg/kg	12/24/97	LG
Beta Endosulfan	<10	10	µg/kg	12/24/97	LG
Endosulfan Sulfate	<10	10	µg/kg	12/24/97	LG
Endrin	<10	10	µg/kg	12/24/97	LG
Endrin Aldehyde	<10	10	µg/kg	12/24/97	LG
Heptachlor	<5.0	5.0	µg/kg	12/24/97	LG
Heptachlor Epoxide	<5.0	5.0	µg/kg	12/24/97	LG
Toxaphene	<100	100	µg/kg	12/24/97	LG
Arochlor-1016	<10	10	µg/kg	12/24/97	LG
Arochlor-1221	<100	100	µg/kg	12/24/97	LG
Arochlor-1232	<10	10	µg/kg	12/24/97	LG
Arochlor-1242	<10	10	µg/kg	12/24/97	LG
Arochlor-1248	<10	10	µg/kg	12/24/97	LG
Arochlor-1254	<10	10	µg/kg	12/24/97	LG
Arochlor-1260	<10	10	µg/kg	12/24/97	LG
Extraction Date			on	12/14/97	CD
Semi-Vol. Org. Compounds					
Method 8270			µg/kg	12/19/97	IPM
Acenaphthylene	<100	100	µg/kg	12/19/97	IPM
2,4-Dinitrophenol	<500	500	µg/kg	12/19/97	IPM
4-Nitrophenol	<500	500	µg/kg	12/19/97	IPM
2,4-Dinitrotoluene	<100	100	µg/kg	12/19/97	IPM
Diethylphthalate	<100	100	µg/kg	12/19/97	IPM
4-Chlorophenyl-phenylether	<100	100	µg/kg	12/19/97	IPM
Fluorene	<100	100	µg/kg	12/19/97	IPM
4,6-Dinitro-o-cresol	<500	500	µg/kg	12/19/97	IPM
N-Nitrosodiphenylamine	<100	100	µg/kg	12/19/97	IPM
4-Bromophenyl-phenylether	<100	100	µg/kg	12/19/97	IPM
Hexachlorobenzene	<100	100	µg/kg	12/19/97	IPM
Pentachlorophenol	<500	500	µg/kg	12/19/97	IPM
Phenanthrene	<100	100	µg/kg	12/19/97	IPM
Anthracene	<100	100	µg/kg	12/19/97	IPM
Di-n-Butyl Phthalate	<100	100	µg/kg	12/19/97	IPM
Fluoranthene	<100	100	µg/kg	12/19/97	IPM
Pyrene	<100	100	µg/kg	12/19/97	IPM
Butylbenzylphthalate	<100	100	µg/kg	12/19/97	IPM
3,3-Dichlorobenzidine	<200	200	µg/kg	12/19/97	IPM

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Benzoanthracene	<100	100	µg/kg	12/19/97	IPM
Chrysene	<100	100	µg/kg	12/19/97	IPM
Bis(2-ethylhexyl)phthalate	<100	100	µg/kg	12/19/97	IPM
Di-n-octylphthalate	<100	100	µg/kg	12/19/97	IPM
3,4-Benzofluoranthene	<100	100	µg/kg	12/19/97	IPM
11,12-Benzofluoranthene	<100	100	µg/kg	12/19/97	IPM
N-Nitrosodimethylamine	<100	100	µg/kg	12/19/97	IPM
Phenol	<100	100	µg/kg	12/19/97	IPM
Bis(2-chloroethyl)ether	<100	100	µg/kg	12/19/97	IPM
2-Chlorophenol	<100	100	µg/kg	12/19/97	IPM
1,2-Diphenylhydrazine	<100	100	µg/kg	12/19/97	IPM
1,3-Dichlorobenzene	<100	100	µg/kg	12/19/97	IPM
1,4-Dichlorobenzene	<100	100	µg/kg	12/19/97	IPM
1,2-Dichlorobenzene	<100	100	µg/kg	12/19/97	IPM
Bis(2-chloroisopropyl)ether	<100	100	µg/kg	12/19/97	IPM
N-Nitroso-di-n-propylamine	<100	100	µg/kg	12/19/97	IPM
Hexachloroethane	<100	100	µg/kg	12/19/97	IPM
Nitrobenzene	<100	100	µg/kg	12/19/97	IPM
Isophorone	<100	100	µg/kg	12/19/97	IPM
2-Nitrophenol	<100	100	µg/kg	12/19/97	IPM
2,4-Dimethylphenol	<100	100	µg/kg	12/19/97	IPM
Bis(2-chloroethoxy)methane	<100	100	µg/kg	12/19/97	IPM
2,4-Dichlorophenol	<100	100	µg/kg	12/19/97	IPM
1,2,4-Trichlorobenzene	<100	100	µg/kg	12/19/97	IPM
Naphthalene	<100	100	µg/kg	12/19/97	IPM
Hexachlorobutadiene	<100	100	µg/kg	12/19/97	IPM
p-Chloro-3-methylphenol	<100	100	µg/kg	12/19/97	IPM
Hexachlorocyclopentadiene	<100	100	µg/kg	12/19/97	IPM
2,4,6-Trichlorophenol	<100	100	µg/kg	12/19/97	IPM
2-Chloronaphthalene	<100	100	µg/kg	12/19/97	IPM
Dimethyl phthalate	<100	100	µg/kg	12/19/97	IPM
Acenaphthene	<100	100	µg/kg	12/19/97	IPM
Benzidine	<500	500	µg/kg	12/19/97	IPM
2,6-Dinitrotoluene	<100	100	µg/kg	12/19/97	IPM
Benzo(a)pyrene	<100	100	µg/kg	12/19/97	IPM
Indeno(1,2,3CD)Pyrene	<100	100	µg/kg	12/19/97	IPM
1,2,5,6 Dibenzoanthracene	<100	100	µg/kg	12/19/97	IPM
Benzo (g,h,i) Perylene	<100	100	µg/kg	12/19/97	IPM
2,3,7,8-TCDD (Note #1)	<100	100	µg/kg	12/19/97	IPM
Extraction Date			on	12/10/97	JFD
Total Cyanide	0.36	0.30	mg/kg	12/16/97	CL
Volatiles Org. Compounds					
Method 8260					
Vinyl Chloride	<25	25	µg/kg	12/23/97	SL
1,1-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,1,1-Trichloroethane	<25	25	µg/kg	12/23/97	SL
Carbon Tetrachloride	<25	25	µg/kg	12/23/97	SL
1,2-Dichloroethane	<25	25	µg/kg	12/23/97	SL
Trichloroethene	<25	25	µg/kg	12/23/97	SL
Benzene	<25	25	µg/kg	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,4-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
Chloroform	<25	25	µg/kg	12/23/97	SL
Bromodichloromethane	<25	25	µg/kg	12/23/97	SL
Chlorodibromomethane	<25	25	µg/kg	12/23/97	SL
Bromoform	<25	25	µg/kg	12/23/97	SL
Methylene Chloride	<25	25	µg/kg	12/23/97	SL
1,1,2,2-Tetrachloroethane	<25	25	µg/kg	12/23/97	SL
Trans-1,2-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,1-Dichloropropene	<25	25	µg/kg	12/23/97	SL
1,1-Dichloroethane	<25	25	µg/kg	12/23/97	SL
2,2-Dichloropropane	<25	25	µg/kg	12/23/97	SL
cis-1,2-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,2-Dichloropropane	<25	25	µg/kg	12/23/97	SL
Chloromethane	<25	25	µg/kg	12/23/97	SL
Dibromomethane	<25	25	µg/kg	12/23/97	SL
cis-1,3-Dichloropropene	<25	25	µg/kg	12/23/97	SL
Trans-1,3-Dichloropropene	<25	25	µg/kg	12/23/97	SL
1,1,2-Trichloroethane	<25	25	µg/kg	12/23/97	SL
1,3-Dichloropropane	<25	25	µg/kg	12/23/97	SL
Tetrachloroethene	<25	25	µg/kg	12/23/97	SL
Bromomethane	<25	25	µg/kg	12/23/97	SL
Chloroethane	<25	25	µg/kg	12/23/97	SL
Toluene	<25	25	µg/kg	12/23/97	SL
Chlorobenzene	<25	25	µg/kg	12/23/97	SL
1,1,1,2-Tetrachloroethane	<25	25	µg/kg	12/23/97	SL
Ethyl Benzene	<25	25	µg/kg	12/23/97	SL
M,P-Xylenes	<25	25	µg/kg	12/23/97	SL
O-Xylene	<25	25	µg/kg	12/23/97	SL
Styrene	<25	25	µg/kg	12/23/97	SL
1,3-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
1,2-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
1,2,3-Trichloropropane	<25	25	µg/kg	12/23/97	SL
Bromobenzene	<25	25	µg/kg	12/23/97	SL
2-Chlorotoluene	<25	25	µg/kg	12/23/97	SL
4-Chlorotoluene	<25	25	µg/kg	12/23/97	SL
Bromochloromethane	<25	25	µg/kg	12/23/97	SL
N-Propylbenzene	<25	25	µg/kg	12/23/97	SL
1,3,5-Trimethylbenzene	<25	25	µg/kg	12/23/97	SL
tert-Butylbenzene	<25	25	µg/kg	12/23/97	SL
1,2,4-Trimethylbenzene	<25	25	µg/kg	12/23/97	SL
sec-Butylbenzene	<25	25	µg/kg	12/23/97	SL
P-Isopropyl Toluene	<25	25	µg/kg	12/23/97	SL
Isopropyl Benzene	<25	25	µg/kg	12/23/97	SL
Trichlorofluoromethane	<25	25	µg/kg	12/23/97	SL
N-Butylbenzene	<25	25	µg/kg	12/23/97	SL
Dichlorodifluoromethane	<25	25	µg/kg	12/23/97	SL
1,2,4-Trichlorobenzene	<25	25	µg/kg	12/23/97	SL
Hexachlorobutadiene	<25	25	µg/kg	12/23/97	SL
Naphthalene	<25	25	µg/kg	12/23/97	SL
1,2,3-Trichlorobenzene	<25	25	µg/kg	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Dibromoethane	<25	25	µg/kg	12/23/97	SL
1,2-Dibromo-3-Chloropropane	<25	25	µg/kg	12/23/97	SL
Acetone	<250	250	µg/kg	12/23/97	SL
2-Butanone	<250	250	µg/kg	12/23/97	SL
Carbon Disulfide	<50	50	µg/kg	12/23/97	SL
2-Hexanone	<50	50	µg/kg	12/23/97	SL
4-Methyl-2-pentanone	<50	50	µg/kg	12/23/97	SL
Vinyl Acetate	<50	50	µg/kg	12/23/97	SL
Iodomethane	<50	50	µg/kg	12/23/97	SL
2-Chloroethyl Vinyl Ether	<50	50	µg/kg	12/23/97	SL
Acrolein	<250	250	µg/kg	12/23/97	SL
Acrylonitrile	<250	250	µg/kg	12/23/97	SL

REPORT COMMENTS

Source: PR - 4 - 4 - 1

Notes:

1. Not detected in a qualitative screening.

LAW ENVIRONMENTAL CARIBE
1225 Ponce De León Ave.
Caso Bldg. Suite 603
Santurce, P.R. 00907
Attn: MR. CARLOS SOLIS
Invoice Number:

Order #: 97-12-532
Date: 01/12/98 10:05
Work ID: Soil - Grab
Date Received: 12/10/97
Date Completed: 01/12/98
Client Code: 513_01_

DS #: 97-12931
Samples collected by Client
Limit = Detection Limit
Fac. Proteco Project

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	PR - 4 - 5 - 1

Sample Number	Sample Description

Certified By
Maggie Dávila

MAGGIE I. DAVILA LOPEZ
Químico Licenciado
Estado Libre Asociado de Puerto Rico
LICENCIA NUM. 2948
A 495253

TEST RESULTS BY SAMPLE

Sample: 01A PR - 4 - 5 - 1 **Collected: 12/10/97**
Job: 01-16B Soil - Grab

Test Description	Result	Limit	Units	Analyzed	By
Metals:					
Total Aluminum	5,600	5.0	mg/kg	12/26/97	NAS
Total Antimony	<0.15	0.15	mg/kg	01/05/98	NAS
Total Arsenic	<0.05	0.050	mg/kg	01/08/98	NAS
Total Barium	42.6	5.0	mg/kg	12/26/97	NAS
Total Beryllium	<0.2	0.20	mg/kg	12/26/97	NAS
Total Cadmium	0.20	0.10	mg/kg	12/26/97	NAS
Total Calcium	66,700	0.50	mg/kg	12/26/97	NAS
Total Chromium	10.6	0.10	mg/kg	12/26/97	NAS
Total Cobalt	<1.0	1.0	mg/kg	12/26/97	NAS
Total Copper	11.9	1.0	mg/kg	12/26/97	NAS
Total Iron	7,185	1.0	mg/kg	12/26/97	NAS
Total Lead	<0.25	0.25	mg/kg	12/26/97	NAS
Total Magnesium	2,418	0.50	mg/kg	12/26/97	NAS
Total Manganese	74.8	0.50	mg/kg	12/26/97	NAS
Total Mercury	<0.1	0.10	mg/kg	01/05/98	NAS
Total Nickel	18.3	1.0	mg/kg	12/26/97	NAS
Total Potassium	555	0.50	mg/kg	12/26/97	NAS
Total Selenium	<0.05	0.050	mg/kg	01/08/98	NAS
Total Silver	<0.05	0.050	mg/kg	12/26/97	NAS
Total Sodium	2,646	0.50	mg/kg	12/26/97	NAS
Total Thallium	0.20	0.050	mg/kg	12/26/97	NAS
Total Vanadium	14.0	0.25	mg/kg	12/26/97	NAS
Total Zinc	7.93	0.25	mg/kg	12/26/97	NAS

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
Pesticides & PCB's					
Method 8080			µg/kg	12/24/97	LG
Aldrin	<5.0	5.0	µg/kg	12/24/97	LG
Chlordane	<50	50	µg/kg	12/24/97	LG
alpha-BHC	<5.0	5.0	µg/kg	12/24/97	LG
beta-BHC	<5.0	5.0	µg/kg	12/24/97	LG
gamma-BHC	<5.0	5.0	µg/kg	12/24/97	LG
delta-BHC	<5.0	5.0	µg/kg	12/24/97	LG
4,4'-DDT	<10	10	µg/kg	12/24/97	LG
4,4'-DDE	<10	10	µg/kg	12/24/97	LG
4,4-DDD	<10	10	µg/kg	12/24/97	LG
Methoxychlor	<50	50	µg/kg	12/24/97	LG
Dieldrin	<10	10	µg/kg	12/24/97	LG
Alpha Endosulfan	<5.0	5.0	µg/kg	12/24/97	LG
Beta Endosulfan	<10	10	µg/kg	12/24/97	LG
Endosulfan Sulfate	<10	10	µg/kg	12/24/97	LG
Endrin	<10	10	µg/kg	12/24/97	LG
Endrin Aldehyde	<10	10	µg/kg	12/24/97	LG
Heptachlor	<5.0	5.0	µg/kg	12/24/97	LG
Heptachlor Epoxide	<5.0	5.0	µg/kg	12/24/97	LG
Toxaphene	<100	100	µg/kg	12/24/97	LG
Arochlor-1016	<10	10	µg/kg	12/24/97	LG
Arochlor-1221	<100	100	µg/kg	12/24/97	LG
Arochlor-1232	<10	10	µg/kg	12/24/97	LG
Arochlor-1242	<10	10	µg/kg	12/24/97	LG
Arochlor-1248	<10	10	µg/kg	12/24/97	LG
Arochlor-1254	<10	10	µg/kg	12/24/97	LG
Arochlor-1260	<10	10	µg/kg	12/24/97	LG
Extraction Date			on	12/14/97	CD
Semi-Vol. Org. Compounds					
Method 8270			µg/kg	12/18/97	IPM
Acenaphthylene	<100	100	µg/kg	12/18/97	IPM
2,4-Dinitrophenol	<500	500	µg/kg	12/18/97	IPM
4-Nitrophenol	<500	500	µg/kg	12/18/97	IPM
2,4-Dinitrotoluene	<100	100	µg/kg	12/18/97	IPM
Diethylphthalate	<100	100	µg/kg	12/18/97	IPM
4-Chlorophenyl-phenylether	<100	100	µg/kg	12/18/97	IPM
Fluorene	<100	100	µg/kg	12/18/97	IPM
4,6-Dinitro-o-cresol	<500	500	µg/kg	12/18/97	IPM
N-Nitrosodiphenylamine	<100	100	µg/kg	12/18/97	IPM
4-Bromophenyl-phenylether	<100	100	µg/kg	12/18/97	IPM
Hexachlorobenzene	<100	100	µg/kg	12/18/97	IPM
Pentachlorophenol	<500	500	µg/kg	12/18/97	IPM
Phenanthrene	<100	100	µg/kg	12/18/97	IPM
Anthracene	<100	100	µg/kg	12/18/97	IPM
Di-n-Butyl Phthalate	<100	100	µg/kg	12/18/97	IPM
Fluoranthene	<100	100	µg/kg	12/18/97	IPM
Pyrene	<100	100	µg/kg	12/18/97	IPM
Butylbenzylphthalate	<100	100	µg/kg	12/18/97	IPM
3,3-Dichlorobenzidine	<200	200	µg/kg	12/18/97	IPM

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Benzoanthracene	<100	100	µg/kg	12/18/97	IPM
Chrysene	<100	100	µg/kg	12/18/97	IPM
Bis(2-ethylhexyl)phthalate	<100	100	µg/kg	12/18/97	IPM
Di-n-octylphthalate	<100	100	µg/kg	12/18/97	IPM
3,4-Benzofluoranthene	<100	100	µg/kg	12/18/97	IPM
11,12-Benzofluoranthene	<100	100	µg/kg	12/18/97	IPM
N-Nitrosodimethylamine	<100	100	µg/kg	12/18/97	IPM
Phenol	<100	100	µg/kg	12/18/97	IPM
Bis(2-chloroethyl)ether	<100	100	µg/kg	12/18/97	IPM
2-Chlorophenol	<100	100	µg/kg	12/18/97	IPM
1,2-Diphenylhydrazine	<100	100	µg/kg	12/18/97	IPM
1,3-Dichlorobenzene	<100	100	µg/kg	12/18/97	IPM
1,4-Dichlorobenzene	<100	100	µg/kg	12/18/97	IPM
1,2-Dichlorobenzene	<100	100	µg/kg	12/18/97	IPM
Bis(2-chloroisopropyl)ether	<100	100	µg/kg	12/18/97	IPM
N-Nitroso-di-n-propylamine	<100	100	µg/kg	12/18/97	IPM
Hexachloroethane	<100	100	µg/kg	12/18/97	IPM
Nitrobenzene	<100	100	µg/kg	12/18/97	IPM
Isophorone	<100	100	µg/kg	12/18/97	IPM
2-Nitrophenol	<100	100	µg/kg	12/18/97	IPM
2,4-Dimethylphenol	<100	100	µg/kg	12/18/97	IPM
Bis(2-chloroethoxy)methane	<100	100	µg/kg	12/18/97	IPM
2,4-Dichlorophenol	<100	100	µg/kg	12/18/97	IPM
1,2,4-Trichlorobenzene	<100	100	µg/kg	12/18/97	IPM
Naphthalene	<100	100	µg/kg	12/18/97	IPM
Hexachlorobutadiene	<100	100	µg/kg	12/18/97	IPM
p-Chloro-3-methylphenol	<100	100	µg/kg	12/18/97	IPM
Hexachlorocyclopentadiene	<100	100	µg/kg	12/18/97	IPM
2,4,6-Trichlorophenol	<100	100	µg/kg	12/18/97	IPM
2-Chloronaphthalene	<100	100	µg/kg	12/18/97	IPM
Dimethyl phthalate	<100	100	µg/kg	12/18/97	IPM
Acenaphthene	<100	100	µg/kg	12/18/97	IPM
Benzidine	<500	500	µg/kg	12/18/97	IPM
2,6-Dinitrotoluene	<100	100	µg/kg	12/18/97	IPM
Benzo(a)pyrene	<100	100	µg/kg	12/18/97	IPM
Indeno(1,2,3CD)Pyrene	<100	100	µg/kg	12/18/97	IPM
1,2,5,6 Dibenzoanthracene	<100	100	µg/kg	12/18/97	IPM
Benzo (g,h,i) Perylene	<100	100	µg/kg	12/18/97	IPM
2,3,7,8-TCDD (Note #1)	<100	100	µg/kg	12/18/97	IPM
Extraction Date			on	12/10/97	JFD
Total Cyanide	<0.30	0.30	mg/kg	12/16/97	CL
Volatiles Org. Compounds					
Method 8260			µg/kg	12/23/97	SL
Vinyl Chloride	<25	25	µg/kg	12/23/97	SL
1,1-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,1,1-Trichloroethane	<25	25	µg/kg	12/23/97	SL
Carbon Tetrachloride	<25	25	µg/kg	12/23/97	SL
1,2-Dichloroethane	<25	25	µg/kg	12/23/97	SL
Trichloroethene	<25	25	µg/kg	12/23/97	SL
Benzene	<25	25	µg/kg	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,4-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
Chloroform	<25	25	µg/kg	12/23/97	SL
Bromodichloromethane	<25	25	µg/kg	12/23/97	SL
Chlorodibromomethane	<25	25	µg/kg	12/23/97	SL
Bromoform	<25	25	µg/kg	12/23/97	SL
Methylene Chloride	<25	25	µg/kg	12/23/97	SL
1,1,2,2-Tetrachloroethane	<25	25	µg/kg	12/23/97	SL
Trans-1,2-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,1-Dichloropropene	<25	25	µg/kg	12/23/97	SL
1,1-Dichloroethane	<25	25	µg/kg	12/23/97	SL
2,2-Dichloropropane	<25	25	µg/kg	12/23/97	SL
cis-1,2-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,2-Dichloropropane	<25	25	µg/kg	12/23/97	SL
Chloromethane	<25	25	µg/kg	12/23/97	SL
Dibromomethane	<25	25	µg/kg	12/23/97	SL
cis-1,3-Dichloropropene	<25	25	µg/kg	12/23/97	SL
Trans-1,3-Dichloropropene	<25	25	µg/kg	12/23/97	SL
1,1,2-Trichloroethane	<25	25	µg/kg	12/23/97	SL
1,3-Dichloropropane	<25	25	µg/kg	12/23/97	SL
Tetrachloroethene	<25	25	µg/kg	12/23/97	SL
Bromomethane	<25	25	µg/kg	12/23/97	SL
Chloroethane	<25	25	µg/kg	12/23/97	SL
Toluene	<25	25	µg/kg	12/23/97	SL
Chlorobenzene	<25	25	µg/kg	12/23/97	SL
1,1,1,2-Tetrachloroethane	<25	25	µg/kg	12/23/97	SL
Ethyl Benzene	<25	25	µg/kg	12/23/97	SL
M,P-Xylenes	<25	25	µg/kg	12/23/97	SL
0-Xylene	<25	25	µg/kg	12/23/97	SL
Styrene	<25	25	µg/kg	12/23/97	SL
1,3-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
1,2-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
1,2,3-Trichloropropane	<25	25	µg/kg	12/23/97	SL
Bromobenzene	<25	25	µg/kg	12/23/97	SL
2-Chlorotoluene	<25	25	µg/kg	12/23/97	SL
4-Chlorotoluene	<25	25	µg/kg	12/23/97	SL
Bromochloromethane	<25	25	µg/kg	12/23/97	SL
N-Propylbenzene	<25	25	µg/kg	12/23/97	SL
1,3,5-Trimethylbenzene	<25	25	µg/kg	12/23/97	SL
tert-Butylbenzene	<25	25	µg/kg	12/23/97	SL
1,2,4-Trimethylbenzene	<25	25	µg/kg	12/23/97	SL
sec-Butylbenzene	<25	25	µg/kg	12/23/97	SL
P-Isopropyl Toluene	<25	25	µg/kg	12/23/97	SL
Isopropyl Benzene	<25	25	µg/kg	12/23/97	SL
Trichlorofluoromethane	<25	25	µg/kg	12/23/97	SL
N-Butylbenzene	<25	25	µg/kg	12/23/97	SL
Dichlorodifluoromethane	<25	25	µg/kg	12/23/97	SL
1,2,4-Trichlorobenzene	<25	25	µg/kg	12/23/97	SL
Hexachlorobutadiene	<25	25	µg/kg	12/23/97	SL
Naphthalene	<25	25	µg/kg	12/23/97	SL
1,2,3-Trichlorobenzene	<25	25	µg/kg	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Dibromoethane	<25	25	µg/kg	12/23/97	SL
1,2-Dibromo-3-Chloropropane	<25	25	µg/kg	12/23/97	SL
Acetone	<250	250	µg/kg	12/23/97	SL
2-Butanone	<250	250	µg/kg	12/23/97	SL
Carbon Disulfide	<50	50	µg/kg	12/23/97	SL
2-Hexanone	<50	50	µg/kg	12/23/97	SL
4-Methyl-2-pentanone	<50	50	µg/kg	12/23/97	SL
Vinyl Acetate	<50	50	µg/kg	12/23/97	SL
Iodomethane	<50	50	µg/kg	12/23/97	SL
2-Chloroethyl Vinyl Ether	<50	50	µg/kg	12/23/97	SL
Acrolein	<250	250	µg/kg	12/23/97	SL
Acrylonitrile	<250	250	µg/kg	12/23/97	SL

REPORT COMMENTS

Source: PR - 4 - 5 - 1

Notes:

1. Not detected in a qualitative screening.

LAW ENVIRONMENTAL CARIBE
1225 Ponce De León Ave.
Caso Bldg. Suite 603
Santurce, P.R. 00907
Attn: MR. CARLOS SOLIS
Invoice Number:

Order #: 97-12-536
Date: 01/12/98 08:56
Work ID: Soil - Grab
Date Received: 12/10/97
Date Completed: 01/10/98
Client Code: 513_01_

DS #: 97-12932
Samples collected by Client
Limit = Detection Limit
Fac. Proteco Project

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	PR - 4 - 6 - 1

Sample Number	Sample Description

Certified By
Maggie Dávila

MAGGIE L. DAVILA LOPEZ
Químico Licenciado
Estado Libre Asociado de Puerto Rico
LICENCIA NUM. 2948
A-495223

TEST RESULTS BY SAMPLE

Sample: 01A PR - 4 - 6 - 1 **Collected: 12/10/97**
Job: 01-16B Soil - Grab

Test Description	Result	Limit	Units	Analyzed	By
Metals:					
Total Aluminum	3,549	5.0	mg/kg	12/26/97	NAS
Total Antimony	<0.15	0.15	mg/kg	01/05/98	NAS
Total Arsenic	<0.05	0.050	mg/kg	01/02/98	NAS
Total Barium	42.7	5.0	mg/kg	12/26/97	NAS
Total Beryllium	<0.2	0.20	mg/kg	12/26/97	NAS
Total Cadmium	<0.1	0.10	mg/kg	12/26/97	NAS
Total Calcium	74,256	0.50	mg/kg	12/26/97	NAS
Total Chromium	7.3	0.10	mg/kg	12/26/97	NAS
Total Cobalt	<1.0	1.0	mg/kg	12/26/97	NAS
Total Copper	8.17	1.0	mg/kg	12/26/97	NAS
Total Iron	4,380	1.0	mg/kg	12/26/97	NAS
Total Lead	<0.25	0.25	mg/kg	12/26/97	NAS
Total Magnesium	1,729	0.50	mg/kg	12/26/97	NAS
Total Manganese	52.8	0.50	mg/kg	12/26/97	NAS
Total Mercury	<0.1	0.10	mg/kg	01/05/98	NAS
Total Nickel	14.9	1.0	mg/kg	12/26/97	NAS
Total Potassium	865	0.50	mg/kg	12/26/97	NAS
Total Selenium	<0.05	0.050	mg/kg	01/02/98	NAS
Total Silver	<0.05	0.050	mg/kg	12/26/97	NAS
Total Sodium	2,565	0.50	mg/kg	12/26/97	NAS
Total Thallium	<0.05	0.050	mg/kg	12/26/97	NAS
Total Vanadium	10.0	0.25	mg/kg	12/26/97	NAS
Total Zinc	5.81	0.25	mg/kg	12/26/97	NAS

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
Pesticides & PCB's					
Method 8080			µg/kg	12/24/97	LG
Aldrin	<5.0	5.0	µg/kg	12/24/97	LG
Chlordane	<50	50	µg/kg	12/24/97	LG
alpha-BHC	<5.0	5.0	µg/kg	12/24/97	LG
beta-BHC	<5.0	5.0	µg/kg	12/24/97	LG
gamma-BHC	<5.0	5.0	µg/kg	12/24/97	LG
delta-BHC	<5.0	5.0	µg/kg	12/24/97	LG
4,4'-DDT	<10	10	µg/kg	12/24/97	LG
4,4'-DDE	<10	10	µg/kg	12/24/97	LG
4,4-DDD	<10	10	µg/kg	12/24/97	LG
Methoxychlor	<50	50	µg/kg	12/24/97	LG
Dieldrin	<10	10	µg/kg	12/24/97	LG
Alpha Endosulfan	<5.0	5.0	µg/kg	12/24/97	LG
Beta Endosulfan	<10	10	µg/kg	12/24/97	LG
Endosulfan Sulfate	<10	10	µg/kg	12/24/97	LG
Endrin	<10	10	µg/kg	12/24/97	LG
Endrin Aldehyde	<10	10	µg/kg	12/24/97	LG
Heptachlor	<5.0	5.0	µg/kg	12/24/97	LG
Heptachlor Epoxide	<5.0	5.0	µg/kg	12/24/97	LG
Toxaphene	<100	100	µg/kg	12/24/97	LG
Arochlor-1016	<10	10	µg/kg	12/24/97	LG
Arochlor-1221	<100	100	µg/kg	12/24/97	LG
Arochlor-1232	<10	10	µg/kg	12/24/97	LG
Arochlor-1242	<10	10	µg/kg	12/24/97	LG
Arochlor-1248	<10	10	µg/kg	12/24/97	LG
Arochlor-1254	<10	10	µg/kg	12/24/97	LG
Arochlor-1260	<10	10	µg/kg	12/24/97	LG
Extraction Date			on	12/14/97	JFD
Semi-Vol. Org. Compounds					
Method 8270			µg/kg	12/19/97	IPM
Acenaphthylene	<100	100	µg/kg	12/19/97	IPM
2,4-Dinitrophenol	<500	500	µg/kg	12/19/97	IPM
4-Nitrophenol	<500	500	µg/kg	12/19/97	IPM
2,4-Dinitrotoluene	<100	100	µg/kg	12/19/97	IPM
Diethylphthalate	<100	100	µg/kg	12/19/97	IPM
4-Chlorophenyl-phenylether	<100	100	µg/kg	12/19/97	IPM
Fluorene	<100	100	µg/kg	12/19/97	IPM
4,6-Dinitro-o-cresol	<500	500	µg/kg	12/19/97	IPM
N-Nitrosodiphenylamine	<100	100	µg/kg	12/19/97	IPM
4-Bromophenyl-phenylether	<100	100	µg/kg	12/19/97	IPM
Hexachlorobenzene	<100	100	µg/kg	12/19/97	IPM
Pentachlorophenol	<500	500	µg/kg	12/19/97	IPM
Phenanthrene	<100	100	µg/kg	12/19/97	IPM
Anthracene	<100	100	µg/kg	12/19/97	IPM
Di-n-Butyl Phthalate	<100	100	µg/kg	12/19/97	IPM
Fluoranthene	<100	100	µg/kg	12/19/97	IPM
Pyrene	<100	100	µg/kg	12/19/97	IPM
Butylbenzylphthalate	<100	100	µg/kg	12/19/97	IPM
3,3-Dichlorobenzidine	<200	200	µg/kg	12/19/97	IPM

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Benzoanthracene	<100	100	µg/kg	12/19/97	IPM
Chrysene	<100	100	µg/kg	12/19/97	IPM
Bis(2-ethylhexyl)phthalate	<100	100	µg/kg	12/19/97	IPM
Di-n-octylphthalate	<100	100	µg/kg	12/19/97	IPM
3,4-Benzofluoranthene	<100	100	µg/kg	12/19/97	IPM
11,12-Benzofluoranthene	<100	100	µg/kg	12/19/97	IPM
N-Nitrosodimethylamine	<100	100	µg/kg	12/19/97	IPM
Phenol	<100	100	µg/kg	12/19/97	IPM
Bis(2-chloroethyl)ether	<100	100	µg/kg	12/19/97	IPM
2-Chlorophenol	<100	100	µg/kg	12/19/97	IPM
1,2-Diphenylhydrazine	<100	100	µg/kg	12/19/97	IPM
1,3-Dichlorobenzene	<100	100	µg/kg	12/19/97	IPM
1,4-Dichlorobenzene	<100	100	µg/kg	12/19/97	IPM
1,2-Dichlorobenzene	<100	100	µg/kg	12/19/97	IPM
Bis(2-chloroisopropyl)ether	<100	100	µg/kg	12/19/97	IPM
N-Nitroso-di-n-propylamine	<100	100	µg/kg	12/19/97	IPM
Hexachloroethane	<100	100	µg/kg	12/19/97	IPM
Nitrobenzene	<100	100	µg/kg	12/19/97	IPM
Isophorone	<100	100	µg/kg	12/19/97	IPM
2-Nitrophenol	<100	100	µg/kg	12/19/97	IPM
2,4-Dimethylphenol	<100	100	µg/kg	12/19/97	IPM
Bis(2-chloroethoxy)methane	<100	100	µg/kg	12/19/97	IPM
2,4-Dichlorophenol	<100	100	µg/kg	12/19/97	IPM
1,2,4-Trichlorobenzene	<100	100	µg/kg	12/19/97	IPM
Naphthalene	<100	100	µg/kg	12/19/97	IPM
Hexachlorobutadiene	<100	100	µg/kg	12/19/97	IPM
p-Chloro-3-methylphenol	<100	100	µg/kg	12/19/97	IPM
Hexachlorocyclopentadiene	<100	100	µg/kg	12/19/97	IPM
2,4,6-Trichlorophenol	<100	100	µg/kg	12/19/97	IPM
2-Chloronaphthalene	<100	100	µg/kg	12/19/97	IPM
Dimethyl phthalate	<100	100	µg/kg	12/19/97	IPM
Acenaphthene	<100	100	µg/kg	12/19/97	IPM
Benzidine	<500	500	µg/kg	12/19/97	IPM
2,6-Dinitrotoluene	<100	100	µg/kg	12/19/97	IPM
Benzo(a)pyrene	<100	100	µg/kg	12/19/97	IPM
Indeno(1,2,3CD)Pyrene	<100	100	µg/kg	12/19/97	IPM
1,2,5,6 Dibenzoanthracene	<100	100	µg/kg	12/19/97	IPM
Benzo (g,h,i) Perylene	<100	100	µg/kg	12/19/97	IPM
2,3,7,8-TCDD (Note #1)	<100	100	µg/kg	12/19/97	IPM
Extraction Date			on	12/10/97	JFD
Total Cyanide	<0.30	0.30	mg/kg	12/16/97	CL
Volatiles Org. Compounds					
Method 8260					
Vinyl Chloride	<25	25	µg/kg	12/23/97	SL
1,1-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,1,1-Trichloroethane	<25	25	µg/kg	12/23/97	SL
Carbon Tetrachloride	<25	25	µg/kg	12/23/97	SL
1,2-Dichloroethane	<25	25	µg/kg	12/23/97	SL
Trichloroethene	<25	25	µg/kg	12/23/97	SL
Benzene	<25	25	µg/kg	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,4-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
Chloroform	<25	25	µg/kg	12/23/97	SL
Bromodichloromethane	<25	25	µg/kg	12/23/97	SL
Chlorodibromomethane	<25	25	µg/kg	12/23/97	SL
Bromoform	<25	25	µg/kg	12/23/97	SL
Methylene Chloride	<25	25	µg/kg	12/23/97	SL
1,1,2,2-Tetrachloroethane	<25	25	µg/kg	12/23/97	SL
Trans-1,2-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,1-Dichloropropene	<25	25	µg/kg	12/23/97	SL
1,1-Dichloroethane	<25	25	µg/kg	12/23/97	SL
2,2-Dichloropropane	<25	25	µg/kg	12/23/97	SL
cis-1,2-Dichloroethene	<25	25	µg/kg	12/23/97	SL
1,2-Dichloropropane	<25	25	µg/kg	12/23/97	SL
Chloromethane	<25	25	µg/kg	12/23/97	SL
Dibromomethane	<25	25	µg/kg	12/23/97	SL
cis-1,3-Dichloropropene	<25	25	µg/kg	12/23/97	SL
Trans-1,3-Dichloropropene	<25	25	µg/kg	12/23/97	SL
1,1,2-Trichloroethane	<25	25	µg/kg	12/23/97	SL
1,3-Dichloropropane	<25	25	µg/kg	12/23/97	SL
Tetrachloroethene	<25	25	µg/kg	12/23/97	SL
Bromomethane	<25	25	µg/kg	12/23/97	SL
Chloroethane	<25	25	µg/kg	12/23/97	SL
Toluene	<25	25	µg/kg	12/23/97	SL
Chlorobenzene	<25	25	µg/kg	12/23/97	SL
1,1,1,2-Tetrachloroethane	<25	25	µg/kg	12/23/97	SL
Ethyl Benzene	<25	25	µg/kg	12/23/97	SL
M,P-Xylenes	<25	25	µg/kg	12/23/97	SL
O-Xylene	<25	25	µg/kg	12/23/97	SL
Styrene	<25	25	µg/kg	12/23/97	SL
1,3-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
1,2-Dichlorobenzene	<25	25	µg/kg	12/23/97	SL
1,2,3-Trichloropropane	<25	25	µg/kg	12/23/97	SL
Bromobenzene	<25	25	µg/kg	12/23/97	SL
2-Chlorotoluene	<25	25	µg/kg	12/23/97	SL
4-Chlorotoluene	<25	25	µg/kg	12/23/97	SL
Bromochloromethane	<25	25	µg/kg	12/23/97	SL
N-Propylbenzene	<25	25	µg/kg	12/23/97	SL
1,3,5-Trimethylbenzene	<25	25	µg/kg	12/23/97	SL
tert-Butylbenzene	<25	25	µg/kg	12/23/97	SL
1,2,4-Trimethylbenzene	<25	25	µg/kg	12/23/97	SL
sec-Butylbenzene	<25	25	µg/kg	12/23/97	SL
P-Isopropyl Toluene	<25	25	µg/kg	12/23/97	SL
Isopropyl Benzene	<25	25	µg/kg	12/23/97	SL
Trichlorofluoromethane	<25	25	µg/kg	12/23/97	SL
N-Butylbenzene	<25	25	µg/kg	12/23/97	SL
Dichlorodifluoromethane	<25	25	µg/kg	12/23/97	SL
1,2,4-Trichlorobenzene	<25	25	µg/kg	12/23/97	SL
Hexachlorobutadiene	<25	25	µg/kg	12/23/97	SL
Naphthalene	<25	25	µg/kg	12/23/97	SL
1,2,3-Trichlorobenzene	<25	25	µg/kg	12/23/97	SL

TEST RESULTS BY SAMPLE

Test Description	Result	Limit	Units	Analyzed	By
1,2-Dibromoethane	<25	25	µg/kg	12/23/97	SL
1,2-Dibromo-3-Chloropropane	<25	25	µg/kg	12/23/97	SL
Acetone	<250	250	µg/kg	12/23/97	SL
2-Butanone	<250	250	µg/kg	12/23/97	SL
Carbon Disulfide	<50	50	µg/kg	12/23/97	SL
2-Hexanone	<50	50	µg/kg	12/23/97	SL
4-Methyl-2-pentanone	<50	50	µg/kg	12/23/97	SL
Vinyl Acetate	<50	50	µg/kg	12/23/97	SL
Iodomethane	<50	50	µg/kg	12/23/97	SL
2-Chloroethyl Vinyl Ether	<50	50	µg/kg	12/23/97	SL
Acrolein	<250	250	µg/kg	12/23/97	SL
Acrylonitrile	<250	250	µg/kg	12/23/97	SL

REPORT COMMENTS

Source: PR - 4 - 6 - 1

Notes:

1. Not detected in a qualitative screening.